Lead-Acid Battery Cleanup Fund Annual Report to the Legislature



Prepared by the Department of Toxic Substances Control

August 2024

Lead-Acid Battery Cleanup Fund 2023 and 2024 Annual Reports to the Legislature

Table of Contents

Table	of Contentsi
Execut	ive Summary1
1. Int	roduction3
2. Im	olementation of the LABRIC Assessment Process5
2.1	Status Updates on Area Screening5
2.2	Current Investigations7
2.2.1	Berg Metals7
2.2.2	C&S Battery and Lead Company9
2.2.3	Former Alco Pacific Inc9
2.2.4	Former Battery Sales and Processing Company (BASAPCO)10
2.3	Remediation at the Former Exide Technologies Facility
3. Urk	oan Lead Contamination and the LABRIC Program
3.1	Extent of Urban Lead Contamination12
3.2	Urban Lead Source Attribution14
4. Co	st Recovery and the LABRIC Program15
5. Fui	nd Status and Enforcement16
5.1	Compliance and Enforcement17
6. Co	nclusions and Next Steps

Executive Summary

During most of the past 180 years of industrialization in California, industry operated without modern pollution controls, resulting in contamination of soils at sites across the State. The Department of Toxic Substances Control's (DTSC) mission is to protect California's people, communities, and environment from toxic substances, which includes remediating contaminated properties throughout the state. It is not technologically or economically feasible to clean up all contamination at many sites.¹ Remediation efforts are designed to reduce and manage, not eliminate, risks at sites.

One major source of historical lead contamination at sites is from lead-acid battery recycling facilities.²,³ In 2016, the California Legislature passed the Lead-Acid Battery Recycling Act⁴ (Act) to help the Department of Toxic Substances Control (DTSC) investigate and address impacts caused by lead-acid battery recycling facilities, which it accomplishes through the Lead Acid Battery Recycling Investigation and Cleanup (LABRIC) Program.

Over the past several years, DTSC staff has been implementing the LABRIC Program to achieve these objectives. For example;

- We continued to investigate the area surrounding Berg Metals Corporation, a site which operated until 1958 at 2652 Long Beach Avenue in south central Los Angeles (Berg Metals). Based on our investigation, we are reasonably certain that operations from the former Berg Metals facility contaminated an area within approximately 1,500 feet of the facility. As a result, DTSC designated the area for further investigation and, if needed, cleanup under the Act.
- We continued to investigate the former C&S Battery and Lead Company (C&S Battery Site) located at 860 Riske Lane, West Sacramento, Yolo County California. This work is currently ongoing.
- We inspected battery dealers and manufacturers during the reporting period to ensure compliance with Act requirements. We performed a

¹ <u>https://www.epa.gov/risks-contaminated-sites/understand-contaminated-sites</u>

² <u>https://iris.who.int/bitstream/handle/10665/259447/9789241512855-eng.pdf?sequence=1;</u> <u>https://www.epa.gov/superfund/lead-superfund-sites</u>

³ https://www.epa.gov/sites/default/files/2020-10/documents/lead-in-soil-aug2020.pdf

⁴ <u>https://dtsc.ca.gov/labric-program</u>

total of 137 inspections and where non-compliance with the Act was identified, worked to bring companies into compliance.

- We investigated parkways within 1.7 miles of the former Exide facility and are amending the Removal Action Workplan and initiating soil removal in parkways within the Exide Preliminary Investigation Area. This work complements our ongoing work in remediating residential properties across the Exide area.
- We continued to refine our Cost Recovery Management System which was funded through LABRIC in 2021 to enhance security, integrate an online customer portal, and build flexibility for future business needs and enhancements.

The LABRIC Program was created to address lead contamination caused by past lead-acid battery recyclers in communities throughout California; the Program is beginning to make a significant impact.

Around former lead-acid battery recyclers, we are finding that their operations contaminated areas in proximity to those recyclers. But we are also finding that lead concentrations often exceed the 80-ppm soil-lead residential screening standard beyond the range of discernable impact of the former battery recycler location being evaluated. In fact, it is known that communities worldwide, across the United States, and in California have been impacted by lead contamination from a variety of sources, including past industrial operations like lead-acid battery recycling but also non-battery industrial facilities, lead-based paints, lead pipes, mining waste, and the historical burning of lead in gasoline. This is why we are investing in research with the United States Geological Survey (USGS) to develop a methodology to help differentiate the various potential sources of lead found in soil. This will help provide an additional scientific tool to bolster our existing tools and methods.

