

**REMOVAL REPORT
For
SOUTHWEST VERMICULITE (PHASE II)**

**W. SILVER RECYCLING OF NEW MEXICO
AND ADJACENT RIGHT OF WAY PROPERTIES
(New Mexico Department of Transportation and City of Albuquerque)
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO**

Prepared for

U.S. Environmental Protection Agency Region 6
1445 Ross Avenue
Dallas, Texas 75202

Date Prepared:

May 30, 2014

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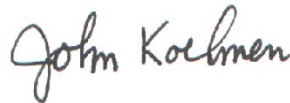
Date Prepared:

May 30, 2014

Reference Numbers

Contract No.: EP-W-06-077
TDD No.: 1/DYNAMAC-077-13-001
NRC No.: Not Applicable
CERCLIS No.: NMN000607041
SSID No.: A6Q8
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Date: May 30, 2014

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Date: May 30, 2014

- ☒ The EPA Task Monitor provided final approval of this report
- ☐ The EPA Task Monitor did not provide final approval of this report prior to the completion date of the Technical Direction Document.

EXECUTIVE SUMMARY

Dynamac Corporation (Dynamac), a Superfund Technical Assessment and Response Team (START-3) contractor, was tasked by the U.S. Environmental Protection Agency (EPA) Region 6 Prevention and Response and Branch (PRB), under Contract Number EP-W-06-077, Technical Direction Document (TDD) Number 1/Dynamac-077-13-001 (Appendix A), to perform removal monitoring and sampling, as well as to provide technical assistance during the Removal Action at the Former Southwest Vermiculite (SWV) Phase II site (SWV2 Site). The SWV2 Site is comprised of the (current) W. Silver Recycling of New Mexico facility, and the Right of Way (ROW) properties of the New Mexico Department of Transportation (NMDOT) and the City of Albuquerque near/adjacent to 1800-1822 1st Street NW, Albuquerque, Bernalillo County, New Mexico 87102. The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) number assigned to the site is NMN00607041.

Dynamac's START-3 conducted on-site removal monitoring activities from November 5, 2014 to February 28, 2014. EPA's Emergency and Rapid Response Services (ERRS) contractor, Environmental Quality Management (EQM) and its subcontractors Banderra Resources and United States Environmental Services (USES), conducted the Removal Action. During the removal, asbestos-contaminated soils were excavated at the subject properties and staged prior to being loaded into either roll-off containers or end dump transport trailers and transported to a permitted, off-site disposal facility (Special Waste Disposal Landfill, formerly Keer's Asbestos Landfill) located 14 miles south of Mountainair, NM on Highway 55). The quantity of asbestos impacted materials transported to the disposal facility was 270 loads, totaling approximately 3,933 cubic yards (see Appendix K).

In addition, due to elevated levels of asbestos impacted dust and/or concentrations of asbestos in the air, multiple decontamination and abatement activities were also conducted at the W. Silver Recycling facility during and immediately following the main removal activities. These activities were conducted at the former Exfoliation Building prior to demolition, as well as the Scale Trailer, the Main Warehouse, and the Main Office areas. Southwest Hazard Control (SHC) was contracted by ERRS/EQM to conduct the decontamination/abatement activities. As a result, additional asbestos impacted wastes were generated and disposed of at the permitted, off-site disposal facility (Special Waste Disposal Landfill, formerly Keer's Asbestos Landfill).

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Documentation of the Abatement of the former Exfoliation Building and site structure is presented in Appendix O.

After soil excavation activities were completed, the excavated areas were backfilled with clean soil backfill or a clean road base and re-graded to either the original topographical contours and/or to maintain adequate drainage. Figure 1 provides a Site Location Map, while Figures 2 and 3 provide information on the location(s) of the Removal Areas covered under this action and the depth of the associated excavations. Due to the asbestos concentrations greater than 0.25% remaining in certain areas after excavation, several areas were covered with concrete to provide an additional limitation to future exposure.

As excavation and backfilling/restoration activities and the decontamination and abatement were completed, site walks were conducted by the EPA Federal On-Scene Coordinator (FOSC), and/or ERRS and START-3 representatives to assess the final site conditions and to identify additional requirements prior to demobilization from the site.

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1 INTRODUCTION

Dynamac Corporation (Dynamac), a Superfund Technical Assessment and Response Team (START-3) contractor, was tasked by the U.S. Environmental Protection Agency (EPA) Region 6 Prevention and Response and Branch (PRB), under Contract Number EP-W-06-077, Technical Direction Document (TDD) Number 1/Dynamac-077-13-001 (Appendix A) to perform removal monitoring and technical assistance during the removal actions at the Former Southwest Vermiculite Site, Phase II (SWV2 Site), which includes the current W. Silver Recycling facility (Area A) and Right-of Way (ROW) properties owned by the New Mexico Department of Transportation (NMDOT - Area B) and the City of Albuquerque (Area E) located at/near 1800-1822 1st Street NW, Albuquerque, Bernalillo County, New Mexico, 87102 (Figures 1 and 2). The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) number assigned to the site is NMN000607041.

The SWV2 Site is located in an area of principally commercial facilities and is zoned commercial, with industrial, commercial, residential, and undeveloped properties located within a ¼ mile radius of the site. The geographic coordinates of the SWV2 Site at the approximate intersection of Haines Avenue NW and 1st Street NW, are 35.1028264° N latitude and -106.6443210° W longitude (Figures 1 and 2).

