DBS&A
a Geo-Logic Company

January 6, 2023

Mr. Paul Chamberlain
New Mexico Environment Department
Ground Water Quality Bureau
Harold Runnels Building
1190 South Saint Francis Drive
Santa Fe, New Mexico 87505

Re: Work Plan for Additional Site Investigation
D&D Mountain Air Cleaners, 309 South Paseo de Oñate, Española, New Mexico

Dear Mr. Chamberlain:

On behalf of D&D Mountain Air Cleaners, Daniel B. Stephens & Associates, Inc. (DBS&A) is pleased to provide the following work plan for the Mountain Air Cleaners facility in Española, New Mexico. This work plan is based on our current knowledge of the site conditions and history, and summarized proposed additional site assessment activities in accordance with 20.6.2.4106 NMAC and e-mail correspondence received from NMED on November 21, 2022.

Please contact Thomas Hnasko at (505) 930-5720 if you have any questions or need additional information.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

Jason Raucci, P.G.
Project Manager

Patrice B. Feltman, P.G.
Geologist

JR/rpf
Attachment
cc: Dina Quintana and Richard J. Beaudoin, D&D Mountain Air Cleaners
Thomas M. Hnasko, Esq., Hinkle Shanor, LLP

Work Plan for Additional Site Investigation
D&D Mountain Air Cleaners
309 South Paseo de Oñate, Española, New Mexico

1. Introduction

Daniel B. Stephens & Associates, Inc. (DBS&A) has prepared this work plan for additional site investigation at the D&D Mountain Air Cleaners dry cleaning facility (the site), located at 309 South Paseo de Oñate in Española, New Mexico (Figure 1). This work plan outlines the proposed investigation strategy, with the primary objective of determining the presence of potential off-site sources of tetrachloroethene (PCE) that may impact the site and further define the west side of the Calle Chavez plume area. This work plan is based on our current knowledge of the site conditions and history.

2. Site Background

The following summary of site background information is based on materials provided by D&D Mountain Air Cleaners and the New Mexico Environment Department (NMED) detailing the site history and findings of previous characterization efforts.

2.1 Site Description

The site consists of a 0.89-acre parcel occupied by an approximately 6,000 square-foot (ft^2) structure. The parcel is bounded on the south by Paseo de Oñate. Surrounding property usage is currently mixed commercial and residential in nature. The facility is attached to a commercial building immediately to the east. The parcel west of the site is a parking area for the business to the west and is unpaved. The parcel north of the site is a private residence. The parcel to the south is a retail building currently occupied by South West Metal Products and Española Community Market Natural Food Co-op. The southern portion of the site is partially paved with asphalt, and the northern portion of the site is unpaved. A site map is provided in Figure 2.

2.2 Site History

Information provided by D&D Mountain Air Cleaners indicates that the facility has been used as a dry cleaner since early 2003. Use of PCE in the cleaning process was discontinued in approximately 2012. The on-site structure remains in use as a dry cleaning facility.

NMED, in cooperation with the U.S. Environmental Protection Agency (EPA), has been conducting remedial actions at the North Railroad Avenue Plume (NRAP) Superfund Site in Española, New Mexico since 2005. Based on soil gas and groundwater sampling data, NMED and EPA have recently proposed a second plume located to the east of the NRAP Superfund plume (NMED, 2019; EA, 2018). This proposed separate plume has been termed the "Calle Chavez Groundwater Plume" (NMED, pers. communication). NMED has identified the D&D Mountain Air Cleaners facility as a potential source of the proposed Calle Chavez Groundwater Plume.

In December 2021 through March 2022, DBS&A conducted a site characterization investigation at the site. Passive soil gas sampling results suggested a primary PCE source located to the west of the Mountain Air Cleaners facility, near the property boundary (DBS&A, 2022).

