

October 4, 2016

David Shepler  
via email [d@vidshepler.com](mailto:d@vidshepler.com)

Re: *Environmental Investigation Summary*  
*87 N. Chestnut Street, Town of New Paltz, Ulster County, New York*  
*Chazen Project #: 41553.00*

Dear Mr. Shepler:

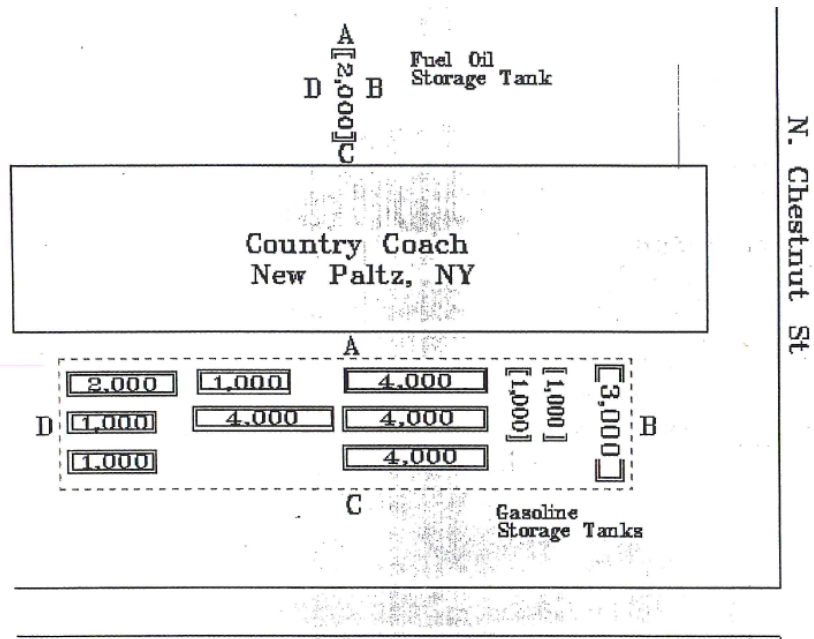
At your request, The Chazen Companies (Chazen) is providing this letter in response to question 4.2 included in Grant & Lyons LLP letter dated September 16, 2016. Question 4.2 related to prior sampling at the Site (Part 1) and planned installation of geothermal wells on the Site (Part 2).

Part 1 of this letter provides a summary of prior subsurface sampling that has been conducted on the 87 N. Chestnut Street property for an overview of the data collected across the Site to-date. These assessments included: 1) removal of 12 USTs from the Site in 1994 with a follow-up soil boring investigation in 1995, 2) a subsurface soil and groundwater investigation conducted across the Site in 2015, and 3) after the Site building was destroyed in a fire, collection of surface and subsurface samples in 2016 along the western vegetated Site area to assess shallow soil conditions where storm water storage chambers are planned. While residual petroleum impacts were reported in 1994, subsequent sampling in 2015 showed conditions meet NYSDEC standards. The 2016 post-fire sampling of the unpaved western site area reported metals concentrations, but this soil is planned for removal as part of redevelopment, which will prevent exposure to site residents.

Part 2 of this letter considers available Site sampling data relative to the planned installation of geothermal wells on the Site.

#### **PART 1 – SITE SAMPLING SUMMARY**

1994 Spill (No. 94-02583) Closure Letter and 1995 Soil Disposal letter, prepared by Ira D. Conklin and Sons, Inc. (IDC). In May 1994, IDC excavated, removed, cleaned, and disposed of 11 gasoline underground storage tanks (USTs) located on the southern-most Site area, and one 2,000-gallon fuel oil UST, located north of the building area. The image below shows the approximately locations of the USTs at the southern end of the Site.