The focus of the removal activities at the SWV2 Site was on removing soil determined to be impacted with elevated levels of Libby amphibole (LA) asbestos, in part from historic operations at the SWV2 Site (currently the W. Silver Recycling facility), and partly by (reported) impacts resulting from the use of vermiculite remnants as fill, or via potential windborne deposition. EPA Region 6 conducted a Removal Assessment (Data Tables provided in Appendix N) at several areas on/near the former SWV2 Site, on January 26-27, 2011, June 15-18, 2011, October 29, 2012, and February 2013. Analysis of soil samples collected during the Removal Assessment at the SWV2 Site and nearby areas indicated the presence of amphibole and LA asbestos fibers in the soils on the SWV2 Site (currently the W. Silver Recycling facility), the residential properties on Haines Avenue, and the adjacent NMDOT and City of Albuquerque ROW areas (see Figures 2 and 3). A Removal Action was conducted at the Haines Avenue Properties in January and February 2012 to address elevated levels of asbestos in soils on/near the residential properties.

In addition, Activity-Based Sampling (ABS) results of air samples collected from Areas A and B indicated amphibole and LA asbestos in concentrations that trigger a human health exposure hazard. Based on the EPA Removal Assessment activities, an imminent and substantial danger to human health or the environment was deemed to exist at the SWV2 Site. Subsequently, EPA Region 6 performed this time-critical Removal Action from November 5, 2013 to February 28, 2014. The EPA, START-3, and EPA's Emergency and Rapid Response Services (ERRS) contractor, Environmental Quality Management (EQM) and its subcontractors Banderra Resources and United States Environmental Services (USES) conducted the removal activities at the SWV2 Site, which included the excavation and disposal of asbestos-contaminated soils, subsequent site restoration activities and decontamination/abatement of several structures on the W. Silver Recycling facility.

During the removal, START-3 conducted contractor monitoring/sampling and provided technical assistance to the FOSC. START-3 maintained the site files, logbooks and photo documentation, and prepared daily progress reports (DPRs). Copies of the logbooks, photo documentation and DPRs are included in Appendices B, C and D respectively. In addition, START-3 conducted air monitoring and air sampling (Appendices E and F respectively, and Table 1), conducted soil confirmation sampling and additional soil assessment sampling (Appendix H and Tables 2 and 3), and maintained a log of the Transportation and Disposal (T&D) waste manifests (Appendix K). START-3 prepared this Removal Report to describe the activities completed at the SWV2 Site during the Removal Action. All Figures, Tables, and Appendices are provided as separate portable document format (PDF) files.

The EPA Federal On-Scene Coordinator (FOSC) for the site was Mike McAteer, with intermittent coverage provided by FOSC William Rhotenberry. The START-3 Project Manager and Field Team Leader was John Koehnen (Dynamac). The ERRS Response Manager was Don Edgington (Banderra Resources), the Transportation and Disposal (T&D) Coordinator was Mark Douglas (EQM), the Site Foreman was Jeffrey Reynolds (USES) and the Site Health and Safety Officer was Jesse Howlett (USES).

2 PURPOSE AND SCOPE

The purpose of the Removal Action at the SWV2 Site was to excavate and dispose of asbestos-contaminated soil from the three distinct areas covered under this Removal Action. The three areas include: Area A which is the Former SWV site, now owned by W. Silver Recycling; Area B which is the NMDOT ROW area located to the east of the W. Silver Recycling property, and west of the main railroad line; and Area E which includes the ROW areas owned by the City of Albuquerque and located adjacent and to the west of the W. Silver Recycling facility, along 1st Street NW and on the north side of Haines Avenue NW, in between 1st and 2nd Streets NW.

As defined in the TDD scope of work (Appendix A), START-3 Removal Action activities included, but were not limited to:

- maintain a site logbook, to conduct photo and video documentation of the conditions at the site, and maintain all site files (Appendices B and C);
- submit Daily Progress Reports (DPRs) and assist in the preparation of both Draft and Final Pollution Reports (PolReps) (Appendix D for the DPRs);
- conduct perimeter air monitoring and air sampling (Appendices E and F, Figure 4 and Table 1);
- prepare a Quality Assurance Sampling Plan (QASP) that described the number, type, and location of samples and the type of analyses (Appendix J);
- perform confirmation soil sampling and analysis after the excavation activities and prior to backfilling with clean soil (Appendix H, Figure 3 and Table 2);
- analyze all samples collected, and validate data in accordance with EPA standard methods for sample analysis (Appendices G and H);
- review completeness of disposal documentation such as manifests, waste profile data, and other information (Appendix K);
- assist in posting site information including DPRs, photos, monitoring and sampling results on the www.epaossc.net webpage; and
- assist EPA with community relations activities, as requested, including assisting at one Public Availability Session/Public Meeting.

3 SITE DESCRIPTION AND BACKGROUND

Information regarding site location, background information, and site description is presented in the following subsections.

3.1 Site Location

The SWV2 Site is located in the vicinity of the intersection of 1st Street NW and Haines Avenue NW. Geographic coordinates for this location are 35.1028264° N latitude and -106.6443210° W longitude (Figures 1 and 2). The SWV2 Site is comprised of three distinct Areas (i.e., Area A, Area B and Area E) of an unspecified total acreage which are bounded to the west by 2nd Street, to the south by a railroad spur, to the east by the main-line railroad tracks owned by the NMDOT, and to the north by Haines Avenue NW. Beyond the immediate surroundings, the SWV2 Site is situated in an urban setting, with industrial, commercial, residential, and undeveloped properties located within a ¼ mile radius of the site.