2.3 Physical Setting and Hydrogeology

According to the U.S. Geological Survey (USGS) 7.5-Minute Topographic Map Series Española Quadrangle, New Mexico, the site is located in Section 3, Township 20 North, Range 8 East at an elevation of approximately 5,600 feet above mean sea level (feet msl) (USGS, 2020). Regional topography slopes generally to the east in the site vicinity. The Rio Grande is the principal surface drainage in the vicinity, which is located approximately 900 feet east of the site. The site itself is predominantly flat.

Based on the regional geologic map of the Española 7.5-minute quadrangle, Rio Arriba and Santa Fe Counties, New Mexico (Koning, 2002), the site is underlain by unconsolidated quaternary alluvial deposits. The alluvial deposits consist of sediments of local origin, dominated by gravel, sand, silt, and clay. Soil samples collected during installation of PASMW-1, located immediately south of the site for the NRAP Superfund site, indicate that the subsurface lithology is characterized by silty sand, gravel with sand, and silt to a depth of 25 feet below ground surface (bgs), with a clay layer at approximately 8 feet bgs (Intera, 2019). Groundwater beneath the site is encountered at approximately 10 feet bgs and flows generally to the south, with a relatively gentle gradient of approximately 0.002 foot per foot. (Intera, 2019; DBS&A, 2022).

2.4 Contaminants of Concern

The contaminants of concern (COCs) are determined based on the site history and the results of investigations related to the NRAP Superfund site. Based on these findings, COCs associated with the site include the following:

- *Chlorinated solvents*: PCE has been historically detected in wells south of the site at concentrations exceeding the New Mexico Water Quality Control Commission (NMWQCC) standard, and continues to be present in groundwater samples collected as part of the NRAP Superfund site monitoring. PCE degradation products trichloroethene (TCE), cis-1,2-dichloroethene (DCE), trans-1,2-DCE, and vinyl chloride are also considered potential COCs.

3. Proposed Investigation

The scope of work for this field investigation includes the following:

- Preparing this proposal and work plan for additional site investigation
- Preparing site-specific documents including a sampling and analysis plan (SAP) amendment and updated health and safety plan (HASP)
- Conducting a subsurface field investigation, including acquisition of data followed by data review and validation as described in the approved SAP
- Preparing a summary report that outlines the results of the field investigation, in accordance with 20.6.2.4106 NMAC

3.1 Work Plan Preparation

DBS&A has prepared and submitted this proposal and work plan on behalf of D&D Mountain Air Cleaners at the request of NMED, using information pertaining to the site history and conditions provided by D&D Mountain Air Cleaners and NMED. The work plan is consistent with current NMED guidance and previous agency directives regarding site activities. This work plan includes a description of the project objectives pursuant to the applicable regulations (20.6.2.4106 NMAC), proposed project tasks, project reporting and documentation, and a project schedule.

3.2 Site-Specific Documents

Prior to initiation of the field program, an amended SAP will be prepared that will address all field activities to be conducted by DBS&A, in compliance with NMED and EPA guidance. The amended SAP will be a combined field sampling plan (FSP) and quality assurance project plan (QAPP) following NMED guidelines, and will include project-specific data quality objectives (DQOs) to ensure that the collected data and the applied analytical methods are appropriate and adequate to address the project performance standards.

DBS&A will update the HASP in accordance with 29 CFR 1910.120; it will include a discussion of the tasks to be performed, likely hazards to be encountered, mitigation measures, and appropriate personal protective equipment to be used. Information regarding key contacts will also be included.

3.3 Field Investigation and Data Acquisition

Subsequent to receipt of comments on the amended SAP and after receiving final approval, DBS&A will perform field investigation activities to collect environmental data in accordance with the SAP. The anticipated activities to be conducted under this task consist of collecting and analyzing soil vapor and groundwater samples as described in the following subsections. Prior to mobilization to the site for the field investigation activities, DBS&A will obtain access agreements with affected landowners and the City of Española. It is assumed that access will be granted for installation of passive soil gas (PSG) samplers and temporary and permanent monitor wells. In the event that access is not granted, alternative PSG sampling locations may be proposed.