During removal, the USTs were inspected and found to have “slight” corrosion and pitting. After the excavation, grab soil samples were collected from both excavation walls and floors, and analyzed using the Toxicity Characteristic Leaching Procedure for petroleum-range volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). The TCLP method is a test to evaluate potential toxic characteristics (i.e., is the soil hazardous or non-hazardous), and results are not comparable to soil cleanup objectives. The laboratory results indicated that residual xylenes contamination remained in both excavations.

Groundwater was encountered at approximately eight feet below grade; however, insufficient quantity was observed and no groundwater sample was collected.

According to the NYSDEC database, this spill was closed in May 1994, one day after the reported spill event, as not meeting NYSDEC cleanup standards.

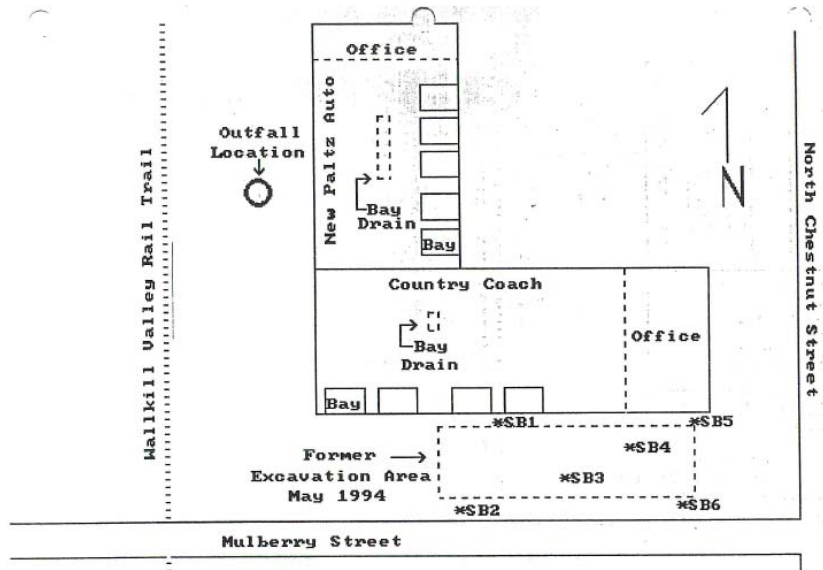
1995 Subsurface Investigation Report and Drain Closure conducted by IDC: IDC completed a surface investigation of the outfall location associated with the former building’s floor drains and a subsurface soil boring investigation in the vicinity of the former gasoline USTs. Soil samples were analyzed using the TCLP.

Dye testing of the floor drains determined that both drains discharged to the same location, west of the building. No signs of stained soil were observed in this area, and the surface soils were screened using a photoionization detector (PID), which were non-detect for VOCs. A grab surface soil sample was collected from this area and analyzed for total petroleum hydrocarbons (TPH), and TCLP VOCs and RCRA metals. Analytical results identified Barium, 2-Butanone, and 688 parts per million (ppm) TPH contamination in this area. On a follow up visit to the Site, IDC observed that the floor drains and outfall locations had been closed by plugging and cementing over all drains and discharge lines.

Six soil borings were advanced in and around the former gasoline UST excavation area. Borings were advanced to a depth of 11 feet (two feet deeper than the original excavation depth). PID readings did not detect VOCs in

