S.S. PAPADOPULOS & ASSOCIATES, INC.

ENVIRONMENTAL & WATER-RESOURCE CONSULTANTS

August 28, 2023

Greg J. Lyssy, Senior Project Manager
U.S. Environmental Protection Agency
Region VI – Federal Facility Section (6PD-F)
1445 Ross Avenue
Dallas, TX 75202-2733

Dave Cobrain, Sparton Project Coordinator
NSM-2 Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313

Ricardo Maestas, Acting Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313

Justin Ball, Chief
Groundwater Quality Bureau
New Mexico Environment Department
1190 Saint Francis Drive
Santa Fe, NM 87505

Naomi Davidson, Environmental Scientist
Hazardous Waste Bureau
New Mexico Environment Department
121 Tijeras Ave NE, Suite 1000
Albuquerque, NM 87102

Melanie Sandoval, Industrial Waste Team Leader
Groundwater Quality Bureau
New Mexico Environment Department
P. O. Box 5469
Santa Fe, NM 87502-5469

Kate Herrell, Geologist
Groundwater Quality Bureau
New Mexico Environment Department
1190 S. St Francis Drive, Suite 2311
Santa Fe, NM 87505

Subject: **Sparton Technology, Inc: Former Coors Road Plant Remedial Program**
Revised Proposal for Soil-Gas Investigation

Ladies and Gentlemen:

On behalf of Elbit Systems of America, LLC (Elbit America) and Sparton Technology, Inc. (Sparton), S. S. Papadopulos & Associates, Inc. (SSP&A) is pleased to submit this revised proposal for a soil-gas investigation in response to New Mexico Environment Department (NMED) concerns

1801 ROCKVILLE PIKE, SUITE 220, ROCKVILLE, MARYLAND 20852-1649 • TEL: (301) 718-8900

www.sspa.com • e-mail: stavros@sspa.com

about potential vapor intrusion in the area. Sparton understands this work is being requested in connection with Sparton's obligations under the Consent Decree.

NMED, in its request made in a March 20, 2019 letter to Sparton for an Abatement Plan for Vadose Zone Contamination, referred to Vapor Intrusion Screening Levels (VISLs)[1] adopted in 2019[2] for volatile organic compounds (VOCs), including chlorinated solvents, in groundwater and soil gas. Concentrations of trichloroethene (TCE) in groundwater beneath some parts of the Coors Road Plant site, as defined in the Consent Decree, exceed the new NMED VISL for TCE in groundwater. Also, legacy soil-gas investigations conducted at the site (see, for example, the results of the soil-gas investigation conducted in 1991 and shown in Figure 1) indicated the presence of chlorinated solvent vapors in the vadose zone at concentrations which, onsite and at several offsite locations, were higher than the new residential or commercial soil-gas VISLs for these compounds, but below levels agreed to be protective of human health as of the date of the Consent Decree.

The purpose of the soil-gas investigation proposed here is to determine whether chlorinated solvent vapors in soil gas at these previously sampled areas continue to exist at concentrations that exceed the current VISLs for soil gas. This proposal was prepared in response to the May 8, 2023 letter from NMED to Elbit America and Sparton[3] which found the scope of an earlier soil-gas investigation proposal[4] "deficient in both geographic extent and in the number of representative samples." It is the intent of this plan to reflect a better understanding of the NMED vapor-intrusion related concerns obtained during a May 31, 2023 Team's meeting with the staff of the NMED Groundwater Quality Bureau (GWQB).[5]

---

[1] Letter dated March 20, 2019 from Michelle Hunter of NMED to Ernesto Martinez of Sparton, Re: Discharge Permit Modification Required for Additional Contaminant, and Abatement Plan Required for Vadose Zone Contamination, Sparton Technology Site, Albuquerque, NM.

[2] NMED, 2019, Risk Assessment Guidance for Site Investigations and Remediation, Volume I, Soil Screening Guidance for Human Health Risk Assessments, February 2019.

[3] Letter dated May 8, 2023, from Justin Ball of NMED to Benjamin Kohr of Elbit America, Re: Revised Stage 1 Abatement Plan Proposal Required, Former Sparton Technology Site, 9621 Coors Blvd NW, Albuquerque, New Mexico.