3.3.1 Passive Soil Gas

In order to characterize the extent and distribution of PCE in shallow soil vapor at properties near west and southwest of the site, DBS&A proposes to collect PSG samples from 10 predetermined locations as shown in Figure 2. The results of the PSG investigation will also be used to guide and refine sampling locations for subsequent phases of the investigation.

The proposed PSG sample locations are shown on Figure 2. DBS&A proposes to deploy Waterloo Membrane Samplers™, constant-uptake samplers capable of delivering quantitative results for concentrations of volatile organic compounds (VOCs) in soil gas. For the purposes of planning, it is assumed that 12 PSG samples (10 sample locations, plus appropriate duplicate and blank samples as specified in the approved project SAP) will be submitted for VOC analysis

using modified EPA method TO-17. PSG samplers will be prepared, deployed, and recovered in accordance with procedures presented in the project SAP and the manufacturer's guidance.

3.3.2 Groundwater Quality Screening

DBS&A proposes to install temporary monitor wells to collect a minimum of 7 groundwater samples by using a direct-push drilling rig equipped with a Geoprobe Systems Screen Point 16 (SP16) groundwater sampling system. The SP16 system consists of a screened section covered by a screen sheath which is retracted at the desired sampling depth. The screen sheath forms a mechanical annular seal above the screened interval. The SP16 groundwater sampler will be driven to approximately 3 feet below the static water level in the locations shown on Figure 2 to obtain groundwater grab samples from the shallow aquifer for field screening. Upon reaching the specified depth, the sheath will be retracted to expose the screen. The temporary wells will then be sampled using disposable, one-time use teflon tubing and a peristaltic pump using the "soda straw" method as described in SESDPROC-301-R4 (U.S EPA, 2017). The screening samples will be analyzed in the field for the site COCs using a FROG-5000 portable gas chromatograph. Depending on the results of the field analysis, screening locations may be added to better refine the shape and extent of the dissolved-phase contaminant plume. The SP16 system will be decontaminated between each location using a solution of deionized water and Liquinox (or equivalent) soap.

Laboratory confirmation samples will be also be collected from each temporary well location. A minimum of 7 primary confirmation samples, as well as the appropriate field duplicate and blank samples, will be submitted to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for laboratory analysis for analysis for VOCs using EPA method 8260B. HEAL will perform all chemical analysis of the samples following their corporate quality assurance program. Sample preparation, sample submittal and quality control procedures will be conducted in accordance with the project SAP.

Prior to drilling DBS&A will obtain the necessary utility clearances and well permits from the New Mexico Office of the State Engineer (NMOSE). DBS&A technical staff will supervise all field activities. Property owners and occupants will be notified at least one week in advance of the start of drilling activities.

The groundwater screening locations will be plugged and abandoned immediately following sample collection pursuant to NMOSE guidelines and the approved Well Plugging Plan of Operations submitted with the NMOSE permits.

3.3.3 Monitor Well Installation

Based on the results of the groundwater quality screening and confirmation sampling, DBS&A proposes to install permanent monitor wells at two of the field screening locations in order to better monitor the dissolved-phase plume. The monitor wells will be designated MAMW-3 and MAMW-4. The permanent monitor well locations will be determined based on the results of the groundwater quality screening.

Prior to drilling DBS&A will obtain the necessary utility clearances and well permits from the NMOSE. DBS&A technical staff will maintain detailed logs of materials encountered during drilling and supervise all field activities. Property owners and occupants will be notified at least one week in advance of the start of drilling activities. Well drilling and installation activities are summarized in the following sections.

3.3.3.1 Drilling and Field Screening

Boreholes will be advanced using the hollow-stem auger drilling method to a total depth of approximately 20 feet bgs. The depth to water at the site is estimated to be approximately 10 feet bgs based on recent groundwater sampling in in wells associated with the site and the NRAP Superfund site. Target borehole depth will be approximately 10 feet below the current water table, as indicated by saturation of drill cuttings and measurement of water levels in the borehole during drilling. The final depth of the boring will be determined by the DBS&A field geologist based on the depth to groundwater observed in the borehole.