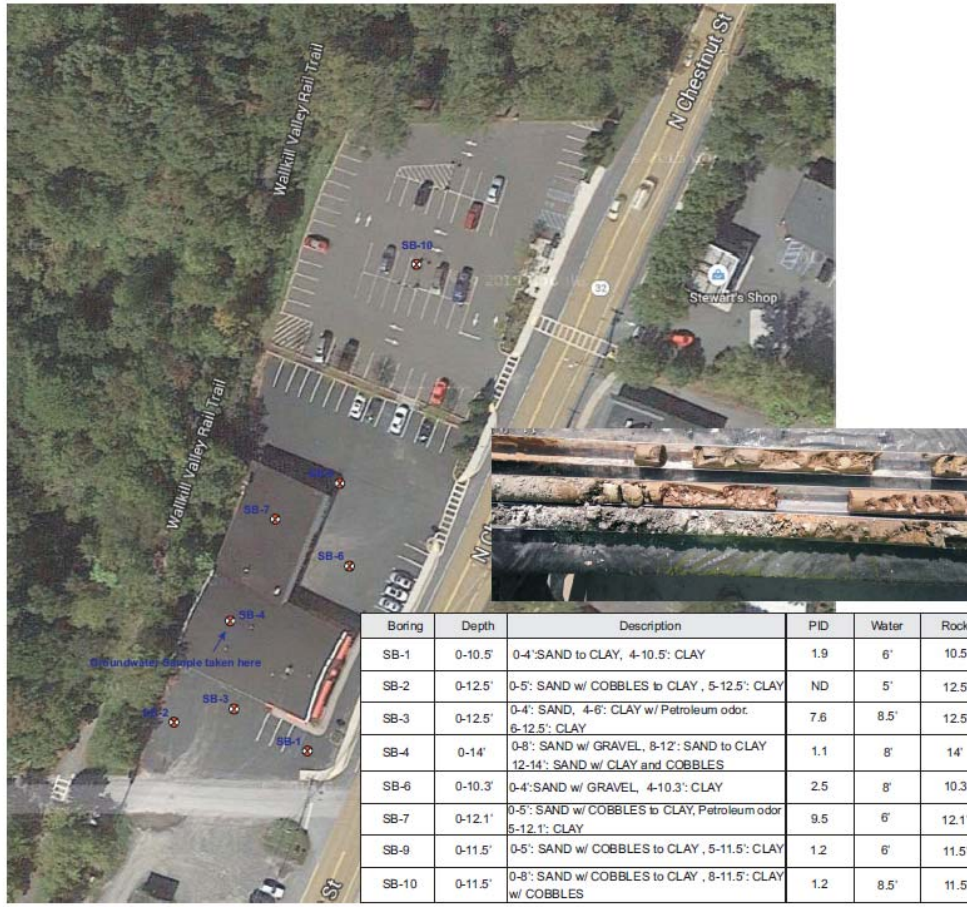
the soil from these borings. The six soil samples were composited into two samples for lab analysis for TCLP VOCs. Toluene was reported in both soil samples at concentrations slightly greater than the detection limit.

The image below was provided as part of the 1995 IDC report and shows the approximate locations of floor drain and outfalls as well as soil borings installed in the former tank grave area.



2015 Phase II ESA conducted by Precision Environmental Services, Inc. for Stewart's: Chazen was provided a soil boring location and field results figure (image provided below). According to this figure, seven soil borings were advanced across the Site, including three in or near the former gasoline UST area, two within the former building footprint (near the general location of the former floor drains and bus garage pit), one near the former fuel oil UST, and one north of the building. PID readings ranged from non-detect to 9.5 ppm, groundwater was encountered between 5 and 8.5 feet below grade, and rock was encountered between 10 and 14 feet below grade. Petroleum odors were observed in one boring near the former gasoline UST area (SB-3) and one within the northern building area near the general location of filled in trench style floor drains and bus service pit (SB-7). PID readings in these locations were 7.6 ppm and 9.5 ppm, respectively. Samples were collected from seven on-site borings and analyzed for petroleum-range VOCs and SVOCs. The provided laboratory results summary showed results were generally non-detect, except for the SB-7 sample which reported low concentrations that were less than the NYSDEC Commissioner Protocol 51 (CP-51) soil cleanup guidance values.

One groundwater sample was collected from boring SB-4 and analyzed for VOCs, which were not reported in the sample.