[4] Letter dated March 6, 2020 to Charles Hendrickson of the U.S. Environmental Protection Agency (USEPA) and Dave Cobrain, Kevin Pierard, Michelle Hunter, Naomi Davidson and Melanie Sandoval of NMED from Stavros S. Papadopulos and Alex Spiliotopoulos of SSP&A with subject: Sparton Technology, Inc: Former Coors Road Plant Remedial Program, Revised Response to NMED's Discharge Permit-1184 Modification Request for an Abatement Plan for Vadose Zone Contamination.

[5] Participants to this meeting included Ms. Kate Herrell, Ms. Gail Cooke and Mr. Paul Chamberlain of the NMED GWQB, and the undersigned; Mr. Justin Ball, Chief of the GWQB also participated for a brief period at the beginning of the meeting.

The discussion we had during this meeting, the presentation made by Ms. Kate Herrell of NMED and the maps and other documents she provided us after the meeting indicate that NMED is concerned about potential vapor intrusion at three areas:

1. The onsite area;
2. Commercial areas in the vicinity of the onsite area, particularly the area west of Irving Boulevard NW; and
3. Residential areas to the east and southwest of the onsite area.

These areas are shown in Figure 1 which has been generated using material from Ms. Herrell's presentation during the May 31 meeting. As stated earlier, also shown in this figure are the sampling locations during the 1991 shallow soil-gas investigation and the then measured soil gas TCE concentrations at these locations.[6] A discussion of each of these three areas and the proposed soil-gas sampling locations at each area are presented below:

1. <u>Onsite Area</u>

The detection of chlorinated solvents at high concentrations in soil-gas samples collected from this area during past soil-gas investigations led to the operation of several soil vapor extraction (SVE) systems, of different duration and intensity, in the onsite area during the late 1990s and early 2000s. The last of these SVE systems was operated under the terms of the Consent Decree between April 10, 2000 and June 15, 2001, with a vacuum system extracting 400 cubic feet per minute (cfm). The criteria specified in the Consent Decree for the termination of the SVE system were a minimum operation duration of one year and attainment of solvent concentrations of less than 10 parts per million by volume (ppmv) or about 55,000 micrograms per cubic meter ($\mu g/m^3$).[7] This concentration is much higher than the new VISLs for soil gas samples from commercial areas; the former Sparton manufacturing building is now occupied by a car dealership (Melloy Dodge).

---

[6] Ms. Herrell referred to these data as being from the 1987 shallow soil-gas investigation, but the data are actually from the 1991 investigation. Both the 1987 and the 1991 investigations were conducted by Tracer Research Corporation of Tucson, AZ; the RCRA Facility Investigation report issued on May 1992, which was prepared by Harding Lawson Associates in 1990 and revised by HDR Engineering Inc. and Metric Corporation in 1992, present the results of the 1987 soil-gas investigation in Attachment 7, and those of 1991 in Attachment 9. Both investigations covered essentially the same area.

[7] The soil-gas data samples collected in September and October 2001, three months after the termination of the SVE operations, as per the requirements of the Consent Decree, indicate that the highest TCE concentrations in soil-gas were 6,600 $\mu g/m^3$ and 5,400 $\mu g/m^3$, respectively.

We are proposing to sample soil gas at four locations around the former manufacturing building at locations 1 through 4 as shown in Figure 2. Also shown in this figure are three sampling locations, 5, 6 and 7, aimed at investigating the residential area east of the onsite area, and two sampling locations in the commercial area north of the onsite area, locations 8 and 9. Location 9 is near where soil-gas concentrations of TCE above the new commercial VISL were detected during the 1991 survey and location 8 is intended to assess soil-gas conditions between the onsite area and location 9.

2. Commercial Areas

As discussed above, two sampling locations are proposed in the commercial area north of the onsite area (locations 8 and 9 in Figure 2). Two additional sampling locations, locations 10 and 11 along Eagle Ranch Road (see Figure 3), are proposed for the commercial area northwest of the onsite area. Both locations are near where previous soil-gas investigations (1991 investigation for location 10 and 2013 investigation for location 11) indicated TCE concentrations above the new commercial VISL.