Exposure to lead is a public health concern. A growing body of academic research and federal government investigations, coupled with our own work in the LABRIC program and in other sites across the State is finding that lead contamination is widespread – with half of lead measurements in Los Angeles, Santa Ana, West Covina, Roland Heights, Santa Fe Springs, Baldwin Park, Rosemead, West Oakland, and Sacramento exceeding residential screening levels. Areas of elevated lead are typically in disadvantaged communities and represent an environmental injustice. The LABRIC program and its associated funding provides an important tool to address lead contamination from leadacid battery recyclers but does not provide funding to cleanup lead contamination caused only by other sources.

Not all areas of the state with elevated metals (e.g., lead) levels were contaminated by lead-acid battery recyclers. Accordingly, DTSC is evaluating the broader community-lead problem, and tools and funding available to DTSC (and its partners) to potentially address that problem. DTSC recognizes the importance of protecting communities from toxic lead exposures where battery recyclers are not a contributing source.

1. Introduction

The past 180 years of industrialization of California has left a legacy of contaminated sites across the State. During most of this period, industry operated without modern pollution controls – because they had not yet been invented and the risks were not yet fully understood. The understanding of risk to health and the environment has been an evolving process based on scientific findings. In the 1970s and 1980s, State and federal law began regulating industrial sources of pollution. Over the past 50 years this regulation resulted in the development and use of increasingly effective modern pollution controls that today have dramatically reduced the release of pollution into our air, water, and land.

While these controls are effective today, many sites across the state are contaminated by a wide array of pollutants, ranging from toxic metals like lead and other heavy metals from manufacturing facilities, volatile organics from dry cleaning sites and the defense industry, and many other pollutants and sources. One major source of historical lead contamination at sites is from lead-acid battery recycling facilities. Historically many of these facilities operated across California. One well known example is the former lead-acid battery recycling facility in Vernon, California, most recently operated by Exide Technologies before its 2015 closure. This facility started operating in the 1920s and operated without any emissions controls of any kind until around 1950, and never fully installed modern emission control technologies before it permanently closed and started dismantling the facility.

The Department of Toxic Substances Control's (DTSC) mission is to protect California's people, communities, and environment from toxic substances, which includes remediating contaminated properties throughout the state. It is common to refer to "cleanup" activities at sites, but the term remediation is more appropriate. When a site is contaminated, it poses a public health and environmental risk. Cleaning up sites is challenging, and sometimes hazardous. It is not always possible, cost-effective, or health protective to remove all hazardous materials from a site. Cleanups are really remediation efforts designed to reduce and manage – not eliminate risks.

State and federal law governing the cleanup of contaminated sites is rooted in the idea that the companies and people who released a hazardous substance into the environment should pay for the costs of remediating that release. In the case of lead-acid battery recycling facilities, most of these facilities ceased their operations long ago. In 2016, the California Legislature passed the Lead-Acid Battery Recycling Act (Act) to help DTSC investigate, and address, impacts caused by lead-acid battery recycling facilities. To that end, DTSC's LABRIC Program identifies communities impacted by lead-acid battery recycling facilities and the Act provides funding for activities such as soil removal and placement of barriers to cut off pathways of lead exposure. The Act also allows for the oversight or performance of investigation and cleanup activities to protect public health and the environment from hazardous substances and hazardous waste at or from the former Exide Technologies, Inc. (Exide) lead-acid battery recycling facility located in the City of Vernon.

These activities are funded by the Lead-Acid Battery Cleanup Fund (Fund), which collects fees on the lead-acid battery industry. The Fund provides resources that can be appropriated for administration of the Fund and for DTSC's administration and implementation of the Act. The Act also specifies that Fund moneys may be appropriated to repay certain loans such as the \$176.6 million 2016 General Fund loan for investigation and cleanup of sensitive landuse properties surrounding the former Exide lead-acid battery recycling facility.

This report describes DTSC's actions to implement the Act. DTSC's LABRIC Program identifies areas of the state that qualify for investigation and that may also qualify for potential cleanup and/or other response actions due to contamination resulting from the operation of lead-acid battery recycling facilities.

Pursuant to the Act, DTSC is required to report annually to the Legislature on the status of the Fund and on DTSC's progress in implementing the Act. This annual report summarizes LABRIC Program actions completed during the period of January 1, 2022, through December 31, 2023. This report also provides key information about the state of the science of lead contamination in soil, anticipated future actions under the LABRIC program, and summarizes Fund revenues and expenditures by fiscal year.