During drilling of new wells, samples will be collected from the soil borings at 2-foot intervals using a decontaminated continuous core barrel or split-spoon sampler. Three subsamples will be collected immediately from each interval; one will be used for field screening, one for potential submittal to an analytical laboratory, and one for geologic description. Field screening will be conducted using a photoionization detector (PID) and the heated headspace method. The sample yielding the highest PID reading from each borehole will be submitted to HEAL for analysis of VOCs using EPA method 8260B in accordance with the approved SAP. HEAL will perform all chemical analysis of the samples following their corporate quality assurance program. Sample preparation, sample submittal and quality control procedures will be conducted in accordance with the project SAP.

3.3.3.2 Well Installation

All wells will be constructed of 2-inch-diameter, schedule 40 (SCH 40) polyvinyl chloride (PVC) materials. Well screens will typically consist of 15 feet of flush-threaded, machine-cut,

0.020-inch-slot well screen. Target well screen placement will be approximately 5 feet above and 10 feet below the static water table.

A filter pack consisting of 10/20 silica sand will be installed in the well annulus from the bottom of the soil boring to about 1 foot above the top of the well screen. A minimum 1-foot-thick activated bentonite chip seal will then be installed on top of the filter pack. The remaining annulus will be filled with a bentonite-cement grout. New well installations will be completed at the surface with a locking cap within an 8-inch-diameter, flush-mount, traffic-grade well vault. A 2-foot by 2-foot by 6-inch-thick high early strength concrete pad will be poured around the well vault.

After completion, each of the wells will be developed by pumping or bailing, until temperature, pH, and conductivity have stabilized and turbidity has been reduced to the extent practicable. Groundwater removed from the wells during development will be handled with other investigation-derived waste (IDW), as described below.

3.3.3.3 Survey

All newly installed wells will be surveyed to a common datum consistent with the existing wells in the vicinity by a New Mexico Licensed Professional Land Surveyor. Ground surface elevations at each location will also be included in the well survey.

3.3.3.4 IDW Management

Soil cuttings and fluids generated during drilling of boreholes and well development will be containerized in New Mexico Department of Transportation (NMDOT) approved 55-gallon steel drums, properly labeled, and staged in a designated area on-site. After completion of the drilling, waste materials will be characterized and all drums will be removed and transported to a licensed facility by a subcontractor for proper disposal.

3.3.3.5 Groundwater Monitoring

Fluid levels will be gauged in the new monitor wells using a properly decontaminated water level indicator, pursuant to the approved SAP. Groundwater samples will be collected from the monitor wells associated with the site (MAMW-1 through MAMW-4) and monitor wells associated with the NRAP Superfund Site (BC-5, BC-6, EX-13, PASMW-1, PASMW-2, PASMW-3, R-12_S1, and R-16) shown on Figures 2 and 3. The required quality control samples will also be collected as detailed in the project SAP.

The monitor wells will be purged according to low-flow methodology using a decontaminated downhole submersible pump with a variable-frequency drive. Field parameters, including specific conductivity, pH, and temperature, will be measured during purging. Wells will be purged and sampled in accordance with procedures and protocols for low-flow sampling presented in the approved project SAP and DBS&A standard operating procedures. Fluids generated during groundwater sampling will be containerized at the wellhead and removed to 55-gallon drums for characterization and disposal with the drill cuttings.

HEAL will perform all chemical analysis of the groundwater samples following their corporate quality assurance program. The groundwater samples collected from the monitor wells will be analyzed for VOCs using EPA method 8260B, consistent with the known COCs at the site. Samples will be accompanied by full chain of custody documentation at all times. Quality control requirements will be implemented to verify that the analytical data meet the quality assurance objectives specified in the project SAP.

