



# Albuquerque Bernalillo County Water Utility Authority

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December 15, 2023

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## **RE: NPDES Permit No. NM0022250 Mercury Minimization Plan Implementation Report**

Mr. Nguyen,

Attached is the Albuquerque Bernalillo Water Utility Authority's **Mercury Minimization Plan Implementation Report** for NPDES Permit No. NM0022250 as required in the permit Section G for year four of the permit. There have been no new discharge permit limit exceedances for mercury since the minimization plan was implemented in December of 2022. The Water Authority has updated the NPDES Pretreatment Program to incorporate increased mercury monitoring as well as other permitting process improvements to the routine annual investigations. Future reporting on mercury investigations for the Pretreatment Program will be included in a section of the program's annual report.

Contact me with any questions on the implementation report at (505) 289-3382 or [dshuryn@abcwua.org](mailto:dshuryn@abcwua.org).

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Albuquerque Bernalillo County  
**Water Utility Authority**

**Mercury Minimization Plan  
2023 Implementation  
Status Report**

Albuquerque Bernalillo County  
Water Utility Authority

# Table of Contents

<b>Executive Summary .....</b>	<b>1</b>
<b>Section 1: 2023 Overall Mercury Minimization Plan Implementation.....</b>	<b>3</b>
1.1 2023 Mercury Pretreatment Sampling Plan .....	3
1.2 2023 Mercury Data Analyses .....	3
Figure 1.2a – SWRP Routine Interceptor Sampling Points.....	5
Figure 1.2b – STA20 Routine Interceptor Sampling Point.....	6
1.3 Monitoring of Commercial and Industrial Users.....	7
1.4 Update NPDES Pretreatment Program Policies .....	7
1.5 Southside Water Reclamation Plant (SWRP) Best Management Practices (BMPs).....	8
1.6 Public Education.....	9
<b>Section 2: Phase II and III MMP Mercury Sampling Completed .....</b>	<b>10</b>
2.1 2023 Mercury Sampling Plan .....	10
2.1.1 Completing Phase II Sampling from the 2022 MMP.....	10
2.1.2 Evaluation of Sample Collection Techniques (Composite vs Grab) .....	10
Figure 2.1.3a Mercury Loading from Each Interceptor – Historical and 2022 MMP .....	12
Figure 2.1.3b Mercury Loading from each interceptor for 2023 MMP Implementation.....	12
2.1.4 Planning and Execution of Phase III Sampling .....	12
<b>Section 3: Mercury Data Analyses .....</b>	<b>16</b>
<b>3.1 Phase III Data Analysis .....</b>	<b>16</b>
3.1.1 Findings from the 2023 Data Collection .....	19
Table 3.1 Concentration, Loading and Hot Spot Summary.....	19
Figure 3.1.1a -- Sampling Results – SWRP Mercury Mass Loading .....	20
Figure 3.1.1b -- Sampling Results – Lift Station 24 Mercury Mass Loading .....	21
Figure 3.1.1c -- Sampling Results – STA20 Mercury Mass Loading.....	22
Figure 3.1.1d -- Sampling Results – Upper I-25 Mercury Mass Loading .....	23
Figure 3.1.1e -- Sampling Results – North Valley Mercury Mass Loading.....	24
Figure 3.1.1f -- Sampling Results – Los Ranchos Mercury Mass Loading.....	25
Figure 3.1.1g -- Sampling Results – Lower 142A/Edith Mercury Mass Loading.....	26
Figure 3.1.1h -- Sampling Results – Nob Hill Mercury Mass Loading.....	27
Figure 3.1.1i -- Sampling Results – Midtown Mercury Mass Loading .....	28
Figure 3.1.1j -- Sampling Results – Kirtland AFB Mercury Mass Loading.....	29
Figure 3.1.1k -- Sampling Results – Southern Airport Mercury Mass Loading.....	30
3.2 Industrial & Commercial Data Analysis: Point Source Identification.....	31
3.2.1 Industrial User Point Sources.....	31

Figure 3.2.1a – Standard Industrial Classification (SICs) of Interest Overview Map .....	32
3.2.2 Dental Facility Point Sources.....	33
Table 3.2 – 2023 Dental Facility Monitoring Mercury Concentrations.....	33
Figure 3.2.2b – 2023 Dental Facility Monitoring Mercury Concentrations .....	34
3.3 GIS Development .....	34
<b>Section 4: NPDES Pretreatment Program Policy Updates .....</b>	<b>36</b>
4.1 Modification to the Approved Pretreatment Program.....	36
4.2 Re-Evaluation of Closed Permits.....	36
4.3 Program Revisions.....	37
4.4 Program Efficiencies.....	37
<b>Section 5: Southside Water Reclamation Plant (SWRP) Best Management Practices .....</b>	<b>38</b>
5.1 Ultraviolet Treatment Unit Improvements.....	38
Figure 5.1- Flow Chanel View.....	38
5.2 Biofilm Cleaning .....	38
Figure 5.2a - Debris removed during the diver cleaning.....	39
Figure 5.2b - Sediment removed from the UV inlet channel. ....	40
Figure 5.2c - Submersible pump equipment used to remove material from the channels. ....	40
5.3 Response to SWRP Mercury Problems .....	41
Figure 5.3 – SWRP Effluent Mercury Concentration Plot .....	41
<b>Section 6: Public Education.....</b>	<b>42</b>
6.1 Medical Self-Audit.....	42
6.2 Customer Outreach.....	42
<b>Section 7: Future Objectives .....</b>	<b>43</b>
7.2 Ongoing Mercury Reduction Objectives .....	43
Appendix A Permitted Active Industrial Users.....	44
Appendix B List of Potential Mercury SIC Industries on Westside.....	47
Appendix C Closed Permits – Hospitals & Medical Facilities .....	49
Appendix D 2023 Mercury Sampling Data Spreadsheet.....	50
Appendix E Composite vs. Grab Comparison Calculations .....	55
Appendix F_Mercury Sampling Results – Concentration & Loading (Edith).....	56
Appendix F_Mercury Sampling Results – Concentration & Loading (Valley) .....	57
Appendix F_Mercury Sampling Results – Concentration & Loading (Tijeras) .....	58
Appendix F_Mercury Sampling Results – Concentration & Loading (West Side) .....	59
Appendix G Dental Facility BMP Pamphlet .....	60
Appendix H Mercury Sample Cost Analysis .....	62

# Executive Summary

The Albuquerque Bernalillo County Water Utility Authority (Water Authority) is required by National Pollutant Discharge Elimination System (NPDES) Permit No. NM0022250 to prepare a Mercury Minimization Plan (MMP) for the Southside Water Reclamation Plant (SWRP) to reduce mercury levels in the plant influent and effluent. The MMP was submitted to the Environmental Protection Agency (EPA), Pueblo of Isleta (POI), and NM Environment Department in November of 2022. Comments from EPA and POI were provided on the MMP, and a response was given on March 10<sup>th</sup>, 2023. Approval of the MMP was provided by EPA on June 1<sup>st</sup>, 2023. The NPDES Permit also mandates implementation of this plan in year 4 of the permit (2023) and this status report explains the implementation and future practices to meet this requirement.

A significant highlight of the work completed to implement the plan is the work done within the plant to improve the effluent concentrations, including improvements to the ultraviolet treatment unit and the biofilm cleaning of the channels. The treatment plant has implemented the best management practices for channel cleaning and for cleaning throughout the plant. This work was evidently successful as there were neither mercury nor E. coli exceedances in the effluent discharged in the year since this work was completed.

The 2022 MMP executive summary specified that the Water Authority will increase the Pretreatment Program work by monitoring for potential sources of mercury and developing or implementing the best management practices as they apply to target sources identified in the system.

Pretreatment Program implementation highlights include:

- **2022 MMP:** Maintain an updated list of potential and investigated mercury sources for site investigation and monitoring planning. Develop and maintain GIS tools to support mercury planning and tracking efforts.
  - **2023 Implementation:** The MMP provided an extensive list of point sources to investigate. The focus of investigating industrial point sources in 2023 was on previously permitted hospitals and medical facilities. Refer to **Section 4.2** for details. The Pretreatment Program will continue evaluating the users identified on the point source list in the MMP as potential mercury dischargers. Refer to **Section 7** for ongoing implementation action items.
- **2022 MMP:** Target and update Pretreatment Program actions to reduce or eliminate mercury discharges into the sewer to enable the SWRP to progress toward meeting the water quality-based effluent limitation.
  - **2023 Implementation:** The Pretreatment Program has implemented more frequent mercury sampling of the main interceptors coming into the SWRP, throughout the collections system, as well as point source investigations to reduce mercury concentration at the influent. The increased number of mercury samples taken by Pretreatment throughout the Water Authority service area has increased 2.5-3.5 times from 2021-2023. The Water Authority has and continues to make a significant investment in mercury reduction as can be seen in the overview of sampling cost for mercury from 2021 to 2023. (Refer to **Appendix H**).
- **2022 MMP:** Monitor the SWRP influent, effluent, and biosolids quarterly using low level mercury testing methods.
  - **2023 Implementation:** This NPDES permit required monitoring continues to be collected using low level mercury sample collection and laboratory analytical methods.

- **2022 MMP:** Continue to provide assistance and education about sewer discharges and pretreatment to any customers that are potential sources of mercury in the collection system.
  - **2023 Implementation:** The Water Authority conducts public education to pretreatment stakeholders as part of its routine business. The Pretreatment Program targeted dental facilities, identified as one of the highest potential mercury discharge stakeholders, for its public outreach in 2023. Refer to **Section 6** Public Education for more details.

# Section 1: 2023 Overall Mercury Minimization Plan Implementation

## 1.1 2023 Mercury Pretreatment Sampling Plan

The Water Authority will continue mercury monitoring in the collection system and below is the 2023 status on the following MMP tasks:

- **2022 MMP:** Evaluate Westside interceptor Phase I interceptor sampling results for sewer shed categorizations to identify Phase II targeted sampling locations for Westside interceptor. The Water Authority will sample the Westside Phase III targeted locations in 2023.

The Water Authority completed the Westside Phase II targeted sampling 2023.

- **2022 MMP:** Completed remaining Phase II targeted sampling. In 2023, the Water Authority will collect composite samples at the high-priority locations identified in Figure 2.17 in MMP 2022 Report.

In the 2023 Implementation, the Water Authority completed the remaining Phase II target sampling across the entire service area and revised the proposed Phase III sampling. The details of the sampling approach are discussed in **Section 2**. It was found that many grab samples, closer together on collector lines used instead of composite sampling were easier to manage and represents a larger sewer shed. The Water Authority generally compared composite versus grab sampling and determined that there was not a significant benefit from composite sampling that outweighed the additional resources and difficulty that composite sampling in large interceptors & collector lines poses. Refer to **Section 2.1.2** for this evaluation.

- **2022 MMP:** Initiate Phase III, implementation of the MMP by identifying potential point sources with high mercury discharges. Prioritize target customers to be investigated and monitored once mercury discharges are confirmed.

The Water Authority's Phase III approach changed to an increase in grab sampling across the service area to more accurately identify the high priority sewer shed areas. The identification of potential point sources will continue as a routine part of the Pretreatment Program. Point source identification was limited in 2023 and will be on-going. This is discussed in **Section 3.2**.

- **2022 MMP:** Continue with quarterly collection of low-level mercury samples at the influent, effluent and biosolids of the treatment plant.

In addition to the routine monitoring at the plant, monthly low-level mercury sampling was collected on the four (4) main interceptors (Westside, Valley, Edith & Tijeras) leading into SWRP. This monitoring is discussed in **Section 2.1.4** and is a priority addition to the routine monitoring.

## 1.2 2023 Mercury Data Analyses

The Water Authority has completed the following data analyses:

- **2022 MMP:** Analyze the results of Phase II sampling and compare with locations of customers on the Standard Industrial Classifications (SICs) of interest map (Figure 1.1 in MMP 2022 Report), historical dentist offices (Figure 2.2 in MMP 2022 Report) and permitted IUs (Figure 2.1 in MMP 2022 Report) to identify specific laterals or other target locations to monitor for mercury discharge. Incorporate information or monitoring results from on-site investigations of active customers or buildings of historical mercury dischargers.

After analysis of the more targeted Phase II data that was collected in 2022 and finalized in 2023 on the westside of the service area, it was determined that there were too few sample points to identify sewer sheds and collector lines that are specific to point sources. A more extensive revised sampling plan was conducted, and the findings are summarized in **Section 3.1**. Several point sources were identified in the high concentration areas from the SICs of interest and historical dental offices. One currently permitted industrial user is still working with the Pretreatment Program for more follow up after cleaning up their mercury contaminated sumps and drains. These point sources are discussed in **Section 3.2.1**.

- **2022 MMP:** Based on all the results received through 2023, determine baseline routine mercury monitoring that is necessary to monitor all interceptor areas of concern for changes in discharges.

Quarterly, composite interceptor monitoring at each main interceptor entering SWRP is part of routine monitoring. The Water Authority has also been exploring sampling upstream and downstream of the Septage Receiving Facility to attempt to ascertain if there is any mercury coming in from this facility. The Water Authority is exploring the comparison of composite and grab sampling at these locations identified in **Figures 1.2a&b**.



## SWRP Interceptor Manhole Sampling Points

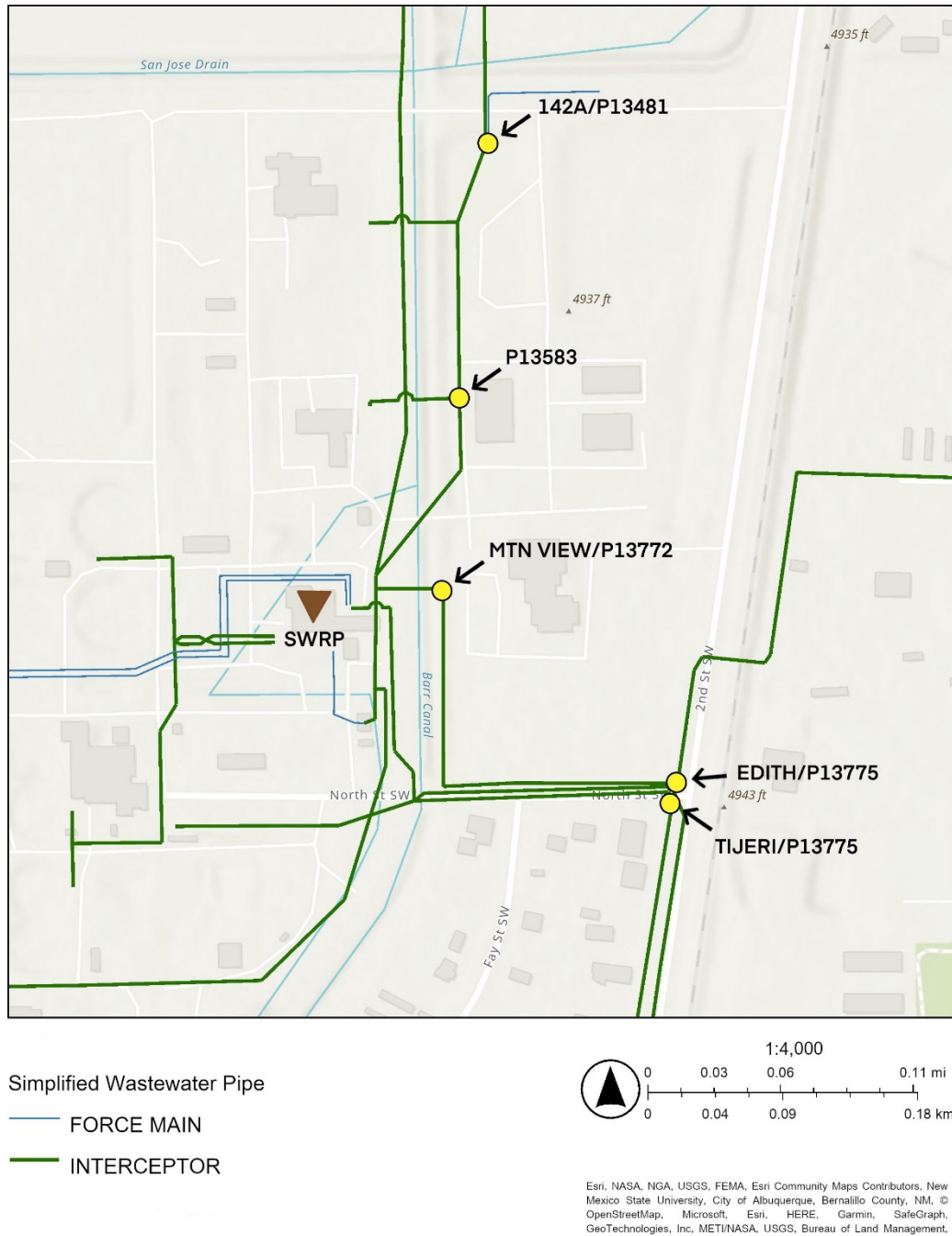
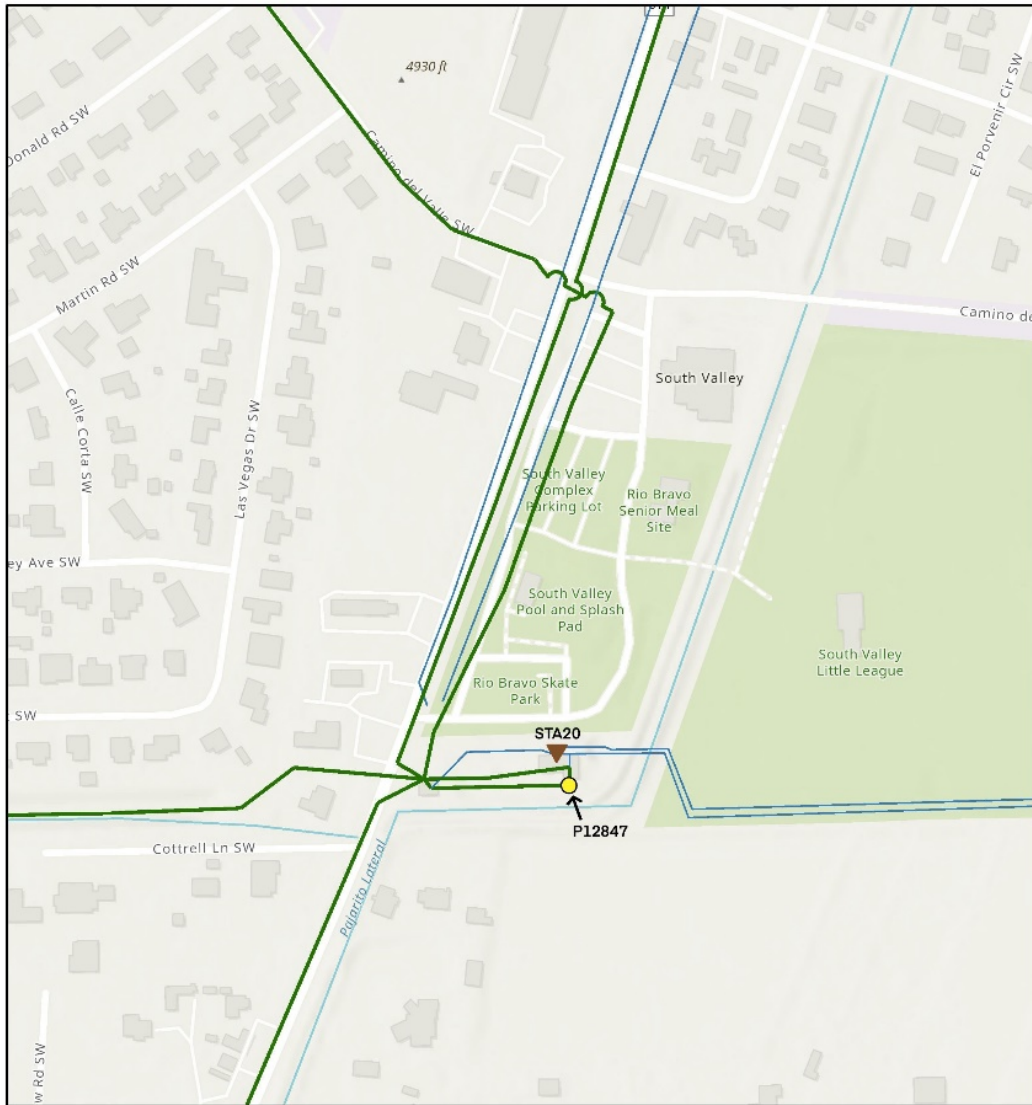


Figure 1.2a – SWRP Routine Interceptor Sampling Points

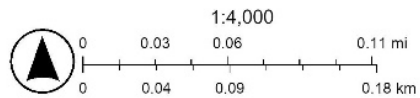
## STA20 Interceptor Manhole Sampling Point



Simplified Wastewater Pipe

— FORCE MAIN

— INTERCEPTOR



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Figure 1.2b – STA20 Routine Interceptor Sampling Point

- **2022 MMP:** Maintain GIS layers for the locations and contact information of all active commercial and industrial customers incorporate information on their SIC code, if they are or ever were permitted, whether they have been investigated and are monitored. Maintain a GIS layer with the locations of historical customers that may have discharged mercury.

Currently the GIS layers for all the locations and mercury results from the MMP have been created and used as static reference maps. As part of the Pretreatment Program improvements, important monitoring locations will become active GIS layers for easier routine spatial analyses. More details on this are discussed in **Section 3**.

## 1.3 Monitoring of Commercial and Industrial Users

The Water Authority will continue to monitor mercury discharges from commercial and industrial users (IUs) beyond 2023 as needed to reduce the mercury concentration of the plant influent. For this purpose, the Water Authority will complete the following tasks:

- **2022 MMP:** Further review and evaluate the active permitted industrial user list included in **Appendix A** for mercury dischargers. This list categorizes current permitted IUs in terms of their potential mercury usage. Based on the sampling results, complete site investigations to verify the IUs with mercury discharge. Implement applicable BMPs to reduce mercury discharge to collection system.

This will be an ongoing task and has become part of routine permitted IU oversight. BMP questions were added to the annual permitted IU inspection. Any permitted IU found with known mercury source on site and potential for discharge was asked to provide information about how they mitigate mercury discharge. Mercury data continues to be collected from industrial users and the Water Authority made the decision to collect mercury using low level method EPA 1631 revision e, with a range of 0.0005 ug Hg/L to 0.1 ug Hg/L, at all industries for higher precision. This was due to historical data having too many non-detect sample results from the normal mercury methods EPA 245.1 or Standard Methods 3112-2011, with a range of 0.2 ug Hg/L to 10 ug Hg/L. This low-level sampling is currently on-going. All permitted IUs who had discharges in 2023 have been sampled for mercury. The additional information collected from industries will be incorporated into the next review of the local limit for mercury in 2026.

- **2022 MMP:** Further review and evaluate the possible dischargers list included in Appendix B in the Mercury Minimization Plan 2022, which identifies the users that have SICs with possibility of mercury discharge based on published literature. Through site inspections, verify the accuracy of user information in this list and any processes used that may discharge mercury. Follow up with confirmed mercury dischargers with education, assistance and a permit application.

The SIC list and hot spots with higher concentrations were evaluated in 2023 to identify potential point sources. A list of the SIC industries was identified for the west side of the service area, which is the highest priority interceptor because data shows that it has the most mercury loading. Two facilities have been inspected and were found to not be mercury point sources. The list of SIC industries can be found in **Appendix B**.

## 1.4 Update NPDES Pretreatment Program Policies

The Water Authority will continue to increase effectiveness of the NPDES Pretreatment Program permitting and enforcement response through the following actions:

- **2022 MMP:** Propose revisions to the enforcement policy that allow for better reduction of pollutants in customer discharges that are causing problems for the POTW and the environment.

Modifications to the Pretreatment Program, which included the updated Enforcement Response Plan, were submitted to EPA for review and approval on August 25<sup>th</sup>, 2023.

- **2022 MMP:** Reopen industrial permits that were closed in the past decade, where customers may have had continued impacts to the sewer system, prioritizing all hospitals and medical facilities. Eight (8) hospitals that were historically permitted then had permits terminated are under review for re-permitting, two are currently in the process of getting a new permit.
- **2022 MMP:** Propose program revisions that allow for more sample collection and field inspections to support necessary enforcement actions, specifically routine mercury sampling and the permit quarterly monitoring.

The Pretreatment Program is undergoing a reorganization to split into two groups: Engineering and Monitoring & Inspections. The engineering group was created specially to focus on permitting and enforcement while the other group runs the day-to-day operation of pretreatment monitoring and inspections. Additional staff has allowed both aspects of the program to grow and include mercury or any other specific analyte type investigations in the routine workload for the Pretreatment Engineering Team. Program modifications including the enforcement response plan revisions will direct more coordination with noncompliant users to resolve problems with an appropriate compliance schedule.

- **2022 MMP:** Continue to improve program efficiencies that allow to more easily increase the number of permittees overseen, including Pretreatment Program database management and paperless document management wherever possible.

The NPDES Program reorganization will allow for an increase in permit oversight capacity, time for research and topic investigation or data collection, as well as the new industrial user inspections for issuing new permits. The Compliance Division is developing a document management plan to go paperless wherever possible and has begun paper archiving and development of electronic document storage on SharePoint. Database updates and efficiencies will be reviewed as required.

## 1.5 Southside Water Reclamation Plant (SWRP) Best Management Practices (BMPs)

The Water Authority will continue to implement BMPs and improvements at the SWRP through the following actions:

- **2022 MMP:** Complete the improvements to the UV system.  
UV channel hydraulic improvements were completed in December 2022. (Refer to **Section 5**)
- **2022 MMP:** Continue to clean and investigate potential biofilm building up throughout the plant and downstream of the UV facility.  
Weekly cleaning has become a routine BMP. Thorough cleaning of the channels upstream of UV was conducted by a diver in December 2022. This BMP cleaning will be conducted annually or as needed. (Refer to **Section 5**)
- **2022 MMP:** Track mercury concentrations throughout the plant whenever problems arise. Propose long term process improvement solutions such as capital improvements when violations persist.

No outfall exceedances have occurred since October 2022; therefore, no mercury tracking has been needed. Currently, no capital improvements are being investigated if BMPs continue to resolve the issues. The status and impact of implementing these BMPs are discussed in **Section 5**.

## 1.6 Public Education

The Water Authority will increase public awareness through the following actions and will continue to implement the list of educational BMPs listed in **Section 6**:

- **2022 MMP:** Prepare self-auditing checklists for hospitals and medical facilities.  
This item was not completed in 2023 and will get pushed forward and completed as more is understood and the hospital permit reviews completed before developing the outreach materials.
- **2022 MMP:** Educate customers on how to implement cost-effective and sector specific BMPs and control strategies with onsite outreach and by developing brochures and outreach material specific to different business types.  
This year work was completed to increase outreach and education to the dental facilities and this practice will continue routinely.

## Section 2: Phase II and III MMP Mercury Sampling Completed

This section summarizes the Water Authority's actions conducted in 2023 to continue investigating the collection system for sources of mercury.

### 2.1 2023 Mercury Sampling Plan

The Water Authority's mercury sampling plan for 2023 involved finishing the Phase II target area sampling on the westside that was not completed in 2022 because of a significant sewer line collapse and revision of Phase III sampling after the improved understanding of the data and collection procedures. The 2022 MMP specified that after the Phase II sampling, high priority or hot spots in the service area should be identified for point source identification. However, after further evaluation of the Phase II data the Water Authority decided that there was not a large or wide enough data set to make those hot spot conclusions yet. The priority of the 2023 mercury sampling was to step away from the phases of collecting system wide data from each category and combine the 3 types of sample locations (systemwide interceptor locations, target area interceptors, and the point source identification with collection at laterals) into routine annual investigations to identify sources of concern and better understand newer areas of the system such as the westside, where data is limited or not available yet.

#### 2.1.1 Completing Phase II Sampling from the 2022 MMP

The Water Authority evaluated the Phase I Westside data to determine where to sample for the next Phase. Phase II targeted sampling and Phase III wider net sampling was rolled into a single-phased approach for the Westside in 2023.

The remaining Phase II targeted sampling on the east side was mostly composite sampling that was difficult to coordinate in 2022 and the Water Authority decided to take a different approach in 2023. This will be discussed in the next **Section 2.1.2**. instead of completing the planned Phase II composite samples, the Water Authority collected more grab samples in closer proximity at the top and bottom of sewer subbasins. This data will provide an accurate representation of each of these subbasins so that more accurate high priority hot spots can be identified for point source investigations. This sampling approach is discussed in more detail in **Section 2.1.4**.

#### 2.1.2 Evaluation of Sample Collection Techniques (Composite vs Grab)

The Water Authority evaluated different sampling techniques to determine what type of sampling would be best for our 2023 sample collections. There was a composite vs grab sampling technique comparison and a day vs night grab comparison.

##### Composite Vs Grab:

In this technique comparison the Water Authority collected nine (9) sample sites to compare results. A 24-hour time weighted composite sample was collected from each site with two grab samples collected when the composite sample was started then stopped. Typically, this occurred at midday (10am-1pm). The two grab sample results were averaged, then an overall average for each grab and composite was calculated. Then a relative percent difference (RPD) was calculated between these two-grab average and the composite average. The overall average RPD was 4% which is a low



difference. We used this low RPD to guide our decision to settle on grab sampling. This data set can be seen in **Appendix E**.

In addition to the analytical comparison of the composite vs grab techniques, the field conditions also were considered. Composite sampling requires the use of a composite sampling device, hoses, and carboy to be hung in the sampling manhole. This requires the anchoring of an eyelet or use of ladder rungs, which requires another day to do field investigation to verify if the chosen manhole is suitable for hanging a sampler. In addition, there is the potential for accumulation of mercury in this sampling equipment which could contaminate and skew the results. To account for the potential contamination of equipment, blank samples would be required, doubling the amount of samples and the cost associated.

Due to the low relative percent difference in grab vs composite sampling and the additional difficulty in collecting composite samples, it was found that many grab samples, closer together on collector lines could be used instead of composite sampling that would represent a larger sewer shed. The Water Authority generally compared composite vs grab sampling and determined there was not a significant benefit from composite sampling that outweighed the additional resources and difficulty that composite sampling in large interceptors & collector lines poses.