3.2 Site Description

The SWV2 Site (per the Removal Action) consists of three distinct Areas (i.e., Area A, Area B and Area E). In addition, a temporary field office was situated on the empty lot designated as 15 Haines Avenue NW. Figures 1, 2 and 3 identify the overall site location, as well as the distinct Areas addressed under this Removal Action. The Areas addressed under this Removal Action include only those areas where asbestos impacted soils were detected during the Removal Assessment (Data Tables provided in Appendix N). Additional areas were evaluated during the Removal Assessment sampling, but were not included in the Removal Action as asbestos impacted soils were not identified. The specific areas addressed under this Removal Action, and the resulting soil excavation depths are identified in Figures 2 and 3.

The Areas comprising the SWV2 Site are presented on Figure 2 and include:

- Area A: Comprises the entire contiguous property formerly operated as Southwest Vermiculite, and now operating as W. Silver Recycling. The W. Silver Recycling property is located at 1800-1822 1st Street NW in Albuquerque, New Mexico, 87102. The property consists of a Main Office and Warehouse area along the northern property boundary, as well as operational and scrap storage areas

located from the central portion of the facility to the southern facility boundary. The W. Silver Recycling property is bounded to the west by 1st Street NW, to the north by Haines Avenue NW, to the south by a NMDOT spur line and to the east by the NMDOT ROW area (private property) designated in this Removal Action as Area B. Figures 2 and 3 depict the location of the Former SWV facility (current W. Silver Recycling facility), and the resulting excavation depths.

- Area B: Comprises 13 grids within the NMDOT ROW running approximately 650 linear feet north/south and located east of the W. Silver Recycling facility, and west of the NMDOT main-line railroad track. The area addressed under this Removal Action included the soil area from the W. Silver Recycling fence line/boundary, traversing east only to the initiation of the incline of the railroad track (varied from 20 to 50 feet in width) to prevent destabilizing the track. Area B extended south to an NMDOT spur line and to the north to within approximately 100 feet of the Haines Avenue NW intersection. Figures 2 and 3 depict the location of the NMDOT ROW grids, and the resulting excavation depths.
- Area E: Comprises 5 separate grids located on the City of Albuquerque ROW with approximately 300 total linear feet and an approximate average width of 8 feet. Three grids are located along 1st Street NW, two on the east side of the road and directly adjacent to the W. Silver Recycling facility, and one to the west of 1st Street NW, south of Haines Avenue NW. Two additional grids are located in the ROW area to the north of Haines Avenue NW, in between 1st and 2nd Streets NW. Figures 2 and 3 depict the location of the City of Albuquerque ROW grids, and the resulting excavation depths.

3.3 Background Information and Additional Assessment

The SWV2 Site was located east of 1st Street NW and south of Haines Avenue NW, which is now operated by W. Silver Recycling. The NMDOT and City of Albuquerque ROWs have historically been unimproved properties used for access and ROW purposes.

EPA and START-3 conducted field sampling associated with a removal assessment at the SWV2 Site January 26-27, 2011, June 15-18, 2011, October 30, 2012, and February 2013 as well as collecting additional assessment samples during the Removal Action. During the assessment activities of Areas A, B and E, START-3 collected surface and subsurface

composite soil samples from grids in each of the areas. Analysis of these samples indicated the presence of tremolite asbestos fibers at varying concentrations and depths in the Areas addressed under this Removal Action. A copy of the data tables from the Draft Southwest Vermiculite Removal Assessment are provided in Appendix N. In addition, Activity-Based Sampling (ABS) results for air samples collected from Areas A and B indicated amphibole and LA asbestos in concentrations that triggered a human health exposure hazard. Associated data tables from the ABS activities are presented in Appendix P.

As noted above, additional assessment samples were collected at several areas addressed under this Removal Action which were either not previously investigated during the Removal Assessment, or deemed necessary as additional site characterization during the Removal Action. These include:

- Dust Samples collected from the W. Silver Recycling Scale Trailer, Main Warehouse, and the Main Office Areas;
- Air Samples from within the W. Silver Recycling Scale Trailer, Main Warehouse, and the Main Office Areas;
- Bulk material samples of ceiling insulation/tiles and associated roofing materials from two locations within the Main Warehouse;
- Subsurface composite soil samples were collected from 1 foot bgs in Area A, Grid E, as well as at the 1 foot bgs depth from the portions of Area A, Grids C and D which lies to the west of the rail spur located on the W. Silver Recycling property. These samples were analyzed for asbestos to determine the depth of the required excavation in these grid areas; and
- Additional assessment soil samples collected from various exposed soil areas in the vicinity of Area A, Grid A, which were collected during a site reconnaissance before the Removal Action to determine whether the additional areas would need to be addressed during the Removal Action. Data Tables from the Removal Assessment Report are provided in Appendix N.

The soil samples were collected as 5-point composite samples, with each aliquot collected from 0 – 6 inches bgs, composited into a plastic bag, homogenized, then transferred to another plastic bag for shipment to the laboratory. These samples were prepared for

analysis utilizing California Air Resources Board (CARB) 435, and analyzed by polarized light microscopy (PLM) associated with SRC-Libby-03 methodology, for asbestos fibers associated with amphibole asbestos by the LabCor Laboratory located in Portland, Oregon.