2. Implementation of the LABRIC Assessment Process

Through the LABRIC Program, DTSC identifies communities impacted by former or current lead-acid battery recycling facilities and then provides funding for activities such as soil removal and replacement and/or placement of barriers to cut off pathways of lead exposure. This work is conducted through a stepwise investigation process:

- Screening to identify the location and operation of (mostly former and long closed) lead acid battery recycling facilities;
- Determination whether the facility site and surrounding area is reasonably suspected to have been contaminated by the lead-acid battery recycling facility's operations;
- Investigation (usually involving sampling) to evaluate the extent of contamination at and surrounding the facility;
- Designation of the facility location and/or a defined surrounding area as having been determined with reasonable certainty to have been contaminated by releases from the operation of a lead-acid battery recycling facility;
- Further sampling within the area as needed for development of remediation plans; and
- Implementation of remediation plans.

2.1 Status Updates on Area Screening

Screening for potential lead-acid battery recycling sites is conducted consistent with guidance staff developed and published in 2020.⁵ The screening activities involve searching regulatory databases, historical Yellow Pages, online directories, and trade directories for potentially qualifying sites. Search criteria include keywords such as "battery storage," "battery reclamation," "metal reclamation," "recycling of scrap metal," "lead," "junk dealers" and "scrap metals." Staff also work with the United States Environmental Protection Agency (U.S. EPA) to obtain documents for sites within U.S. EPA's Multisystem Search database. Search criteria for the Multisystem Search Database included North American Industry Classification System (NAICS) code 331492 (described as secondary smelting, refining, and alloying of nonferrous metal [except Copper

⁵ https://dtsc.ca.gov/wp-content/uploads/sites/31/2020/12/LABRIC-Screening-Criteria.pdf

and Aluminum]) and NAICS code 423930 (described as recyclable material merchant wholesalers).

In 2022 and 2023, staff continued to work on identifying areas in California that may be eligible for use of Fund moneys for investigation or site evaluation under the Act. Summaries of the LABRIC Program's screening activities are provided below. During the reporting period, record searches were conducted on the following sites:

- Alco Pacific Inc., 16908 South Broadway St., Carson
- Liberty Manufacturing Inc., 2233 E. 16th Street, Los Angeles
- ASARCO, 1217 East 6th St., Los Angeles
- ASARCO, 4010 East 26th St., Vernon
- Ben Chersky & Sons, 3500 Emery St., Los Angeles
- Western Lead, 2182 East 11th St., Los Angeles
- AZ-Decasing Company, 1420 South Signal Drive, Pomona
- Aqua Metals, 501 23rd Avenue, Oakland
- AM Metals & Salvage Co., 2323 West 5th Street, Santa Ana
- Bruce Metals & Salvage, 920 East 6th Street, Santa Ana
- B&B Junk Company, 808 E Slauson Ave, Los Angeles
- Andys Scrap Metals, 2323 W. 5th St, Santa Ana
- Aero Iron & Metals, 9625 S Alameda St, Los Angeles
- Allied Metals & Supply, 7673 S. Alameda St, Los Angeles
- Berg Bros Iron & Metals Co Inc., 2402 Long Beach Ave West at E 24th, Los Angeles
- Bisheff Iron & Metal Corp/Newman Iron & Metal Co/Kramer Metals, 1720-1760 E Slauson Ave, Los Angeles
- Cassey Junk Co., 5324 San Fernando Rd, Glendale
- Hartman Metals, 6312 Holmes Ave, Los Angeles
- Lakeside Junk Dealers, 412 Madison St, Oakland
- Battery Salvage Corp, 208 Madison, Oakland
- Southern California Salvage Company, 1684 Logan, San Diego
- ABC Iron and Metal Company, 2699 Commercial St, San Diego

2.2 Current and Upcoming Investigations

DTSC staff is actively investigating the Berg Metals and C&S Battery and Lead Company sites, and is preparing to investigate the Alco Pacific, Inc., and Battery Sales and Processing Company sites.

2.2.1 Berg Metals

Since 2021, DTSC has been investigating the former Berg Metals site located at 2652 Long Beach Avenue in Los Angeles. While today the Berg Metals site is developed with warehouses, in the early 20th century Berg Metals recycled leadacid batteries at the site. The facility ceased operations in 1958. Over the past several years, DTSC took more than 2,100 soil samples along public rights of way and other accessible locations within a one-mile distance of the facility.