#### Day vs Night:

The Water Authority also decided that day samples were more effective than night samples. Based on the limited data collected at night than in the day within a 24-hour period, the night samples showed a lower mercury concentration. It is assumed this is because fewer businesses are active during the night. The Water Authority believes that day samples are more accurate in representing the normal patterns of industries' discharge throughout the service area. Since the main goal of the MMP is to find point sources and reduce the mercury discharges the above conclusion supports our daytime grab sampling. Therefore, the Water Authority decided to only collect samples during the day throughout the rest of the Phase II and Phase III sampling.

In conclusion, the sampling techniques that were found to be the most efficient to collect low level mercury samples were grab samples during the daytime around 12 PM mountain standard time. The Water Authority tested and tried out different nabber shapes, sizes, and orientations to find the quickest and safest way to collect samples. Eventually, a routine and schedule were developed to ensure the samples were collected in accordance with lab protocols and water quality protocols.

While the Water Authority decided to collect daytime grab samples, the composite and night grab sampling techniques may be used in the future when investigating hot spots to differentiate between legacy and active mercury discharges.

### **2.1.3 Sampling Results for Interceptor Contributions to SWRP**

The Water Authority's continued routine monitoring of mercury of the plant influent at the four interceptors (Tijeras, Edith, Valley, and Westside) and updated the conclusions that were made in the MMP. Below are the two graphs in **Figure 2.1.3a** presented in the MMP and the updated 2022-2023 interceptor data in **Figure 2.1.3b**. The data continues to show that the highest contribution to mercury loading is still the Westside. The Westside is showing a continued increase from historical at 21%, to 2022 at 39% to 2023 data at 45% of the total mercury loading to SWRP. The Westside interceptor has the highest flow of all three interceptors which is what makes the largest loading. There were a few events in late 2022 and early 2023 that occurred that may have pushed legacy accumulated mercury down the interceptor pipe to station 20. These events were the major sanitary sewer collapse and overflow, and both of the subsequent Cure-In-Place lining projects above and below I-40. With these three events the interceptor pipe was surcharged, flushed, cleaned, which changed the hydraulics of the wastewater flow. All of which were likely to remove and push legacy

mercury downstream. These circumstances could have contributed to the elevated loading of mercury in 2023 on the west side. Another potential contributor to the elevated levels is that our wet wells could possibly accumulate mercury. The Water Authority plans to evaluate this theory by conducting a study to compare composite vs grab samples and collection inside verses outside of the wet wells as a future action item. Refer to **section 7**.

The Westside will remain a concentration of our point source investigations moving forward as discussed in **Section 3.2**.

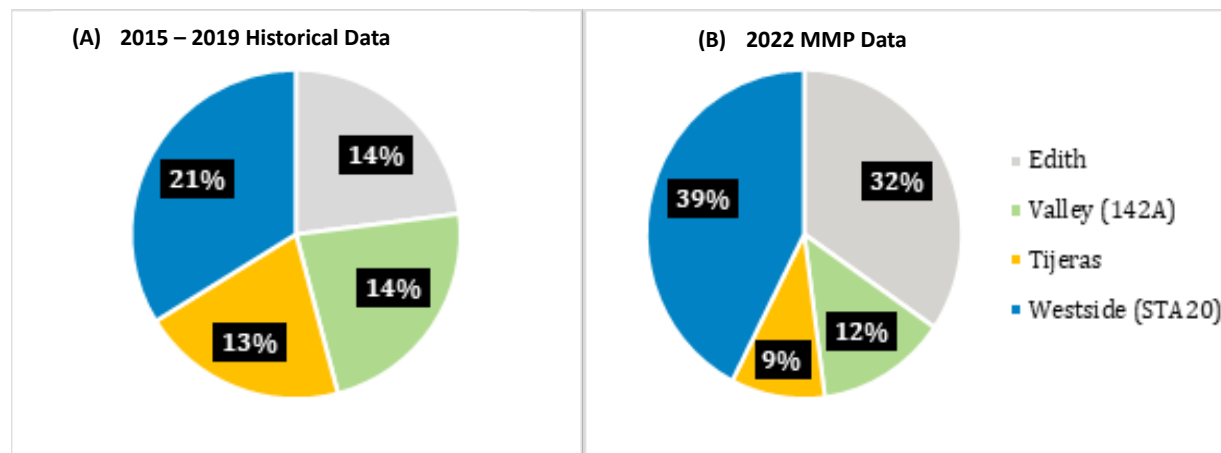


Figure 2.1.3a Mercury Loading from Each Interceptor – Historical and 2022 MMP

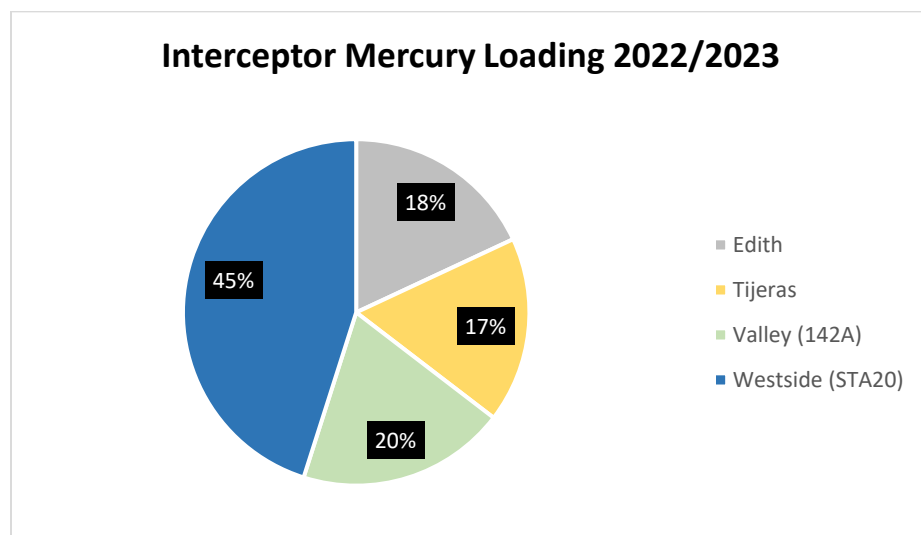


Figure 2.1.3b Mercury Loading from each interceptor for 2023 MMP Implementation

The concentration and loading of mercury data from the 2023 MMP Implementation is shown in **Appendix F**.

## 2.1.4 Planning and Execution of Phase III Sampling

Based on the above data the conclusion for the focus of Phase III sampling was on the Westside while still collecting a representative number of samples across the entire service area. The Water Authority all together collected 221 samples at 78 sites, however after excluding the composites and night grab samples, as discussed in section 2.1.2, a total of 185 samples at 75 sites were used in the



final dataset. Refer to **Figures 2.1.4a** and **2.1.4b** below showing the sample sites. As can be seen in **Appendix F**, the interceptor split of data consisted of 69 samples on Westside, 56 on Valley, 44 on Edith and 20 on Tijeras. Additional samples were collected by the Pretreatment Monitoring Technicians as an addition to routine sampling but were not included in the 2023 Phase III sampling. This data was included in the evaluation of the interceptor contributions to SWRP resulting in the above pie charts in **Section 2.1.3**.

The Water Authority's focus on the Westside led to complications due to construction on a segment of the main interceptor. A portion of this interceptor on the Westside collapsed and flow through this collector was diverted via bypass pumping. Since this is not representative of normal flow conditions of the Westside, sampling of this particular section of the interceptor was not performed. This section was on the main interceptor just above and below I-40.

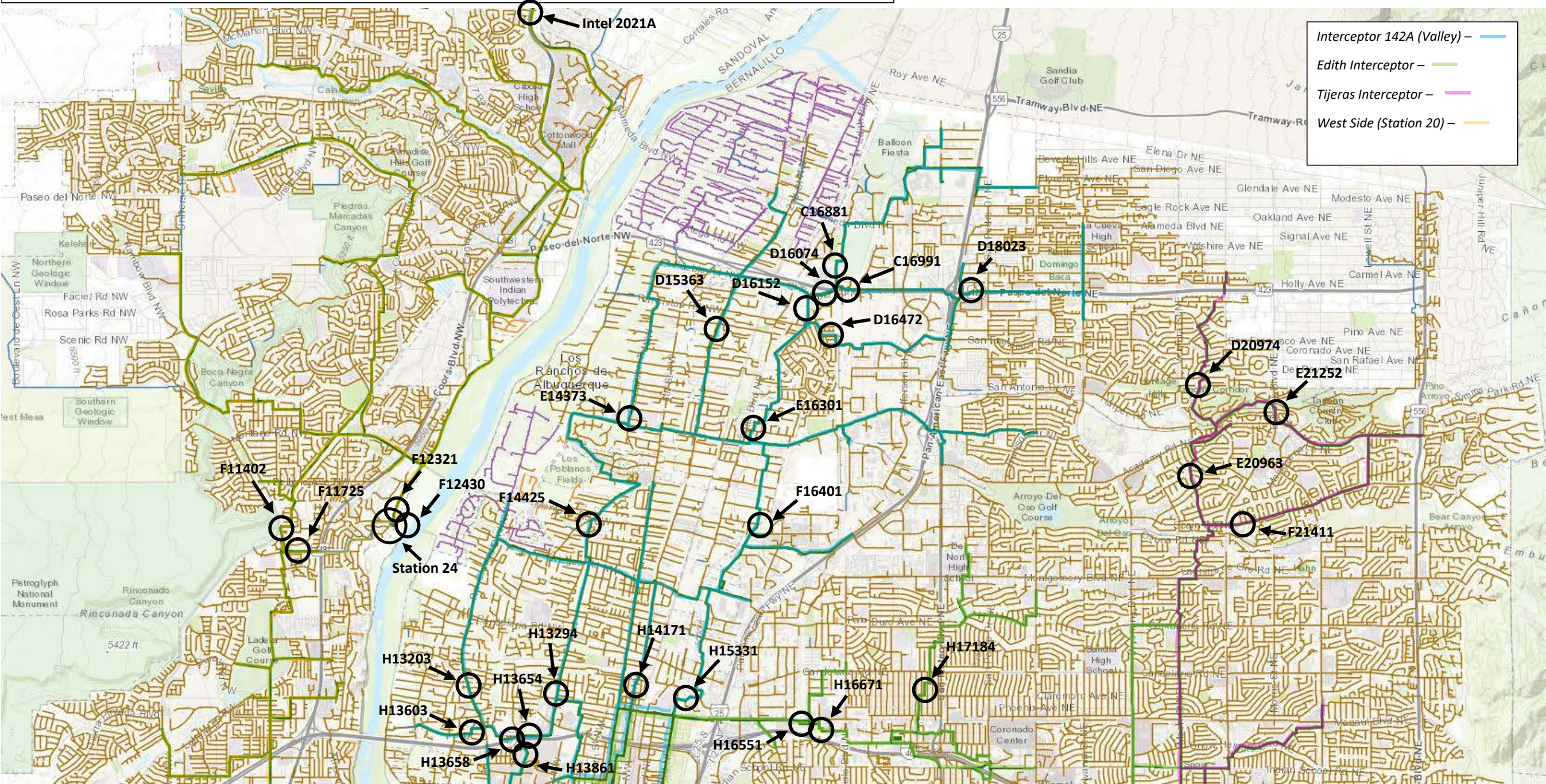
The Phase III Westside sampling collected was around the two main lift stations; Lift Station 24 on the NW section of the westside and Lift Station 20 which collects all the flow from the westside. To obtain a general view of the northern portion of the westside, sampling was performed at Lift Station 24 along with 4 sites just downstream of Station 24. For an overall view of the westside, sampling was also performed at Station 20 and 4 sites upstream of Station 20. By performing sampling at the 4 sites upstream of Station 20, which are also the primary interceptors feeding into Station 20, data could be collected that would help in providing a good direction for potential mercury sources on the westside.

The process for identifying Phase III sample locations consisted of several steps which are described below.

1. *Determine Interceptor System to be Tested.* During Phase III, each interceptor was tested individually over the course of 1 to 4 weeks. Prior to performing any sampling utilizing either composite or grab sampling techniques, each sample site was investigated using ArcGIS for manhole identification while a GPS program was used to physically locate each manhole. The maps from the 2022 MMP were integrated into the Water Authorities ArcGIS which can overlay several layers displaying interceptor piping locations, manhole locations, flow directions, and information pertaining to pipe size and manhole depth. Each manhole was selected according to its location along the interceptor system in relation to whether the manhole was in a safe location, if the manhole was representative of the portion of the interceptor being sampled, and if the manhole could be identified while in the field.
2. *Manhole Selection and Recording.* As each manhole was selected, a pictorial illustration was recorded using a street view alongside an aerial view of the general location of the manhole. A screenshot of the interceptor section for the accompanying manhole in ArcGIS was also recorded and labeled to indicate the manhole being sampled. For the illustration of a manhole, each was labeled according to manhole number, interceptor system identification, manhole depth, interceptor size, address, and project name. All manholes sampled are recorded electronically and in a physical record that can also be used in the field for future manhole identification.
3. *Sampling Sequence Based on Flow.* While in the field, each sample site is sampled according to the direction of flow in which the first site sampled would be at the end point of the selected interceptor section. For any subsequent sample sites on the selected interceptor, these sites were sampled in the sequence of going upstream of the first sample site. This is to ensure that the wastewater sample collected represents a reliable 'snapshot' of the state of the wastewater flowing through the selected portion of the interceptor, preventing the risk of collecting a wastewater sample that was a duplicate of similar wastewater if the samples were taken going downstream rather than upstream.



**Water Utility Authority Collection System – North of I-40**

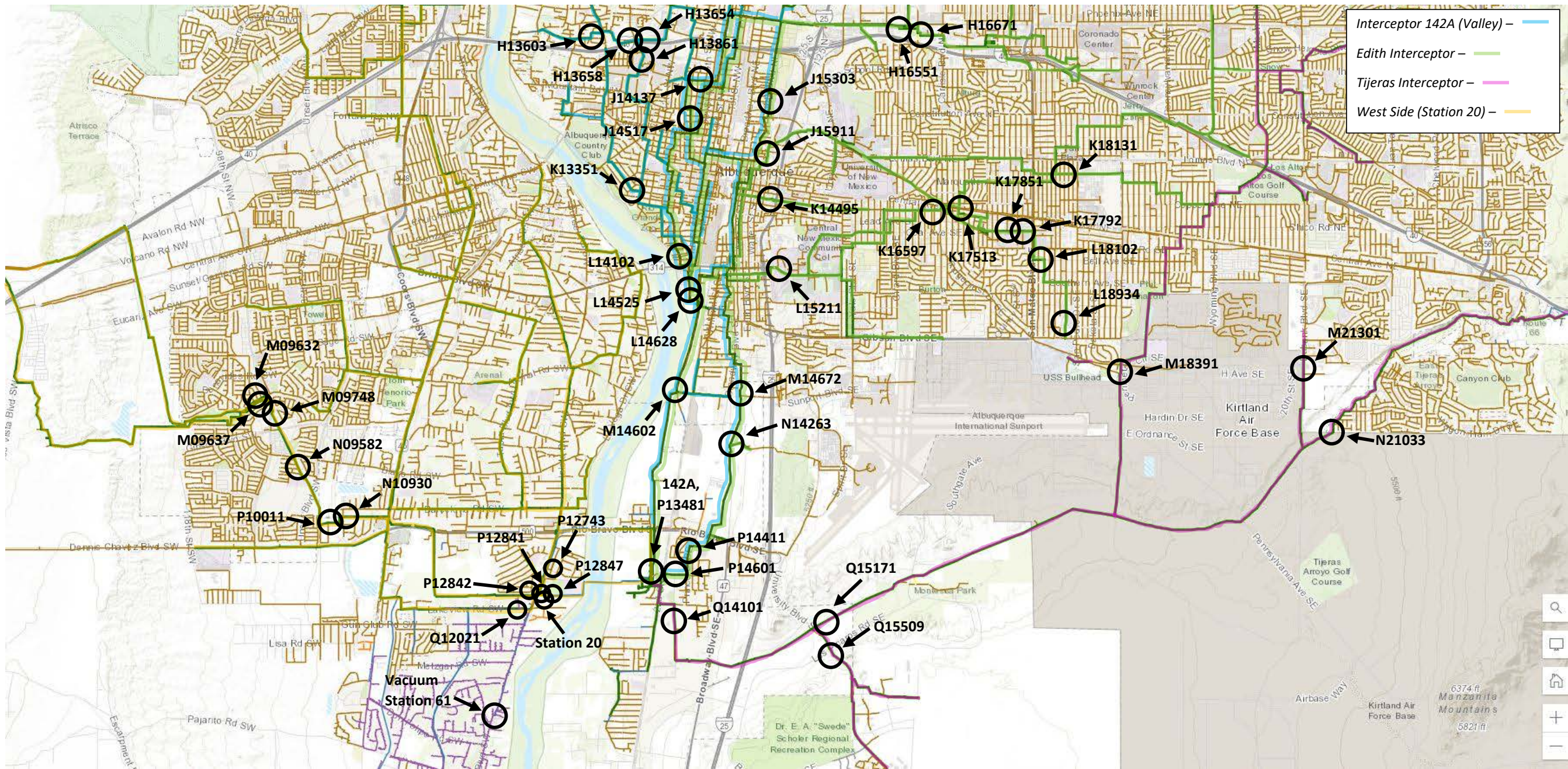


**Mercury Minimization Project 2023**

Figure 2.1.4a – Mercury Minimization Project 2023 Sample Site Map (North of I-40)



Water Utility Authority Collection System – South of I-40



Mercury Minimization Project 2023

Figure 2.1.4b – Mercury Minimization Project 2023 Sample Site Map (South of I-40)



## Section 3: Mercury Data Analyses

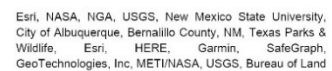
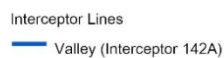
### 3.1 Phase III Data Analysis

The procedure used in the 2022 MMP to analyze the data was emulated for the 2023 MMP Implementation with some minor changes. Due to sampling multiple times at a single sample point, an average was used to represent each site. The Water Authority believes that multiple grabs collected on multiple days is more representative of a single grab and equal to that of a composite. The concentrations that are mapped in **Figure 3.1a** are the resulting grab sample averages for each site.

While concentrations show a picture of where there are high levels of mercury, to fully understand how this mercury may affect the influent and effluent of SWRP a mass loading map was created and evaluated. Similar to the effort last year in producing the MMP, flow values were extracted from the SWMM Sewer Model for each sample site and a mass loading was established for each site by using the flow and the average concentration. After collaboration with the Water Authority Collections Team, it was found that they operate three major flow diversion junction boxes that can move flow between the Valley and the Edith interceptors. Using Collection's valve log and the date of the sampling event, a more accurate flow value and therefore more precise mass loading was established for each sample site based on the condition of the collection system on that day. One example found that the flow can vary anywhere between 5.2 MGD up to 9.7 MGD on the most terminal Valley interceptor sample point (142A/ P13481). The mass loading values are mapped in **Figure 3.1b**.

For the 2023 MMP Implementation Phase III data the Water Authority re-evaluated the threshold ranges used to determine prioritizing the hot spots for both concentration and loading. It was found that the range used for concentration (ug/L) resulted in most sample results falling in the lowest priority range. Due to this, a new range was developed. It was decided to use the same loading (lbs./day) threshold range that was used in the 2022 MMP Phase II evaluation, but reduce to only three levels, splitting the middle level in two. Below is the summary of the 2023 priority categories:

- Phase III Interceptor Sampling – Mercury Concentrations, refer to **Figure 3.1a**.
  - a. High priority locations have mercury greater than 0.1 ug/L. These areas are indicated in red.
  - b. Medium priority locations have mercury between 0.05 to 0.1 ug/L. These areas are indicated in yellow.
  - c. Low priority locations have mercury less than 0.05 ug/L. These areas are indicated in green.
- Phase III Interceptor Sampling – Mercury Mass Loading, refer to **Figure 3.1b**.
  - a. High priority locations have mercury greater than 0.004 lbs./day. These areas are indicated in red in
  - b. Medium priority locations have mercury between 0.001 to 0.004 lbs./day. These areas are indicated in yellow.
  - c. Low priority locations have mercury less than 0.001 lbs./day. These areas are indicated in green.

[illegible]

17

## Phase III Interceptor Sampling - Mercury Mass Loadings (lbs./day)

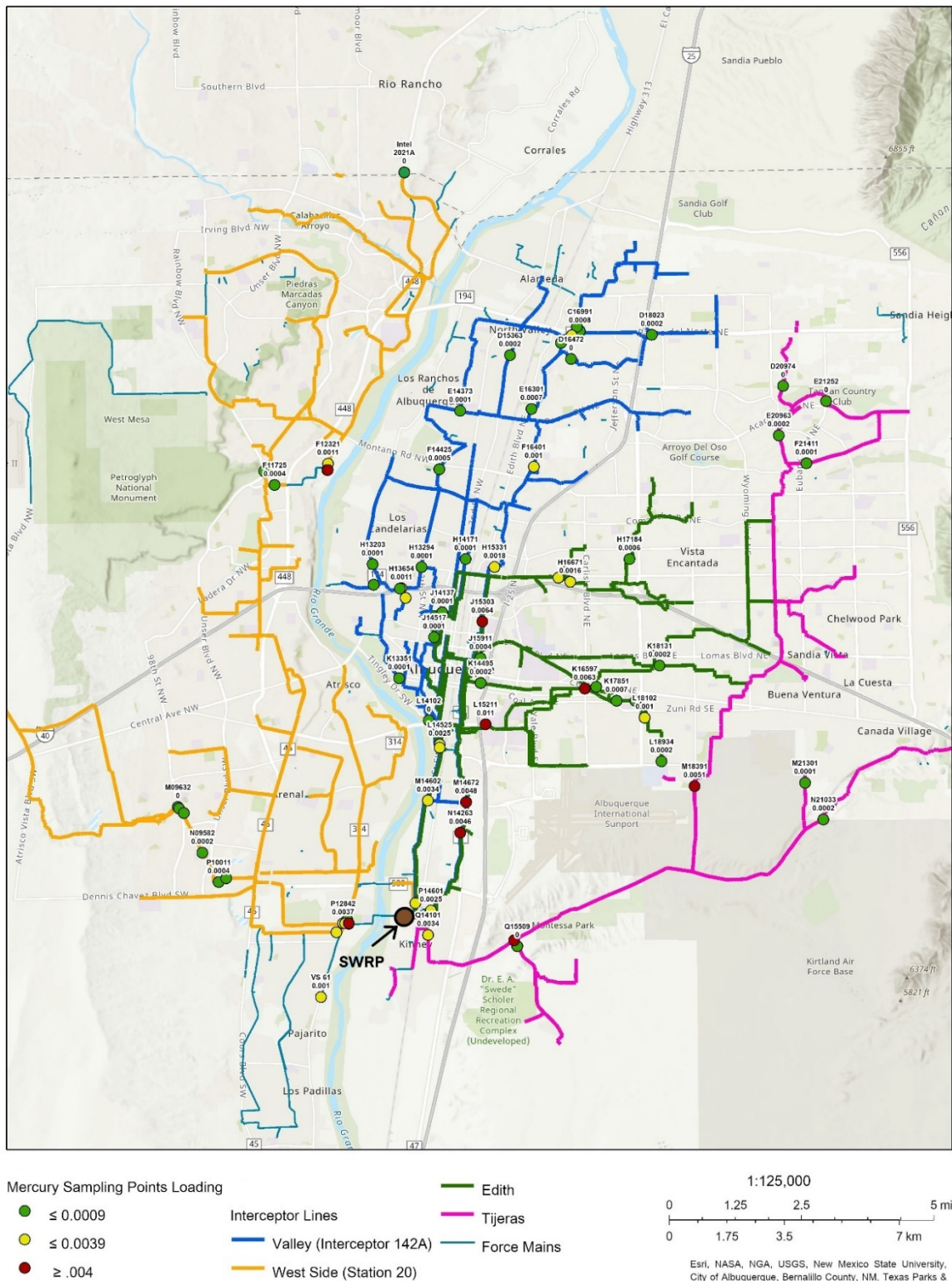


Figure 3.1b -- Sampling Results – Mass Loading Map Overview



### 3.1.1 Findings from the 2023 Data Collection

There were 185 samples collected in phase III sampling and there was no non-detect data in any of the results. This is indicative that there are at least trace amounts of mercury prevalent throughout the service area's sewer collection system. When comparing the concentration (**Figure 3.1a**) and loading (**Figure 3.1b**) there are areas of high concentration but low priority loading. This is due to those interceptor lines having low volume flow and therefore the higher concentration has little to no effect on the loading to SWRP. For the purposes of tracking down point sources the areas of focus are on the medium (yellow) and high (red) loading hot spots while the low (green) spots will have no further investigation as was stated in the original 2022 MMP. As can be seen below on **Table 3.1**, on average the loading is highest on the Westside, then Edith, Valley and lowest on Tijeras. This supports the previous loading pie chart in section 2 that used only end of interceptor data.

Interceptor	Average Concentration (ug/L)	Average Loading (lbs./day)	# of Medium Priority Yellow (0.001-0.004 lb./day)	# of High Priority Red (>0.004 lb./day)
Westside	0.068	0.0034	6	3
Valley	0.059	0.0009	9	0
Edith	0.103	0.0027	6	5
Tijeras	0.031	0.0013	1	2

Table 3.1 Concentration, Loading and Hot Spot Summary

However, when looking at the mass loading map, **Figure 3.1b** and comparing the number of medium and high priority hot spot sample points, the Edith interceptor has the highest amount of these hot spots. Most of the Edith areas of concern are also on the interceptor where flow can be diverted to either the Edith or Valley interceptors. This is the area with the highest concentration of old pipes, SICs of interest and is the most industrial area of the service area. Future investigations will focus on each hot spot identified from this phase III data and summarized in each of the sections below with their corresponding area maps.

#### High & Medium Priority Locations:

- **SWRP:** The mercury mass loading entering the Southside Water Reclamation Plant can be seen in **Figure 3.1.1a** below. The three most terminal sample point manholes for each of the east side interceptors, Valley (P13481 at 0.0020 lbs/day), Edith (P14601 at 0.0025 lbs/day), and Tijeras (Q14101 at 0.0034 lbs/day) are all in the medium priority. This indicates that mercury is likely accumulating as it comes down each interceptor. Moving upstream on each interceptor the mass loading increases, indicating that the point source is further upstream of these most terminal points. Edith can be seen in the figure below where the mass loading increases from 0.0025 to 0.0037 lbs/day. In the proceeding section the westside fourth interceptor flowing into SWRP has high and medium priority mass loading, again supporting the conclusion that there is mercury prevalent from every part of the service area but heaviest from the West side and Edith interceptors.

## SWRP Mercury Mass Loading Map



Figure 3.1.1a -- Sampling Results – SWRP Mercury Mass Loading

**Westside:** The highest mass loading on the Westside was at each terminal end point just before and at the two main lift stations 24 and 20. This is indicative of an accumulation of mercury with flow. The Water Authority plans to investigate whether the lift stations are mercury concentrators that could be collecting mercury in the lift stations and the slime layers on the station walls and pipe walls upstream as that was the theory that proved to be an issue at the SWRP UV treatment facility. Ferric chloride is injected just upstream of both stations and the Water Authority has a theory that this odor control chemical could be precipitating the mercury out and allowing it to settle out in the lift station as ferric chloride is a known coagulant/flocculant. The Water Authority will investigate if cleaning the stations and pipes upstream could be an effective reduction in the loading.



- Lift Station 24 Mercury Mass Loading **Figure 3.1.1b** shows three priority hot spots. Two manholes upstream (F12321 at 0.0011 lbs./day and F12430 at 0.0040 lbs./day) and one in the lift station (LS 24 at 0.0010 lbs./day). The sample point downstream of the lift station was at an order of magnitude lower (F11725 at 0.0004 lbs./day) supporting the idea that mercury could be precipitating and settling.

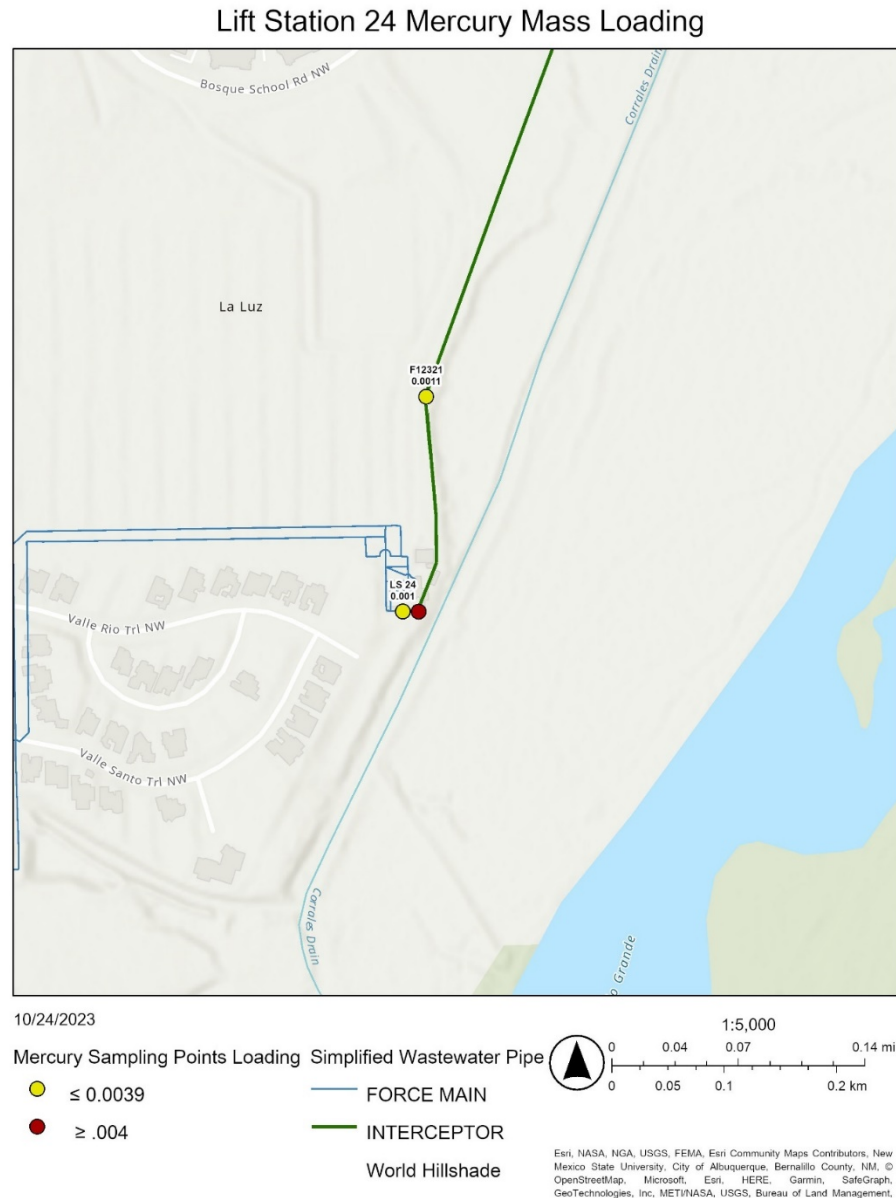


Figure 3.1.1b -- Sampling Results – Lift Station 24 Mercury Mass Loading

- **STA 20 Mercury Mass Loading Figure 3.1.1c** shows that three of the four main interceptors and Vacuum Station 61 flowing into Station 20 are in the medium priority. The combined flow of the entire westside was in the high priority mass loading at the manhole just outside the station (P12847 at 0.0124 lbs./day) and within the wet well (LS 20 at 0.0160 lbs./day). The Isleta (P12841 at 0.0037 lbs./day), Anderson Farm (P12842 at 0.0037 lbs./day) interceptors were the highest loading interceptors and will be investigated for point sources. The Lakeview (Q12021 at 0.0019 lbs./day) interceptor and Vacuum Station 61 (VS61 at 0.0010 lbs./day) were on the lower end of the medium priority for further investigation. Flow into Vacuum Station 61 is also primarily residential.