The dust samples were collected using a Dust Sampling Cassette and air sampling pump and drawn over a 10 centimeter by 10 centimeter grid to collect settled particulates. The resulting cassette was shipped to the laboratory and analyzed by Transmission Electron Microscopy (TEM) using ISO Method 10312 for asbestos fibers associated with Libby Amphibole by the LabCor Laboratory located in Seattle, Washington.

The air samples were collected using a PCM Cassette and air sampling pump operating for a varied duration. The resulting cassette was shipped to the laboratory and analyzed by Transmission Electron Microscopy (TEM) using the National Institute for Occupational Safety and Health (NIOSH), Method 7402 for asbestos by TEM associated by the LabCor Laboratory located in either Portland, Oregon or Seattle, Washington.

The ceiling insulation/tile samples were collected with dedicated hand tools (i.e., hammer, chisel, pry bar) and was combined in one-gallon plastic bags for shipment to the laboratory. The resulting sample material was analyzed by a “Bulk” Transmission Electron Microscopy (TEM) procedure using ISO 10312 for asbestos fibers associated with Libby Amphibole by the LabCor Laboratory located in Portland, Oregon.

As a result of the sample collection and analysis described above, the total soil depth of the excavation in the entire Area A, Grid E was limited to 1 foot bgs. In addition, the portion of Area A, Grid D which lies to the west of the W. Silver Rail spur was also excavated to only 1 foot bgs based on the analytical results. The portion of Area A, Grid C which lies to the west (southwest) of the W. Silver Rail spur was required to be excavated to 2 feet bgs due to the presence of asbestos. See Figure 3 for information about excavation depths for all of the removal areas.

As a result of the sample collection and analysis in Area A, Grid A additional excavations in the area nearby the former Exfoliation Building, as well as placement of a concrete

cover were implemented. As a result of the Dust, Air and Ceiling insulation/tile samples, additional facilities on the W. Silver Recycling facility required supplemental decontamination and abatement to address elevated concentrations of Libby Amphibole asbestos in these areas. The resulting data tables are included in Appendix N.

4 REMOVAL ACTIVITIES

The following sections provide a summary of removal activities conducted at the SWV2 Site from November 5, 2013 to February 28, 2014. Due to timing of the Removal Action, Holiday breaks were taken from November 27, 2013 through December 1, 2013, and from December 22, 2013 through January 5, 2014. The soil excavation and disposal portion of the Removal Action were completed on January 29, 2014; the on-site Removal Action-related activities limited to decontamination and abatement of various W. Silver Recycling facilities and activities related to construction of the replacement building continued until February 28, 2014.

Removal action activities were initiated under the direction of EPA FOSC Mike McAteer, with periodic site rotations by EPA FOSC William Rhotenberry. The ERRS main contractor for the SWV2 Site was EQM, with subcontractor personnel from Banderra Resources and USES, under the supervision of EQM (Banderra) Response Manager (RM) Don Edgington and USES Site Foreman Jeffrey Reynolds. Transportation and Disposal (T&D) activities were supervised by EQM's Mark Douglas.

Removal activities conducted by ERRS included preparation of the SWV2 Site for removal activities (e.g., obtaining site trailer, sanitation facilities, and brush/debris clearing); soil excavation and dust suppression; loading of excavated soils into roll-off containers and end dump transport trailers for transport to the designated disposal facility (Special Waste Disposal Landfill located 14 miles south of Mountainair, NM on Highway 55); the procurement of trucking companies to transport the excavated soils and solid wastes; and site restoration activities (e.g., clean soil backfill and/or cover material), procurement of a decontamination/abatement contractor, procurement of a concrete contractor, procurement of a construction contractor for building replacement and varied site management.

The START-3 contractor, Dynamac, was under the direction of Project Manager John Koehnen, who also acted as the field team leader. START-3 conducted written (Appendix B),

photographic and video documentation (Appendix C) of the removal activities; prepared DPRs (Appendix D); conducted daily on-site air monitoring and prepared the daily Air Monitoring and Sampling Logs (Appendices E and F) and Air Monitoring Results (Table 1) and Mapping (Figures 1 through 3); collected air samples for fiber determination and prepared the Air Sampling Result Tables (Table 1); collected confirmation soil samples (Appendix H and Table 2); collected soil assessment samples (Appendix H and Table 3), collected dust samples (Appendix G and Table 4), posted documents as directed by the FOSC on to webpage at www.epaossc.net; maintained the site files (e.g., waste manifests – Appendix K); and provided technical assistance to the EPA FOSC.

A Quality Assurance Sampling Plan (QASP) for the collection and analysis of the perimeter air samples and confirmation soil samples was prepared as part of the removal activities (Appendix J). A site-specific Health and Safety Plan (HASP) was also prepared to document the required health and safety activities related to the Removal Action.

4.1 Soil Excavation

The removal activities at the site began on November 5, 2013. The initial activities included establishment of an office trailer used as a Command Post (CP) located on the empty lot at 15 Haines Avenue NW. Use of this site was authorized under a temporary Access Agreement coordinated with the property owner, Mr. Joseph Montano for the period commencing on November 4, 2013 and ending on March 4, 2014. The property at 15 Haines Avenue NW was previously remediated during a Removal Action conducted in January/February 2012 and as such no sampling or other site preparation was necessary prior to use as a field office/staging area. Prior to and following its use, START-3 photo and video documented the site conditions (Appendix C) and ERRS removed the vegetation and other debris before placement of the field office and CONEX at 15 Haines Avenue NW.