**PRECISION ENVIRONMENTAL SERVICES, INC.**  
 831 RT. 67 LOT 38A  
 BALLSTON SPA, NY 12020  
 TEL: 518-865-4399  
 FAX: 518-865-4415

SOIL BORING RESULTS

Shop No.: 309- New Paltz

**PROJECT #:**

**LOCATION** N Chestnut St, New Paltz, NY

<b>DATE:</b> 5/7/2015	<b>REVISED BY:</b> KNL
<b>FIGURE:</b> 1	<b>SCALE:</b> NTS

LEGEND

SB-1 SOIL BORING

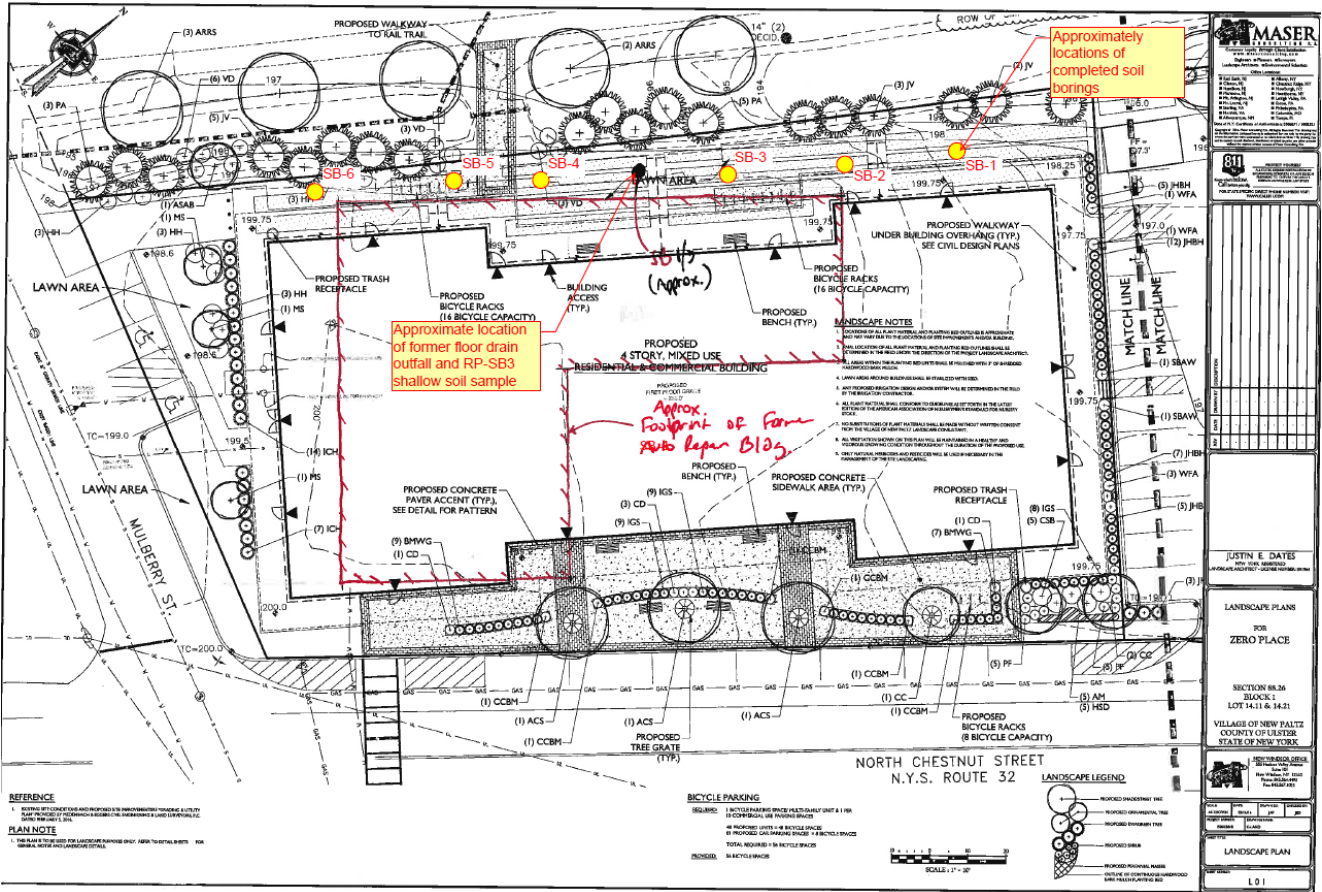
**NOTES:**

- BASE MAP PROVIDED BY STEWART'S SHOPS
- ALL LOCATIONS ARE APPROXIMATE

Laboratory analysis for a sample identified as "Clean Fill-02" was also provided to Chazen for review. According to the Stewart's representative, this sample was a composite from the soil borings advanced on the Site that was collected and tested to evaluate whether the soil could be used as clean fill. This sample was analyzed for total metal, VOCs, SVOCs, PCBs, herbicides, and pesticides. No evidence of impacts (e.g., PID readings, staining, or odors) were observed in this sample. The sample reported a zinc concentration (191 ppm) slightly greater than Unrestricted Use soil cleanup objective (109 ppm). While methylene chloride and acetone were reported, both of these analytes are common laboratory contaminants and not considered Site contaminants.

2016 Phase II ESA conducted by The Chazen Companies: Chazen conducted a limited Phase II ESA during January and March 2016 to assess potential impacts to soil and groundwater. Chazen's limited Phase II ESA evaluated conditions near the former floor drain outfall and where fire-related surface runoff may have impacted the vegetated area along the western Site boundary, and was expanded to include soil borings along the western Site area where a storm water storage chamber system was planned. Shallow soil and soil boring sampling locations are shown on the image below.





- The investigation identified shallow metal concentrations greater than Part 375 Unrestricted Use soil cleanup objectives (SCOs) in the top two feet from one soil sample collected near the former floor drain outfall location. The sample with the highest lead concentration was confirmed via testing to be non-hazardous. Since the top four feet of soil in this area were planned for removal as part of redevelopment activities, a composited waste characterization sample of the top four feet of soil was collected. This composite sample met the analytical acceptance requirements of the City of Albany’s Solid Waste Facility; therefore, it is expected that the top four feet of soil can be removed and disposed of as non-hazardous solid waste.