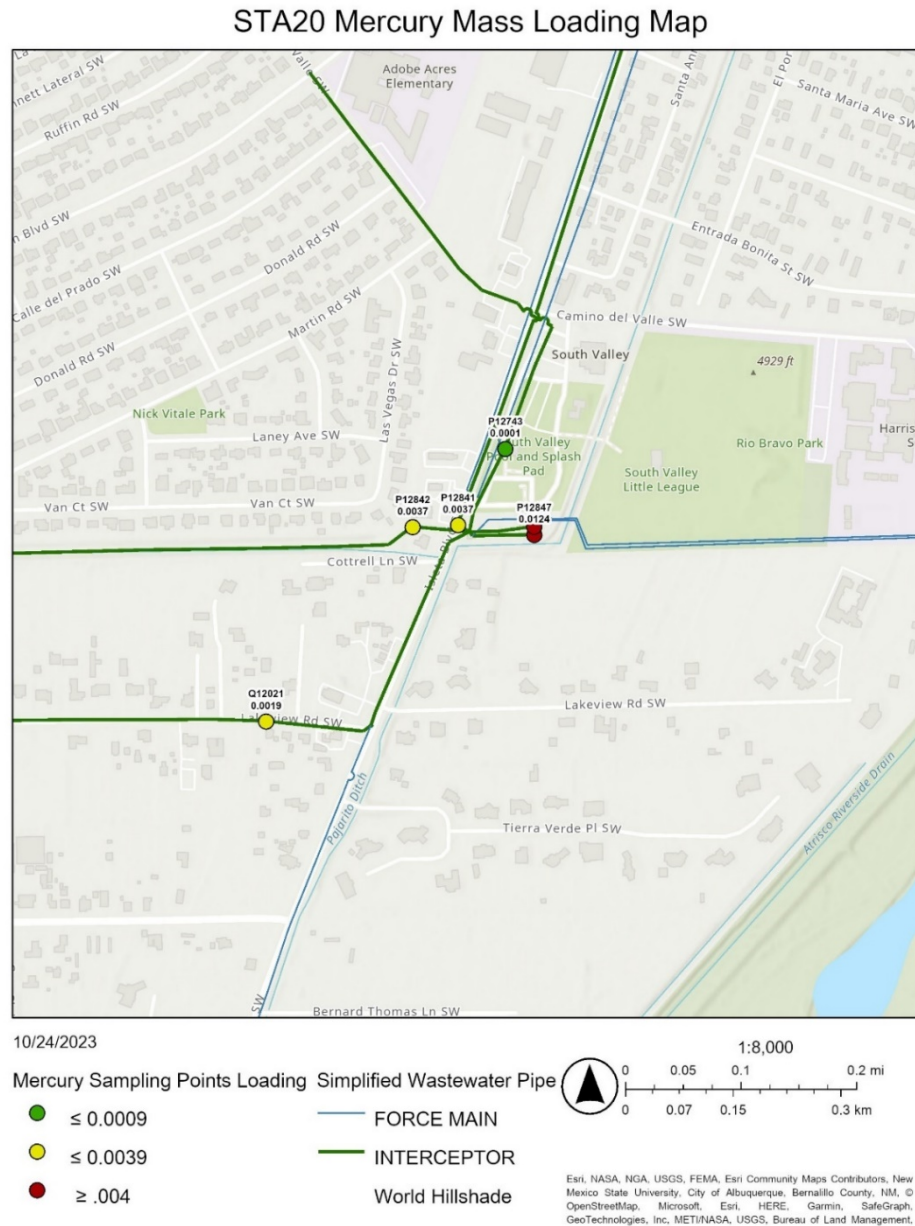


Figure 3.1.1c -- Sampling Results – STA20 Mercury Mass Loading

Valley: The Valley Interceptor, also referred to as 142A, has no high priority hot spots but does have several medium priorities. The medium priority hot spots on the lower, downstream stretch are represented in the figure below. The upper medium hot spots are spread out from the Downtown area to the North Valley area represented in the proceeding figures.

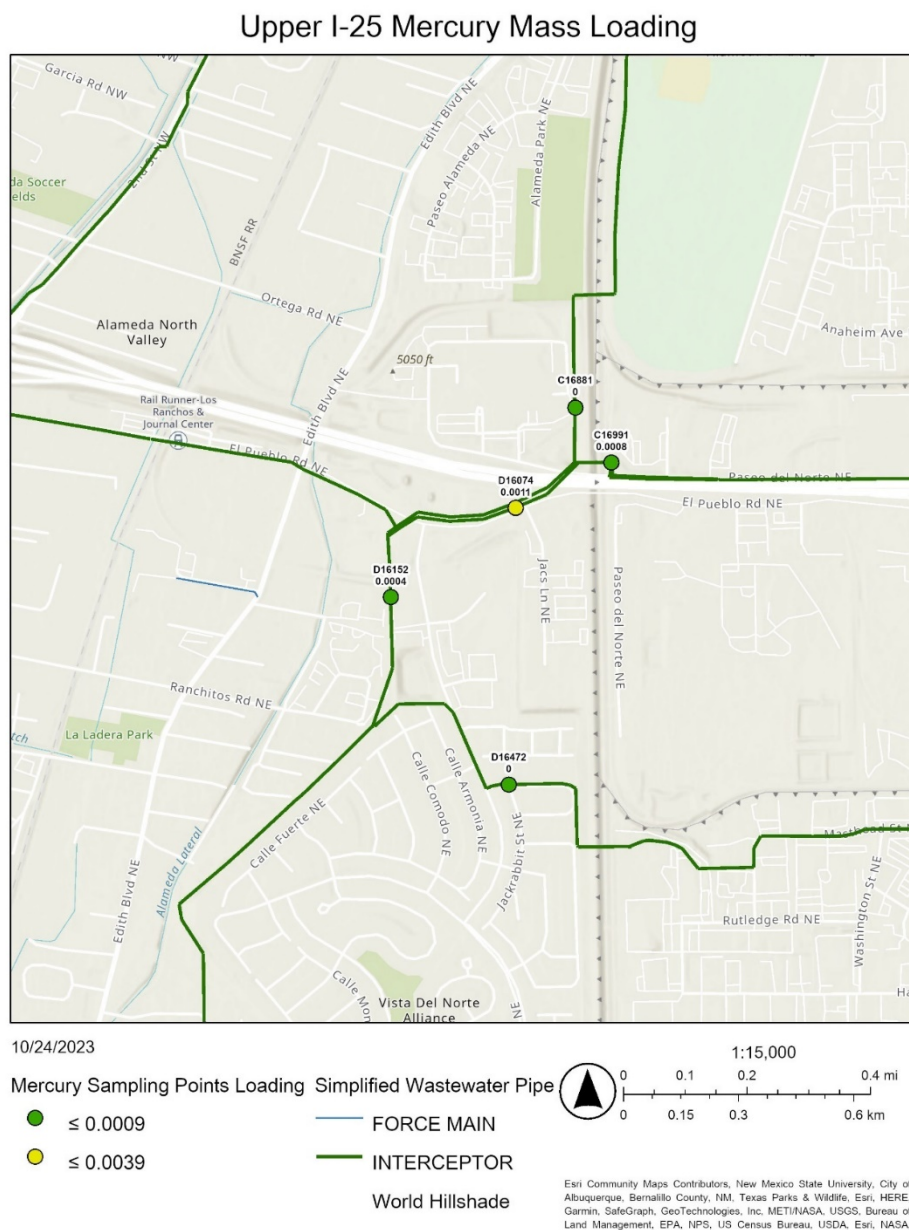


Figure 3.1.1d -- Sampling Results – Upper I-25 Mercury Mass Loading

## North Valley Mercury Mass Loading

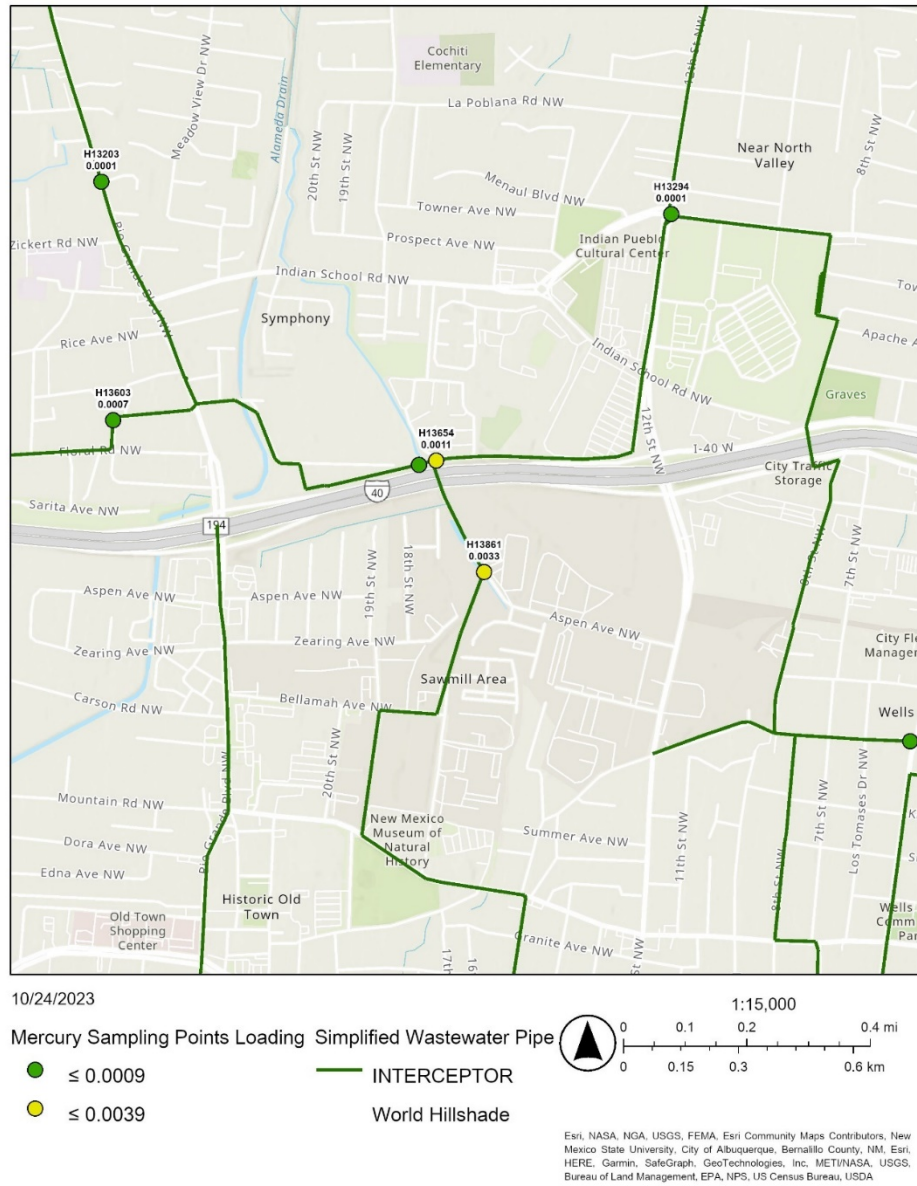


Figure 3.1.1e -- Sampling Results – North Valley Mercury Mass Loading



Los Ranchos Mercury Mass Loading

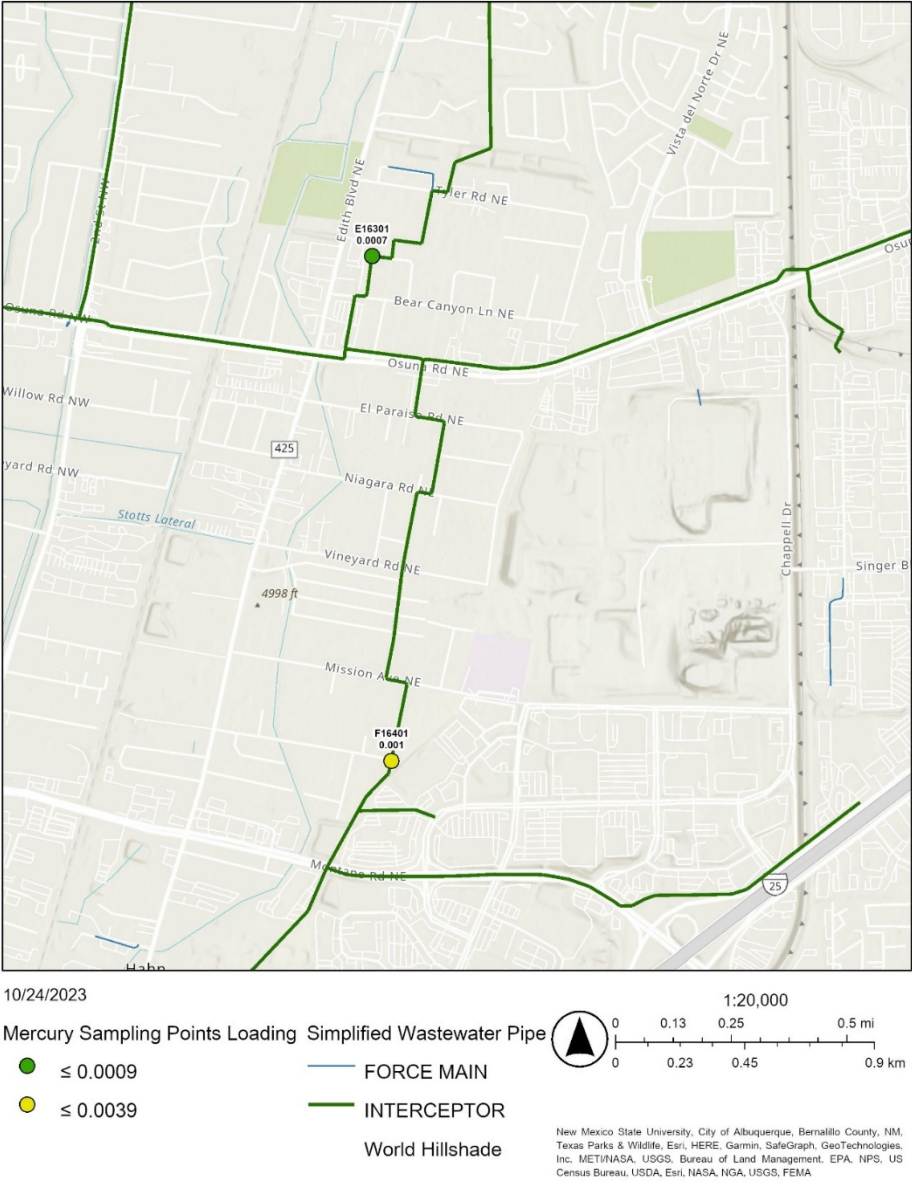


Figure 3.1.1f -- Sampling Results – Los Ranchos Mercury Mass Loading

Lower 142A/Edith: This area represents the flow from the entire north valley of the city and the Edith mid-east area of the city. As discussed in **Section 3.1** the Valley and Edith interceptors mix at several locations. Evaluating the data on the lowest stretch, the medium priority hot spots are likely flow coming over from the Edith interceptor as the data points above are all the low priority. Two of the high priority hot spots on the Edith can be seen in **Figure 3.1.1g** below N14263 at 0.0046 lbs./day and M14672 at 0.0048 lbs./day. The manholes upstream of these are also high priority and indicate that this is one of the hottest areas of the service area that requires the most follow up investigation for point source identification.

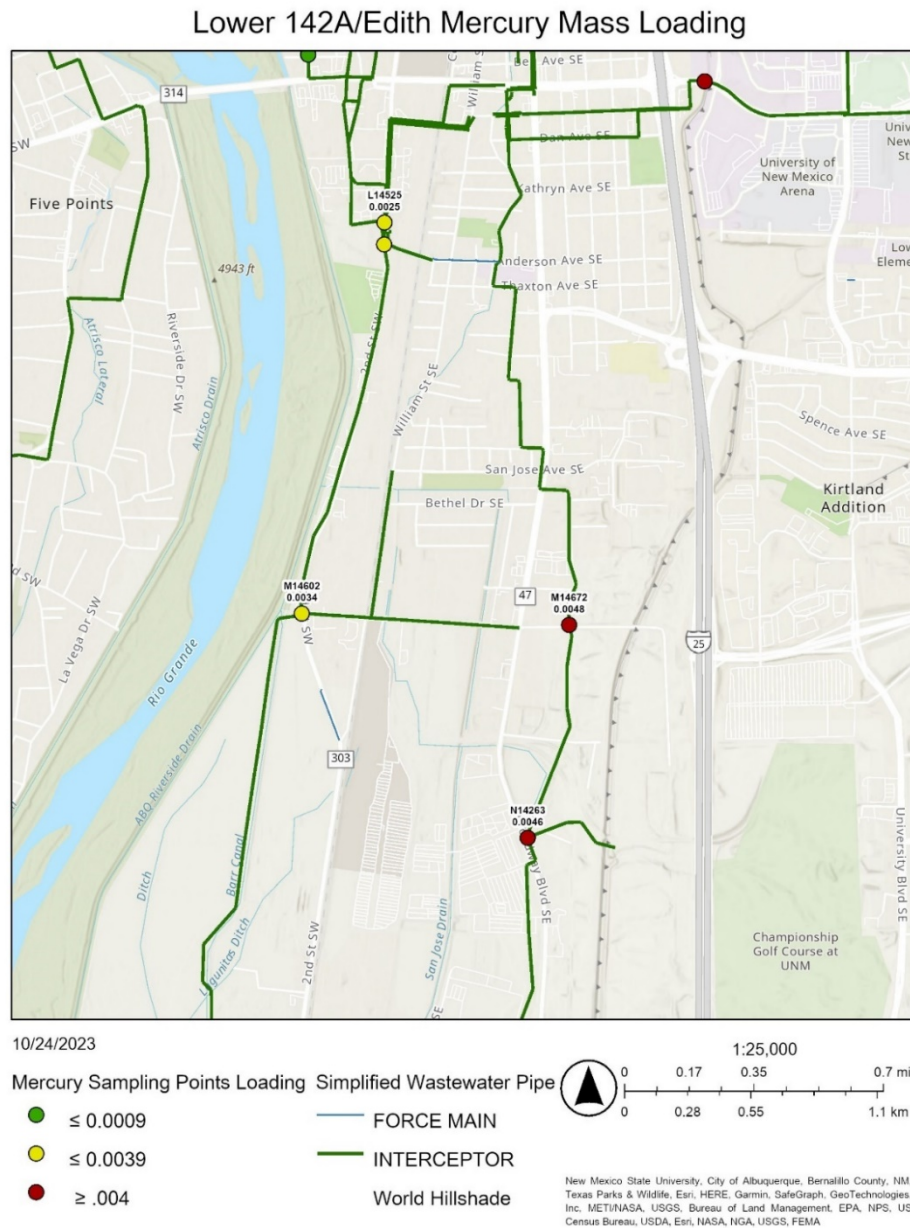


Figure 3.1.1g -- Sampling Results – Lower 142A/Edith Mercury Mass Loading

Edith:

- The Nob Hill Mercury Mass Loading **Figure 3.1.1h** depicts one high priority (K16597, 0.0063 lbs./day) and one medium priority (L18102, 0.001 lbs./day) manhole. Upstream to all these points is a known legacy mercury discharger and it is possible that these high and medium points are where the legacy mercury is being settled in the pipes. This logic is because upstream to these high and medium points, the manholes are low priority. The Nob Hill area is home to mostly commercial shops, restaurants, and residential homes, all of which have a low chance of being point sources. Therefore, this leg of the Edith interceptor will be further investigated to distinguish between legacy mercury or active discharging.

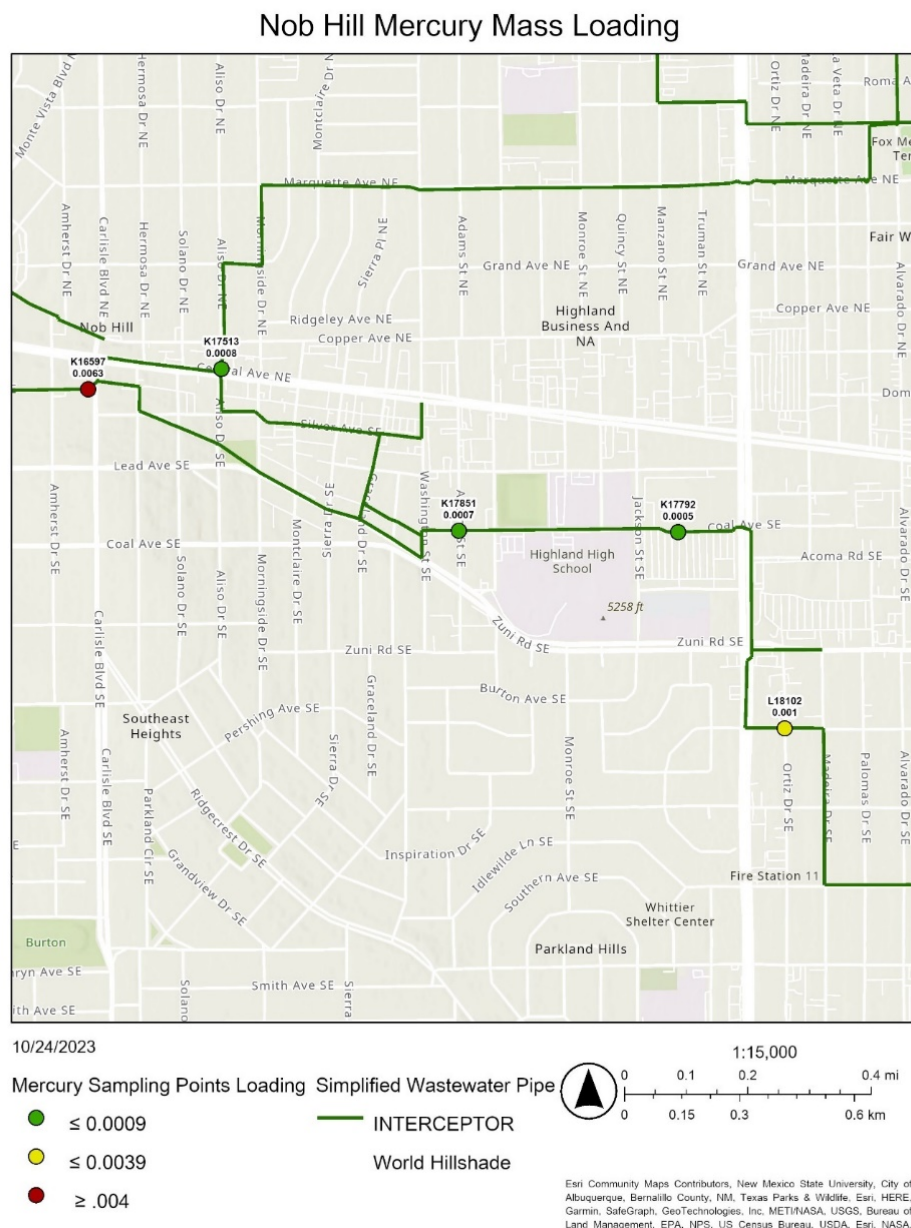


Figure 3.1.1h -- Sampling Results – Nob Hill Mercury Mass Loading



- **Midtown Mercury Mass Loading** Figure 3.1.1i shows one high priority (J15303, 0.0064 lbs./day) downstream to three medium priority (H16671-0.0016 lbs./day, H16551-0.0018 lbs./day, H15331-0.0018 lbs./day) manholes. The high priority manhole, Manhole J15303, downstream is an example of all the upstream loadings being added to together to equal this sample result, with the exception of 0.0002 lbs./day coming from other sources along this portion of the interceptor.

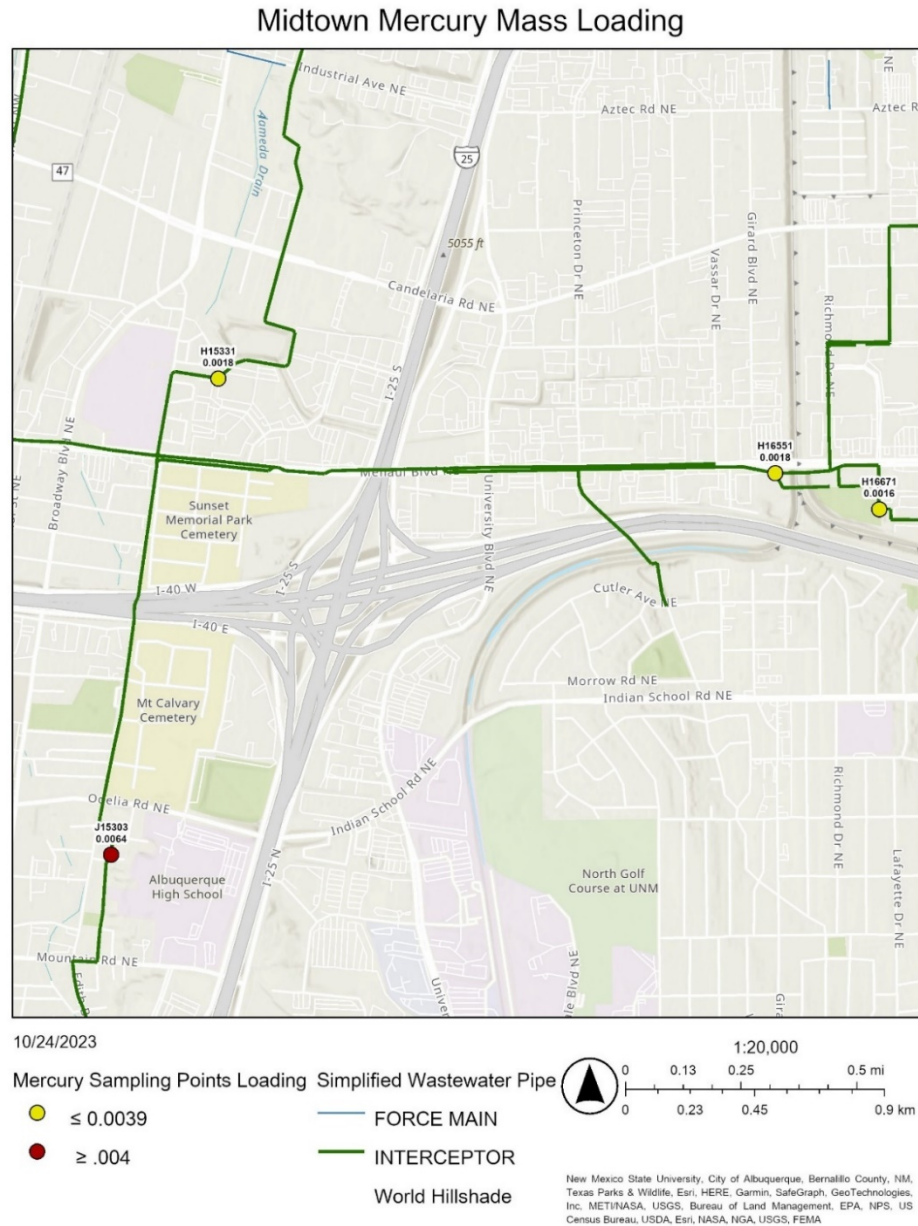


Figure 3.1.1i -- Sampling Results – Midtown Mercury Mass Loading



Tijeras:

- Kirtland AFB Mercury Mass Loading Figure 3.1.1j presents one high priority downstream, Manhole M18391 (0.0051 lbs./day). Upstream to this sample point, there are only low priority sample points. More sample points between this manhole and the manholes in the Northeast Heights will be analyzed to find more segments with high or medium priority results to aid in narrowing down the search for point sources.