The data show highest levels of lead in very close proximity to the former facility, a decrease in lead concentrations moving away from the facility, and a chemical signature matching historical Berg Metals operations. As a result, DTSC in January 2024 designated the former facility and an area within approximately 1,500 feet surrounding the facility⁶ as having been determined with reasonably certainty to have been contaminated by the operations of the former Berg Metals facility. The designation area is delineated in Figure 1.⁷

In early November 2023, DTSC sent a notice for the designation to all the owners of properties within the reasonable certainty designation area and outside the designation area up to one mile radius from the former Berg Metals facility. DTSC took and addressed public comments on this reasonable certainty designation between November 2023 and early January 2024, as well as hosted a hearing on November 30, 2023 before finalizing the designation in January 2024. After the designation, DTSC immediately started planning and preparation for contacting the owners of all sensitive properties within the designated area to request access and schedule follow-up sampling. After analyzing data collected from the follow-up sampling in the reasonable certainty designation

⁶Sampling in public rights of way was performed out to one mile from the former facility location. Elevated levels of lead (i.e., levels above 80 ppm) were found in some samples between 1,500 feet and one mile, albeit generally at lower concentrations than found within 1,500 feet. Evidence available to date did not support a reasonable certainty that the area outside the approximate 1,500-feet designation area was contaminated by Berg Metals' operations.

⁷MacNicholl, P, (2023). Reasonable Certainty Designation. Available at: https://dtsc.ca.gov/berg-metals-reasonable-certainty-designation/

area, DTSC will evaluate the need to sample properties outside the designated area, at which point more property owners will be contacted. Meanwhile, DTSC has been actively collaborating with multiple local public health agencies to provide residents with information and resources about best practices to minimize lead exposure. The reasonable certainty designation allows DTSC to expend money from the LABRIC Fund to further investigate whether specific properties impacted by the lead acid battery recycling facility's operations and to remove any contamination that poses unacceptable health or ecological risks.



Figure 1. Berg Metals Reasonable Certainty Designation Area

This determination allows DTSC to conduct more detailed sampling within the designated area to identify individual properties with elevated lead levels, and to take action to reduce exposure to lead where needed. We are currently planning additional sampling and, if elevated lead levels at individual (e.g., residential) properties are identified, staff will work to develop a remedial action plan. Development and evaluation of a remedial action plan requires analysis under the California Environmental Quality Act (CEQA) and so can take a couple of years to complete. Once this plan is finalized, remediation if needed could commence.

2.2.2 C&S Battery and Lead Company

The former C&S Battery and Lead Company recycled lead-acid batteries at 860 Riske Lane in West Sacramento from 1952 until 1978. The site is currently occupied by a construction supply company and is within Bridge District in West Sacramento. In May 2022 DTSC staff initiated an investigation of the property and an area around it under the LABRIC Program. In follow up to the May 2022 public notice, DTSC conducted public webinars on June 8, 2022, and June 15, 2022, to enhance public awareness and participation. DTSC accepted comments and/or information submitted by the public from May 25, 2022, through August 25, 2022.

DTSC has completed soil and groundwater sampling on the former C&S Facility property, and soil sampling on several parcels within the 0.25-mile radius of the property, including the California Department of Transportation right-or-way and the Union Pacific Railroad property. DTSC has received some agreement for access and continues to work on obtaining access from all remaining property owners in the investigation area.

2.2.3 Former Alco Pacific Inc.

The LABRIC Program is preparing to initiate sampling at and around this site in Carson, after the workplan is finalized and approved and sufficient sampling access agreements are obtained from property owners to ensure an efficient process. More specifically, in 2022 the LABRIC Program worked on a screening report for the former Alco Pacific Inc. site. In June 2022, the LABRIC Program executed a contract to develop a work plan and conduct soil and groundwater sampling at 387 locations at and around the former Alco Pacific site. The LABRIC Program signed a Start Work Order in early 2023 to authorize DTSC's contractor to begin work under the contract. The contractor has

prepared a draft workplan for DTSC's approval. DTSC expects that it will require a significant amount of time to obtain access to private properties where soil sampling is planned. A public notice of the initiation of investigation and site evaluation of the area at and around the former Alco Pacific Site will be provided after the investigation work plan is approved and a majority of site access has been obtained to conduct the investigation and site evaluation. The LABRIC Program will include a link to the final screening report on DTSC's website with the public notice.