In the commercial area west of Irving Boulevard, there are four buildings serving sensitive populations, namely an Urgent Care facility, a Medical Clinic, an Elementary School and a Daycare facility. We propose to sample soil gas around these buildings at locations 12 through 25 as shown in Figure 3. Also included in Figure 3 are two proposed sampling locations, 26 and 27, in the northeastern part of the southwestern residential area.

3. Residential Areas to the East and Southwest of the Onsite Area

Except for the northeastern part of the southwestern residential area, both areas are mostly outside the area beneath which TCE concentrations in groundwater exceed the new VISLs for groundwater (see Figure 1). However, the results of previous soil-gas surveys indicated the presence of TCE vapors, in or near these areas, at concentrations that exceed the new VISLs for residential areas. For example, concentrations from the 1991 soil-gas investigation, shown in Figure 1, indicate several sampling locations along Coors Boulevard, east of the Sparton property and west of the eastern residential area, where concentrations were above the new residential soil gas VISL for TCE. Similarly, there is a location along Eagle Ranch Road, near the eastern border of the southwestern residential area, where TCE concentrations also exceeded the new residential VISL for TCE. Furthermore, there are several sampling locations within this residential area where TCE vapors were detected in soil gas, albeit below the new VISL. The concern about these areas is that the presence of TCE vapors, outside the defined extent of groundwater contamination, could be attributed to lateral migration of solvent vapors within the vadose zone, which may potentially become a source for vapor intrusion.

> We propose eight soil gas sampling locations in these residential areas. Three of these locations are in the eastern residential area, locations 5, 6 and 7, and as mentioned earlier are shown in Figure 2; the remaining five locations, locations 28 through 32, are in the southwestern residential area and are shown in Figure 4.

This proposal has been designed to respond to NMED's concerns about potential vapor intrusion at Sparton's former Coors Road Plant and its vicinity. It proposes the collection of shallow soil-gas samples from 32 locations as shown in Figure 5. Accessibility to these proposed locations has been field verified by the staff of EA Engineering, Science, and Technology, Inc, PBC (EA), Sparton's consultants in Albuquerque who are responsible for the maintenance and operation of the remedial systems and data collection. Although accessible, permission from the City of Albuquerque or property owners will likely be needed for collecting most of these samples; therefore, the actual locations for some of the proposed sampling locations could be somewhat different than those shown in Figure 5.

Passive soil-gas (PSG) samplers will be used to collect these samples. Soil borings will be advanced with a hammer drill equipped with a 1.5-inch-diameter bit to a maximum of 18 inches. Boreholes will then be extended to a 3-foot depth using a 0.5-inch-diameter drill bit. Once the borehole is advanced, a metal sleeve will be placed in the upper 18-inches of the borehole, and the PSG samplers lowered into the hole via a retrieval wire. The hole will then be sealed with an aluminum foil plug and covered with soil or thin concrete patch depending on the surrounding ground surface.

Four weeks after deployment, PSG samplers will be retrieved by pulling the PSG samplers out of the borehole via the retrieval wire and placing them into sample containers provided by the laboratory, Beacon Environmental Services, Inc. (Beacon). Each PSG sample will be submitted under chain-of-custody to Beacon for analysis of VOCs by EPA Method 8260C. After the samples are retrieved, the boring holes will be backfilled with sand, and the surface restored to its preexisting condition.

If NMED agrees that the results from these samples are at or below the new commercial or residential VISLs, as appropriate, we understand no further investigations will be necessary. Otherwise, further discussion will be necessary to determine the next steps, if any.

If you have any questions concerning the above, please contact us.