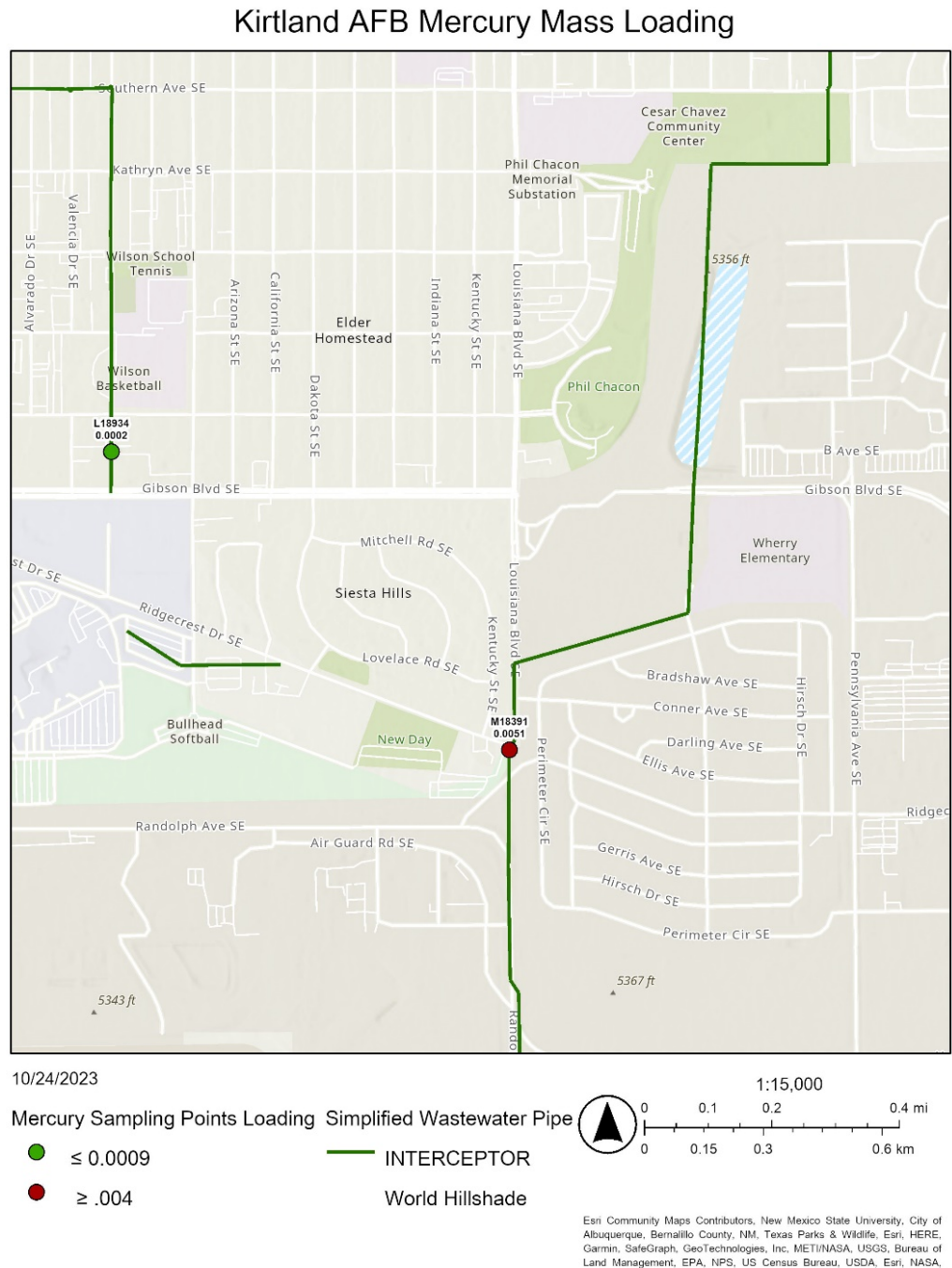


Figure 3.1.1j -- Sampling Results – Kirtland AFB Mercury Mass Loading

Southern Airport Mercury Mass Loading **Figure 3.1.1k** shows one high priority manhole, Manhole Q15171 (0.0042 lbs./day), just before a branch connects downstream. This figure shows the southwest end of the Tijeras interceptor that passes through the Kirtland AFB. This portion of the interceptor only has two branches that connect upstream, one branch coming from the high priority Manhole M18391 mentioned above. The other branch has low priority manholes, therefore, most of the loading of Manhole Q15171 is going to be coming from the Manhole M18391 branch. The other manhole, Manhole Q15509, presents a low priority result. This is accepted because there is mostly residential discharge that feeds into this branch from the Mesa Del Sol area.



Figure 3.1.1k-- Sampling Results – Southern Airport Mercury Mass Loading

## 3.2 Industrial & Commercial Data Analysis: Point Source Identification

The focus of the point source investigation for the 2023 was on currently permitted known mercury discharger, evaluating the westside industries on the SICs of interest list, and starting to sample dental facilities to grasp the severity of this known point source group.

### 3.2.1 Industrial User Point Sources

**2222A: Stericycle, Inc.** is the one currently permitted industry that was identified as an active mercury discharger in the MMP. They have completed their corrective actions and were returned to compliance in January of 2023. While Stericycle's discharge remains below the local limit there is a constant discharge of mercury from this facility. It was also found that many Dental facilities use Stericycle as their biowaste disposal company and there could be the chance that some amalgam waste is accidentally not being disposed of properly. The Pretreatment Program is continues to monitor this industry to verify Stericycle continues with their BMP cleaning practices.

**SICs of interest:** With the focus of the 2023 MMP Implementation being on the west side, the Water Authority compiled all the industries with SICs of interest with potential mercury discharge located on the west side. This list can be seen in **Appendix B** and the full map in **Figure 3.2.1a**. Two of these industries were inspected in 2023, Coyote Gravel Products and Sun Country Industries. Neither industry was deemed an active mercury discharge based on the initial Industrial User Survey but follow up sampling is planned.

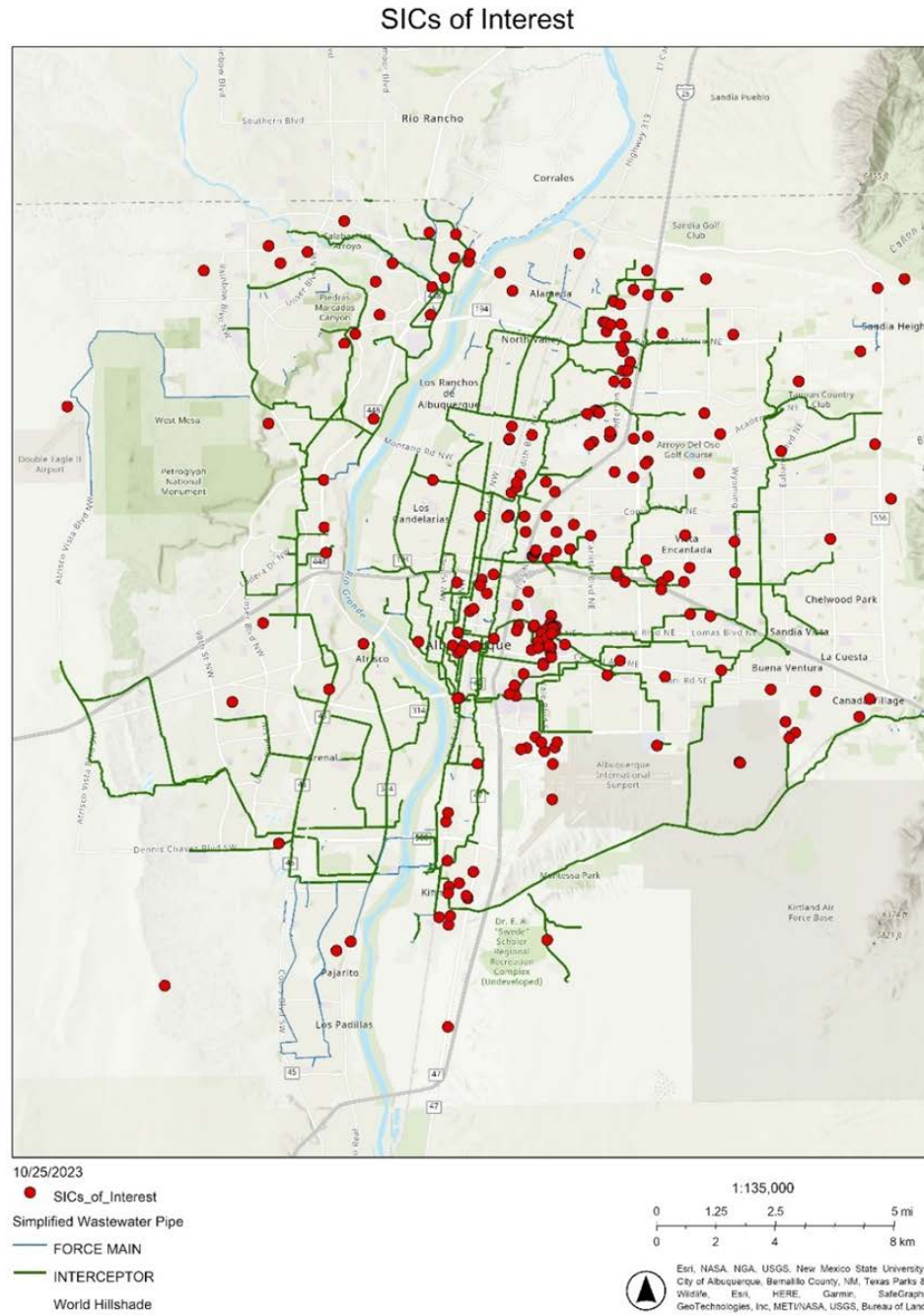


Figure 3.2.1a – Standard Industrial Classification (SICs) of Interest Overview Map

### 3.2.2 Dental Facility Point Sources

The Water Authority has found that dental facilities with amalgam separators may still be a significant point source of mercury discharges. Dentists are a known potential mercury point source by the EPA, and during the Pretreatment Program's routine inspections in 2022 and 2023 extra scrutiny, some sample collection, and a more detailed inspection was applied. It was found that many of the dental facilities have amalgam separator operational and or BMP issues that could result in the bypassing of mercury. The EPA Dental Rule does allow for 5% of mercury to be discharged from dental facilities due to the amalgam separators required to be 95% efficient.

The Water Authority has sampled ten (10) high potential risk dental facilities after inspections that have high patient volume, large number of seats, high flow, poor management of amalgam separator, poor BMPs or any combination thereof. As it can be seen in **Table 3.2** and **Figure 3.2.2b** below, 6/10 of these high potential threat dental facilities have mercury concentration discharges over our local limit of 0.4 ug/L. Four of these sites were significantly over the local limit which was very eye opening for this investigation. The Water Authority is working to standardize the sampling procedure at these facilities to collect the most representative data possible as well as establish a means to calculate a loading from these facilities. The next goal is to determine if the mercury data is indicating an active discharge due to poor practices or if it is legacy mercury from decades of accumulation, potentially prior to 2010 when the Water Authority started to implement its dental regulations.

Sample Point ID	Collection Date	Result (ug/L)
AG00880A	8/23/2023	2.14
AG00880A	8/23/2023	0.25
AG00928A	6/9/2023	158
AG00928A	6/9/2023	6.89
AG00928A	6/23/2023	69.9
AG00947A	8/22/2023	42
AG00947A	8/22/2023	25.8
AG00947A	8/22/2023	0.124
AG00963A	8/23/2023	0.333
AG00963A	8/23/2023	0.57
AG00967A	7/25/2023	367000
AG01000A	7/24/2023	0.704
AG01000A	7/24/2023	0.2
AG01285A	7/24/2023	0.693
AG01285A	7/24/2023	0.401
AG01306A	8/21/2023	14.7
AG01306A	8/21/2023	0.0413
AG01309A	8/22/2023	7.33
AG01309A	8/22/2023	3.25
AG01348A	7/25/2023	3330
AG01348A	7/25/2023	14100

Table 3.2 – 2023 Dental Facility Monitoring Mercury Concentrations



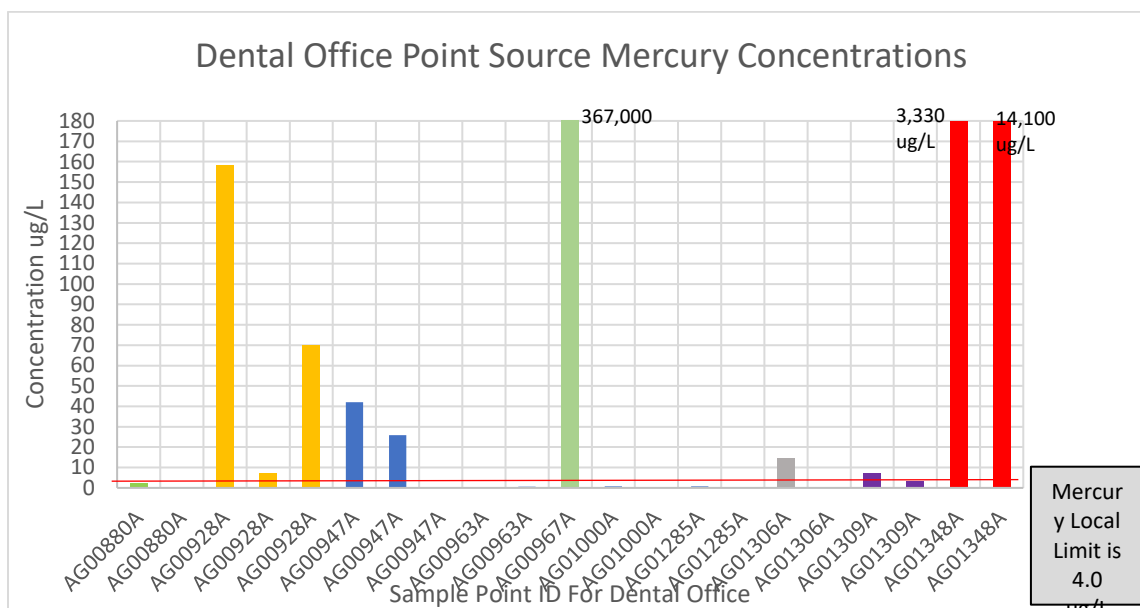


Figure 3.2.2b – 2023 Dental Facility Monitoring Mercury Concentrations (colors used to represent different facilities)

The Water Authority will continue to sample dental facilities with the overall goal of quantifying the loading percentage of the dental facilities in comparison to the overall SWRP influent loading. This will determine the severity of this overall point source and the approach the Water Authority will take to reduce the mercury discharge. The approach could be complete remediation of all mercury, enforcement on mercury discharge or simply continuing to stop separators from bypassing by educating our dental stakeholders to manage their separator maintenance and BMP implementation better.

In conjunction to the sampling the Water Authority is also developing improved BMP pamphlets to educate these very important stakeholders. Attached in Appendix G is the first pamphlet developed; a Dental Wastewater Resource Sheet. This pamphlet provides the dental facilities a list of local and non-local waste disposal companies, amalgam separator sales and service companies, the CFR reference to the dental regulations, a short list of BMPs and the Pollution Prevention Specialists contact information. In 2023 the Water Authority attended the New Mexico Dental Association's Annual Fiesta Workshop. Refer to **section 6.2** for details on this stakeholder specific outreach.

### 3.3 GIS Development

There have been GIS layers created for all the data utilized during the MMP so far, which have been used as static online maps. The points captured include dental offices, permitted industrial users, SICs of Interest, Phase I, II, & III mercury sampling data, with background layers like age of pipe and all existing sewer pipe layers. As part of the Water Authority's Document Management Masterplan, the program will be developing processes to utilize GIS information routinely for sample or inspection planning and reporting out activities. This data analysis will expand each year to include additional information from investigations and monitoring each year. The routine spatial display and analyses of this information will assist in creating easily accessible important information on each sample point to become more effective in planning each year's priority investigations. Future GIS development plans include investigating the ability to link our laboratory results to the significant

sample location in GIS in an automated way. This will allow for quicker, real-time decision making on future mercury and Pretreatment priorities.

## Section 4: NPDES Pretreatment Program Policy Updates

This section identifies the Water Authority's action plan in accordance with this MMP. A follow-up implementation status report will be prepared and submitted to summarize the Water Authority's progress on the plan as outlined in the NPDES permit Section G.

### 4.1 Modification to the Approved Pretreatment Program

- **2022 MMP:** Propose revisions to the enforcement policy that allow for better reduction of pollutants in customer discharges that are causing problems for the POTW and the environment.
  - **2023 Implementation:** ERP was approved by the Water Authority's Legal Counsel, Chief Operations Officer, and Chief Executive Officer in August of 2023. The completed Industrial Pretreatment Program package was mailed to EPA on August 25<sup>th</sup>, 2023. This included:
    1. *Legal Authority to Enforce Pretreatment Program*
    2. *Certification Statement by designated Signatory Authority for NPDES permit matters*
    3. *Revised Sewer Use and Wastewater Control Ordinance as adopted by the Water Authority Board on 6/23/21*
    4. *Local Limits Technical Analysis Report (Submitted on 11/30/20)*
    5. *Revised Pretreatment Program Enforcement Response Plan*
    6. *Revised Fats, Oils, Grease and Solids Policy*
    7. *Summary of Public Comments and Community Outreach*
    8. *Pretreatment Program Description and Operating Procedures*

As mentioned in the 2022 MMP, the Water Authority conducted a thorough revision and revamping of our Enforcement Response Plan (ERP) to better define how and when to disseminate enforcement. The revised ERP also defines how and when enforcement may be escalated using various enforcement tools. One tool specifically; deficiency notice, defines how to work with industrial users to resolve non-compliant issues prior to any violations being issued. When a deficiency is identified by inspection, the Pretreatment Program can work with that user to resolve the issue. As long as the user is working with the program and implementing its compliance schedule, there is no need to escalate to violations. The Water Authority believes with this ERP revision it will give the Pretreatment Program the tools needed to reduce mercury through multiple levels of enforcement when needed.

### 4.2 Re-Evaluation of Closed Permits

- **2022 MMP:** Reopen industrial permits that were closed in the past decade, where customers may have had continued impacts to the sewer system, prioritizing all hospitals and medical facilities.
  - **2023 Implementation:** Priority of closed permit evaluation was established based on high flow, hospitals, and medical facilities. A list of these facilities can be found in **Appendix C**. The top two facilities were identified as needing to be permitted, sent a permit application, and industrial survey inspections conducted to move forward with the re-permitting process. These two formally permitted hospitals are Gibson Health Hub and NM Veterans Affairs Health Care System (NM VA). Gibson has been identified as a mercury point source in the MMP and verified through recent sampling during the 2023 MMP Implementation. This data can be found in **Table 4.2** below. The NM VA is currently in non-compliance for its Dental Office and the Water Authority is working with them to



resolve the amalgam separator issues. The NM VA is also scheduled for sampling to evaluate their mercury discharge.

Gibson Health Hub (Permit 2058A)	Collection Date	Result (ug/L)
2058A	6/7/2023	3.21
2058A	6/8/2023	86.80
2058A	6/27/2023	0.572
2058A	6/28/2023	3.20

Table 4.2 – Gibson Health Hub Sampling Results for 2023 Mercury Sampling

### 4.3 Program Revisions

- **2022 MMP:** Propose program revisions that allow for more sample collection and field inspections to support necessary enforcement actions, specifically routine mercury sampling and the permit quarterly monitoring.
  - **2023 Implementation:** The Pretreatment Program has expanded to split into two groups: Engineering and Monitoring & Inspections. The engineering group was created specially to focus on permitting and enforcement while the operations group runs the day-to-day operation of pretreatment. To accomplish this reorganization four full-time employees (FTE) were added to the NPDES Program. Two Engineers were added to the engineering group and one Wastewater Quality Supervisor & one Monitoring Technician to the Monitoring & Inspections group.
  - Low level mercury sampling was added to all pretreatment program sampling, including permitted industrial users, domestic background manholes, and new industries. To maintain mercury surveillance of these groups. This low-level data will also be used for future local limits evaluation so that SWRP NPDES monitoring data and Pretreatment data are using the same analytical method.

### 4.4 Program Efficiencies

- **2022 MMP:** Continue to improve program efficiencies that allow to more easily increase the number of permittees overseen, including Pretreatment Program database management and paperless document management wherever possible.
  - **2023 Implementation:** The above-mentioned reorganization will allow for more permittee capacity in the program. The entire compliance division has a document management masterplan and has begun implementing paper archiving and development of cloud storage on SharePoint. The Pretreatment Program has been utilizing paperless chain of custody data management since 2016. Pretreatment Program also utilizes Linko software for industrial permit, Hauler permit, FOG facilities, Dental facilities, and IU survey tracking.

## Section 5: Southside Water Reclamation Plant (SWRP) Best Management Practices

This section identifies the Water Authority's completed actions at the plant in accordance with the MMP.

### 5.1 Ultraviolet Treatment Unit Improvements

- **2022 MMP:** Complete the improvements to the UV system.
  - **2023 Implementation:** In December of 2022 construction of the UV channel hydraulic improvements was completed. Construction included installation of inlet flow guides and baffle plates. As a result of this work the flow velocity field approaching the UV equipment is significantly more uniform which leads to more uniform UV exposure through the UV treatment system. Renderings of the UV channel inlet flow guides and baffle plates are shown in the design rendering below. Construction also included installation of UV bank storage racks. The storage racks provide capacity to remove both UV banks from a treatment channel should the need arise to perform a more intense cleaning of the channels or future UV channel system improvements.

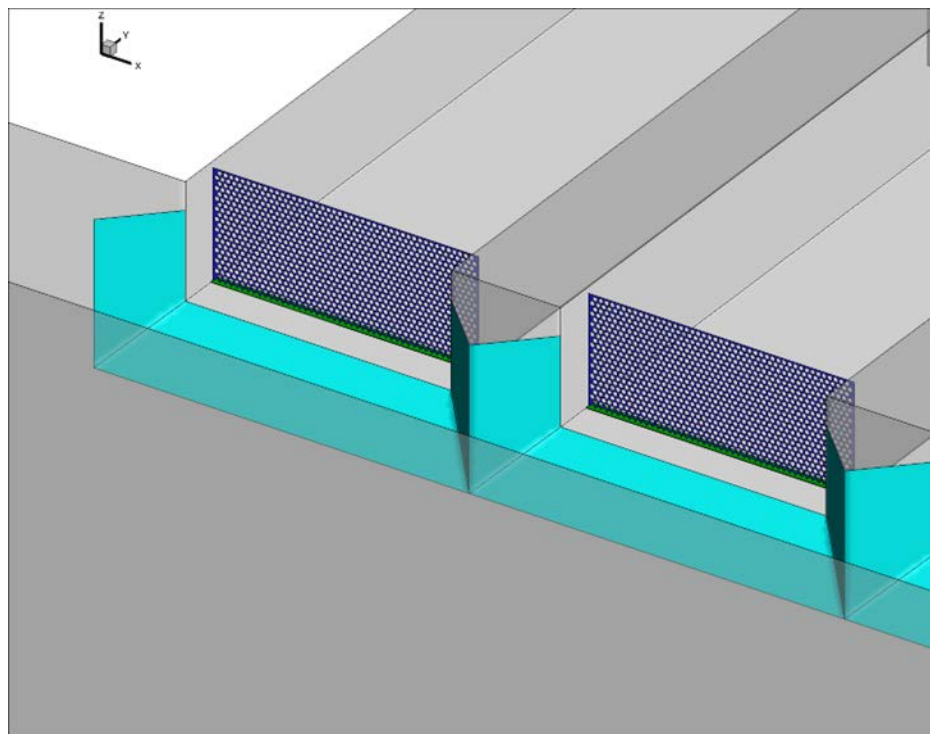


Figure 5.1- Flow Chanel View

### 5.2 Biofilm Cleaning

- **2022 MMP:** Continue to clean and investigate potential biofilm building up throughout the plant and downstream of the UV facility.
  - **2023 Implementation:** Bi-weekly cleanings of UV treatment channels are performed by SWRP staff. Channel cleaning consists of washing down the channel walls and building interior. Wash water from this cleaning operation is conveyed back to the head of the

- plant where any potential mercury-containing solids are removed from the liquids stream in the clarification process.
- During the construction of the UV system improvements described in **Section 5.1** a diving contractor performed a cleaning of the channels and junction boxes immediately upstream and downstream of the UV treatment system in December of 2022. These channels and junction boxes cannot be readily taken offline for draining and cleaning by SWRP staff and requires use of a diving contractor to remove any sediment, debris or biomass accumulation within the channels and junction boxes. The diver utilized a submersible pump and suction hose to remove deposited material from the channels for disposal. The next diver cleaning is scheduled for December 2023 and annually thereafter. The frequency of these cleanings may be adjusted based on the amount of material discovered with each cleaning. The following pictures show equipment used and material removed during the December 2022 cleaning.



Figure 5.2a - Debris removed during the diver cleaning.





Figure 5.2b - Sediment removed from the UV inlet channel.

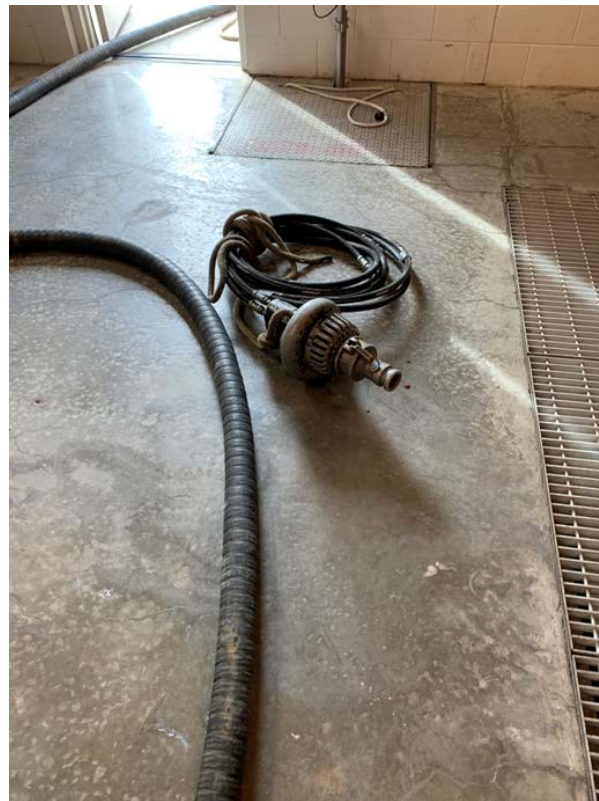


Figure 5.2c - Submersible pump equipment used to remove material from the channels.

### 5.3 Response to SWRP Mercury Problems

- **2022 MMP:** Track mercury concentrations throughout the plant whenever problems arise. Propose long term process improvement solutions such as capital improvements when violations persist.
  - **2023 Implementation:** There have been zero mercury exceedances since implementation of BMPs listed in **Section 5.1** and **5.2** in December of 2022. The last recorded daily exceedance of mercury at the SWRP outfall was in October 2022. Therefore, there has not been a need to track mercury throughout the plant in 2023 or evaluate further process improvements.
  - The below graph shows SWRP effluent mercury concentration from December 2019 through August 2023. Since implementing BMPs listed in **Section 5.1** and **5.2** there have been no permit exceedances for mercury.

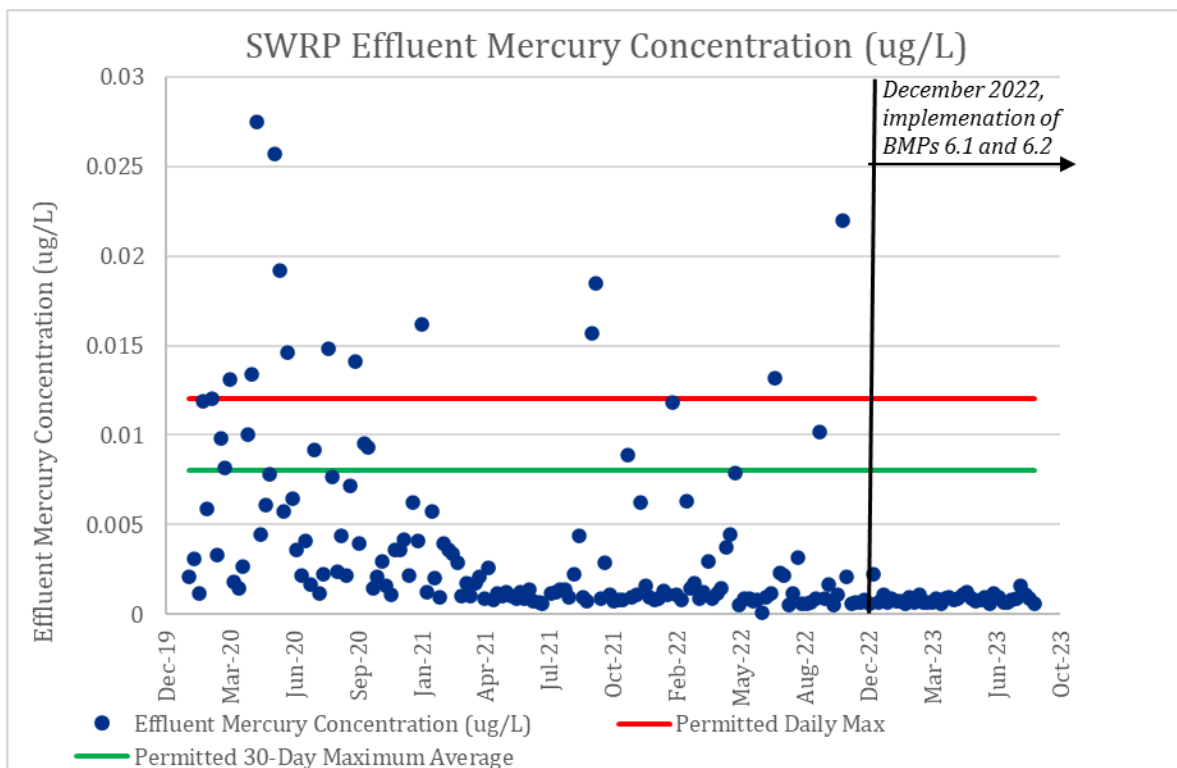


Figure 5.3 – SWRP Effluent Mercury Concentration Plot

## Section 6: Public Education

This section identifies the Water Authority's completed actions for public education in accordance with the MMP.

### 6.1 Medical Self-Audit

- **2022 MMP:** Prepare self-auditing checklists for hospitals and medical facilities.
  - **2023 Implementation:** This has not been implemented yet.