Soil excavation activities began on November 7, 2013 and were completed on January 29, 2014, with the exception of soil excavation necessary for installation of the foundation/footer walls associated with the replacement building on the W. Silver Recycling facility. The impacted soil was excavated to either 1 foot or 2 foot bgs at all areas/grids, depending on the asbestos concentrations identified, or the final cover

anticipated (i.e., earthen cover material or concrete cap). Figure 3 depicts the Areas addressed under this Removal Action, and the resulting soil excavation depths.

The excavated soils were either temporarily stockpiled on the W. Silver Recycling site in the northeast portion of Grid A, or temporarily in the NMDOT ROW area for future transportation to the approved disposal facility; the CERCLIS-certified Special Waste Disposal Landfill located 14 miles south of Mountainair, NM on Highway 55. Loading and transportation of the asbestos-contaminated soils to the Special Waste Disposal Landfill was initiated on November 12, 2013 and completed on January 29, 2014. Approximately 3,933 cubic yards of asbestos-contaminated soil was transported to the disposal facility in 270 loads. See Appendix K for the Waste Manifest Log and individual waste manifests forms.

In order to reduce or eliminate the potential of air-borne migration of asbestos during the soil excavation and/or loading of the disposal trucks, dust suppression activities were actively conducted. Dust suppression activities included use of water hoses (e.g., fire and garden) fed by water truck and/or a portable tank and pressure washer. The excavated areas and stockpiles were also covered with 6-mil thick plastic sheeting, during portions of the day and/or during any periods of inactivity and prior to departing the site each day.

A “High Wind Policy” (Appendix M) was implemented during the Removal Action to protect the surrounding community from air-borne migration of asbestos during the removal activities. The High Wind Policy states that if any sustained wind-gusts above 23 mph occur, dust suppression activities (e.g., the use of water curtains or similar) will be expanded or increase in frequency. In the event that sustained wind-gusts reach more than 30 mph, ongoing soil disturbance activities (e.g., excavation) will be suspended for the rest of the work day, though (clean soil) backfilling activities may continue at the discretion of the FOSC.

Once the excavation of a grid(s) was determined to be complete, START-3 personnel collected one (1) five-point composite confirmation soil sample from the 0 – 6 inch bgs depth interval from the base of the excavation to determine the asbestos concentration in the soil after excavation has occurred. Excavation activities at several grids/locations in the three Areas were conducted only to 1 foot bgs. In only a few instances, additional

excavation down to 2 foot bgs was conducted due to known or suspected elevated levels of asbestos in the 1 foot bgs confirmation samples. In several grid locations on the W. Silver Recycling facility, excavations were conducted to 2 foot bgs, followed by collection of soil confirmation samples before placement of cover material. Figure 3 identifies the total depth of soil excavation activities at each Area/grid location. Upon completion of the excavation, following collection of the soil confirmation sample, the base of the excavation was lined with orange barricade fencing, then backfilled with either clean backfill soil or designated cover material. Details of the confirmation soil sampling are provided in Section 4.4.2 and Table 2.

4.2 Transportation and Disposal Activities

In support of development of a representative Waste Profile required for disposal, ERRS personnel initially collected one (1) surface composite soil sample from various locations at the SWV2 Site. The initial analytical results showed concentrations of Toxicity Characteristic Leachate Procedure (TCLP) lead above the acceptable disposal concentrations/limit of 5.0 milligrams per liter (mg/l). With a positive TCLP lead detection, all of the excavated soil would be required to have been disposed at an authorized landfill at substantial additional cost. To better narrow down the potential source of the TCLP lead, two additional rounds of sampling were conducted, each of which subsequently focused the potential source of the TCLP lead exceedence, until TCLP lead was not detected. Ultimately, all of the asbestos impacted soil and materials were able to be disposed of at the Special Waste Disposal Landfill located 14 miles south of Mountainair, NM on Highway 55. Details of the waste characterization sampling can be found in Section 4.4.2.

The stockpiled contaminated soil was placed in either a lined roll-off containers or end dump transport trailers with an excavator or front-end loader and “burrito wrapped” (i.e., wrapped with 6-mil plastic sheeting to fully encapsulate the material) by ERRS personnel. The contaminated soils were then transported to the CERCLIS-certified Special Waste Disposal Landfill located 14 miles south of Mountainair, NM on Highway 55 by Special Waste NM (roll-offs/end dumps) or by Chavez and Sons Trucking Company (end dumps). Loading and transportation of asbestos contaminated soils to the Special Waste Disposal Landfill began on November 12, 2013 and was completed on January 29, 2014.

Approximately 3,933 cubic yards of asbestos-contaminated excavated soil was transported in 270 loads to the Special Waste Disposal Landfill. See Appendix K for the Waste Manifest Log and the individual waste manifests forms.

4.3 Site Restoration

After excavation activities and soil confirmation samples were collected, ERRS conducted appropriate site restoration activities. These restoration activities are briefly described in the following section.

Backfill/Grading Activities

The placement of backfill or cover material occurred contemporaneously following completion of excavation activities where possible. Either a soil-based backfill topped with crusher-fines, or cover material also defined as “Road Base” was used depending on the location. In Area E, the City of Albuquerque ROW areas, backfill material was placed, compacted and covered with a shallow layer of crusher fines to fill in an excavation and bring the areas back to grade. Excavations in Areas A and B were completely filled with the road base cover material, which is comprised of a mixture of small sized rock/gravel, sand and a clayey/silty soil with an appropriate amount of water added to aid in compaction. These materials were acquired on an as needed basis from Specialty Aggregates, a local materials vendor.