3.4 Data Review and Reporting

3.4.1 Data Review and Validation

DBS&A will review, verify, and validate field and laboratory data, which will be sufficient to meet the DQOs and measurement quality objectives for the project. The specific data validation responsibilities and procedures will be included in the amended SAP under Task 3.2.

3.4.2 Reporting

Upon receipt of the analytical data, DBS&A will prepare a report that presents results and summarizes the findings of the site characterization activities described in this work plan. Included in the summary report will be a narrative description of the site investigation, field logs, site maps, laboratory analytical reports, summary of field quality control procedures and data, and discussion of any discrepancies or data quality issues. Available site analytical data will be summarized in tables and figures, as applicable.

4. Schedule

DBS&A and D&D Mountain Air Cleaners recognize that the NMED is interested in completing this investigation in a timely fashion. Mountain Air and DBS&A will adhere to the following submittal schedule:

- Upon acceptance of this proposal and work plan by NMED, DBS&A will submit the amended SAP (combined FSP and QAPP) and other site-specific documents to NMED within 30 calendar days for review. After receipt of NMED's comments to the draft documents, a final amended SAP will be submitted within 14 calendar days.
- Following NMED approval of the final amended SAP, DBS&A anticipates that the field program can be initiated within 60 calendar days, pending subcontractor availability, landowner access negotiations, and OSE permit approval.
- A draft report in accordance with the specifications outlined above will be completed within 30 calendar days of receipt of final and complete analytical results and submitted to NMED for review. After receipt of NMED's final comments to the draft report and planning documents, the final report and planning documents will be submitted within 15 working days.

References

Daniel B. Stephens & Associates, Inc. (DBS&A). 2022. *Stage 1 abatement plan site investigation report, D&D Mountain Air Cleaners, 309 South Paseo de Oñate, Española, New Mexico*. Prepared for the New Mexico Environment Department Ground Water Quality Bureau. July 27, 2022.

EA Engineering, Science, and Technology, Inc. (EA). 2018. *Data evaluation technical memorandum, North Railroad Avenue Plume Site remedial investigation, Española, Rio Arriba County, New Mexico EPA Identification No. NMD986670156*. Prepared for U.S. Environmental Protection Agency Region 6. March 2018.

Intera. 2019. *Additional investigation of deep zone, North Railroad Avenue Plume Superfund Site, Española, Rio Arriba County, New Mexico*. Prepared for the New Mexico Environment Department Ground Water Quality Bureau Superfund Oversight Section. August 22, 2019.

Koning, D.J. 2002. *Geologic map of the Española quadrangle, Rio Arriba and Santa Fe Counties, New Mexico*. New Mexico Bureau of Geology and Mineral Resources. May 2002.

New Mexico Environment Department (NMED). 2019. *North Railroad Avenue Plume Superfund Site, Española, New Mexico, EPA ID # NMD986670156, 2017-2019 long-term response action report*. Prepared for EPA. December 2019.

U.S. Geological Survey (USGS). 2020. *Española Quadrangle, New Mexico, 7.5-minute series, Española, NM*. January 1, 2020.