### 6.2 Customer Outreach

- **2022 MMP:** Educate customers on how to implement cost-effective and sector specific BMPs and control strategies with onsite outreach and by developing brochures and outreach material specific to different business types. From **2022 MMP:**  
The Water Authority's public education and outreach will target the following components:  
Development of educational materials to distribute to customers within the service area. The educational materials will focus on:
  - Educating the community on how to replace mercury-containing items with mercury-free alternatives and substitutes,
  - Emphasizing the importance of eliminating and recycling mercury,
  - Promoting proper handling and disposing of mercury,
  - Assisting with accidental mercury spills and cleanup,
  - Keeping mercury records and inventory to prevent its release into wastewater and the environment.
  - Collaboration with services and businesses that are currently operational to collect mercury-containing wastes to increase public participation for mercury collection.
  - Development of educational materials to distribute to schools and universities to teach about mercury, its health effects, and what to do if they find mercury-obtaining items in laboratories.
- **2023 Implementation:** As part of the Water Authority's implementation of its Mercury Minimization Plan, additional education and outreach has been focused on the largest potential mercury point source group, Dental Offices. In 2023 data collected near dental offices indicates that the improper operation of installed amalgam separators may be contributing to the mercury concentrations found in the sewer.
- A new Dental Wastewater Resource Sheet (**Appendix G**) was developed to provide dental offices with a quick reference on waste disposal companies, amalgam separator sales & service providers, federal regulation references, Best Management Practices and the contact information for the P2 Specialist managing the Dental module.
- To reach out to the audience of interest, the Pretreatment Program had an outreach booth at the New Mexico Dental Association's Annual Fiesta Conference. There were 1,060 attendees to this event that the Water Authority had the opportunity to interact with and educate them on dental waste management as well as all the Pollution Prevention tenants and the Water Authority as a whole. The Water Authority also teamed up with the City of Albuquerque's Storm Water group to pass out their promotional items and brochures.



## Section 7: Future Objectives

This section identifies the Water Authority's continued action plan to implement the Mercury Minimization Study. The Water Authority will continue to implement the MMP as a part of regular business of the NPDES and Pretreatment Program. A brief status update will be provided in the Pretreatment Annual Report.

### 7.1 2024 Program Objectives to Minimize Mercury

1. Evaluate grab versus composite sampling at end of interceptor sample locations and re-evaluate the interceptor percent contributions pie chart. Make a decision whether routine interceptor monitoring should change from composite to grab samples for mercury.
2. Implement the Pretreatment Program Policy updates once the modified Pretreatment Program is approved by EPA.
3. Evaluate mercury potential at 10-25% of dental facilities and industrial users on the SIC list.
4. Evaluate previously permitted hospitals for permit necessity and start the permitting process for at least 50% of those needed.
5. Evaluate 10-12 new industries for permitting.
6. Collect low level mercury samples at permitted industrial users to include in the next local limit review.

### 7.2 Ongoing Mercury Reduction Objectives

1. Maintain a list of all potential mercury point sources utilizing the SIC list. Evaluate 10 – 25 % of the users per year on this list for mercury potential via industrial user surveys, inspections, and or sampling of their discharge as needed. The current list of westside potential point sources is in **Appendix B**, the full list is in **Appendix B** of MMP.
2. Investigate whether the lift stations have significant mercury concentration areas within the slime layers on the station walls, and pipe walls up stream. If this is the case the Water Authority will investigate if cleaning the stations and pipes upstream is a beneficial reduction of the mercury load.
3. Further investigation of all high priority sample points to narrow the area of mercury mass loading to identify point sources.
4. After all high priority areas have been investigated, the medium priority areas will be investigated next to narrow the mercury mass loading to identify point sources.
5. Sample and evaluate mercury compliance at 10 – 25% of active dental facilities per year in the service area. Use this data to quantify the mercury loading from dental facilities to determine the effect on SWRP influent. Based on these results determine the approach to take with reducing loading from the dental facilities.
6. Continue to implement the Document Management Masterplan as it pertains to inspection or sample location tracking and linking compliance databases to GIS when possible.
7. Evaluate permit necessity for all previously permitted hospitals and medical facilities and permit those that are needed within 2 years.
8. As the hospital discharge conditions are better understood, prepare self-auditing checklists for hospitals and medical facilities.
9. Continue to develop new industrial user identification processes and establish a target list for annual new user surveys.

## Appendix A

### Permitted Active Industrial Users

Facility No	Facility	Address	Active Facility	SIC Code	Potential Mercury Source
2002A	El Encanto, Inc. DBA Bueno Foods	2001 4th St. SW	Yes	2099	No
2005A	Coronado Center	6600 Menaul Blvd. NE	Yes	6512	Maybe
2005B	Coronado Center	6600 Menaul Blvd. NE	No	6512	Maybe
2006A	Dean Dairy Fluid LLC	1911 2nd St. NW	Yes	2026	No
2013A	Materion Advanced Materials & Technology Services	6905 Washington St. NE	Yes	3341	No
2018A	Nypro Baja. dba Jabil, Inc.	3801 University Blvd. SE	Yes	3841, 3842	Yes
2021A	Intel Corporation	1600 Rio Rancho Blvd.	Yes	3674	Yes
2022A	Kaehr Corporation	1425 Candelaria Rd. NE	Yes	3479, 3471	Maybe
2026A	The Circuit Shop, Inc.	8512 San Joaquin SE	Yes	3672	Yes
2028A	ABB Installation Productions, Inc.	6625 Bluewater Rd. NW	Yes	3069, 3613, 3643	Yes
2034A	CTS Corporation	4800 Alameda Blvd. NE	Yes	3299, 3679	Yes
2041B	Red Sky Corporation	630 Oak St. SE	Yes	3471	Maybe
2043A	Theta Plate, Inc.	3330 Princeton Dr. NE	Yes	3471	Maybe
2046A	Albuquerque Publishing Company	7777 Jefferson NE	Yes	2711	No
2047A	Aramark Uniform Services	517 1st St. NW	Yes	7211, 7213, 7218	Maybe
2051A	CINTAS CORPORATION	5101 Wilshire Ave. NE	Yes	7218	No
2055A	Curia New Mexico LLC.	4272 Balloon Park Rd. NE	Yes	2834	Yes
2055B	Curia New Mexico LLC.	4200 Balloon Park Rd. NE	Yes	2834	Yes
2060A	Lovelace Medical Center	601 Dr. Martin Luther King Jr. Ave. NE	Yes	8062	Yes
2068A	Kirtland Air Force Base	377 MSG/CEIE	Yes	9711	Yes
2069A	United States Department of Energy, National Nuclear Security Administration, Sandia Field Office	Sandia National Laboratories: Tech Areas II and IV	Yes	8731, 9711	Yes

Facility No	Facility	Address	Active Facility	SIC Code	Potential Mercury Source
2069F	United States Department of Energy, National Nuclear Security Administration, Sandia Field Office	Sandia National Laboratories, New Mexico, P.O. Box 5800, Mail Stop 0143	Yes	3471, 8731, 9711, 8734, 8733	Yes
2069G	United States Department of Energy, National Nuclear Security Administration, Sandia Field Office	Microelectronics Development Lab	Yes	3559, 3674, 8731, 9711	Yes
2069I	United States Department of Energy, National Nuclear Security Administration, Sandia Field Office	P.O. Box 5800, Mail Stop 0143	Yes	8731, 8733, 9711	Yes
2069K	United States Department of Energy, National Nuclear Security Administration, Sandia Field Office	Sandia National Labs: Technical Areas III & V	Yes	8734, 8731, 9711	Yes
2076A	Wagner Equipment Co.	700 Wagner Court SE	Yes	5082, 7699	Yes
2087A	Mission Linen & Uniform Service	4315 Hawkins St. NE	Yes	7219, 7213, 7218	No
2091A	Brothers Plating Company, Inc.	6817 4th St. NW	Yes	3479, 3471	Maybe
2178A	Lovelace Biomedical Research Institute (LBRI)	BLDG 9500 Area Y, Kirtland Air Force Base	Yes	8733	No
2181A	General Mills Operations, Inc.	3501 Paseo Del Norte NE	Yes	2043	No
2186A	Unifirst Corporation	215 Altez St. SE	Yes	7218	No
2190A	Prudential Overall Supply	8344 Corona Loop NE	Yes	7218	No
2195A	SUMCO Phoenix Corporation	9401 San Mateo Blvd. NE	Yes	3674	Yes
2196A	Chem-Tech, Inc. dba/Darco Products, Inc.	8406 Washington Pl. NE	Yes	3471	Maybe
2206A	Ecotex-Healthcare Laundry Services, LLC	7600-A Los Volcanes Rd. NW	Yes	7211, 7213, 7218	Maybe
2207A	Delta Uniform and Linen, Inc.	1617 Candelaria Rd. NE	Yes	7211, 7213, 7218	Maybe
2209A	SolAero Technologies Corporation	10420 Research Rd. SE	Yes	3679, 3674	Yes
2214A	Ink Spot Towel Service, Inc.	142 Tennessee St. NE	Yes	7218	No
2221A	Metal Finishing Specialty	115 Palomas Dr. NE	Yes	3417	No
2222A	Stericycle, Inc.	1920 1st St. NW	Yes	4953	Yes
2223A	HT Micro Analytical, Inc.	4301 Masthead St. NE, Ste - A	Yes	3679	Yes
2225A	HF Sinclair Asphalt Company LLC	4949 Edith Blvd. NE	Yes	2951	No
2227A	STA Technologies Inc.	5401 Venice Blvd. NE	Yes	2893, 3999, 8731	Yes

Facility No	Facility	Address	Active Facility	SIC Code	Potential Mercury Source
2230A	TPL, Inc.	8436 Washington Place NE	Yes	8731	No
2231A	Bimbo Bakeries USA, Inc.	111 Montano Rd. NE	Yes		
2232A	Formulab . . . Naturally!	740 Rankin Rd. NE	Yes	2844	No
<b>2235A</b>	<b>Eclipse Aerospace Inc.</b>	<b>3520 Spirit Dr. SE</b>	<b>Yes</b>	<b>3721</b>	<b>Maybe</b>
<b>2238A</b>	<b>United States Department of Energy, National Nuclear Security Administration, Sandia Field Office</b>	<b>1101 Eubank Blvd. SE</b>	<b>Yes</b>	<b>3559, 3674, 8733</b>	<b>Yes</b>
<b>2241A</b>	<b>Optimum Finish, Inc.</b>	<b>8527 Calle Alameda St. NE</b>	<b>Yes</b>	<b>3471</b>	<b>Maybe</b>
<b>2242A</b>	<b>NMDOH Scientific Laboratory Division</b>	<b>1101 Camino De Salud NE</b>	<b>Yes</b>	<b>8734</b>	<b>Yes</b>
2248A	Materion Advanced Materials & Technologies Services	5600 University Blvd. SE	Yes	3341	No
<b>2252A</b>	<b>G.T. Specialties</b>	<b>2901-A Edith Blvd. NE</b>	<b>Yes</b>	<b>3471</b>	<b>Maybe</b>
2253A	EXPO New Mexico	300 San Pedro Dr N.E.	Yes	0752, 7999	No
2257A	Materion Advanced Materials & Technology Services	5941 Midway Park Blvd. Ste A	Yes	3341	No
<b>2262A</b>	<b>ABQ Manufacturing, Inc.</b>	<b>1400 Broadway Blvd NE</b>	<b>Yes</b>	<b>3479</b>	<b>Maybe</b>
<b>2263A</b>	<b>Clayton Albuquerque</b>	<b>2700 Karsten Court SE</b>	<b>Yes</b>	<b>2451</b>	<b>Maybe</b>
<b>2264A</b>	<b>TCS Industries</b>	<b>10111 Bell Ave. SE</b>	<b>Yes</b>	<b>3444</b>	<b>Maybe</b>
2265A	AAA Pumping Services	2855 2nd St. SW	Yes	2077	No
<b>2268A</b>	<b>Curia New Mexico, LLC</b>	<b>4401 Alexander Blvd. NE</b>	<b>Yes</b>	<b>2834</b>	<b>Yes</b>
2269A	American Waste Removal	502 Carmony Rd. NE	Yes	2077	No
2270A	Department of Energy/ National Nuclear Security Administration	P.O. Box 5400	Yes	4581, 9711	
2271A	Public Service Company of New Mexico	4400 Paseo Del Norte	Yes	4911	No
2272A	TMFG LLC	2713 Girard Blvd NE	Yes	2841	No
2274A	Foods of New Mexico	2810 Karsten Ct.	Yes		

Bold Industries are those that are or maybe a potential mercury source based on their SIC code.

## Appendix B

### List of Potential Mercury SIC Industries on Westside

Facility Name	Facility Type
Complete Car Care	Auto Repair Shop
Brake Masters #235	Auto Repair Shop
Joe's Automotive	Auto Repair Shop
L Mora Trash Co.	Garbage Collection Service
Daniel's Road Service	Auto Repair Shop
Rojas Recycling	Recycling Center
Performance Plus Inc.	Auto Machine Shop
Coors Auto Recycling	Auto Repair Shop
Auto Performance Engineering	Auto Repair Shop
Vasquez Mobile Auto Repair	Auto Repair Shop
All Washed Up Laundromat	Laundromat
Aaron's Perez Collision Center LLC	Auto Body Shop
Professional Paint & Body Accessories	Auto Repair Shop
Intensity Performance	Auto Repair Shop
El Mexicano Truck Salvage	Auto Wrecker
Saul Auto Core LLC	Recycling Center
MSM Auto Body & Collision	Auto Body Shop
Diesel Doctor Services	Truck Repair Shop
<b>Sun Country Industries*</b>	<b>Aerospace Manufacturer</b>
E.N. Heating & Cooling	HVAC Contractor
Chavez Dental Castings	Dental Laboratory
J D Inspection Inc.	Laboratory
Gonz Detailing	Car Detailing Service
JJJ Mobile Diesel Mechanic	Auto Repair
Bryan Baca Plumbing and Heating	AC Repair Service
AVS Construction LLC	Iron Works
Hector Aguilar Carpet Installer	Carpet Cleaning Service
Power Plus Carpet Cleaning	Carpet Cleaning Service
Vasquez Mobile Auto Repair	Auto Repair Shop

Facility Name	Facility Type
goodtoonice	Iron Works
S and R Detailing	Car Detailing Service
AA Mobile Road Service	Truck Repair Shop
City of Albuquerque Animal Welfare	Animal Shelter
Fire Academy	Fire Station
Don Reservoir Convenience Center	Waste Management Service
Contech Engineered Solutions	Pipe Supplier
Rio Grande Concrete Pumping LLC	Pump Supplier
Independent Radiator Service Corporation	Radiator Shop
<b>Coyote Gravel Products*</b>	<b>Concrete Contractor</b>
The Garage	Auto Repair Shop
Crash Champions Collision Repair	Auto Body Shop
Classic Heating & Cooling, Inc.	Heating Contractor
Stark Industrial Supply	Manufacturer

\*Bold Industries inspected in 2023.



## Appendix C

### Closed Permits – Hospitals & Medical Facilities

Facility No	Facility	Address	Active Facility	SIC Code	Potential Mercury Source
2057A	Kaseman Presbyterian Hospital	8300 Constitution Ave. NE	No	8062, 8063	Yes
<b>*2058A</b>	<b>Gibson Health Hub</b>	<b>5400 Gibson Blvd. SE</b>	<b>Yes</b>	<b>8011, 8049, 8062</b>	<b>Yes</b>
2059A	Presbyterian Healthcare Services	1100 Central Ave. SE	No	8062	Yes
2061A	Lovelace Women's Hospital	4701 Montgomery Blvd. NE	No	8062	Yes
2062A	University of New Mexico Health Sciences Center/Hospital	2211 Lomas Blvd. NE	No	8062	Yes
<b>*2064A</b>	<b>New Mexico VA Health Care System</b>	<b>1501 San Pedro Dr.,SE</b>	<b>Yes</b>	<b>8062</b>	<b>Yes</b>
2089A	Lovelace Westside Hospital	10501 Golf Course Rd. NW	No	8062	Yes

\*Bold facilities are currently in the process of being permitted.

# Appendix D

## 2023 Mercury Sampling Data Spreadsheet

Sample Point/ Manhole	Address	Area (Region)	Main Interceptor Description	Sample Hose Length	Pipe Diameter	Protocol	Date	Grab Sample Time	Composite Sample Time	Result (Lab) - (ug/L)	pH & Temp.	Water Color	Notes:	Arrival Time to Site	Departure Time from Site
Mercury Minimization Project Week 1 Sampling: 2/27/2023 - 3/3/2023															
Station 20 (Wet Well) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	32.5ft w/SS Strainer		PR HGLOW	3/1/2023	10:41am	*Setup; Start: 11:03am	0.0579 ug/L	*NONE	N/A	*96/96; 100ml/15 min for 24 hrs	10:00am	11:12am
Station 20 (Wet Well) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	32.5ft w/SS Strainer		PR HGLOW	3/2/2023	10:50am	-	0.0920 ug/L	8.07 @ 16.6C	Cloudy, gray w/ yellowish hue	N/A	10:20am	11:05am
Station 20 (Wet Well) - COMPOSITE	3914 Isleta Blvd SW	West Side	Station 20	32.5ft w/SS Strainer		PR HGLOW	3/2/2023	-	10:37am	0.0992 ug/L	*NONE	N/A	N/A	10:20am	11:05am
F12321 (North of Station 24) - GRAB	99999 Coors Blvd NW	West Side	Station 20	19ft w/SS Strainer	42"	PR HGLOW	3/1/2023	12:25pm	*Setup; Start: 12:36pm	0.0421 ug/L	*NONE	N/A	*96/96; 80ml/15 min for 24 hrs	11:35am	12:45pm
F12321 (North of Station 24) - GRAB	99999 Coors Blvd NW	West Side	Station 20	19ft w/SS Strainer	42"	PR HGLOW	3/2/2023	11:57am	-	0.0148 ug/L	8.64	Cloudy, gray w/ yellowish hue	*94/96 Samples Taken	11:30am	12:10pm
F12321 (North of Station 24) - COMPOSITE	99999 Coors Blvd NW	West Side	Station 20	19ft w/SS Strainer	42"	PR HGLOW	3/2/2023	-	11:48am	0.0272 ug/L	*NONE	N/A	N/A	11:30am	12:10pm
F11725 (Western Trl NW) - GRAB	5825 Western Trail NW	West Side	Station 20	20ft w/SS Strainer	24"	PR HGLOW	3/1/2023	1:32pm	*Setup; Start: 1:42pm	0.0166 ug/L	*NONE	N/A	*96/96; 80ml/15 min for 24 hrs	1:10pm	1:48pm
F11725 (Western Trl NW) - GRAB	5825 Western Trail NW	West Side	Station 20	20ft w/SS Strainer	24"	PR HGLOW	3/2/2023	12:25pm	-	0.0178 ug/L	*NONE				
F11725 (Western Trl NW) - COMPOSITE	5825 Western Trail NW	West Side	Station 20	20ft w/SS Strainer	24"	PR HGLOW	3/2/2023	-	12:22pm	0.0250 ug/L	8.69 @ 16.9C	Cloudy, yellowish gray	*93/96 Samples Taken	12:15pm	12:30pm
F11402 (Atrisco in Dirt Path) - GRAB	6028 Stoney Bluff Ct NW	West Side	Station 20	25ft w/SS Strainer	54"	PR HGLOW	3/1/2023	2:07PM	N/A	0.0131 ug/L	*NONE	N/A	Sample pump motor failed during calibration.	1:53pm	2:30pm
F11402 (Atrisco in Dirt Path) - GRAB	6028 Stoney Bluff Ct NW	West Side	Station 20	25ft w/SS Strainer	54"	PR HGLOW	3/2/2023	12:39pm	*Setup; Start: 12:55pm	0.0189 ug/L	*NONE	Heavily cloudy, yellow hue	*96/96; 100ml/15 min for 24 hrs	12:35pm	1:15pm
F11402 (Atrisco in Dirt Path) - GRAB	6028 Stoney Bluff Ct NW	West Side	Station 20	25ft w/SS Strainer	54"	PR HGLOW	3/3/2023	12:37pm	-	0.0191 ug/L	7.13 @ 15.7C				
F11402 (Atrisco in Dirt Path) - COMPOSITE	6028 Stoney Bluff Ct NW	West Side	Station 20	25ft w/SS Strainer	54"	PR HGLOW	3/3/2023	-	12:29pm	0.0342 ug/L	*NONE	Cloudy, yellowish	*32/96 Samples Taken	12:20pm	12:55pm
													Sample pump motor failed during calibration.		
Intel 2021A - NO SAMPLE OR SETUP	Rio Rancho Blvd SE	West Side	Station 20	16ft w/SS Strainer	15"	PR HGLOW	3/1/2023	N/A	N/A	N/A	*NONE	N/A		N/A	N/A
Intel 2021A - GRAB	Rio Rancho Blvd SE	West Side	Station 20	16ft w/SS Strainer	15"	PR HGLOW	3/2/2023	1:57pm	*Setup; Start: 2:10pm	0.00347 ug/L	9.8 @ 19.8C	Slightly cloudy, opaque clear	*96/96; 100ml/15 min for 24 hrs	1:45pm	2:20pm
Intel 2021A - GRAB	Rio Rancho Blvd SE	West Side	Station 20	16ft w/SS Strainer	15"	PR HGLOW	3/3/2023	1:22pm	-	0.00331 ug/L	9.76 @ 19.3C	Slightly cloudy, opaque clear	*94/96 Samples Taken	1:17pm	1:45pm
Intel 2021A - COMPOSITE	Rio Rancho Blvd SE	West Side	Station 20	16ft w/SS Strainer	15"	PR HGLOW	3/3/2023	1:22pm	1:30pm	0.00252 ug/L	*NONE	N/A		1:17pm	1:45pm
Mercury Minimization Project Week 2 Sampling: 3/6/2023 - 3/10/2023															
Station 20 (Outside Manhole) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	-	PR HGLOW	3/8/2023	10:03am	*Setup; Start: 10:20am	0.0590 ug/L	8.00 @ 14.9C	Cloudy, grayish	*96/96; 100ml/15 min for 24 hrs	9:35am	10:30am
Station 20 (Outside Manhole) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	72"	PR HGLOW	3/9/2023	9:22am	-	0.0592 ug/L	8.02 @ 14.8C	Cloudy, light yellowish gray		9:20am	9:50am
Station 20 (Wet Well) - COMPOSITE	3914 Isleta Blvd SW	West Side	Station 20	32.5ft w/SS Strainer	-	PR HGLOW	3/9/2023	-	9:42am	0.0665 ug/L	7.96 @ 14.2C	Cloudy, dark gray w/ sediment	94/96 Samples Taken - 7.5 liters	9:20am	9:50am
P12743 (Outside South Valley Pool) - GRAB	3912 Isleta Blvd SW	West Side	Station 20	19ft w/SS Strainer	36" Rehab	PR HGLOW	3/8/2023	10:37am	*Setup; Start: 11:05am	0.0838 ug/L	8.09 @ 16.8C	Cloudy, light yellowish	*96/96; 100ml/15 min for 24 hrs	10:32am	11:15am
P12743 (Outside South Valley Pool) - GRAB	3912 Isleta Blvd SW	West Side	Station 20	19ft w/SS Strainer	36" Rehab	PR HGLOW	3/9/2023	10:25am	-	0.0984 ug/L	7.95 @ 19.2C	Cloudy, yellowish		9:54am	10:33am
P12743 (Outside South Valley Pool) - COMPOSITE	3912 Isleta Blvd SW	West Side	Station 20	19ft w/SS Strainer	36" Rehab	PR HGLOW	3/9/2023	-	10:10am	0.0720 ug/L	7.56 @ 16.8C	Cloudy, grayish w/ sediment	94/96 Samples Taken	9:54am	10:33am
P12841 (Median in front of Station 20) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	19ft w/SS Strainer	36" Rehab	PR HGLOW	3/8/2023	11:22am	*Setup; Start: 11:57am	0.0521 ug/L	7.35 @ 16.8C	Cloudy, dark gray	*96/96; 100ml/15 min for 24 hrs	11:18am	11:55am
P12841 (Median in front of Station 20) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	19ft w/SS Strainer	36" Rehab	PR HGLOW	3/9/2023	10:51am	-	0.0663 ug/L	7.27 @ 18.7C	Cloudy, light yellowish - gray	92/96 Samples Taken	10:35am	10:58am
P12841 (Median in front of Station 20) - COMPOSITE	3914 Isleta Blvd SW	West Side	Station 20	19ft w/SS Strainer	36" Rehab	PR HGLOW	3/9/2023	-	10:44am	0.0830 ug/L	7.52 @ 21.2C	Cloudy, yellowish gray w/ sediment		10:35am	10:58am
P12842 (Dirt Lot across St from Station 20) - GRAB	3948 Las Vegas Dr SW	West Side	Station 20	19ft w/SS Strainer	48"	PR HGLOW	3/8/2023	12:18pm	*Setup; Start: 12:33pm	0.0343 ug/L	7.99 @ 21.0C	Cloudy, yellowish - gray	*96/96; 100ml/15 min for 24 hrs	12:10pm	12:44pm
P12842 (Dirt Lot across St from Station 20) - GRAB	3948 Las Vegas Dr SW	West Side	Station 20	19ft w/SS Strainer	48"	PR HGLOW	3/9/2023	11:19am	-	0.0496 ug/L	8.11 @ 21.2C	Cloudy, yellowish		11:00am	11:10am
P12842 (Dirt Lot across St from Station 20) - COMPOSITE	3948 Las Vegas Dr SW	West Side	Station 20	19ft w/SS Strainer	48"	PR HGLOW	3/9/2023	-	11:13am	0.0378 ug/L	7.94 @ 21.8C	Cloudy, grayish w/ sediment	92/96 Samples Taken - 4 liters	11:00am	11:10am
Q12021 (1906 Lakeview Rd SW) - GRAB	1906 Lakeview Rd SW	West Side	Station 20	-	42" Rehab	PR HGLOW	3/9/2023	11:36am	-	0.0403 ug/L	7.54 @ 19.6C	Cloudy, yellowish	-	11:25am	11:39am
Q12021 (1906 Lakeview Rd SW) - GRAB	1906 Lakeview Rd SW	West Side	Station 20	-	42" Rehab	PR HGLOW	3/10/2023	11:14am	-	0.0510 ug/L	7.95 @ 15.6C	Cloudy, light yellowish	-	11:07am	11:45am