Prior to accepting the materials for use, START-3 collected samples of the potential backfill and cover materials and conducted full-suite analytical testing of these materials (See Appendix I and Section 4.4,2 for further detail). Prior to selection of the cover material (road base), Specialty Aggregates recommended use of a material comprised mostly of a (crushed) concrete-based material acquired from removal of sidewalks or driveways and crushed to smaller sizing and mixed with sand and a clayey/silty soil, however, one of the samples submitted for laboratory analysis contained asbestos (at <0.25 s/cc) and as a result that material was excluded from use at the site.

Backfill was placed as appropriate, or generally shortly after each Area was excavated. The backfill and/or cover material was placed after soil confirmation samples were collected, and the base of the excavation was lined with orange barricade fencing. As

necessary to return the area to its original condition, or to provide proper/adequate drainage, the backfill/cover material was graded to the original or a desired topographic contour. All backfilling/grading activities concluded on January 29, 2013.

4.4 Other Site and Removal Activities

As part of the historical operations at Southwest Vermiculite, a (former) Exfoliation Building was located in the northwest and central portion of the facility. The Exfoliation Building was the receiving point for the Vermiculite Ore which was shipped to the facility for cracking/processing. The Vermiculite Ore was processed through a furnace in the building before being repurposed for its fireproofing or other properties. The Exfoliation Building was constructed partly with wooden beams with steel sheeting on the walls and roof. During the Removal Assessment, the Exfoliation Building was noted to be impacted by LA and chrysotile asbestos and EPA determined that the structure would be abated and demolished during the Removal Action. In the early stages of the Removal Action, SHC conducted decontamination and abatement of the Exfoliation Building, and shortly after completion of these activities, ERRS demolished the building and disposed of the wooden construction materials with the asbestos-containing materials disposed of at the CERCLIS-certified Special Waste Disposal Landfill located 14 miles south of Mountainair, NM on Highway 55. EPA and ERRS/EQM contracted with Magnum Metal Buildings to construct a replacement (metal) building on the site per agreements between EPA, ERRS and W. Silver Recycling.

The construction of a new building was completed on approximately May 29, 2014 and included construction of the new building, preparation of the foundation and footer walls and related soil excavation, and pouring of a replacement concrete slab for the building. During removal of the concrete and related excavation activities, amphibole-asbestos impacted soils were observed and exposed. START3 collected soil confirmation samples from the base of the northern and southern foundation/footer wall excavations, as well as from soil exposed after a slump occurred in the concrete pad associated with the former Exfoliation Building. The results for these samples are presented on Table 2.

4.5 Sampling and Analyses

During the removal activities START-3 collected air samples, dust samples and soil confirmation and assessment samples. All sampling data was entered into an Environmental Sample Data Management System (SCRIBE Enterprise), in which sample labels and Chain of Custody (COC) forms were generated and sent to the START-3 procured laboratories (Appendices G, H and I). All samples were collected according to the QASP for air and soil sampling (Appendix J).

4.5.1 Air Sampling

In order to determine if (asbestos) fibers were being released to the atmosphere during the removal activities and to determine the efficiency of the dust suppression activities, START-3 collected ambient, perimeter air samples for fiber and possible amphibole asbestos analysis. A series of thirteen (13) air sampling stations were identified and used (see Figure 4), as/if appropriate on a daily basis based on the day's predominant wind direction and location of site activities. An on-site meteorological station was installed at the field office located at 15 Haines Avenue NW to allow for acquisition of immediate real-time "local" weather to support site operations (Appendix L). Where possible, upwind (background samples), crosswind, and downwind air samples were collected from an "operational perimeter" using an appropriate combination of the air sampling station locations (Figure 4). Ambient air samples were not collected on days of inclement weather (e.g., rain, sleet, snow, or freezing rain) or during days when no scheduled soil disturbance activities occurred. In addition, since the W. Silver Recycling facility was operational for most/all of the time spent on the Removal Action, it was important to place/maintain air sampling or monitoring equipment along an operational perimeter of the actual removal activities and not in areas that could be influenced by non-removal related site activities.

The air samples were collected according to the National Institute for Occupational Safety and Health (NIOSH) Method 7400 for Phase Contrast Microscopy (PCM) and the International Organization for Standardization (ISO) Method 10312 for Transmission Electron Microscopy (TEM), *Ambient Air – Determination of Asbestos Fibers: Direct Transfer Transmission Electron Microscopy Method (modified)*. NIOSH Method 7400 and ISO Method 10312 included sampling procedures for sample collection: Each sampling

pump was pre- and post-calibrated with the actual sampling filter or a representative 25mm cassette with a 0.8 µm pore size Mixed Cellulose Ester (MCE) filter in line. The filter cassette employed a 50-mm conductive cowl on cassette. Air samples were collected approximately four (4) feet above the ground surface. The top cover from the cowl extension on the MCE sampling cassette was removed (open-faced) and the MCE cassette oriented face down.

To collect the air samples at medium volume (4 to 10 liters per minute [L/Min]), high volume GAST or Zefon air sampling pumps were utilized. Since A/C power was available on the W. Silver Recycling facility, extension cords were utilized to supply power for the air sampling pumps. The sampling pumps were calibrated on a daily basis as defined in the QASP (Appendix J). The air samples were collected at a flow rate of approximately 10 L/min and generally for the entire length of the daily activities (8 – 10 hours). This allowed for a total volume throughput necessary to achieve a detection limit of 0.005 f/cc or lower. All daily calibrations and sample volumes were recorded on field data sheets (Appendix F). In addition, the air sampling devices were inspected periodically to ensure proper operation and sample collection.