Figures

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0 500 1000 ft

Explanation

Site boundary

Source: Maxar Vivid, June 10, 2020

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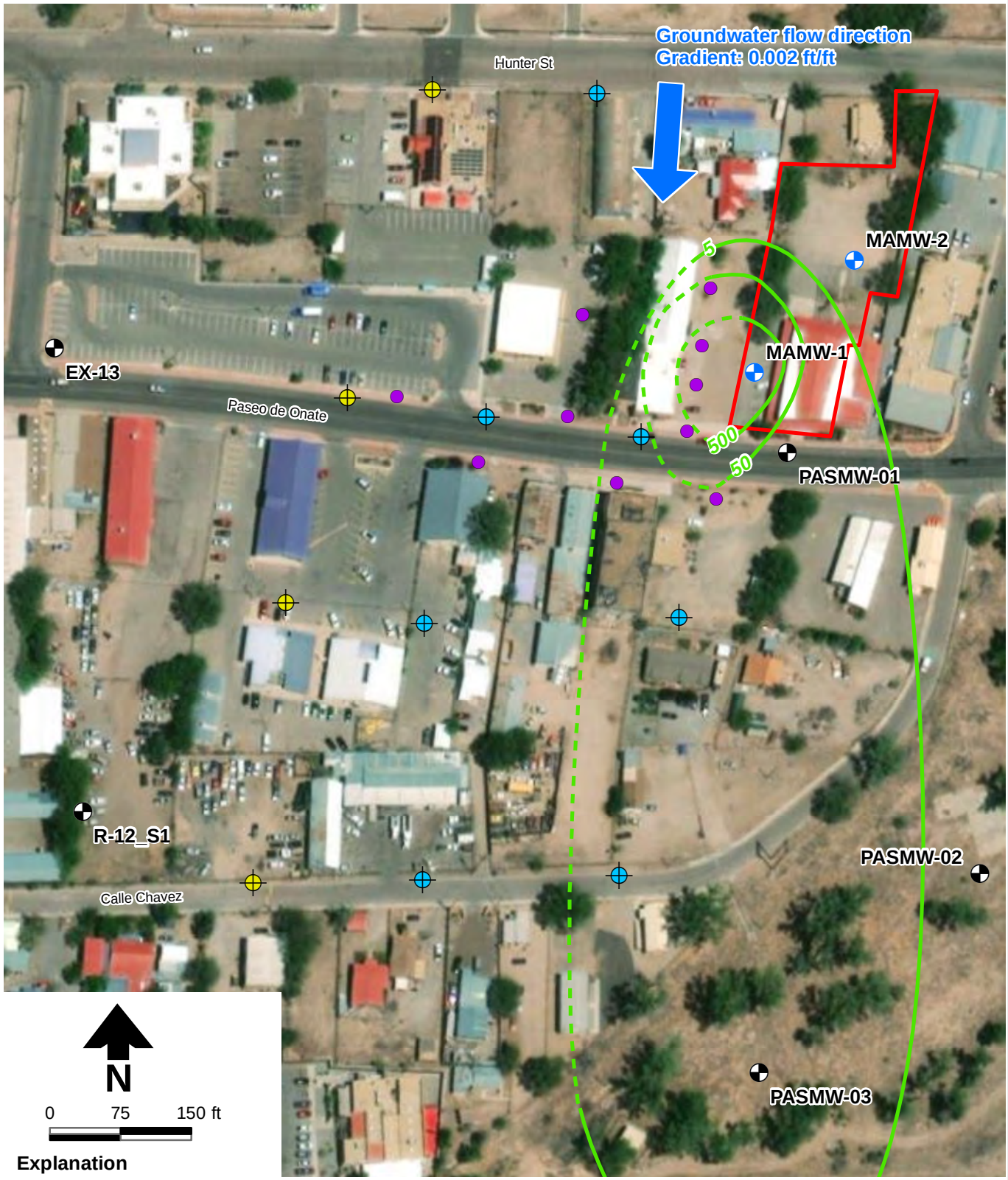
MOUNTAIN AIR CLEANERS
309 SOUTH PASEO DE OÑATE
ESPAÑOLA, NEW MEXICO
Area Map

Figure 1



Explanation

- Groundwater screening location
- Step-out groundwater screening location
- Proposed passive soil gas sample
- PCE Isoconcentration contour dashed where inferred
- Mountain Air monitor well
- NRAP monitor well

Source: Google Earth Pro, March 2, 2021

MOUNTAIN AIR CLEANERS
309 SOUTH PASEO DE OÑATE
ESPAÑOLA, NEW MEXICO

Site Map

Figure 2

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Explanation

- Mountain Air monitor well
- NRAP monitor well
- Site boundary

Source: Google Earth Pro, March 2, 2021

MOUNTAIN AIR CLEANERS
309 SOUTH PASEO DE OÑATE
ESPAÑOLA, NEW MEXICO

Vicinity Map with Off-Site Monitoring Locations

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Figure 3

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