# Appendix D

## 2023 Mercury Sampling Data Spreadsheet

Mercury Minimization Project Week 3 Sampling: 3/13/2023 - 3/17/2023															
Station 20 (Wet Well) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	Wet Well	PR HGLOW	3/15/2023	11:17am	*Setup; Start: 11:50am	0.0443 ug/L	7.92 @ 18.7C	Cloudy, yellowish	-	11:07am	11:55am
Station 20 (Wet Well) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	Wet Well	PR HGLOW	3/16/2023	8:41am	-	0.0622 ug/L	8.05 @15.8C	Cloudy, grayish	-	8:31am	9:13am
Station 20 (Wet Well) - NIGHT GRAB	3914 Isleta Blvd SW	West Side	Station 20	32.0ft w/SS Strainer	Wet Well	PR HGLOW	3/16/2023	-	Sampled @ 1:10am *Pickup: 8:44am	0.038 ug/L	8.00 @10.1C	Cloudy, dark grayish with heavy sediment	*(3) 400ml samples starting at 1:00am	8:31am	9:13am
									*Setup; Start: 11:50am						
P12847 (Manhole Outside Station 20 Main Bldg) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	72"	PR HGLOW	3/15/2023	11:40am	Set for 1:00am	0.144 ug/L	7.84 @ 20.4C	Cloudy, light yellowish	*(3) 200ml samples starting at 1:00am	11:07am	11:55am
P12847 (Manhole Outside Station 20 Main Bldg) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	72"	PR HGLOW	3/16/2023	9:04am	-	0.0376 ug/L	8.06 @ 14.5C	Cloudy, grayish	-	8:31am	9:13am
P12847 (from Manhole Outside Station 20 Main Bldg) - NIGHT GRAB	3914 Isleta Blvd SW	West Side	Station 20	25.0ft w/SS Strainer	72"	PR HGLOW	3/16/2023	-	Sampled @ 1:10am *Pickup: 8:59am	0.0255 ug/L	8.11 @ 11.9C	Cloudy, gray	-	8:31am	9:13am
									*Setup; Start: 10:50am						
P12743 (Manhole outside South Valley Pool) - GRAB	3912 Isleta Blvd SW	West Side	Station 20	19ft w/SS Strainer	36" Rehab	PR HGLOW	3/15/2023	10:44am	Set for 1:00am	0.0188 ug/L	7.81 @ 17.8C	Cloudy, yellowish	*(3) 200ml samples starting at 1:00am	10:41am	10:54am
P12743 (Manhole outside South Valley Pool) - GRAB	3912 Isleta Blvd SW	West Side	Station 20	19ft w/SS Strainer	36" Rehab	PR HGLOW	3/16/2023	9:26am	-	0.0451 ug/L	8.01 @ 14.8C	Cloudy, light yellowish	-	9:16am	9:33am
P12743 (Manhole outside South Valley Pool) - NIGHT GRAB	3912 Isleta Blvd SW	West Side	Station 20	19ft w/SS Strainer	36" Rehab	PR HGLOW	3/16/2023	-	Sampled @ 1:10am *Pickup: 9:20am	0.016 ug/L	7.65 @ 15.8C	Cloudy, grayish w/ sediment	-	9:16am	9:33am
P12841 (Manhole in Median in front of Station 20) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	19ft w/SS Strainer	36" Rehab	PR HGLOW	3/15/2023	10:04am	*Setup; Start: 10:07am	0.0313 ug/L	7.21 @ 16.2C	Cloudy, yellowish	*(3) 200ml samples starting at 1:00am	10:02am	10:12am
P12841 (Manhole in Median in front of Station 20) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	19ft w/SS Strainer	36" Rehab	PR HGLOW	3/16/2023	10:22am	-	0.0633 ug/L	6.71 @ 14.6C	Cloudy, deep yellow hue	-	10:12am	10:26am
P12841 (Manhole in Median in front of Station 20) - NIGHT GRAB	3914 Isleta Blvd SW	West Side	Station 20	19ft w/SS Strainer	36" Rehab	PR HGLOW	3/16/2023	-	Sampled @ 1:10am *Pickup: 10:18am	0.0194 ug/L	7.45 @ 14.9C	Cloudy, grayish w/ sediment	-	10:12am	10:26am
P12842 (Manhole in Dirt Lot across St from Station 20) - GRAB	3948 Las Vegas Dr SW	West Side	Station 20	19ft w/SS Strainer	48"	PR HGLOW	3/15/2023	10:26am	*Setup; Start: 10:28am	0.0414 ug/L	8.09 @ 18.0C	Cloudy, grayish yellow	*(3) 200ml samples starting at 1:00am	10:24am	10:38am
P12842 (Manhole in Dirt Lot across St from Station 20) - GRAB	3948 Las Vegas Dr SW	West Side	Station 20	19ft w/SS Strainer	48"	PR HGLOW	3/16/2023	10:39am	-	0.0416 ug/L	8.14 @ 15.7C	Cloudy, light yellowish	-	10:27am	10:44am
P12842 (Manhole in Dirt Lot across St from Station 20) - NIGHT GRAB	3948 Las Vegas Dr SW	West Side	Station 20	19ft w/SS Strainer	48"	PR HGLOW	3/16/2023	-	Sampled @ 1:10am *Pickup: 10:35am	0.0286 ug/L	8.20 @ 14.3C	Cloudy, grayish w/ sediment	-	10:27am	10:44am
Q12021 (1906 Lakeview Rd SW) - GRAB	1906 Lakeview Rd SW	West Side	Station 20	-	42" Rehab	PR HGLOW	3/15/2023	12:17pm	-	0.0481 ug/L	7.54 @ 17.9C	Cloudy, yellowish	-	12:15pm	12:35pm
Q12021 (1906 Lakeview Rd SW) - GRAB	1906 Lakeview Rd SW	West Side	Station 20	-	42" Rehab	PR HGLOW	3/16/2023	10:49am	-	0.0605 ug/L	7.85 @ 13.8C	Cloudy, light yellowish hue	-	10:48am	10:56am
Vacuum Station 61 (STA61-Spigot)(Discharged to M/H# Q12030) - GRAB	5816 Isleta Blvd SW	West Side	Station 20	-	Vacuum Static	PR HGLOW	3/15/2023	12:15PM	-	0.0563 ug/L	8.17 @ 17.6C	Cloudy, yellowish	-	12:00pm	12:20pm
Vacuum Station 61 (STA61-Spigot)(Discharged to M/H# Q12030) - GRAB	5816 Isleta Blvd SW	West Side	Station 20	-	Vacuum Static	PR HGLOW	3/16/2023	10:04am	-	0.0831 ug/L	8.32 @ 15.0C	Cloudy, light grayish yellow	-	9:38am	10:07am
Mercury Minimization Project Week 4 Sampling: 3/20/2023 - 3/24/2023															
Interceptor 142A (Manhole P13481) - GRAB	4201 2nd St SW	East Side	142A	-	72"	PR HGLOW	3/23/2023	10:08am	-	0.0255 ug/L	6.74 @ 12.6C	Cloudy, light yellowish	-	10:05am	10:14am
Manhole M14602 (Corner of 2nd & Woodward) - GRAB	2901 2nd St SW	East Side	142A	-	72"	PR HGLOW	3/23/2023	10:28AM	-	0.118 ug/L	6.98 @ 10.9C	Cloudy, grayish	-	10:26am	10:35am
Manhole L14628 (In dirt area across from Superior Granite) - GRAB	2115 2nd St SW	East Side	142A	-	66" Rehab	PR HGLOW	3/23/2023	10:44am	-	0.0182 ug/L	6.96 @ 11.4C	Cloudy, light grayish - yellowish	-	10:39am	10:52am
Manhole L14525 (In side lane at 2021 2nd St SW) - GRAB	2021 2nd St SW	East Side	142A	-	60" Rehab	PR HGLOW	3/23/2023	10:57am	-	0.0175 ug/L	7.12 @ 12.8C	Cloudy, light grayish - yellowish	-	10:53am	11:05am
Manhole L14102 (In bike lane around corner from gas station) - GRAB	511 Avenida Dolores Huerta SW	East Side	142A	-	36" Rehab	PR HGLOW	3/23/2023	11:20am	-	0.0108 ug/L	7.17 @ 11.9C	Cloudy, light yellowish	-	11:15am	11:40am
Manhole K13351 (In cross turning lane going East) - GRAB	600 Alcalade Pl SW	East Side	142A	-	18"	PR HGLOW	3/23/2023	11:54AM	-	0.0237 ug/L	7.35 @ 12.7C	Cloudy, light yellowish	-	11:50am	12:03pm
Manhole J13766 (Manhole at corner of Roma & 14th) - GRAB	1420 Roma Ave. NW	East Side	142A	-	54" Rehab	PR HGLOW	3/23/2023	-	-	-	-	-	Could not sample (Traffic Safety Concerns)	12:10pm	12:20pm
Manhole H13861 (Manhole in side walk along abandoned road) - GRAB	1701 Aspen Ave NW	East Side	142A	-	60"	PR HGLOW	3/23/2023	12:31PM	-	0.0403 ug/L	7.07 @ 12.8C	Cloudy, light yellowish w/ gray hue	-	12:23pm	12:42pm
Manhole H13658 (In dirt lot near fence towards I40 - West side of fence line -- Homeless camp) - GRAB	1112 Saiz Rd NW	East Side	142A	-	24"	PR HGLOW	3/23/2023	1:15PM	-	0.101 ug/L	7.76 @ 14.7C	Cloudy, light yellowish hue	-	12:51pm	1:27pm
Manhole H13654 (In dirt lot near fence towards I40 - East side of Fence line) - GRAB	1104 Saiz Rd NW	East Side	142A	-	54"	PR HGLOW	3/23/2023	1:41PM	-	0.0422 ug/L	7.04 @ 17.2C	Cloudy, light gray w/ yellowish hue	-	1:34pm	1:50pm
Mercury Minimization Project Week 5 Sampling: 3/27/2023 - 3/31/2023															
Interceptor 142A (Manhole P13481) - GRAB	4201 2nd St SW	East Side	142A	-	72"	PR HGLOW	3/29/2023	9:50am	-	0.0629 ug/L	7.08 @ 14.3C	Cloudy, light yellowish - grayish	-	9:45am	9:55am
Manhole M14602 (Corner of 2nd & Woodward) - GRAB	2901 2nd St SW	East Side	142A	-	72"	PR HGLOW	3/29/2023	10:05am	-	0.0223 ug/L	7.28 @ 14.3C	Cloudy, light yellowish - opaque	-	10:03am	10:10am
Manhole L14628 (In dirt area across from Superior Granite) - GRAB	2115 2nd St SW	East Side	142A	-	66" Rehab	PR HGLOW	3/29/2023	10:16am	-	0.0376 ug/L	7.26 @ 14.9C	Cloudy, light grayish	-	10:12am	10:21am
Manhole L14525 (In side lane at 2021 2nd St SW) - GRAB	2021 2nd St SW	East Side	142A	-	60" Rehab	PR HGLOW	3/29/2023	10:26am	-	0.0533 ug/L	7.06 @ 16.0C	Cloudy, light grayish - yellowish	-	10:23am	10:31am
Manhole L14102 (In bike lane around corner from gas station) - GRAB	511 Avenida Dolores Huerta SW	East Side	142A	-	36" Rehab	PR HGLOW	3/29/2023	10:40am	-	0.0158 ug/L	6.97 @ 16.7C	Cloudy, light yellowish-opaque	-	10:35am	10:44am
Manhole K13351 (In cross turning lane going East) - GRAB	600 Alcalade Pl SW	East Side	142A	-	18"	PR HGLOW	3/29/2023	10:53am	-	0.0251 ug/L	7.46 @ 17.2C	Cloudy, grayish-opaque	-	10:49am	10:59am
Manhole H13861 (Manhole in side walk along abandoned road) - GRAB	1701 Aspen Ave NW	East Side	142A	-	60"	PR HGLOW	3/29/2023	11:12am	-	0.0971 ug/L	7.28 @ 16.7	Cloudy, light yellowish	-	11:07am	11:21am
Manhole H13658 (In dirt lot near fence towards I40 - West side of fence line) - GRAB	1112 Saiz Rd NW	East Side	142A	-	24"	PR HGLOW	3/29/2023	11:42am	-	0.0341 ug/L	7.83 @ 17.2C	Cloudy, yellowish-opaque	-	11:37am	11:50am
Manhole H13654 (In dirt lot near fence towards I40 - East side of Fence line) - GRAB	1104 Saiz Rd NW	East Side	142A	-	54"	PR HGLOW	3/29/2023	12:01pm	-	0.0279 ug/L	7.23 @ 19.2C	Cloudy, yellowish-opaque	-	11:56am	12:05pm

# Appendix D

## 2023 Mercury Sampling Data Spreadsheet

Mercury Minimization Project Week 6 Sampling: 4/3/2023 - 4/7/2023															
Interceptor 142A (Manhole P13481) - GRAB	4201 2nd St SW	East Side	142A	-	72"	PR HGLOW	4/5/2023	10:46am	-	0.0184 ug/L	7.07 @ 14.8C	Cloudy, light yellowish-opaque	-	10:41am	10:52am
Interceptor 142A (Manhole P13481) - GRAB	4201 2nd St SW	East Side	142A	-	72"	PR HGLOW	4/6/2023	9:21am	-	0.0159 ug/L	6.56 @ 11.0C	Cloudy, light yellowish opaque	-	9:15am	9:30am
Manhole E14373 (Guadalupe Trl NW) - GRAB	6598 Guadalupe Trail NW	East Side	142A	-	24"	PR HGLOW	4/5/2023	11:25am	-	0.0156 ug/L	7.70 @ 14.7C	Cloudy, light yellowish-gray opaque	-	11:18am	11:32am
Manhole E14373 (Guadalupe Trl NW) - GRAB	6598 Guadalupe Trail NW	East Side	142A	-	24"	PR HGLOW	4/6/2023	9:59am	-	0.0183 ug/L	7.53 @ 11.4C	Cloudy, light grayish-yellow opaque	-	9:52am	10:05am
Manhole D15363 (West Side of St in dirt near road) - GRAB	7818 2nd St NW	East Side	142A	-	24"	PR HGLOW	4/5/2023	11:44am	-	0.027 ug/L	6.79 @ 16.9C	Cloudy, light yellow opaque	-	11:40am	11:49am
Manhole D15363 (West Side of St in dirt near road) - GRAB	7818 2nd St NW	East Side	142A	-	24"	PR HGLOW	4/6/2023	10:17am	-	0.0316 ug/L	7.32 @ 13.4C	Cloudy, light yellowish	-	10:14am	10:23am
Manhole E16301 (In dirt outside fence) - GRAB	501 Arroyo Seco NE	East Side	142A	-	36"	PR HGLOW	4/5/2023	12:11pm	-	0.039 ug/L	6.47 @ 15.8C	Cloudy, light orangeish-yellow opaque	-	12:08pm	12:18pm
Manhole E16301 (In dirt outside fence) - GRAB	501 Arroyo Seco NE	East Side	142A	-	36"	PR HGLOW	4/6/2023	10:35am	-	0.0469 ug/L	6.44 @ 14.7C	Cloudy, grayish-orange opaque	-	10:33am	10:39am
Manhole D16472 (In road/residential area) - GRAB	1315 Bridle Wood Rd NE	East Side	142A	-	18"	PR HGLOW	4/5/2023	12:29pm	-	0.0202 ug/L	8.36 @ 14.1 C	Cloudy, light yellowish opaque	-	12:26pm	12:36pm
Manhole D16472 (In road/residential area) - GRAB	1315 Bridle Wood Rd NE	East Side	142A	-	18"	PR HGLOW	4/6/2023	11:11am	-	0.0698 ug/L	7.75 @ 13.3C	Cloudy, light yellowish opaque	-	11:07am	11:17am
Manhole D16152 (In dirt near fence line) - GRAB	8002 Las Lomitas Dr NE	East Side	142A	-	36"	PR HGLOW	4/5/2023	12:49pm	-	0.0418 ug/L	5.28 @ 16.5C	Cloudy, orangish opaque	-	12:40pm	12:48pm
Manhole D16152 (In dirt near fence line) - GRAB	8002 Las Lomitas Dr NE	East Side	142A	-	36"	PR HGLOW	4/6/2023	11:24am	-	0.0218 ug/L	5.91 @ 17.2C	Cloudy, yellowish-orange opaque	-	11:19am	11:32am
Manhole D16074 (In dirt next to road) - GRAB	8101 Jacs Lane NE	East Side	142A	-	24"	PR HGLOW	4/5/2023	1:10pm	-	0.0348 ug/L	7.73 @ 17.0C	Cloudy, yellowish-gray opaque	-	1:03pm	1:17pm
Manhole D16074 (In dirt next to road) - GRAB	8101 Jacs Lane NE	East Side	142A	-	24"	PR HGLOW	4/6/2023	11:37am	-	0.302 ug/L	7.85 @ 17.3C	Cloudy, light yellowish opaque	-	11:33am	11:44am
Manhole C16991 (In dirt area near drainage canal) - GRAB	3701 Frontage Rd NE	East Side	142A	-	24"	PR HGLOW	4/5/2023	1:42pm	-	0.0359 ug/L	7.71 @ 17.0C	Cloudy, light yellowish opaque	-	1:34pm	1:50pm
Manhole C16991 (In dirt area near drainage canal) - GRAB	3701 Frontage Rd NE	East Side	142A	-	24"	PR HGLOW	4/6/2023	12:01pm	-	0.071 ug/L	8.08 @ 21.7C	Cloudy, yellowish-orange opaque	-	11:55am	12:07pm
Manhole C16881 (General Mills - rear area for semi trailers) - GRAB	3501 Paseo Del Norte NE	East Side	142A	-	27"	PR HGLOW	4/5/2023	2:25PM	-	0.0072 ug/L	7.57 @ 16.8C	Cloudy, light yellowish opaque	-	1:58pm	2:37pm
Manhole C16881 (General Mills - rear area for semi trailers) - GRAB	3501 Paseo Del Norte NE	East Side	142A	-	24"	PR HGLOW	4/6/2023	12:18pm	-	0.0124 ug/L	7.59 @ 19.1C	Cloudy, opaque	-	12:09pm	12:25pm
Manhole D18023 (Side walk near road) - GRAB	6100 Paseo Del Norte NE	East Side	142A	-	18"	PR HGLOW	4/5/2023	2:57pm	-	0.0382 ug/L	7.81 @ 16.3C	Cloudy, light yellowish opaque	-	2:50pm	3:06pm
Manhole D18023 (Side walk near road) - GRAB	6100 Paseo Del Norte NE	East Side	142A	-	18"	PR HGLOW	4/6/2023	12:39pm	-	0.0202 ug/L	7.84 @ 19.1C	Cloudy, very light yellowish opaque	-	12:35pm	12:47pm
Mercury Minimization Project Week 7 Sampling: 4/10/2023 - 4/14/2023															
Station 24 (Wet Well -- Mid Flow) - GRAB	99999 Coors Blvd NW	West Side	Station 20	-	-	PR HGLOW	4/12/2023	11:28am	-	0.0419 ug/L	7.56 @ 19.6C	Cloudy, yellowish opaque	-	11:16am	12:50pm
Station 24 (Wet Well -- Mid Flow) - GRAB	99999 Coors Blvd NW	West Side	Station 20	-	-	PR HGLOW	4/13/2023	9:47am	-	0.0099 ug/L	7.82 @ 18.8C	Cloudy, light grayish- yellow opaque	-	9:36am	10:21am
Station 24 (Wet Well -- Bottom of Well) - GRAB	99999 Coors Blvd NW	West Side	Station 20	-	-	PR HGLOW	4/12/2023	11:37am	-	0.0425 ug/L	-	Cloudy, orangish-yellow opaque	-	11:16am	12:50pm
Station 24 (Wet Well -- Bottom of Well) - GRAB	99999 Coors Blvd NW	West Side	Station 20	-	-	PR HGLOW	4/13/2023	9:53am	-	0.0134 ug/L	7.83 @ 19.3C	Cloudy, light yellowish-gray opaque	-	9:36am	10:21am
Manhole F12430 (Station 24 Sluice Gate) - GRAB	99999 Coors Blvd NW	West Side	Station 20	-	30"	PR HGLOW	4/12/2023	12:16pm	-	0.134 ug/L	7.28 @ 21.9C	Cloudy, light grayish- yellow opaque	-	11:16am	12:50pm
Manhole F12430 (Station 24 Sluice Gate) - GRAB	99999 Coors Blvd NW	West Side	Station 20	-	30"	PR HGLOW	4/13/2023	10:14am	-	0.0129 ug/L	7.31 @ 19.9C	Cloudy, light grayish- yellow opaque	-	9:36am	10:21am
Manhole F12430 (Station 24 Sluice Gate) - NIGHT GRAB	99999 Coors Blvd NW	West Side	Station 20	-	30"	PR HGLOW	4/13/2023	1:10am	-	0.0268 ug/L	8.11 @ 19.2C	Cloudy, grayish opaque	-	9:36am	10:21am
Manhole F12321 (Upstream of Station 24) - GRAB	99999 Coors Blvd NW	West Side	Station 20	-	42"	PR HGLOW	4/12/2023	1:02pm	-	0.0193 ug/L	8.42 @ 23.5C	Cloudy, light yellowish opaque	-	12:53pm	1:14pm
Manhole F12321 (Upstream of Station 24) - GRAB	99999 Coors Blvd NW	West Side	Station 20	-	42"	PR HGLOW	4/13/2023	10:37am	-	0.0132 ug/L	8.52 @ 20.3C	Cloudy, light grayish- yellow opaque	-	10:23am	10:47am
Manhole F12321 (Upstream of Station 24) - NIGHT GRAB	99999 Coors Blvd NW	West Side	Station 20	-	42"	PR HGLOW	4/13/2023	1:10am	-	0.0159 ug/L	7.94 @ 17.1C	Cloudy, light yellowish-gray opaque	-	10:23am	10:47am
Manhole F11725 (Western Trail NW) - GRAB	5825 Western Trail NW	West Side	Station 20	-	24"	PR HGLOW	4/12/2023	1:25pm	-	0.0301 ug/L	8.41 @ 23.2C	Cloudy, light yellowish-orange opaque	-	1:22pm	1:40pm
Manhole F11725 (Western Trail NW) - GRAB	5825 Western Trail NW	West Side	Station 20	-	24"	PR HGLOW	4/13/2023	11:02am	-	0.0204 ug/L	8.68 @ 21.4C	Cloudy, light yellowish opaque	-	10:46am	11:05am
Manhole F11725 (Western Trail NW) - NIGHT GRAB**	5825 Western Trail NW	West Side	Station 20	-	24"	PR HGLOW	4/13/2023	-	-	-	-	-	**NO SAMPLES PULLED: Sampler programming error by user.	10:46am	11:05am
Mercury Minimization Project Week 8 Sampling: 4/17/2023 - 4/21/2023															
Station 20 (Wet Well) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	-	PR HGLOW	4/18/2023	10:10am	-	0.0409 ug/L	7.93 @ 19.0C	Cloudy, grayish-yellow opaque	-	10:05am	10:33am
Station 20 (Wet Well) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	-	PR HGLOW	4/19/2023	10:46am	-	0.314 ug/L	8.00 @ 18.1C	Cloudy, grayish opaque	-	10:34am	10:57am
Station 20 (Wet Well) - NIGHT GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	-	PR HGLOW	4/19/2023	1:10am	-	0.0564 ug/L	7.78 @ 16.1C	Cloudy, dark gray opaque	-	10:34am	10:57am
Manhole P12847 (Station 20 Manhole) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	72"	PR HGLOW	4/18/2023	10:23am	-	0.0563 ug/L	7.91 @ 20.2C	Cloudy, grayish-yellow opaque	-	10:05am	10:33am
Manhole P12847 (Station 20 Manhole) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	72"	PR HGLOW	4/19/2023	10:52am	-	0.0726 ug/L	7.99 @ 19.8C	Cloudy, light yellowish-gray opaque	-	10:34am	10:57am
Manhole P12847 (Station 20 Manhole) - NIGHT GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	72"	PR HGLOW	4/19/2023	1:10am	-	0.0545 ug/L	7.99 @ 16.6C	Cloudy, light yellowish-gray opaque	-	10:34am	10:57am
Manhole P12743 (Outside South Valley Pool) - GRAB	3912 Isleta Blvd SW	West Side	Station 20	-	36" Rehab	PR HGLOW	4/18/2023	10:39am	-	0.0172 ug/L	7.79 @ 19.5C	Cloudy, light grayish-yellow opaque	-	10:36am	10:51am
Manhole P12743 (Outside South Valley Pool) - GRAB	3912 Isleta Blvd SW	West Side	Station 20	-	36" Rehab	PR HGLOW	4/19/2023	11:04am	-	0.0185 ug/L	7.66 @ 19.2C	Cloudy, light grayish-yellow opaque	-	10:59am	11:09am
Manhole P12743 (Outside South Valley Pool) - NIGHT GRAB	3912 Isleta Blvd SW	West Side	Station 20	-	36" Rehab	PR HGLOW	4/19/2023	1:10am	-	0.0184 ug/L	7.41 @ 20.5C	Cloudy, light yellowish opaque	-	10:59am	11:09am
Manhole P12841 (Median in front of Station 20) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	36" Rehab	PR HGLOW	4/18/2023	10:55am	-	0.0906 ug/L	7.23 @ 20.0C	Cloudy, dark gray opaque	-	10:52am	11:05am
Manhole P12841 (Median in front of Station 20) - GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	36" Rehab	PR HGLOW	4/19/2023	11:17am	-	0.173 ug/L	7.21 @ 18.3C	Cloudy, dark gray opaque	-	11:11am	11:21am
Manhole P12841 (Median in front of Station 20) - NIGHT GRAB	3914 Isleta Blvd SW	West Side	Station 20	-	36" Rehab	PR HGLOW	4/19/2023	1:10am	-	0.0863 ug/L	7.17 @ 19.8C	Cloudy, grayish opaque w/ sediment	-	11:11am	11:21am
Manhole P12842 (Dirt Lot across St from Station 20) - GRAB	3948 Las Vegas Dr SW	West Side	Station 20	-	48"	PR HGLOW	4/18/2023	11:10am	-	0.0351 ug/L	8.03 @ 20.4C	Cloudy, light grayish-yellow opaque	-	11:06am	11:21am
Manhole P12842 (Dirt Lot across St from Station 20) - GRAB	3948 Las Vegas Dr SW	West Side	Station 20	-	48"	PR HGLOW	4/18/2023	11:28am	-	0.0372 ug/L	8.11 @ 19.6C	Cloudy, light grayish-yellow opaque	-	11:22am	11:32am
Manhole P12842 (Dirt Lot across St from Station 20) - NIGHT GRAB	3948 Las Vegas Dr SW	West Side	Station 20	-	48"	PR HGLOW	4/19/2023	1:10am	-	0.0322 ug/L	7.89 @ 19.4C	Cloudy, light grayish-yellow opaque w/ sediment	-	11:22am	11:32am
Manhole Q12021 (1906 Lakeview Rd SW) - GRAB	1906 Lakeview Rd SW	West Side	Station 20	-	42" Rehab	PR HGLOW	4/18/2023	11:26am	-	0.12 ug/L	7.40 @ 19.4C	Cloudy, light grayish-yellow opaque	-	11:23am	11:42am
Manhole Q12021 (1906 Lakeview Rd SW) - GRAB	1906 Lakeview Rd SW	West Side	Station 20	-	42" Rehab	PR HGLOW	4/19/2023	11:57am	-	0.277 ug/L	7.48 @ 20.9C	Cloudy, light yellowish opaque	-	11:34am	12:01pm
Manhole Q12021 (1906 Lakeview Rd SW) - NIGHT GRAB	1906 Lakeview Rd SW	West Side	Station 20	-	42" Rehab	PR HGLOW	4/19/2023	1:10am	-	0.0702 ug/L	7.50 @ 19.6C	Cloudy, grayish-yellow w/ heavy sediment	-	11:34am	12:01pm