2.2.4 Former Battery Sales and Processing Company (BASAPCO).

The LABRIC Program is preparing to initiate sampling at and around this South San Francisco site, after the workplan is finalized and approved and sufficient sampling access agreements are obtained from property owners to ensure an efficient process. In 2023 the LABRIC Program worked on a screening report for the former Battery Sales and Processing Company site. In November 2023, the LABRIC Program executed a contract to develop a work plan and conduct soil and groundwater sampling at 339 locations at and around the former BASAPCO site. The LABRIC Program signed a Start Work Order in December 2023 to authorize DTSC's contractor to begin work. It is expected that a significant amount of time will be needed to secure access to private properties where soil sampling is to be collected. A public notice of the initiation of investigation and site evaluation of the area at and around the former BASAPCO Site will be provided after the investigation work plan is approved and site access has been obtained to conduct the investigation and site evaluation. The LABRIC Program will include a link to the final screening report on DTSC's website with the public notice.

2.3 Remediation at the Former Exide Technologies Facility

The former Exide lead-acid battery recycling facility in Vernon, California, ceased operation in March 2014 and is currently undergoing closure under Resource Conservation and Recovery Act (RCRA) pursuant to a Closure Plan and Final Environmental Impact Report approved by DTSC in December 2016. In 2015, based on a preliminary analysis of available data, DTSC estimated that Exide's operations may have contaminated residential properties up to 1.7 miles away from the facility. The area covered by an approximately 1.7-mile radius surrounding the former facility is known as the Preliminary Investigation Area (PIA). The Act allows DTSC to use the Fund for oversight of closure activities and corrective actions aimed at protecting public health and the environment from hazardous substances and hazardous waste at or from the former Exide facility.

DTSC utilized approximately \$1.75 million of Fund money appropriated in FY 2021/22 on facility closure and corrective action and on removal investigation and final human health risk assessment for parkways within the PIA. These funds included:

- Approximately \$150,000 for DTSC to finalize the Investigation Report, finalize the Human Health and Risk Assessment (HHRA), address any associated California Environmental Quality Act (CEQA) requirements and documentation, and review and approve Design Plans and Engineering Drawings for the residential parkways;
- Approximately \$600,000 to conduct third party quality assurance and dust mitigation oversight during the implementation of Phase I Closure of the facility; and
- Approximately \$1.0 million to support DTSC's activities to oversee and implement the ongoing RCRA closure and corrective action work.

The budget act authorized approximately \$1.3 million of Fund money appropriated in FY 2022/23 on Exide facility closure and corrective action. These funds included:

- Approximately \$600,000 to conduct third party-quality assurance and dust mitigation oversight during the implementation of Phase 1 Closure of the facility; and
- Approximately \$706,000 to support DTSC's activities to oversee and implement the ongoing RCRA closure and corrective action work.

The budget authorized approximately \$41.7 million of Fund money appropriated in FY 2023/2024 on Exide facility closure and corrective action and on the cleanup of parkways within the PIA. These funds will include:

- Approximately \$600,000 to continue the third party-quality assurance and dust mitigation oversight during the implementation of Phase 1 Closure and remaining building decontamination and deconstruction at the facility;
- Approximately \$706,000 to continue support for DTSC's activities to oversee and implement the ongoing RCRA closure and corrective action work; and
- Approximately \$40.4 million for cleanup of parkways located within 1.7 miles from the Exide facility. A second funding amounting to \$27M will be

made available during FY 24/25 to complete cleanup of all the eligible parkways.

3. Urban Lead Contamination and the LABRIC Program

The LABRIC Program was established, in large part, to address elevated lead in communities resulting from the operation of lead-acid battery recyclers. The Program is beginning to make a significant impact. Around former lead-acid battery recyclers, while we are finding that lead concentrations are highest in proximity to those recyclers, we are also finding that lead concentrations often exceed the 80-ppm soil lead residential screening standard beyond the suspected range of impact of the former battery recycler location being evaluated.