The air samples were shipped to the LabCor Inc. Laboratory in Portland, Oregon for fiber determination utilizing PCM (NIOSH 7400) methodology. The turn-around time (TAT) for the PCM air sampling preliminary results was generally 24 hours, upon receiving samples at the lab. Should air samples have had fiber concentrations that exceeded the Asbestos Hazardous Emergency Response Act (AHERA) permissible exposure limit (PEL) of 0.01 fibers per cubic centimeters (f/cc) or were overloaded with particulates, the laboratory would have been requested to re-analyze the air sample(s) for asbestos concentration and fiber type determination utilizing TEM (ISO 10312).

The station locations and total number of air samples collected, sample specific information, and analytical results for PCM analyses are provided on Figure 4 and in Table 1 respectively. There were no perimeter air analysis results that exceeded the AHERA PEL of 0.01f/cc. In addition, there were no samples run for TEM analysis and only a limited number of sample cassettes that were overloaded and not amenable to analysis.

4.5.2 Soil Sampling

Waste Characterization and Backfill/Cover Material Sampling

Prior to soil excavation and loading activities, ERRS collected one (1) surface composite soil sample from various locations throughout the SWV2 Site for waste characterization to determine disposal options. The sample was submitted to the EQM subcontractor laboratory Test America and analyzed for a full suite of chemical constituents. The resulting analytical data did not detect any pesticides, VOCs, SVOCs, PCBs, mercury, cyanides, or asbestos in the collected waste characterization sample, however TCLP lead was detected above the regulatory level of 5.0 mg/l.

As a result of the exceedence for TCLP lead in the single sample, the FOSC directed ERRS and START3 to collect an additional series of samples broken out by specific areas to be addressed under the Removal Action. This resulted in the collection of eight additional samples (e.g., a sample from each of the five Grids in Area A, two samples from the 13 Grids in Area B, and one sample from the five Grids in Area E), plus one duplicate (collected from Area B), which were sent to the ERRS/EQM subcontractor laboratory (Test America) and analyzed for TCLP lead only. The additional focused sampling indicated that the sample associated with Area A, Grid E (in the southeast portion of the W. Silver Recycling facility) also failed for TCLP lead.

After receipt and review of the analytical data, EPA, ERRS and START3 anticipated disposing of the excavated (lead impacted) soil material from Area A, Grid E at an approved landfill in Beatty, Nevada. Additional options for managing (i.e., treatment with the lead neutralizing reagent – Free Flow 200) the soil material from Area A, Grid E were explored, however concerns arose about the long term efficacy of treatment using the reagent, combined with ultimate disposal as a non-regulated waste and as a result, further options were explored. Ultimately, with disposal at a regulated landfill (i.e., Beatty, Nevada) scheduled, the FOSC directed START3 to collect additional soil samples from Area A, Grid E in an effort to either reduce the volume of soil material requiring disposal at the regulated landfill, or to eliminate the need for specific/separate disposal of the soil material. To support this request, START3 and ERRS employed a grid sampling scheme which further sub-divided Area A, Grid E into 6 subgrids, at which two 5-point composite samples were collected from each subgrid, at the 0-6 inch bgs depth as well as a the 12-

18 inch bgs depth. This would allow for a determination (if applicable) of both the lateral and vertical extent of TCLP lead contamination. Results indicated there were no exceedances of the TCLP lead regulatory level of 5.0 mg/l in any of the subgrid samples collected. Therefore, the soil material excavated from Area A, Grid E was allowed to be disposed of along with the other asbestos impacted soil materials at the CERCLIS-certified Special Waste Disposal Landfill located 14 miles south of Mountainair, NM on Highway 55.

In an effort to select the most appropriate material (i.e., crushed concrete, soil-based backfill or road base) to be used to backfill or cover the excavated areas, START3 collected two (2) samples (plus duplicate) of each material from source piles at the Specialty Aggregates material yard located in south Albuquerque. The “crushed concrete” material was excluded from use as a result of a detection of asbestos at <0.25 s/cc. The remaining analytical data (see Appendix I) did not detect the presence of pesticides, VOCs, SVOCs, PCBs, mercury, cyanides, or asbestos in the collected road base/cover material or backfill samples.

Soil Confirmation Sampling

To determine the asbestos concentration remaining in the soil after excavation activities were completed, START-3 personnel collected one (1), five-point composite confirmation soil sample per excavated grid/subgrid (Figure 3).

Each collected confirmation soil sample consisted of a five-point composite sample, with the sample aliquots generally collected from the center and the four corners of the grid. The sample aliquots were collected with dedicated trowels to a depth of up to six (6) inches bgs into the base of the excavations. The five sample aliquots, per grid/subgrid, were placed in a plastic bag and homogenized thoroughly before transferring the resulting soil to another plastic bag for shipment to the laboratory. The soil samples were collected according to EPA's ERT SOP No. 2012, Soil Sampling and the START3 QASP (Appendix J). All collected surface soil samples were prepared for analysis utilizing California Air Resources Board (CARB) 435, and analyzed by polarized light microscopy (PLM) associated with SRC-Libby-03 methodology, for asbestos fibers associated with Libby Amphibole by the LabCor Inc. Laboratory in Portland, Oregon. A total of 42 soil confirmation soil samples (including one duplicate QC sample and one discrete grab

sample) were collected and their designation and analytical results for PLM analyses are provided in Table 2 and Appendix H. There were several instances where the soil confirmation sampling detected the presence of amphibole asbestos in soil after soil excavation was completed to either 1 or 2 foot bgs (see Figure 3 for final excavation depths). TEM analysis was not conducted on any of the confirmation soil samples.