Sincerely,

S. S. PAPADOPULOS & ASSOCIATES, INC.

Stavros S. Papadopulos, PhD, PE, NAE
Founder & Senior Principal

Alex Spiliotopoulos, PhD
Senior Associate & Senior Hydrogeologist

encl: Figures 1 through 5

cc: Benjamin Kohr, Elbit Systems of America, LLC
James Mahoney, Secretary, Sparton Corporation
Joseph S. Lerczak, Sparton Corporation
James B. Harris, Holland & Knight LLP
Bob Marley, EA, Project Coordinator for Sparton

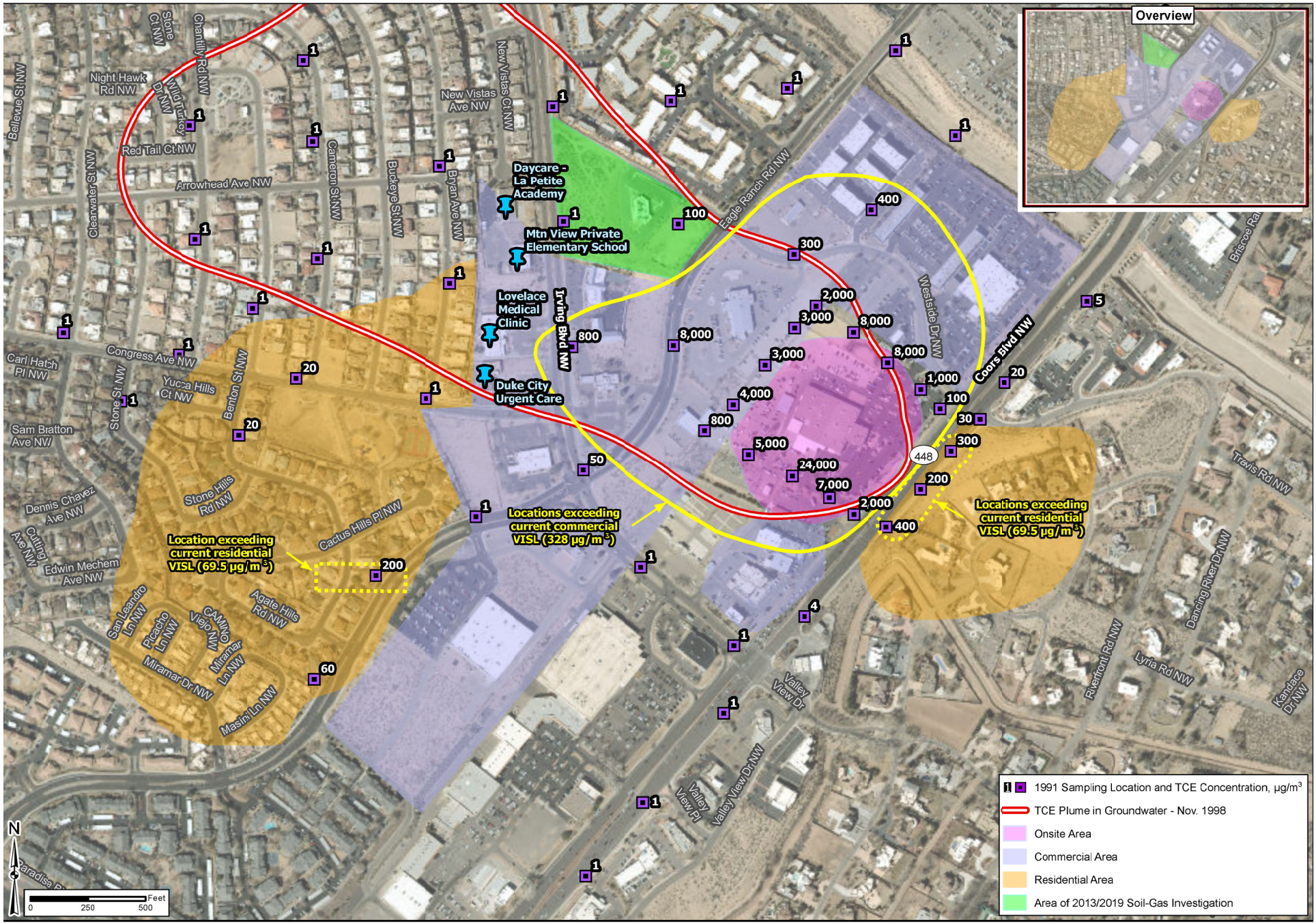