The Berg Metals investigation is a prime example. The Berg Metals investigation revealed the highest levels of lead in close proximity to the former facility. This led to the designation under the Act of an area approximately 1,500 feet surrounding the facility (see section 2.2.1 above and Figure 1). However, median lead levels at 6 inches depth in the community exceeded 200 ppm lead as far as a mile away from the facility. DTSC does not yet have sufficient evidence to be reasonably certain that lead and/or other contaminants from the Berg operations reached locations outside of the approximately 1,500-foot area. From a programmatic perspective and per the Act, limiting the designation to an area where contamination from the past battery recycler is reasonably certain is necessary. Nevertheless, elevated lead is a public health concern in the community regardless of whether any of it came from a lead-acid battery recycler.

3.1 Extent of Urban Lead Contamination

It is well known that communities worldwide, across the United States, and in California have been impacted by lead contamination from a variety of sources, including past industrial operations like lead-acid battery recycling, but also from lead-based paints, the burning of lead in gasoline, mining, and other non-battery industrial operations. These impacts are greatest in our disadvantaged communities – our oldest, long-standing, low income, communities of color. These communities are located in close proximity to industry and freeways and reflect a legacy of past public and private sector land-use management policies and financial processes that historically limited public and private financial services to people of color. This set of practices included both race and environmental factors as criteria in assessing the perceived creditworthiness of neighborhoods and led to many of the environmental disparities we see affecting communities of color across the state today.⁸

Exposure to lead is a public health concern. A growing body of academic research and federal government investigations, coupled with our own work in the LABRIC Program and in other sites across the state is finding that lead contamination is more widespread than anticipated. The Berg Metals investigation area is one example. DTSC has seen similar results in West Covina, Roland Heights, Santa Fe Springs, Baldwin Park, and Rosemead.^{9,10} In 2023, the United States Environmental Protection Agency found elevated lead concentrations which could not at the time be attributed to any single source across West Oakland and in south central Los Angeles.^{11,12} Previous academic studies found elevated soil lead in Sacramento¹³, West Oakland¹⁴, Los Angeles¹⁵, and Santa Ana.¹⁶ DTSC has also seen elevated lead levels in non-urban areas of

- ¹⁰Department of Toxic Substances Control (2023b). Exide Progress of Residential Cleanup & Investigation. Available at: <u>https://dtsc.ca.gov/progress-of-residential-cleanup-investigation/</u>
- ¹¹Weston Solutions Inc (2021). WEST OAKLAND LEAD SAMPLING STUDY Oakland, Alameda County, California. EPA ID: CA0001576081; USACE Contract Number: W912P7-16-D-0001; Document Control Number: 20074.067.008.0004.01.

¹²Weston Solutions Inc (2023). Site Inspection Report Central Metal Huntington Park, Los Angeles County, California. EPA ID No.: CAN000903324 USACE Contract Number: W912P7-16-D-0001 Document Control Number: 12767.900.004.2000.02.

- ¹³Solt, M, (2010). Multivariate Analysis of Lead in Urban Soil in Sacramento, California. Submitted in partial satisfaction of the requirements for the degree of Master of Science in Geology at California State University, Sacramento.
- ¹⁴McClintock, N; (2012). Assessing Soil Lead Contamination at Multiple Scales in Oakland, California: Implications for Urban Agriculture and Environmental Justice; Applied Geography 35 (2012) 460e473.

⁸California Environmental Protection Agency (2021). Pollution and Prejudice: Redlining and Environmental Injustice in California. Available at: Pollution and Prejudice (arcgis.com).

⁹Department of Toxic Substances Control, (2023a). Ecobat (Formerly Quemetco) Community Update. Presented November 8, 2023.

¹⁵Wu, J; Xuequin, H; Zhen, L; Kleinman, M; (2010). Spatial Analysis of Bioavailable Soil Lead Concentrations in Los Angeles, California. Environmental Research 110 (2010) 309–317.

¹⁶Rubio, J.M; Masri, S; Sun, Y; Villegas, K; Flores, P; Logue, M; Reyes, A; LeBron, A; Wu, J (2022). Use of Historical Mapping to Understand Sources of Soil-Lead Contamination: Case study of Santa Ana, CA. Environmental Research 212 (2022) 113478.

California.¹⁷ Most recently, United States Environmental Protection Agency staff conducted an analysis to determine areas in the country most at risk for lead exposure and children's lead poisoning from wide variety of sources. In California, areas with the highest potential for lead exposure risk include the Los Angeles region, Alameda and San Francisco counties in the Bay Area, and Fresno and Kern Counties in the San Joaquin Valley.¹⁸

These results are important because lead is a potent toxin, especially in children who can experience permanent brain damage if blood lead levels are elevated. This brain damage can cause life-long behavioral and learning impacts.