# Appendix D

## 2023 Mercury Sampling Data Spreadsheet

Mercury Minimization Project Week 9 Sampling: 5/1/2023 - 5/5/2023																
Manhole P14601 (Near House with white brick wall)- GRAB	210 Grape Ave SE	East Side	Edith	-	72"	PR HGLOW	5/2/2023	9:43am	-	0.0169 ug/L	7.29 @ 20.5C	Cloudy, gray	-	9:39am	9:50am	
Manhole P14601 (Near House with white brick wall)- GRAB	210 Grape Ave SE	East Side	Edith	-	72"	PR HGLOW	5/3/2023	8:55am	-	0.0169 ug/L	7.20 @ 18.4C	Cloudy, grayish opaque w/ sediment	-	8:51am	8:59am	
Manhole P14411 (Near Fire Station) - GRAB	3960 Prince St SE	East Side	Edith	-	72"	PR HGLOW	5/2/2023	9:56am		0.0259 ug/L	7.73 @ 22.4C	Cloudy, gray opaque	-	10:05am	10:33am	
Manhole P14411 (Near Fire Station) - GRAB	3960 Prince St SE	East Side	Edith	-	72"	PR HGLOW	5/3/2023	9:20am		0.0259 ug/L	7.41 @ 19.1C	Cloudy, light gray opaque	-	9:17am	9:26am	
Manhole N14263 (South-most manhole) - GRAB	3520 Broadway Blvd SE	East Side	Edith	-	72"	PR HGLOW	5/2/2023	10:11am	-	0.0425 ug/L	7.48 @ 22.0C	Cloudy, light gray opaque	-	10:07am	10:15am	
Manhole N14263 (South-most manhole) - GRAB	3520 Broadway Blvd SE	East Side	Edith	-	72"	PR HGLOW	5/3/2023	9:35am	-	0.0205 ug/L	7.88 @ 20.2C	Cloudy, light gray opaque w/ sediment	-	9:30am	9:43am	
Manhole M14672 (New overpass) - GRAB	599 Woodward Rd SE	East Side	Edith	-	72"	PR HGLOW	5/2/2023	10:22am	-	0.0287 ug/L	7.42 @ 22.1C	Cloudy, light yellowish-gray opaque	-	10:17am	10:27am	
												Cloudy, yellowish-gray opaque w/ sediment	-			
Manhole M14672 (New overpass) - GRAB	599 Woodward Rd SE	East Side	Edith	-	72"	PR HGLOW	5/3/2023	9:48am	-	0.0392 ug/L	7.70 @ 21.2C		-	9:45am	9:55am	
Manhole L15211 (In median across from motel) - GRAB	1020 Avenida Cesar Chavez SE	East Side	Edith	-	48"	PR HGLOW	5/2/2023	10:36am	-	0.439 ug/L	7.56 @ 22.4C	Cloudy, light yellowish-gray opaque	-	10:33am	10:42am	
Manhole L15211 (In median across from motel) - GRAB	1020 Avenida Cesar Chavez SE	East Side	Edith	-	48"	PR HGLOW	5/3/2023	10:01am	-	0.0761 ug/L	7.59 @ 20.7C	Cloudy, light yellowish opaque	-	9:58am	10:07am	
Manhole K16597 (Towards middle of road at corner) - GRAB	108 Amherst Dr SE	East Side	Edith	-	54"	PR HGLOW	5/2/2023	10:55am	-	0.632 ug/L	7.43 @ 22.0C	Cloudy, light yellowish-gray opaque	-	10:51am	11:04am	
												Cloudy, grayish-yellow opaque w/ light sediment	-			
Manhole K16597 (Towards middle of road at corner) - GRAB	108 Amherst Dr SE	East Side	Edith	-	54"	PR HGLOW	5/3/2023	10:18am	-	0.0709 ug/L	7.51 @ 21.5C		-	10:15am	10:28am	
Manhole K17792 (In front of western doors @ abandoned Walmart) - GRAB	301 San Mateo Blvd SE	East Side	Edith	-	21"	PR HGLOW	5/2/2023	11:15am	-	0.124 ug/L	7.75 @ 24.1C	Cloudy, light grayish-yellow opaque	-	11:10am	11:24am	
Manhole K17792 (In front of western doors @ abandoned Walmart) - GRAB	301 San Mateo Blvd SE	East Side	Edith	-	21"	PR HGLOW	5/3/2023	10:51am	-	0.113 ug/L	7.78 @ 22.0C	Cloudy, light yellowish-gray opaque	-	10:48am	10:59am	
Manhole H13603 (Corner of Street) - GRAB	2451 Lilac Dr NW	East Side	142A	-	24"	PR HGLOW	5/4/2023	10:11am	-	0.0807 ug/L	7.63 @ 19.1C	Cloudy, light yellow opaque	-	10:05am	10:20am	
												Cloudy, light yellowish-gray opaque w/ sediment	-			
Manhole H13603 (Corner of Street) - GRAB	2451 Lilac Dr NW	East Side	142A	-	24"	PR HGLOW	5/5/2023	9:56am	-	0.935 ug/L	7.58 @ 17.5C		-	9:48am	10:03am	
Manhole H13203 (In Median) - GRAB	2399 El Nido Ct NW	East Side	142A	-	18"	PR HGLOW	5/4/2023	10:25am	-	0.0429 ug/L	7.78 @ 20.6C	Cloudy, light yellowish opaque	-	10:22am	10:32am	
Manhole H13203 (In Median) - GRAB	2399 El Nido Ct NW	East Side	142A	-	18"	PR HGLOW	5/5/2023	10:08am		0.0314 ug/L	7.93 @ 18.6C	Cloudy, light yellowish-gray opaque	-	10:06am	10:17am	
Manhole H13294 (SE Area of Round-About) - GRAB	1125 Menaul Blvd NW	East Side	142A	-	48"	PR HGLOW	5/4/2023	10:50am	-	0.0229 ug/L	7.01 @ 21.6C	Cloudy, dark gray opaque w/ sediment	-	10:37am	10:58am	
Manhole H13294 (SE Area of Round-About) - GRAB	1125 Menaul Blvd NW	East Side	142A	-	48"	PR HGLOW	5/5/2023	10:27am	-	0.0517 ug/L	6.53 @ 21.6C	Cloudy, dark gray opaque	-	10:21am	10:35am	
												Cloudy, yellowish-gray opaque w/ sediment	-			
Manhole H15331 (Data School-South Parking Lot Near Dumpsters) - GRAB	1011 Lamberton Pl NW	East Side	142A	-	48"	PR HGLOW	5/4/2023	11:21am	-	0.0445 ug/L	7.01 @ 23.0C		-	11:18am	11:28am	
Manhole H15331 (Data School-South Parking Lot Near Dumpsters) - GRAB	1011 Lamberton Pl NW	East Side	142A	-	48"	PR HGLOW	5/5/2023	10:45am	-	0.0544 ug/L	7.10 @ 22.6C	Cloudy, dark grayish-yellow opaque	-	10:43am	10:54am	
Manhole F16401 (Right-most area of corner at right hand side) - GRAB	650 Muscatel Ave NE	East Side	142A	-	48"	PR HGLOW	5/4/2023	12:43pm	-	0.0354 ug/L	6.72 @ 24.2C	Cloudy, light grayish-yellow opaque	-	12:38pm	12:48pm	
Manhole F16401 (Right-most area of corner at right hand side) - GRAB	650 Muscatel Ave NE	East Side	142A	-	48"	PR HGLOW	5/5/2023	11:04am	-	0.0592 ug/L	6.86 @ 22.3C	Cloudy, grayish-yellow opaque	-	11:02am	11:10am	
												Cloudy, yellowish-gray opaque w/ sediment	-			
Manhole F14425 (End of road near Elementary School) - GRAB	5500 Grande Dr NW	East Side	142A	-	36"	PR HGLOW	5/4/2023	1:33pm	-	0.0282 ug/L	6.88 @ 24.0C		-	1:29pm	1:39pm	
Manhole F14425 (End of road near Elementary School) - GRAB	5500 Grande Dr NW	East Side	142A	-	36"	PR HGLOW	5/5/2023	11:22am	-	0.0129 ug/L	6.67 @ 22.1C	Cloudy, light yellowish-gray opaque	-	11:18am	11:28am	
Mercury Minimization Project Week 10 Sampling: 5/11/2023 - 5/12/2023																
Manhole Q14101 (West side of road) - GRAB	4540 William St SE	East Side	Tijeras	-	54"	PR HGLOW	5/11/2023	10:06am	-	0.0549 ug/L	7.41 @ 20.4C	Cloudy, light yellow-gray opaque	-	10:00am	10:12am	
Manhole Q14101 (West side of road) - GRAB	4540 William St SE	East Side	Tijeras	-	54"	PR HGLOW	5/12/2023	8:58am	-	0.0196 ug/L	7.64 @ 17.0C	Cloudy, light yellowish opaque	-	8:54am	9:05am	
Manhole Q15509 (In dirt area east of overpass/green flag near manhole) - GRAB	1155 Los Picaros Rd SE	East Side	Tijeras	-	54"	PR HGLOW	5/11/2023	10:34am	-	0.0248 ug/L	7.82 @ 18.6C	Cloudy, light yellowish opaque	-	10:28am	10:43am	
Manhole Q15509 (In dirt area east of overpass/green flag near manhole) - GRAB	1155 Los Picaros Rd SE	East Side	Tijeras	-	54"	PR HGLOW	5/12/2023	9:25am	-	0.0253 ug/L	7.72 @ 18.1C	Cloudy, light yellowish opaque	-	9:20am	9:32am	
Manhole Q15171 (West side of overpass in rock next to asphalt) - GRAB	1355 Los Picaros Rd SE	East Side	Tijeras	-	24"	PR HGLOW	5/11/2023	11:02am	-	0.0568 ug/L	7.67 @ 21.0C	Cloudy, light yellowish opaque	-	10:56am	11:13am	
Manhole Q15171 (West side of overpass in rock next to asphalt) - GRAB	1355 Los Picaros Rd SE	East Side	Tijeras	-	24"	PR HGLOW	5/12/2023	9:37am	-	0.035 ug/L	7.76 @ 17.9C	Cloudy, light yellowish-grayish opaque	-	9:34am	9:44am	
Manhole M18391 (Near KAFB next to yellow gate) - GRAB	3075 Ridgecrest Dr SE	East Side	Tijeras	-	72"	PR HGLOW	5/11/2023	11:34am	-	0.0742 ug/L	7.57 @ 21.5C	Cloudy, light yellowish opaque	-	11:26am	11:42am	
Manhole M18391 (Near KAFB next to yellow gate) - GRAB	3075 Ridgecrest Dr SE	East Side	Tijeras	-	72"	PR HGLOW	5/12/2023	10:09am	-	0.0525 ug/L	7.86 @ 20.3C	Cloudy, light yellowish opaque	-	10:05am	10:15am	
Manhole M21301 (In Median in rocks/towards end of median) - GRAB	1611 Innovation Pkwy SE	East Side	Tijeras	-	21"	PR HGLOW	5/11/2023	12:04pm	-	0.0227 ug/L	8.07 @ 22.7C	Cloudy, light grayish opaque	-	11:57am	12:11am	
Manhole M21301 (In Median in rocks/towards end of median) - GRAB	1611 Innovation Pkwy SE	East Side	Tijeras	-	21"	PR HGLOW	5/12/2023	10:30am	-	0.0203 ug/L	8.05 @ 21.2C	Cloudy, light grayish opaque	-	10:27am	10:38am	
Manhole N21033 (On right side or road at opposite end of coldesac) - GRAB	2039 Cougar Run Ct SE	East Side	Tijeras	-	21"	PR HGLOW	5/11/2023	3:02pm	-	0.0174 ug/L	7.68 @ 21.6C	Cloudy, light yellowish opaque	-	2:57pm	3:13pm	
Manhole N21033 (On right side or road at opposite end of coldesac) - GRAB	2039 Cougar Run Ct SE	East Side	Tijeras	-	21"	PR HGLOW	5/12/2023	10:52am	-	0.0326 ug/L	7.78 @ 21.7C	Cloudy, light grayish-yellowish opaque	-	10:50am	10:58am	
Manhole F21411 (In median next to Tesoro Apartments) - GRAB	9900 Spain Rd NE	East Side	Tijeras	-	18"	PR HGLOW	5/11/2023	1:15pm	-	0.0339 ug/L	7.73 @ 21.9C	Cloudy, light yellowish opaque	-	1:07pm	1:22pm	
Manhole F21411 (In median next to Tesoro Apartments) - GRAB	9900 Spain Rd NE	East Side	Tijeras	-	18"	PR HGLOW	5/12/2023	11:31am	-	0.0259 ug/L	7.89 @ 21.3C	Cloudy, light yellowish opaque	-	11:27am	11:37am	
Manhole F20963 (On right side towards middle of road) - GRAB	5801 Estrellita Del Norte Rd NE	East Side	Tijeras	-	36"	PR HGLOW	5/11/2023	1:32pm	-	0.0351 ug/L	7.53 @ 21.9C	Cloudy, very light yellowish opaque	-	1:27pm	1:38pm	
Manhole F20963 (On right side towards middle of road) - GRAB	5801 Estrellita Del Norte Rd NE	East Side	Tijeras	-	36"	PR HGLOW	5/12/2023	11:46am	-	0.0147 ug/L	7.62 @ 21.9C	Cloudy, very light yellowish opaque	-	11:42am	11:53am	
Manhole E21252 (Right side of road going Northbound in shoulder) - GRAB	6652 Eubank Blvd NE	East Side	Tijeras	-	15"	PR HGLOW	5/11/2023	2:00pm	-	0.0206 ug/L	7.64 @ 22.0C	Cloudy, light yellowish-grayish opaque	-	1:45pm	2:12pm	
Manhole E21252 (Right side of road going Northbound in shoulder) - GRAB	6652 Eubank Blvd NE	East Side	Tijeras	-	15"	PR HGLOW	5/12/2023	12:15pm	-	0.018 ug/L	7.71 @ 22.1C	Cloudy, light yellowish opaque	-	11:59am	12:20pm	
Manhole D20974 (Right side of road at end of Redmont & Whitewood) - GRAB	9449 Redmont Rd NE	East Side	Tijeras	-	30"	PR HGLOW	5/11/2023	2:20pm	-	0.0317 ug/L	7.87 @ 22.0C	Cloudy, light yellowish opaque	-	2:17pm	2:27pm	
Manhole D20974 (Right side of road at end of Redmont & Whitewood) - GRAB	9449 Redmont Rd NE	East Side	Tijeras	-	30"	PR HGLOW	5/12/2023	12:23pm	-	0.0132 ug/L	7.79 @ 22.8C	Cloudy, light yellowish opaque	-	12:21pm	12:29pm	

Appendix D

2023 Mercury Sampling Data Spreadsheet

Mercury Minimization Project Week 11 Sampling: 5/21/2023 - 5/26/2023																
Manhole J14517 (On right side of road going south at corner of 7th & Marble) - GRAB	900 7th St NW	East Side	142A	-	21"	PR HGLOW	5/24/2023	8:58am	-	0.0125	6.26 @ 20.2C	Cloudy, yellowish-orange opaque	-	8:54am	9:03am	
Manhole J14517 (On right side of road going south at corner of 7th & Marble) - GRAB	900 7th St NW	East Side	142A	-	21"	PR HGLOW	5/25/2023	8:44am	-	0.0183	6.33 @ 20.3C	Cloudy, orangish-yellow opaque	-	8:40am	8:50am	
Manhole J14137 (Corner of Bellamah and 6th / SW corner) - GRAB	600 Bellamah Ave NW	East Side	142A	-	21"	PR HGLOW	5/24/2023	9:12am	-	0.0173	6.54 @ 21.2C	Cloudy, light grayish-yellow opaque	-	9:06am	9:18am	
Manhole J14137 (Corner of Bellamah and 6th / SW corner) - GRAB	600 Bellamah Ave NW	East Side	142A	-	21"	PR HGLOW	5/25/2023	8:59am	-	0.105	6.36 @ 21.0C	Cloudy, orangish-yellow opaque	-	8:55am	9:04am	
Manhole H14171 (Median, across from "Marin's Radiator") - GRAB	2916 2nd St NW	East Side	142A	-	15"	PR HGLOW	5/24/2023	9:27am	-	0.0332	7.40 @ 20.7C	Cloudy, yellowish opaque	-	9:24am	9:34am	
Manhole H14171 (Median, across from "Marin's Radiator") - GRAB	2916 2nd St NW	East Side	142A	-	15"	PR HGLOW	5/25/2023	9:11am	-	0.0477	7.38 @ 21.1C	Cloudy, light yellowish opaque	-	9:08am	9:17am	
Manhole J15303 (Behind fence/east side of building) - GRAB	600 Kinley Ave NE	East Side	Edith	-	42"	PR HGLOW	5/24/2023	9:54am	-	0.112	7.02 @ 22.7C	Cloudy, orangish-yellow opaque	-	9:49am	10:01am	
Manhole J15303 (Behind fence/east side of building) - GRAB	600 Kinley Ave NE	East Side	Edith	-	42"	PR HGLOW	5/25/2023	9:29am	-	0.0624	7.15 @ 22.4C	Cloudy, light grayish-yellowish opaque	-	9:24am	9:35am	
Manhole K14495(Near park, manhole closest to shoulder) - GRAB	799 Silver Ave SE	East Side	Edith	-	28"	PR HGLOW	5/24/2023	10:22am	-	0.0333	7.55 @ 23.9C	Cloudy, light yellowish opaque	-	10:19am	10:28am	
Manhole K14495(Near park, manhole closest to shoulder) - GRAB	799 Silver Ave SE	East Side	Edith	-	28"	PR HGLOW	5/25/2023	9:55am	-	0.153	7.39 @ 23.5C	Cloudy, light yellowish opaque	-	9:51am	10:01am	
Manhole J15911 (At corner next to sidewalk going east before turn) - GRAB	601 Roma Ave NE	East Side	Edith	-	30"	PR HGLOW	5/24/2023	10:34am	-	0.0379	7.67 @ 22.9C	Cloudy, light grayish-yellowish opaque	-	10:32am	10:43am	
Manhole J15911 (At corner next to sidewalk going east before turn) - GRAB	601 Roma Ave NE	East Side	Edith	-	30"	PR HGLOW	5/25/2023	10:09am	-	0.0717	7.67 @ 22.9C	Cloudy, light grayish-yellowish opaque	-	10:04am	10:16am	
Manhole K16032 (Right side of road going NW) - GRAB	2545 Campus Blvd NW	East Side	Edith	-	18"	PR HGLOW	5/24/2023	10:52am	-	0.0536	7.49 @ 24.9C	Cloudy, light yellowish opaque	-	10:48am	10:57am	
Manhole K16032 (Right side of road going NW) - GRAB	2545 Campus Blvd NW	East Side	Edith	-	18"	PR HGLOW	5/25/2023	10:25am	-	0.0464	7.87 @ 22.8C	Cloudy, light yellowish opaque	-	10:22am	10:27am	
Manhole K16022 (Next to UNM Hospital before exit lane in shoulder) - GRAB	2211 Lomas Blvd NE	East Side	Edith	-	21"	PR HGLOW	5/24/2023	11:01am	-	0.0567	7.45 @ 24.5C	Cloudy, light yellowish opaque	-	10:58am	11:07am	
Manhole K16022 (Next to UNM Hospital before exit lane in shoulder) - GRAB	2211 Lomas Blvd NE	East Side	Edith	-	21"	PR HGLOW	5/25/2023	1:45pm	-	0.0331	7.05 @ 25.4C	Cloudy, light grayish-yellowish opaque	-	1:42pm	1:50pm	
Manhole K17513 (At end of street before Central in cross-walk) - GRAB	3901 Central Ave NE	East Side	Edith	-	48"	PR HGLOW	5/24/2023	11:19am	-	0.0684	7.38 @ 24.6C	Cloudy, light yellowish opaque	-	11:14am	11:26am	
Manhole K17513 (At end of street before Central in cross-walk) - GRAB	3901 Central Ave NE	East Side	Edith	-	48"	PR HGLOW	5/25/2023	11:40am	-	0.0316	7.34 @ 23.7C	Cloudy, light yellowish opaque	-	11:35am	11:49am	
Manhole K18131 (In middle of four-way at Cardenas & San Juan) - GRAB	799 Cardenas Dr NE	East Side	Edith	-	18"	PR HGLOW	5/24/2023	11:36am	-	0.0236	7.42 @ 24.2C	Cloudy, light yellowish opaque	-	11:33am	11:40am	
Manhole K18131 (In middle of four-way at Cardenas & San Juan) - GRAB	799 Cardenas Dr NE	East Side	Edith	-	18"	PR HGLOW	5/25/2023	11:58am	-	0.0491	7.45 @ 25.7C	Cloudy, light yellowish opaque	-	11:54am	12:06pm	
Manhole H16551 (Denny's parking lot towards NE corner) - GRAB	2600 Menaul Blvd NE	East Side	Edith	-	27" Rehab	PR HGLOW	5/24/2023	12:47pm	-	0.0788	7.31 @ 24.8C	Cloudy, light yellowish-grayish opaque	-	12:43pm	12:53pm	
Manhole H16551 (Denny's parking lot towards NE corner) - GRAB	2600 Menaul Blvd NE	East Side	Edith	-	27" Rehab	PR HGLOW	5/25/2023	1:05pm	-	0.0445	7.17 @ 25.8C	Cloudy, light grayish-yellowish opaque	-	1:00pm	1:09pm	
Manhole H16671 (At end of culdisac behind large yellow gate) - GRAB	2107 Bryn Mawr Dr NE	East Side	Edith	-	24" Rehab	PR HGLOW	5/24/2023	1:00pm	-	0.0774	7.01 @ 24.8C	Cloudy, light grayish-yellowish opaque	-	12:57pm	1:09pm	
Manhole H16671 (At end of culdisac behind large yellow gate) - GRAB	2107 Bryn Mawr Dr NE	East Side	Edith	-	24" Rehab	PR HGLOW	5/25/2023	1:14pm	-	0.0428	7.08 @ 26.0C	Cloudy, light grayish opaque	-	1:10pm	1:18pm	
Manhole H17184 (Right hand side of road going North) - GRAB	2823 Quincy St NE	East Side	Edith	-	27"	PR HGLOW	5/24/2023	1:17pm	-	0.066	7.18 @ 25.0C	Cloudy, light yellowish opaque	-	1:13pm	1:23pm	
Manhole H17184 (Right hand side of road going North) - GRAB	2823 Quincy St NE	East Side	Edith	-	27"	PR HGLOW	5/25/2023	1:27pm	-	0.0399	7.19 @ 26.4C	Cloudy, light grayish-yellowish opaque	-	1:22pm	1:31pm	
Mercury Minimization Project Week 12 Sampling: 5/29/2023 - 6/02/2023 (Point Source Sampling)																
Manhole N10930 (At end of dirt lot on Flora Vista Ave SW) - GRAB	4205 Flora Vista Ave SW	West Side	Station 20	-	18"	PR HGLOW	5/31/2023	9:27am	-	0.0309 ug/L	8.09 @ 24.2C	Cloudy, light yellowish opaque	-	9:20am	9:32am	
Manhole N10930 (At end of dirt lot on Flora Vista Ave SW) - GRAB	4205 Flora Vista Ave SW	West Side	Station 20	-	18"	PR HGLOW	6/1/2023	9:24am	-	0.0976 ug/L	7.82 @ 22.1C	Cloudy, light grayish-yellow opaque	-	9:21am	9:29am	
Manhole P10011 (Corner of turn outside of paved area) - GRAB	3201 Meade Pl SW	West Side	Station 20	-	24"	PR HGLOW	5/31/2023	9:43am	-	0.163 ug/L	8.10 @ 23.6C	Cloudy, light grayish-yellowish opaque	-	9:36am	9:49am	
Manhole P10011 (Corner of turn outside of paved area) - GRAB	3201 Meade Pl SW	West Side	Station 20	-	24"	PR HGLOW	6/1/2023	9:36am	-	0.0481 ug/L	8.15 @ 22.8C	Cloudy, light grayish-yellowish opaque	-	9:32am	9:41am	
Manhole N09582 (Outside Culdisac behind blue-barred barrier) - GRAB	9104 Valle Vidal Pl SW	West Side	Station 20	-	24"	PR HGLOW	5/31/2023	9:58am	-	0.0824 ug/L	7.95 @ 22.9C	Cloudy, light grayish-yellowish opaque	-	9:55am	10:04am	
Manhole N09582 (Outside Culdisac behind blue-barred barrier) - GRAB	9104 Valle Vidal Pl SW	West Side	Station 20	-	24"	PR HGLOW	6/1/2023	9:52am	-	0.0298 ug/L	7.82 @ 22.5C	Cloudy, grayish-yellow opaque	-	9:47am	9:57am	
Manhole M09748 (NE corner; ~75ft from corner next to side walk) - GRAB	NE corner of 98th & 86th St SW	West Side	Station 20	-	27"	PR HGLOW	5/31/2023	10:15am	-	0.033 ug/L	7.79 @ 23.7C	Cloudy, light yellowish-grayish opaque	-	10:09am	10:22am	
Manhole M09748 (NE corner; ~75ft from corner next to side walk) - GRAB	NE corner of 98th & 86th St SW	West Side	Station 20	-	27"	PR HGLOW	6/1/2023	10:18am	-	0.246 ug/L	7.61 @ 22.9C	Cloudy, light grayish opaque	-	10:13am	10:23am	
Manhole M09637 (Near dead end behind brick wall past blue gate) - GRAB	1352 El Rancho Dr SW	West Side	Station 20	-	18"	PR HGLOW	5/31/2023	10:30am	-	0.013 ug/L	7.82 @ 21.2C	Cloudy, light yellowish opaque	-	10:26am	10:38am	
Manhole M09637 (Near dead end behind brick wall past blue gate) - GRAB	1352 El Rancho Dr SW	West Side	Station 20	-	18"	PR HGLOW	6/1/2023	10:30am	-	0.00952 ug/L	8.02 @ 20.9C	Cloudy, light grayish-yellowish opaque	-	10:27am	10:44am	
Manhole M09632 (Middle of road at three-way) - GRAB	1340 El Rancho Dr SW	West Side	Station 20	-	21"	PR HGLOW	5/31/2023	1:28pm	-	0.0373 ug/L	7.42 @ 25.7C	Cloudy, light grayish-yellowish opaque	-	1:20pm	1:35pm	
Manhole M09632 (Middle of road at three-way) - GRAB	1340 El Rancho Dr SW	West Side	Station 20	-	21"	PR HGLOW	6/1/2023	10:38am	-	0.611 ug/L	7.44 @ 23.6C	Cloudy, light grayish-yellowish opaque	-	10:27am	10:44am	
Manhole K06711 (West side of road in shoulder just North of Tempur-Pedic) - GRAB	107 Atrisco Vista Blvd	West Side	Station 20	-	21"	PR HGLOW	5/31/2023	1:56pm	-	0.0359 ug/L	8.82 @ 21.7C	Cloudy, yellowish opaque w/sediment	-	1:48pm	2:04pm	
Manhole K06711 (West side of road in shoulder just North of Tempur-Pedic) - GRAB	107 Atrisco Vista Blvd	West Side	Station 20	-	21"	PR HGLOW	6/1/2023	10:59am	-	0.0976 ug/L	8.72 @ 20.1C	Cloudy, light grayish-yellowish opaque	-	10:57am	11:07am	
Mercury Minimization Project Week 13 Sampling: 6/05/2023 - 6/09/2023 (Point Source Sampling)																
Manhole K16597 (Towards middle of road at corner) - GRAB	108 Amherst Dr SE	East Side	Edith	-	54"	PR HGLOW	6/7/2023	10:27am	-	0.0866 ug/L	7.22 @ 21.7C	Cloudy, light yellowish-brownish opaque	-	10:20am	10:34am	
Manhole K16597 (Towards middle of road at corner) - GRAB	108 Amherst Dr SE	East Side	Edith	-	54"	PR HGLOW	6/8/2023	10:22am	-	0.177 ug/L	7.50 @ 22.9C	Cloudy, light grayish-yellowish opaque	-	10:16am	10:28am	
Manhole K17851 (Intersection of Coal & Adams St) - GRAB	4500 Coal Ave. SE	East Side	Edith	-	18"	PR HGLOW	6/7/2023	10:42am	-	0.175 ug/L	7.37 @ 22.8C	Cloudy, light yellowish-brownish opaque	-	10:38am	10:48am	
Manhole K17851 (Intersection of Coal & Adams St) - GRAB	4500 Coal Ave. SE	East Side	Edith	-	18"	PR HGLOW	6/8/2023	10:34am	-	0.0594 ug/L	7.59 @ 24.0C	Cloudy, light yellowish opaque	-	10:31am	10:40am	
Manhole K17792 (In front of western doors @ abandoned Walmart) - GRAB	301 San Mateo Blvd SE	East Side	Edith	-	21"	PR HGLOW	6/7/2023	10:54am	-	0.0935 ug/L	7.43 @ 22.9C	Cloudy, light brownish opaque	-	10:51am	10:57am	
Manhole K17792 (In front of western doors @ abandoned Walmart) - GRAB	301 San Mateo Blvd SE	East Side	Edith	-	21"	PR HGLOW	6/8/2023	10:45am	-	0.0381 ug/L	7.57 @ 24.3c	Cloudy, light grayish-yellowish opaque	-	10:43am	10:49am	
Manhole L18102 (Intersection of Ortiz & Bell Ave.) - GRAB	601 Ortiz Dr SE	East Side	Edith	-	13" Rehab	PR HGLOW	6/7/2023	11:18am	-	0.223 ug/L	7.35 @ 22.1C	Cloudy, light brownish opaque	-	11:13am	11:23am	
Manhole L18102 (Intersection of Ortiz & Bell Ave.) - GRAB	601 Ortiz Dr SE	East Side	Edith	-	13" Rehab	PR HGLOW	6/8/2023	11:07am	-	0.669 ug/L	7.52 @ 23.9C	Cloudy, light grayish-yellowish opaque	-	11:04am	11:11am	
Manhole L18934 (Middle of road next to Self Storage facility) - GRAB	1417 Cardenas Dr SE	East Side	Edith	-	15"	PR HGLOW	6/7/2023	11:30am	-	0.106 ug/L	7.38 @ 23.1C	Cloudy, light grayish-yellowish opaque	-	11:27am	11:34am	
Manhole M09637 (Near dead end behind brick wall past blue gate) - GRAB	1417 Cardenas Dr SE	East Side	Edith	-	15"	PR HGLOW	6/8/2023	11:17am	-	0.0416 ug/L	8.92 @ 23.6C	Cloudy, very yellowish opaque	-	11:15am	11:21am	
2058A Gibson Medical Sample Point A - GRAB	5400 Gibson Blvd SE	East Side	Edith	-	8"	PR HGLOW	6/7/2023	11:42am	-	3.21 ug/L	7.82 @ 24.8C	Cloudy, light yellowish w/sediment	-	11:38am	11:47am	
2058A Gibson Medical Sample Point A - GRAB	1340 El Rancho Dr SW	East Side	Edith	-	8"	PR HGLOW	6/8/2023	11:26am	-	86.80 ug/L	8.19 @ 26.4C	Cloudy, gray opaque w/ heavy sediment	-	11:23am	11:32am	



## Appendix E

### Composite vs. Grab Comparison Calculations

Composite			Grabs		
F12321	3/2/23 11:48 AM	0.0148 ug/L	F12321	3/1/23 12:25 PM Completec	0.0421 ug/L
			F12321	3/2/23 11:57 AM Completec	0.0272 ug/L
				Grab AVG:	0.0347 ug/L
STA20	3/2/23 10:37 AM	0.0992 ug/L	STA20	3/1/23 10:41 AM Completec	0.0579 ug/L
			STA20	3/2/23 10:50 AM Completec	0.092 ug/L
				Grab AVG:	0.075 ug/L
F11725	3/2/23 12:22 PM	0.025 ug/L	F11725	3/1/23 1:32 PM Completec	0.0166 ug/L
			F11725	3/2/23 12:25 PM Completec	0.0178 ug/L
				Grab AVG:	0.0172 ug/L
F11402	3/3/23 12:29 PM	0.0191 ug/L	F11402	3/2/23 12:39 PM Completec	0.0189 ug/L
			F11402	3/3/23 12:37 PM Completec	0.0342 ug/L
				Grab AVG:	0.0266 ug/L
2021A	3/3/23 1:30 PM	0.00252 ug/L	2021A	3/2/23 1:57 PM Completec	0.0035 ug/L
			2021A	3/3/23 1:22 PM Completec	0.0033 ug/L
				Grab AVG:	0.0034 ug/L
STA20	3/9/23 9:42 AM	0.0665 ug/L	STA20	3/8/23 10:03 AM Completec	0.059 ug/L
			STA20	3/9/23 9:22 AM Completec	0.0592 ug/L
				Grab AVG:	0.0591 ug/L
P12743	3/9/23 10:10 AM	0.072 ug/L	P12743	3/8/23 10:37 AM Completec	0.0838 ug/L
			P12743	3/9/23 10:25 PM Completec	0.0984 ug/L
				Grab AVG:	0.0911 ug/L
P12841	3/9/23 10:44 AM	0.086 ug/L	P12841	3/8/23 11:22 AM Completec	0.0521 ug/L
			P12841	3/9/23 10:51 AM Completec	0.0663 ug/L
				Grab AVG:	0.0592 ug/L
P12842	3/9/23 11:13 AM	0.0378 ug/L	P12842	3/8/23 12:18 PM Completec	0.0343 ug/L
			P12842	3/9/23 11:19 AM Completec	0.0496 ug/L
				Grab AVG:	0.042 ug/L
	C1=Grab AVG Result:		0.045343	ug/L	
	C2=Composite AVG Result:		0.046991	ug/L	
	$((C1-C2)/((C1+C2)/2)) \times 100$				
	Relative Percent Difference (RPD %):		4%		

# Appendix F

## Mercury Sampling Results – Concentration & Loading (Edith)

Sample Point	Interceptor	Sample Date	Sample Time	Results (ug/L)	Results (mg/L)	Average Concentration (mg/L)	Avg Flow (MGD)	Loading (lbs/day)	Avg Loading (lbs/day)
H16551 (Denny's parking lot towards NE corner)	Edith	5/24/2023	12:47pm	0.0788	0.000079	0.000062	3.59	0.002	0.002
H16551 (Denny's parking lot towards NE corner)	Edith	5/25/2023	1:05pm	0.0445	0.000045		3.59	0.001	
H16671 (At end of culdisac behind large yellow gate)	Edith	5/24/2023	1:00pm	0.0774	0.000077	0.000060	3.19	0.002	0.002
H16671 (At end of culdisac behind large yellow gate)	Edith	5/25/2023	1:14pm	0.0428	0.000043		3.19	0.001	
H17184 (Right hand side of road going North)	Edith	5/24/2023	1:17pm	0.066	0.000066	0.000053	1.37	0.001	0.001
H17184 (Right hand side of road going North)	Edith	5/25/2023	1:27pm	0.0399	0.000040		1.37	0.000	
J15303 (Behind fence/east side of building)	Edith	5/24/2023	9:54am	0.112	0.000112	0.000087	8.79	0.008	0.006
J15303 (Behind fence/east side of building)	Edith	5/25/2023	9:29am	0.0624	0.000062		8.79	0.005	
J15911 (At corner next to sidewalk going east before turn)	Edith	5/25/2023	10:09am	0.0717	0.000072	0.000055	0.85	0.001	0.000
J15911 (At corner next to sidewalk going east before turn)	Edith	5/24/2023	10:34am	0.0379	0.000038		0.85	0.000	
K14495 (Near park, closest to shoulder)	Edith	5/25/2023	9:55am	0.153	0.000153	0.000093	0.26	0.000	0.000
K14495 (Near park, closest to shoulder)	Edith	5/24/2023	10:22am	0.0333	0.000033		0.26	0.000	
K16022 (Next to UNM Hospital before exit lane in shoulder)	Edith	5/24/2023	11:01am	0.0567	0.000057	0.000045	-	-	
K16022 (Next to UNM Hospital before exit lane in shoulder)	Edith	5/25/2023	1:45pm	0.0331	0.000033		-	-	
K16032 (Right side of road going NW)	Edith	5/24/2023	10:52am	0.0536	0.000054	0.000050	-	-	
K16032 (Right side of road going NW)	Edith	5/25/2023	10:25am	0.0464	0.000046		-	-	
K16597 (Towards middle of road at corner)	Edith	5/2/2023	10:55am	0.632	0.000632	0.000242	3.13	0.016	0.006
K16597 (Towards middle of road at corner)	Edith	6/8/2023	10:22am	0.177	0.000177		3.13	0.005	
K16597 (Towards middle of road at corner)	Edith	6/7/2023	10:27am	0.0866	0.000087		3.13	0.002	
K16597 (Towards middle of road at corner)	Edith	5/3/2023	10:18am	0.0709	0.000071		3.13	0.002	
K17513 (At end of street before Central in cross-walk)	Edith	5/24/2023	11:19am	0.0684	0.000068	0.000050	2.02	0.001	0.001
K17513 (At end of street before Central in cross-walk)	Edith	5/25/2023	11:40am	0.0316	0.000032		2.02	0.001	
K17792 (In front of western doors @ abandoned Walmart)	Edith	5/2/2023	11:15am	0.124	0.000124	0.000092	0.67	0.001	0.001
K17792 (In front of western doors @ abandoned Walmart)	Edith	5/3/2023	10:51am	0.113	0.000113		0.67	0.001	
K17792 (In front of western doors @ abandoned Walmart)	Edith	6/7/2023	10:54am	0.0935	0.000094		0.67	0.001	
K17792 (In front of western doors @ abandoned Walmart)	Edith	6/8/2023	10:45am	0.0381	0.000038		0.67	0.000	
K17851 (Intersection of Coal & Adams St)	Edith	6/7/2023	10:42am	0.175	0.000175	0.000117	0.67	0.001	0.001
K17851 (Intersection of Coal & Adams St)	Edith	6/8/2023	10:34am	0.0594	0.000059		0.67	0.000	
K18131 (In middle of four-way at Cardenas & San Juan)	Edith	5/25/2023	11:58am	0.0491	0.000049	0.000036	0.79	0.000	0.000
K18131 (In middle of four-way at Cardenas & San Juan)	Edith	5/24/2023	11:36am	0.0236	0.000024		0.79	0.000	
L15211 (In median across from motel)	Edith	5/2/2023	10:36am	0.439	0.000439	0.000258	5.11	0.019	0.011
L15211 (In median across from motel)	Edith	5/3/2023	10:01am	0.0761	0.000076		5.11	0.003	
L18102 (Intersection of Ortiz & Bell Ave.)	Edith	6/8/2023	11:07am	0.669	0.000669	0.000446	0.27	0.002	0.001
L18102 (Intersection of Ortiz & Bell Ave.)	Edith	6/7/2023	11:18am	0.223	0.000223		0.27	0.001	
L18934 (Middle of road next to Self Storage facility)	Edith	6/7/2023	11:30am	0.106	0.000106	0.000074	0.27	0.000	0.000
L18934 (Middle of road next to Self Storage facility)	Edith	6/8/2023	11:17am	0.0416	0.000042		0.27	0.000	
M14672 (New overpass)	Edith	5/3/2023	9:48am	0.0392	0.000039	0.000034	17.08	0.006	0.005
M14672 (New overpass)	Edith	5/2/2023	10:22am	0.0287	0.000029		17.08	0.004	
N14263 (South-most )	Edith	5/2/2023	10:11am	0.0425	0.000043	0.000032	17.33	0.006	0.005
N14263 (South-most )	Edith	5/3/2023	9:35am	0.0205	0.000021		17.33	0.003	
P14411 (Near Fire Station)	Edith	5/2/2023	9:56am	0.0259	0.000026	0.000026	17.35	0.004	0.004
P14411 (Near Fire Station)	Edith	5/3/2023	9:20am	0.0259	0.000026		17.35	0.004	
P14601 (Near House with white brick wall)	Edith	5/2/2023	9:43am	0.0169	0.000017	0.000017	17.43	0.002	0.002
P14601 (Near House with white brick wall)	Edith	5/3/2023	8:55am	0.0169	0.000017		17.43	0.002	
<b>Averages</b>				<b>0.1028</b>	<b>0.000103</b>			<b>0.003</b>	
Sample Size = 44									
2058A Gibson Medical Sample Point A	Edith	3.21 ug/L	6/7/2023	11:42am					
2058A Gibson Medical Sample Point A	Edith	86.80 ug/L	6/8/2023	11:26am					
*** Gibson Medical not included in mean calculation									
			Concentration ug/L				Loading lbs/day		
			Max	0.669			Max	0.019	
			Min	0.01690			Min	0.000072	
			Avg	0.10279			Avg	0.003	
			STDEV	0.140893			STDEV	0.003964	