Figure 1 Areas of Investigation for Potential Vapor Intrusion

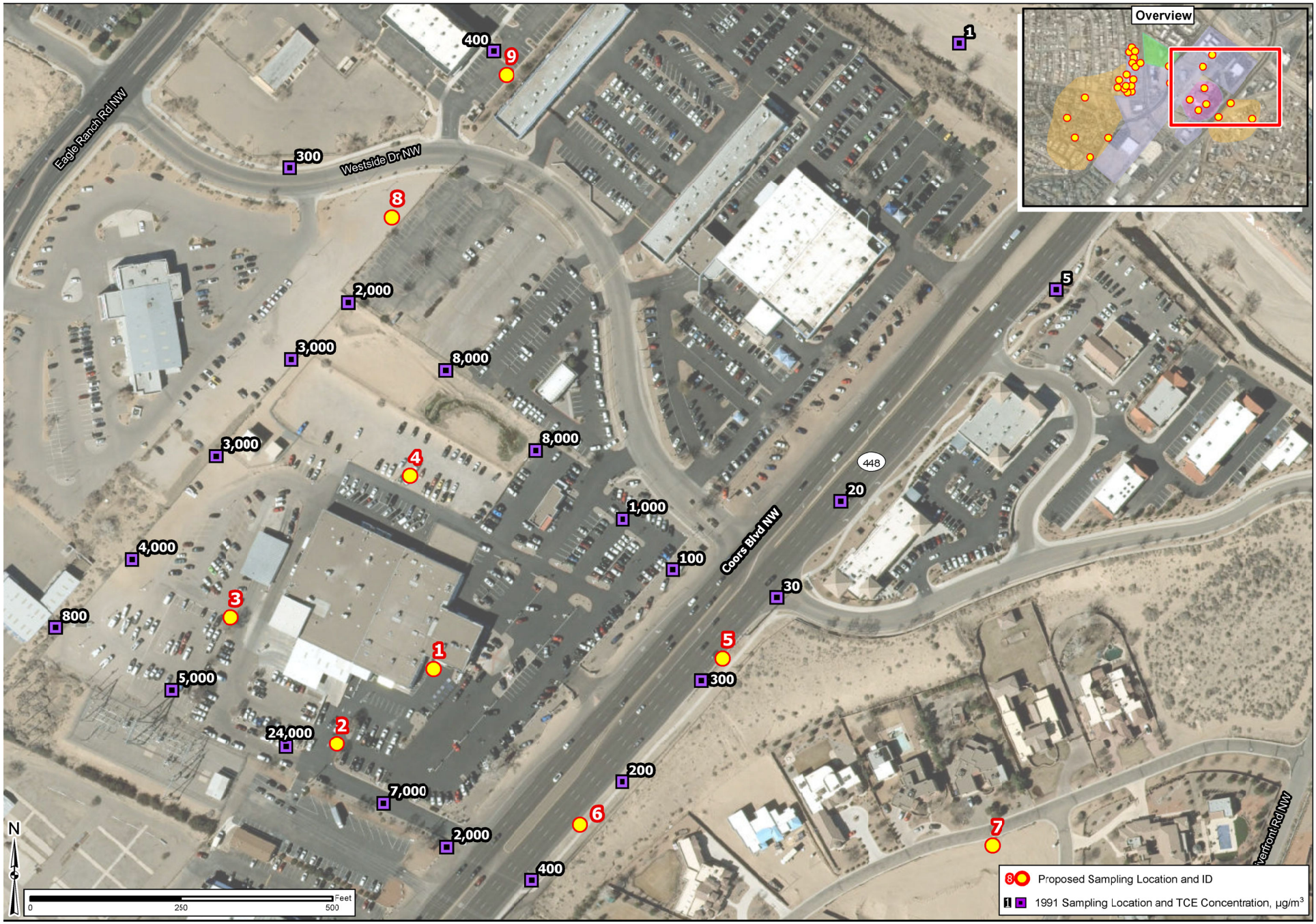

Figure 2 Proposed Soil-Gas Sampling Locations at the On-Site Area and Vicinity

Figure 3 Proposed Soil-Gas Sampling Locations at the Commercial Area