3.2 Urban Lead Source Attribution

Because communities can be impacted by lead from lead-acid battery recyclers and other sources, and because the LABRIC Program focuses on lead only from lead-acid battery recyclers, we are investing in research with the United States Geological Survey (USGS) to develop a methodology to help differentiate the various potential sources of lead found in soil. This will help provide an additional scientific tool to bolster our existing tools and methods.

If the results of the USGS lead attribution study are successful at differentiating contamination from various sources of lead, they will provide an additional line of evidence to further support the LABRIC Program's determinations as to whether an area of the state has been contaminated by releases from the operation of a lead-acid battery recycling facility. The USGS has nationally recognized researchers and analytical laboratories to assist in developing this methodology. A service contract with the USGS was executed in April 2021 for this effort and the expiration date of the contract with the USGS was extended to June 30, 2024. In addition, another potential source of lead (namely, aviation leaded gasoline) is being added to the study. A contract amendment was executed in November 2023 for continuation of the attribution study.

DTSC and USGS have been working together to develop a "Sampling and Analysis Plan" and "Quality Assurance Project Plan" for the study. Access to

¹⁷https://dtsc.ca.gov/smrp-projects/greenville/

¹⁸Zartarian, V., Xue, J., Poulakos, A., Tornero-Velez, R., Stanek, L, Snyder, E., Helms Garrison, V., Egan, K., Courtney, J. A US Lead Exposure Hotspots Analysis (2024). Environmental Science and Technology. Available at: <u>https://doi.org/10.1021/acs.est.3c07881</u>

potential sampling locations, based on source type, has been coordinated with representatives from United States Environmental Protection Agency, California Department of Transportation, local governments, industry contacts, and subject matter experts. Sampling began in December 2021 and continued in 2022. As of December 31, 2022, a total of 215 soil samples had been collected of the planned 400 samples. Additional sampling was conducted in 2023 to support the effort of developing the methodology. It is expected that the attribution study will be completed by the end of 2024. The attribution study is not site-specific or related to any particular location of a former lead-acid battery recycling facility. If successful, it will provide an analytical tool to subsequently deploy on a site-specific basis.

4. Cost Recovery and the LABRIC Program

The LABRIC Program can access money from the Fund to support the investigation and remediation of sites contaminated by former lead-acid battery recycling facilities. However, California's cleanup programs are based on the idea that the polluter pays for their contamination. Thus, cost recovery is an important part of the LABRIC Program – when responsible parties can be identified.

Cost Recovery Management System (CRMS) issues invoices to responsible parties, tracks cost data, records payments, and reconciles account balances to verify that claims for reimbursement are accurate. CRMS also maintains data on the number of invoices processed and the payments received and provides reports and tracking tools related to cost recovery. The information maintained in CRMS is critical for supporting litigation efforts by DTSC and the Attorney General against responsible parties, as well as for responding to Public Records Act (PRA) requests.

Using LABRIC funding, DTSC is creating a new Cost Recovery Management System. This system is required to comply with Chapter 456, Statutes of 2015 (AB 273, Alejo, et al), which establishes a two-tiered interest rate for overdue accounts, one for Local Governmental Agencies and one for all others. The CRMS project was approved by the California Department of Technology in November 2019, and the project kicked off later that month. The CRMS replacement project has three phases:

Phase 1 is a buildout of billing system core functionality.

Phase 2 incorporates other essential functionality, including a web portal and automation of collection letters.

Phase 3 adds connection to other internal data systems for enhanced reporting and case management capability to turn the new billing system into a full cost recovery management system.

DTSC implemented Release 1 of CRMS ahead of schedule on April 1, 2021, Release 2 on February 25, 2022, and Release 3 on September 30, 2022. The project was completed November 30, 2022. This new system provides the modern tools necessary to increase efficiency and improve our effectiveness in cost-recovery actions not only for LABRIC sites, but for all sites managed by DTSC.

5. Fund Status and Enforcement

The Lead-Acid Battery Cleanup Fund (Fund) is supported by revenues generated by fees (the California Battery Fee) on the retail sale of replacement¹⁹ lead-acid batteries. The fee was \$1 per replacement lead-acid battery until April 1, 2022, when the fee increased to \$2 per replacement leadacid battery sale at retail. Similarly, manufacturers also pay the California Battery Fee per replacement lead-acid battery intended for retail sale. The Fund received a total of \$26.8 million in FY 2021-2022 and \$32.8 million in FY 2022-2023. Staff estimate that it will receive \$33.4 million in revenues in FY 2023-2024.