4.5.3 Dust/Other Sampling

Following decontamination and abatement of the former Exfoliation Building, EPA determined that the potential exists for asbestos-impacted dust, dirt and air to be present in other areas on the W. Silver Recycling facility property. Upon visual inspection, excessive dust and dirt was observed in the Scale Trailer, Warehouse and Offices. START3 was tasked to conduct additional sampling and assessment of these areas to determine whether asbestos impacts were present. This resulted in the collection of sweep/dirt samples from the floor of the Warehouse, air samples from within the Warehouse and Scale Trailer, dust samples from within the Scale Trailer, Warehouse and Offices areas on the W. Silver Recycling property, and ceiling insulation/tiles from within the Warehouse (see Appendix Q). The results from these samples are summarized in Tables 3 (Sweep/dirt), 4 (Dust/Air) and 5 (Ceiling Insulation/Tiles). To varying degrees, samples from each of the areas showed amphibole asbestos impacts above the 5,000 s/cm² standard. As a result, EPA directed ERRS to expand the activities of Southwest Hazard Control to include decontamination and abatement activities in each of these areas.

In addition, EPA directed START-3 and ERRS to collect dust and air samples from the EPA field office located at 15 Haines Avenue NW. While much more limited than observed in the samples collected from several areas on the W. Silver Recycling facility, asbestos impacts were noted in some of the dust samples collected from within the EPA field office. EPA subsequently directed ERRS and START-3 to conduct a thorough decontamination of the EPA field office, followed by a resampling one week later. These detections led EPA to direct ERRS and START to develop a series of procedures to reduce/prevent contamination of EPA facilities on this, and future Removal Actions. A Standard Operating Guidance (SOG) was developed and was approved for (future) use on April 9, 2014. A copy of the SOG is provided in Appendix R.

4.6 Air Monitoring

In addition to air sampling, START-3 routinely conducted air monitoring at multiple fixed sampling locations (Figure 4) on a daily basis using Thermo Analytics Personal DataRam PDR-1000AN (PDR) units and a Fibrous Aerosol Monitor (FAM). The PDR units were used to determine the perimeter real-time concentration of particulate matter and dust being generated during the removal activities. The PDR units were deployed on a daily basis at various locations based on the predominant wind direction, operational activities, and anticipated weather for that day. The PDR units were not deployed during inclement weather conditions (e.g., rain events). Two to three PDR units were generally deployed per day. The air sampling station locations and the locations for daily deployment of all air sampling/monitoring equipment is presented in Figure 4 and Appendix E respectively. An action level of 2.5 mg/m^3 ($2,500 \text{ }\mu\text{g/m}^3$) of respirable particulates was utilized during the removal. This action level was not exceeded on time weighted basis during the soil excavation and loading activities. The PDR readings (instantaneous, maximums, and averages) were observed and recorded on a regular basis throughout the day and are included in the total Air Monitoring Report provided in Appendix E.

In addition to the PDRs, START-3 utilized one (1) FAM-1 unit to conduct real time fiber monitoring. The unit provides a real-time indication of ambient airborne fibers. The FAM-1 results are generally analogous to NIOSH Method 7400 PCM for fibers. The FAM-1 units are calibrated by the vendor prior to use and provide prompt, quantified indication for airborne fibers that might be present in an area. The FAM-1 unit was deployed each day (weather permitting) and was located nearby the adjacent residential properties at sampling station 4 or 10 (see Figure 4) to assess whether removal related activities were potentially impacting residents. The FAM-1 unit was situated at either location 4 or 10 to assure it was located between the ongoing removal activities and the residences at 7 or 11 Haines Avenue NW. During the course of the removal activities, the FAM-1 units recorded only one instance where a measurements exceeded the AHERA permissible exposure limit (PEL) of 0.01 (f/cc) . These data, including graphs of the data, are included in the Air Monitoring Worksheets provided in Appendix E.

5 SUMMARY OF REMOVAL ACTION

The EPA Region 6 Response and Prevention Branch conducted a removal action at the SWV2 Site located in the vicinity of 1st Street NW and Haines Avenue NW, Albuquerque, Bernalillo County, New Mexico from November 5, 2013 to February 28, 2014. During the course of the removal action, amphibole asbestos contaminated soil was excavated from Area A, Area B and Area E at the SWV2 Site. Soil confirmation samples were collected from each grid/subgrid after excavation activities were completed either to 1 or 2 foot bgs. The contaminated soil was transported and disposed of at the CERCLIS-certified Special Waste Disposal Landfill located 14 miles south of Mountainair, NM on Highway 55. The estimated volume of waste materials disposed at the Special Waste Disposal Landfill was approximately 3,933 cubic yards of asbestos-contaminated excavated soil, vegetative debris and PPE in 270 loads.

During the course of the removal action, the FOSC maintained communications with the various property owners and representatives from the City of Albuquerque, the Bernalillo County Health Department, the New Mexico Environment Department and the New Mexico OSHA.

On February 28, 2014, a final site walk was conducted by the ERRS and START-3 representatives to document the site conditions prior to demobilization from the site (Appendix C). This Removal Action has addressed and removed the threats to human health and the environment as delineated in the National Oil and Hazardous Substance Pollution Contingency Plan at 40 CFR 300.415(b)(2).