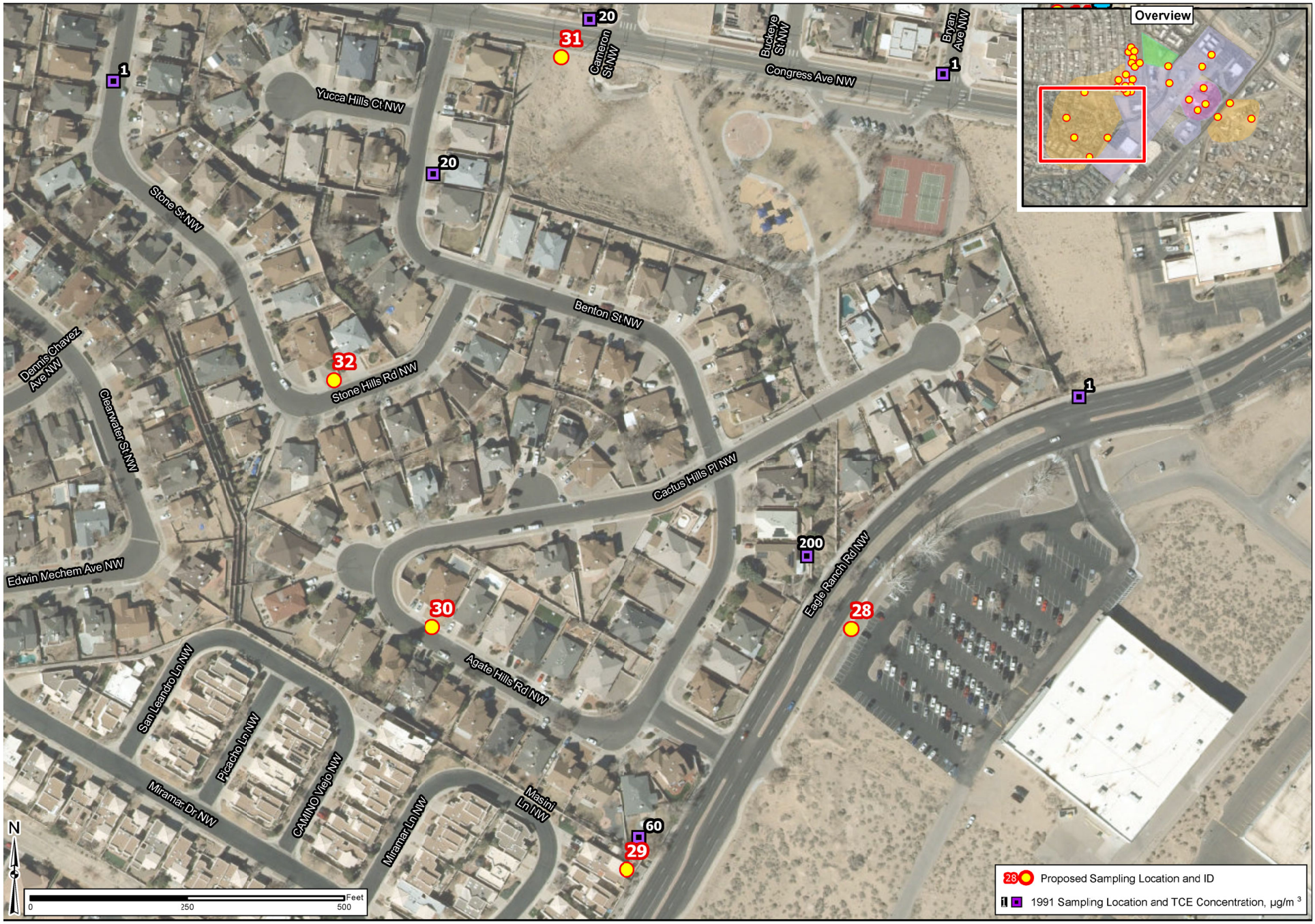

Figure 4 Proposed Soil-Gas Sampling Locations at the Western Residential Area

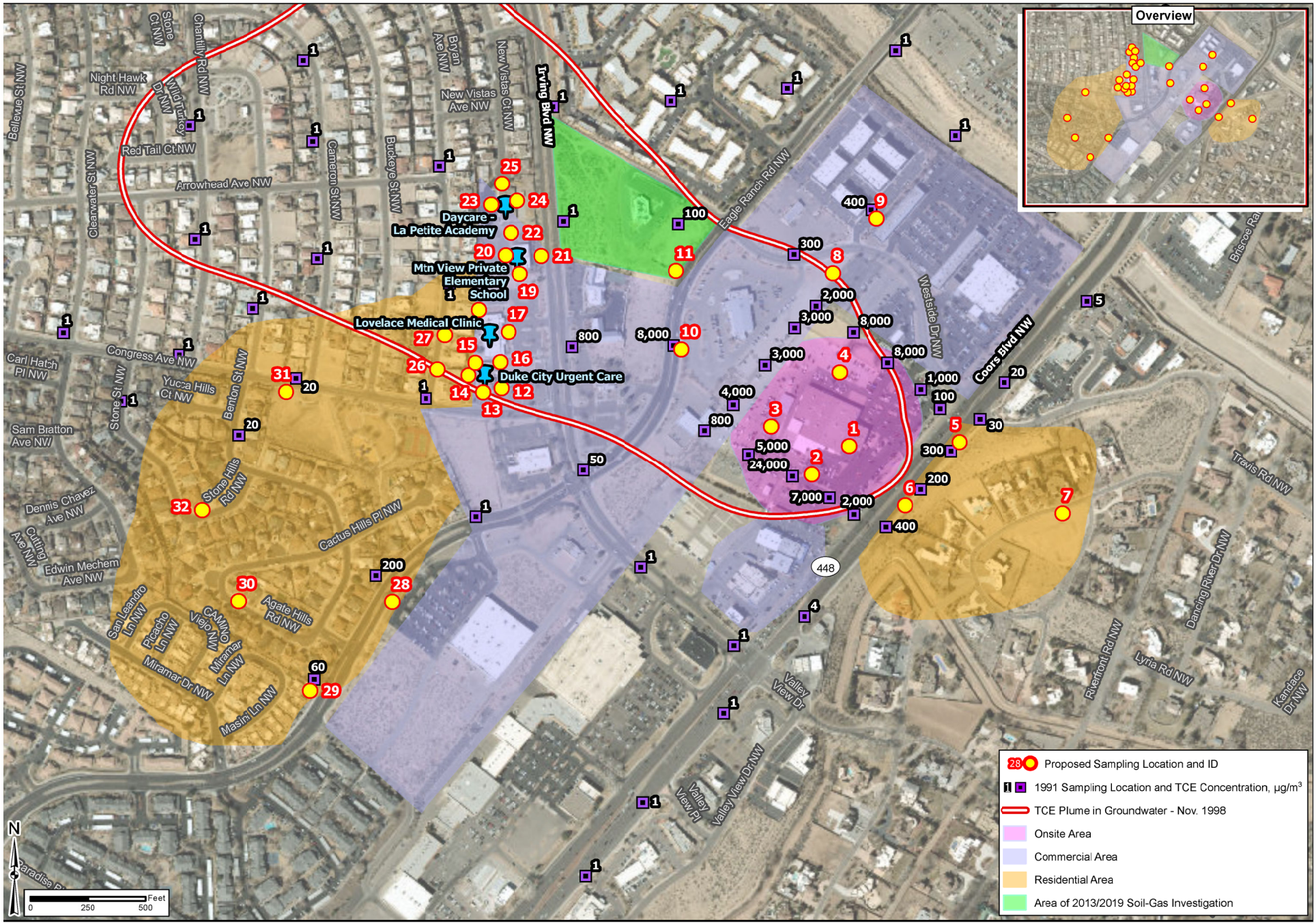

Figure 5 Proposed Soil-Gas Sampling Locations