Historical Fund revenue, expenditures and balances for each fiscal year are summarized in the following table. Based on the Governor's 2024-25 January budget release, the Fund balance was at \$62.2 million, as shown in Table 1 below.

¹⁹Original lead-acid batteries contained in a new car sold at retail, for example, are not subject to the fee. The fee is intended for lead-acid batteries being sold standalone to replace a spent battery, for example.

	Beginning	End		Expenditure	Expenditure	Loan	
	Balance	Balance	Revenue	(DTSC)	(CDTFA)	payments	Loan
FY	(\$million)						
2016-2017	0	3.9	3.9				
2017-2018	3.9	7.4	17.5	0.6	0.8	10.0	1.4
2018-2019	7.4	3.0	15.9	2.2	1.4	16.7	0
2019-2020	3.0	12.5	15	3.1	1.5	0	0.9
2020-2021	12.5	21.2	20.1	9.3	2.1	0	0
2021-2022	21.2	38.3	27.2	9.0	1.1	0	0
2022-2023	38.3	62.2	32.9	8.9	1.0	0	0
2023-2024							
(estimated)	62.2	40.4	32.9	53.0	1.7	0	0

Table 1. Fund Balance and Expenditures by Year.

The FY 2023-2024 Budget Act authorized a total of \$54.5 million from the Fund, including \$52.3 million for DTSC and \$1.7 million for CDTFA.

To date, \$26.7 million of the 2016 loan for Exide cleanup activities has been repaid and the remaining balance of this loan is \$148.7 million. AB 2104, signed into law in September 2020, (2020) requires moneys be expended for the repayment only after LABRIC Program activities and former Exide related ongoing activities are fully funded.

5.1 Compliance and Enforcement

To ensure a level playing field across industry, the LABRIC Program staff conducts inspections, compliance assistance and enforcement if necessary to ensure the requirements of the Act are implemented. These requirements include dealers displaying notice of specific aspects of the Act (by signage or on purchasers' receipts), charging battery fees, charging refundable deposits on replacement lead-acid batteries, and receiving and handling used lead-acid batteries to their required numerical maximums (up to six per customers per day). Manufacturers of lead-acid batteries must also meet certain labeling requirements. Table 2 shows the number of inspections and compliance status from inspections by time period.

Time Period	Number of Inspections	Number of Dealer with Initial Non- Compliance	Final Number of Non- compliance Dealers after Follow-ups
01/01/22-06/30/22	46	26	0
07/01/22-06/30/23	59	15	0
07/01/23-12/31/23	24	5	1

Table 2. Fund Inspections and Enforcement

During this reporting period, the LABRIC Program conducted inspections regarding 129 battery dealers (e.g., vehicle dealership parts departments, leadacid battery retail stores, online retailers) or manufacturers. From January 1 to June 30, 2022, 46 in-person inspections were conducted, from July 1, 2022 to June 30, 2023, 59 telephone inspections (tele-inspections), and from July 1, 2023, to December 31, 2023, 24 tele-inspections were conducted. Dealers for teleinspections were randomly selected from the registration list provided by CDTFA. All 46 planned FY 2021-2022 inspections were completed before June 30, 2022. FY 2022-2023 planned inspections were completed on schedule and FY 2023-2024 planned inspections are ongoing. The 129 inspections found 77.5% compliance for the refundable deposit and the California battery fee notice, but inconsistent compliance with respect to the number of used lead-acid batteries that can be accepted free of charge from one person per day. Follow-ups conducted after the initial inspections showed that all the inspected dealers except one made corrective actions to achieve compliance.

The LABRIC Program plans to inspect and conduct outreach to at least 50 leadacid battery dealers and manufacturers annually each calendar year.

6. Conclusions and Next Steps

Lead exposure is a serious health risk; the LABRIC Program supports DTSC in assessing and reducing soil-exposure risks in communities contaminated by leadacid battery recycling facilities. This report demonstrates that the LABRIC Program is working – sites are being identified, investigated, and designated for cleanup as needed. The Fund is providing valuable resources to the Exide cleanup, and to cost recovery management in the program. This work is helping to reduce lead risk in vulnerable communities as intended by the Act.