## Appendix F

### Mercury Sampling Results – Concentration & Loading (Valley)

Sample Point	Interceptor	Sample Date	Sample Time	Results (ug/L)	Results (mg/L)	Average Concentration (mg/L)	Avg Flow (MGD)	Loading (lbs/day)	Avg Loading (lbs/day)
Interceptor 142A ( P13481)	Valley	3/29/2023	9:50am	0.0629	0.0000629	0.000030675	9.65	0.005	0.002
Interceptor 142A ( P13481)	Valley	3/23/2023	10:08am	0.0255	0.0000255		5.16	0.001	
Interceptor 142A ( P13481)	Valley	4/5/2023	10:46am	0.0184	0.0000184		6.73	0.001	
Interceptor 142A ( P13481)	Valley	4/6/2023	9:21am	0.0159	0.0000159		6.73	0.001	
C16881 (General Mills - rear area for semi trailers)	Valley	4/6/2023	12:39pm	0.0124	0.0000124	0.0000098	0.45	0.000	0.000
C16881 (General Mills - rear area for semi trailers)	Valley	4/5/2023	2:57pm	0.0072	0.0000072		0.45	0.000	
C16991 (In dirt area near drainage canal)	Valley	4/6/2023	12:01pm	0.071	0.000071	0.00005345	1.86	0.001	0.001
C16991 (In dirt area near drainage canal)	Valley	4/5/2023	1:42pm	0.0359	0.0000359		1.86	0.001	
D15363 (West Side of St in dirt near road)	Valley	4/6/2023	10:17am	0.0316	0.0000316	0.0000293	0.66	0.000	0.000
D15363 (West Side of St in dirt near road)	Valley	4/5/2023	11:44am	0.027	0.000027		0.66	0.000	
D16074 (In dirt next to road)	Valley	4/6/2023	11:37am	0.302	0.000302	0.0001684	0.79	0.002	0.001
D16074 (In dirt next to road)	Valley	4/5/2023	1:10pm	0.0348	0.0000348		0.79	0.000	
D16152 (In dirt near fence line)	Valley	4/5/2023	12:49pm	0.0418	0.0000418	0.0000318	1.56	0.001	0.000
D16152 (In dirt near fence line)	Valley	4/6/2023	11:24am	0.0218	0.0000218		1.56	0.000	
D16472 (In road/residential area)	Valley	4/6/2023	11:11am	0.0698	0.0000698	0.000045	0.06	0.000	0.000
D16472 (In road/residential area)	Valley	4/5/2023	12:29pm	0.0202	0.0000202		0.06	0.000	
D18023 (Side walk near road)	Valley	4/5/2023	2:25PM	0.0382	0.0000382	0.0000292	0.72	0.000	0.000
D18023 (Side walk near road)	Valley	4/6/2023	12:18pm	0.0202	0.0000202		0.72	0.000	
E14373 (Guadalupe Trl NW)	Valley	4/6/2023	9:59am	0.0183	0.0000183	0.00001695	1.01	0.000	0.000
E14373 (Guadalupe Trl NW)	Valley	4/5/2023	11:25am	0.0156	0.0000156		1.01	0.000	
E16301 (In dirt outside fence)	Valley	4/6/2023	10:35am	0.0469	0.0000469	0.00004295	1.92	0.001	0.001
E16301 (In dirt outside fence)	Valley	4/5/2023	12:11pm	0.039	0.000039		1.92	0.001	
F14425 (End of road near Elementary School)	Valley	5/4/2023	1:33pm	0.0282	0.0000282	0.00002055	2.73	0.001	0.000
F14425 (End of road near Elementary School)	Valley	5/5/2023	11:22am	0.0129	0.0000129		2.73	0.000	
F16401 (Right-most area of corner at right hand side)	Valley	5/5/2023	11:04am	0.0592	0.0000592	0.0000473	2.61	0.001	0.001
F16401 (Right-most area of corner at right hand side)	Valley	5/4/2023	12:43pm	0.0354	0.0000354		2.61	0.001	
H13203 (In Median)	Valley	5/4/2023	10:25am	0.0429	0.0000429	0.00003715	0.28	0.000	0.000
H13203 (In Median)	Valley	5/5/2023	10:08am	0.0314	0.0000314		0.28	0.000	
H13294 (SE Area of Round-About)	Valley	5/5/2023	10:27am	0.0517	0.0000517	0.0000373	0.28	0.000	0.000
H13294 (SE Area of Round-About)	Valley	5/4/2023	10:50am	0.0229	0.0000229		0.28	0.000	
H13603 (Corner of Street)	Valley	5/5/2023	9:56am	0.935	0.000935	0.00050785	0.16	0.001	0.001
H13603 (Corner of Street)	Valley	5/4/2023	10:11am	0.0807	0.0000807		0.16	0.000	
H13654 (In dirt lot near fence towards I40 - East side of Fence line)	Valley	3/23/2023	1:41PM	0.0422	0.0000422	0.00003505	1.96	0.001	0.001
H13654 (In dirt lot near fence towards I40 - East side of Fence line)	Valley	3/29/2023	12:01pm	0.0279	0.0000279		6.45	0.002	
H13658 (In dirt lot near fence towards I40 - West side of fence line)	Valley	3/23/2023	1:15PM	0.101	0.000101	0.00006755	0.49	0.000	0.000
H13658 (In dirt lot near fence towards I40 - West side of fence line)	Valley	3/29/2023	11:42am	0.0341	0.0000341		0.49	0.000	
H13861 ( in side walk along abandoned road)	Valley	3/29/2023	11:12am	0.0971	0.0000971	0.0000687	7.07	0.006	0.003
H13861 ( in side walk along abandoned road)	Valley	3/23/2023	12:31PM	0.0403	0.0000403		2.58	0.001	
H14171 (Median, across from "Marin's Radiator")	Valley	5/25/2023	9:11am	0.0477	0.0000477	0.00004045	0.21	0.000	0.000
H14171 (Median, across from "Marin's Radiator")	Valley	5/24/2023	9:27am	0.0332	0.0000332		0.21	0.000	
H15331 (Data School-South Parking Lot Near Dumpsters)	Valley	5/5/2023	10:45am	0.0544	0.0000544	0.00004945	4.41	0.002	0.002
H15331 (Data School-South Parking Lot Near Dumpsters)	Valley	5/4/2023	11:21am	0.0445	0.0000445		4.41	0.002	
J14137 (Corner of Bellamah and 6th / SW corner)	Valley	5/25/2023	8:59am	0.105	0.000105	0.00006115	0.25	0.000	0.000
J14137 (Corner of Bellamah and 6th / SW corner)	Valley	5/24/2023	9:12am	0.0173	0.0000173		0.25	0.000	
J14517 (On right side of road going south at corner of 7th & Marble)	Valley	5/25/2023	8:44am	0.0183	0.0000183	0.0000154	0.4	0.000	0.000
J14517 (On right side of road going south at corner of 7th & Marble)	Valley	5/24/2023	8:58am	0.0125	0.0000125		0.4	0.000	
K13351 (In cross turning lane going East)	Valley	3/29/2023	10:53am	0.0251	0.0000251	0.0000244	0.39	0.000	0.000
K13351 (In cross turning lane going East)	Valley	3/23/2023	11:54AM	0.0237	0.0000237		0.39	0.000	
L14102 (In bike lane around corner from gas station)	Valley	3/29/2023	10:40am	0.0158	0.0000158	0.0000133	0.02	0.000	0.000
L14102 (In bike lane around corner from gas station)	Valley	3/23/2023	11:20am	0.0108	0.0000108		0.02	0.000	
L14525 (In side lane at 2021 2nd St SW)	Valley	3/29/2023	10:26am	0.0533	0.0000533	0.0000354	9.42	0.004	0.002
L14525 (In side lane at 2021 2nd St SW)	Valley	3/23/2023	10:57am	0.0175	0.0000175		4.93	0.001	
L14628 (In dirt area across from Superior Granite)	Valley	3/29/2023	10:16am	0.0376	0.0000376	0.0000279	9.47	0.003	0.002
L14628 (In dirt area across from Superior Granite)	Valley	3/23/2023	10:44am	0.0182	0.0000182		4.98	0.001	
M14602 (Corner of 2nd & Woodward)	Valley	3/23/2023	10:28AM	0.118	0.000118	0.00007015	5.08	0.005	0.003
M14602 (Corner of 2nd & Woodward)	Valley	3/29/2023	10:05am	0.0223	0.0000223		9.57	0.002	
Averages				0.0588	0.000059			0.001	
Sample Size = 56									
Concentration ug/L								Loading lbs/day	
Max				0.935				Max	0.006
Min				0.00720				Min	0.000002
Avg				0.05883				Avg	0.001
STDEV				0.12679				STDEV	0.001321

## Appendix F

### Mercury Sampling Results – Concentration & Loading (Tijeras)

Sample Point	Interceptor	Sample Date	Sample Time	Results (ug/L)	Results (mg/L)	Average Concentration (mg/L)	Avg Flow (MGD)	Loading (lbs/day)	Avg Loading (lbs/day)
D20974 (Right side of road at end of Redmont & Whitewood)	Tijeras	5/11/2023	2:20pm	0.032	0.000032	0.000022	0.17	0.000	0.000
D20974 (Right side of road at end of Redmont & Whitewood)	Tijeras	5/12/2023	12:23pm	0.013	0.000013		0.17	0.000	
E20963 (On right side towards middle of road)	Tijeras	5/11/2023	1:32pm	0.035	0.000035	0.000025	0.82	0.000	0.000
E20963 (On right side towards middle of road)	Tijeras	5/12/2023	11:46am	0.015	0.000015		0.82	0.000	
E21252 (Right side of road going Northbound in shoulder)	Tijeras	5/11/2023	2:00pm	0.021	0.000021	0.000019	0.24	0.000	0.000
E21252 (Right side of road going Northbound in shoulder)	Tijeras	5/12/2023	12:15pm	0.018	0.000018		0.24	0.000	
F21411 (In median next to Tesoro Apartments)	Tijeras	5/11/2023	1:15pm	0.034	0.000034	0.000030	0.59	0.000	0.000
F21411 (In median next to Tesoro Apartments)	Tijeras	5/12/2023	11:31am	0.026	0.000026		0.59	0.000	
M18391 (Near KAFB next to yellow gate)	Tijeras	5/11/2023	11:34am	0.074	0.000074	0.000063	9.63	0.006	0.005
M18391 (Near KAFB next to yellow gate)	Tijeras	5/12/2023	10:09am	0.053	0.000053		9.63	0.004	
M21301 (In Median in rocks/towards end of median)	Tijeras	5/11/2023	12:04pm	0.023	0.000023	0.000022	0.52	0.000	0.000
M21301 (In Median in rocks/towards end of median)	Tijeras	5/12/2023	10:30am	0.020	0.000020		0.52	0.000	
N21033 (On right side or road at opposite end of coldesac)	Tijeras	5/12/2023	10:52am	0.033	0.000033	0.000025	0.8	0.000	0.000
N21033 (On right side or road at opposite end of coldesac)	Tijeras	5/11/2023	3:02pm	0.017	0.000017		0.8	0.000	
Q14101 (West side of road)	Tijeras	5/11/2023	10:06am	0.055	0.000055	0.000037	11.03	0.005	0.003
Q14101 (West side of road)	Tijeras	5/12/2023	8:58am	0.020	0.000020		11.03	0.002	
Q15171 (West side of overpass in rock next to asphalt)	Tijeras	5/11/2023	11:02am	0.057	0.000057	0.000046	10.97	0.005	0.004
Q15171 (West side of overpass in rock next to asphalt)	Tijeras	5/12/2023	9:37am	0.035	0.000035		10.97	0.003	
Q15509 (In dirt area east of overpass/green flag near )	Tijeras	5/12/2023	9:25am	0.025	0.000025	0.000025	0.05	0.000	0.000
Q15509 (In dirt area east of overpass/green flag near )	Tijeras	5/11/2023	10:34am	0.025	0.000025		0.05	0.000	
Averages				0.0315	0.000031			0.001	
			Sample Size = 20						
			Concentration ug/L					Loading lbs/day	
			Max	0.074				Max	0.006
			Min	0.01320				Min	0.000010
			Avg	0.03146				Avg	0.001
			STDEV	0.01632				STDEV	0.002099



## Appendix F

### Mercury Sampling Results – Concentration & Loading (West Side)

Sample Point	Interceptor	Sample Date	Sample Time	Results (ug/L)	Results (mg/L)	Average Concentration (mg/L)	Avg Flow (MGD)	Loading (lbs/day)	Avg Loading (lbs/day)
E12430 (Station 24 Sluice Gate)	Westside	4/12/2023	12:16pm	0.13400	0.000134	0.00007345	6.05	0.007	0.004
E12430 (Station 24 Sluice Gate)	Westside	4/13/2023	10:14am	0.01290	0.0000129		6.05	0.001	
F11402 (Atrisco in Dirt Path - West of Station 24)	Westside	3/2/2023	12:37pm	0.03420	0.0000342	0.00002655	3.93	0.001	0.001
F11402 (Atrisco in Dirt Path - West of Station 24)	Westside	3/1/2023	12:39pm	0.01890	0.0000189		3.93	0.001	
F11725 (Western Trail NW)	Westside	4/12/2023	1:25pm	0.03010	0.0000301	0.00002525	2.02	0.001	0.000
F11725 (Western Trail NW)	Westside	4/13/2023	11:02am	0.02040	0.0000204		2.02	0.000	
F11725 (Western Trl NW - South of Station 24)	Westside	3/2/2023	12:25pm	0.01780	0.0000178	0.0000172	2.02	0.000	
F11725 (Western Trl NW - South of Station 24)	Westside	3/1/2023	1:32pm	0.01660	0.0000166		2.02	0.000	
F12321 (North of Station 24)	Westside	3/1/2023	12:25pm	0.04210	0.0000421	0.00003465	5.84	0.002	0.001
F12321 (North of Station 24)	Westside	3/2/2023	11:57am	0.02720	0.0000272		5.84	0.001	
F12321 (Upstream of Station 24)	Westside	4/12/2023	1:02pm	0.01930	0.0000193	0.0000161	5.84	0.001	
F12321 (Upstream of Station 24)	Westside	4/13/2023	1:10am	0.01590	0.0000159		5.84	0.001	
F12321 (Upstream of Station 24)	Westside	4/13/2023	10:37am	0.01320	0.0000132		5.84	0.001	
Intel 2021A	Westside	3/1/2023	1:57pm	0.00347	0.00000347	0.00000339	1.42	0.000	0.000
Intel 2021A	Westside	3/2/2023	1:22pm	0.00331	0.00000331		1.42	0.000	
K06711 (West side of road in shoulder just North of Tempur-Pedic)	Westside	6/1/2023	10:59am	0.0976	0.0000976	0.00006675	-	-	
K06711 (West side of road in shoulder just North of Tempur-Pedic)	Westside	5/31/2023	1:56pm	0.0359	0.0000359		-	-	
M09632 (Middle of road at three-way)	Westside	6/1/2023	10:38am	0.611	0.000611	0.00032415	0.01	0.000	0.000
M09632 (Middle of road at three-way)	Westside	5/31/2023	1:28pm	0.0373	0.0000373		0.01	0.000	
M09637 (Near dead end behind brick wall past blue gate)	Westside	5/31/2023	10:30am	0.013	0.000013	0.00001126	0.02	0.000	0.000
M09637 (Near dead end behind brick wall past blue gate)	Westside	6/1/2023	10:30am	0.00952	0.00000952		0.02	0.000	
M09748 (NE corner; ~75ft from corner next to side walk)	Westside	6/1/2023	10:18am	0.246	0.000246	0.0001395	0.13	0.000	0.000
M09748 (NE corner; ~75ft from corner next to side walk)	Westside	5/31/2023	10:15am	0.033	0.000033		0.13	0.000	
N09582 (Outside Culdisac behind blue-barred barrier)	Westside	5/31/2023	9:58am	0.0824	0.0000824	0.0000561	0.36	0.000	0.000
N09582 (Outside Culdisac behind blue-barred barrier)	Westside	6/1/2023	9:52am	0.0298	0.0000298		0.36	0.000	
N10930 (At end of dirt lot on Flora Vista Ave SW)	Westside	6/1/2023	9:24am	0.0976	0.0000976	0.00006425	0.51	0.000	0.000
N10930 (At end of dirt lot on Flora Vista Ave SW)	Westside	5/31/2023	9:27am	0.0309	0.0000309		0.51	0.000	
P10011 (Corner of turn outside of paved area)	Westside	5/31/2023	9:43am	0.163	0.000163	0.00010555	0.51	0.001	0.000
P10011 (Corner of turn outside of paved area)	Westside	6/1/2023	9:36am	0.0481	0.0000481		0.51	0.000	
P12743 ( outside South Valley Pool)	Westside	3/16/2023	9:26am	0.04510	0.0000451	0.0000249	0.15	0.0001	0.000
P12743 ( outside South Valley Pool)	Westside	3/15/2023	10:44am	0.01880	0.0000188		0.15	0.0000	
P12743 (Outside South Valley Pool)	Westside	4/18/2023	10:39am	0.01720	0.0000172		0.15	0.000	
P12743 (Outside South Valley Pool)	Westside	4/19/2023	11:04am	0.01850	0.0000185	0.00005845	0.15	0.000	
P12743 (Outside South Valley Pool)	Westside	3/9/2023	10:25am	0.09840	0.0000984		0.15	0.0001	
P12743 (Outside South Valley Pool)	Westside	3/8/2023	10:37am	0.08380	0.0000838		0.15	0.0001	
P12841 ( in Median in front of Station 20)	Westside	3/16/2023	10:22am	0.06330	0.0000633	0.00008955	5.55	0.003	0.004
P12841 ( in Median in front of Station 20)	Westside	3/15/2023	10:04am	0.03130	0.0000313		5.55	0.001	
P12841 (Median in front of Station 20)	Westside	4/18/2023	10:55am	0.09060	0.0000906		5.55	0.004	
P12841 (Median in front of Station 20)	Westside	4/19/2023	11:17am	0.17300	0.000173	0.00011965	5.55	0.008	
P12841 (Median in front of Station 20)	Westside	3/9/2023	10:51am	0.06630	0.0000663		5.55	0.003	
P12841 (Median in front of Station 20)	Westside	3/8/2023	11:22am	0.05210	0.0000521		5.55	0.002	
P12842 ( in Dirt Lot across St from Station 20)	Westside	3/16/2023	10:39am	0.04160	0.0000416	0.000038825	11.12	0.004	0.004
P12842 ( in Dirt Lot across St from Station 20)	Westside	3/15/2023	10:26am	0.04140	0.0000414		11.12	0.004	
P12842 (Dirt Lot across St from Station 20)	Westside	4/19/2023	11:28am	0.03720	0.0000372	0.00003615	11.12	0.003	
P12842 (Dirt Lot across St from Station 20)	Westside	4/18/2023	11:10am	0.03510	0.0000351		11.12	0.003	
P12842 (Dirt Lot across St from Station 20)	Westside	3/9/2023	11:19am	0.04960	0.0000496		11.12	0.005	
P12842 (Dirt Lot across St from Station 20)	Westside	3/8/2023	12:18pm	0.03430	0.0000343		11.12	0.003	
P12847 ( Outside Station 20 Main Bldg)	Westside	3/15/2023	11:40am	0.14400	0.000144	0.0000908	19.21	0.023	0.012
P12847 ( Outside Station 20 Main Bldg)	Westside	3/16/2023	9:04am	0.03760	0.0000376		19.21	0.006	
P12847 (Station 20)	Westside	4/19/2023	10:52am	0.07260	0.0000726	0.00006445	19.21	0.012	
P12847 (Station 20)	Westside	4/18/2023	10:23am	0.05630	0.0000563		19.21	0.009	
Q12021 (Lakeview Rd SW)	Westside	4/19/2023	11:57am	0.27700	0.000277	0.0001264	2.24	0.005	0.002
Q12021 (Lakeview Rd SW)	Westside	4/18/2023	11:26am	0.12000	0.00012		2.24	0.002	
Q12021 (Lakeview Rd SW) (Grab Samples Only)	Westside	3/16/2023	10:49am	0.06050	0.0000605		2.24	0.001	
Q12021 (Lakeview Rd SW) (Grab Samples Only)	Westside	3/15/2023	12:17pm	0.04810	0.0000481		2.24	0.001	
Q12921 (Lakeview Rd SW) (Grab Samples Only)	Westside	3/9/2023	11:14am	0.05100	0.000051	0.00004565	2.24	0.001	
Q12921 (Lakeview Rd SW) (Grab Samples Only)	Westside	3/8/2023	11:36am	0.04030	0.0000403		2.24	0.001	
Station 20 (Wet Well)	Westside	4/19/2023	10:46am	0.31400	0.000314	0.000101883	19.21	0.050	0.016
Station 20 (Wet Well)	Westside	3/16/2023	8:41am	0.06220	0.0000622		19.21	0.010	
Station 20 (Wet Well)	Westside	3/15/2023	11:17am	0.04430	0.0000443		19.21	0.007	
Station 20 (Wet Well)	Westside	4/18/2023	10:10am	0.04090	0.0000409		19.21	0.007	
Station 20 (Wet Well)	Westside	3/2/2023	10:50am	0.09200	0.000092		19.21	0.015	
Station 20 (Wet Well)	Westside	3/1/2023	10:41am	0.05790	0.0000579		19.21	0.009	
Station 24 (Wet Well -- Bottom of Well)	Westside	4/12/2023	11:37am	0.04250	0.0000425	0.000026925	6.05	0.002	0.001
Station 24 (Wet Well -- Bottom of Well)	Westside	4/13/2023	9:53am	0.01340	0.0000134		6.05	0.001	
Station 24 (Wet Well -- Mid Flow)	Westside	4/12/2023	11:28am	0.04190	0.0000419		6.05	0.002	
Station 24 (Wet Well -- Mid Flow)	Westside	4/13/2023	9:47am	0.00990	0.0000099		6.05	0.000	
Vacuum Station 61 (STA61-Spiguot) (Grab Samples Only)	Westside	3/16/2023	10:04am	0.08310	0.0000831	0.0000697	2.39	0.002	0.001
Vacuum Station 61 (STA61-Spiguot) (Grab Samples Only)	Westside	3/15/2023	12:15pm	0.05630	0.0000563		2.39	0.001	
Averages				0.06823	0.0000682			0.003	
Sample Size = 69									
Concentration ug/L							Loading lbs/day		
Max				0.611			Max		
Min				0.00331			Min		
Avg				0.06823			Avg		
STDEV				0.08924			STDEV		

## Appendix G

### Dental Facility BMP Pamphlet (PG 1)



## Dental Resource Sheet

### Waste Disposal Companies

Local Company Name	City, State	Phone #	Services
ACTenviro	Albuquerque, NM	505-445-9400	Chem, Radio, Bio, and Universal waste disposal
Advanced Environmental Solutions, Inc.	Belen, NM	505-861-1700	Bio, Chem, household waste disposal
Clean Earth	Albuquerque, NM	505-873-0964	Hazardous and Non-hazardous disposal, not specific to dental
Clean Harbors/Safety Kleen	Albuquerque, NM	505-884-2277	Hazardous and non-hazardous waste, Amalgam disposal
Veolia North America	Albuquerque, NM	920-574-2435	Amalgam disposal, bio, med, hazard, non-hazard waste
NM Waste Recovery	Rio Rancho, NM	505-404-1199 505-545-9824	Amalgam disposal/ Hazardous waste, Sharps, Bio waste
Stericycle	Albuquerque, NM	866-783-3155	Separators and Disposal

Non-Local Companies			
Health First	Mukilteo, WA	800-331-1984	Amalgam disposal
McGuire & Strickland Refining Company	Minneapolis, MN.	763-786-2858	Accept almost all metallic dental waste, Used by the amalgam collector co.
Medpro Disposal	Naperville, IL	888-655-5965	Amalgam disposal, bio waste, Hazardous waste
Mercury Refining Co.	Albany, NY	800-833-3505	Accepts dried and shipped waste, they pay for the amalgam scrap waste
WasteWise	Carlsbad, CA	706-930-9101	Amalgam disposal, red bag, x-ray, aldehydes, sharps
WM Lamp Tracker	Online or Telephone	1-800-6641434	Amalgam Disposal Kits
Bethlehem Apparatus	Hellertown, PA	610-838-7034	Mercury Recovery industry

## Appendix G

### Dental Facility BMP Pamphlet (PG 2)



Local Company Name	City, State	Phone #	Services
Amalgaway	Indianapolis, IN	317-786-6654	Sells Separators and Amalgam Disposal
Dental Recycling of North America	New York, NY	800-360-1001	Sells Separators and Amalgam Disposal
Patterson Dental Co.	Albuquerque, NM	505-884-6747	Sells Separators
R & D Services	Seattle, WA	206-525-4994	Sells Separators
Solmetex	Marlborough, MA	800-216-5505	Sells Separators and Amalgam Disposal
Henry Schein	Albuquerque, NM	505 856 3411	Sells Separators and Dental Equipment

#### Code of Federal Regulation

The Dental Office Category regulation is codified at 40 CFR Part 441.

#### Best Management Practices

- Monitor and maintain amalgam separators to ensure functionality
- Make sure amalgam separator is equipped to handle your # of operatories
- Recycle large amalgam pieces in amalgam scrap container
- DO NOT dispose of amalgam waste in "Red Bag" Bio waste
- DO NOT pour chemicals down the drain, refer to Chem SDS for disposal
- DO NOT use oxidizing or acidic cleaners, including but not limited to bleach, chlorine, iodine, and peroxide that have a pH lower than 6 or greater than 8 to clean vacuum lines



❖ *I recognize the interconnectedness of all life and acknowledge the consequences of my actions on other species and humans in locations near and distant.*  
*Living Green Environmental creed*

**With any Questions, contact:**  
**Ebrahim Nourestani – Pollution Prevention Specialist**  
**Office: (505)289-3421 email: enourestani@abcwua.org**

\*The Albuquerque Bernalillo County Water Utility Authority does not endorse the products or services provided by these companies. This list is for reference purposes only.

## Appendix H

### Mercury Sample Cost Analysis

#### Pretreatment Mercury Samples From 2021-2023

SM 3112 B-2011		EPA 1631	
Year	(Regular Method)	(Low Level Method)	Total HG Samples
2021	3	0	243
2022	6	143	827
2023	2	296	582
Total	11	439	1652
Method Total	1213	439	

#### Costs of Pretreatment Mercury Samples From 2021-2023

SM 3112 B-2011		EPA 1631	
Year	(Regular Method)	(Low Level Method)	Total HG Cost
2021	\$195.00	\$0.00	\$15,795.00
2022	\$390.00	\$26,455.00	\$70,915.00
2023	\$130.00	\$54,760.00	\$73,350.00
Total	\$715.00	\$81,215.00	\$160,060.00
Method Total	\$78,845.00	\$81,215.00	