- Soil samples collected from the interval below 4 feet and above the water table (soil that will remain on site) were analyzed for total RCRA metals to assess soil that will remain on-site and beneath planned storm water storage chambers. Results indicate that metals concentrations decrease with depth and are significantly lower in the underlying soil that is planned to remain on site. As a point of reference, the soil sample results meet Restricted-Residential Use SCOs, with one slight exceedance for cadmium (4.84 ppm compared to SCO of 4.3 ppm). Based on Chazen’s understanding of the planned site redevelopment at the time of the investigation, four feet of storm water storage chambers will be installed on top of this soil which will prevent exposure to site residents.
- The groundwater was also analyzed for RCRA metals. While the unfiltered groundwater sample reported a total lead concentration greater than the groundwater standard, the dissolved lead

concentration in the filtered sample was 50 times lower and well below the groundwater standard. Erroneously elevated total metals results commonly occur as a result of the preservative used for the analysis metabolizing turbidity particles in the samples and releasing naturally occurring metals contained in the particles. As such, the significantly lower dissolved lead concentration strongly suggests that the elevated lead in the unfiltered total lead sample was caused by sample turbidity. The Site is connected to municipal drinking water; therefore, site occupants will not use the groundwater.

## **Part 2 Geothermal Wells**

Site redevelopment plans include installation and operation of approximately 20 close-loop geothermal wells to depths of 300 to 400 feet below grade. These are typically installed using air rotary drilling to displace geologic material and groundwater upward and out to allow installation of geothermal piping and grout. Installed geothermal wells are closed-loop systems grouted into the formation, with grout media providing thermal connections between the closed-loop and the geologic formation and preventing vertical migration of groundwater upward or downward along the well length.

The available sampling data do not suggest that installation or operation of the planned geothermal wells would result in contaminant migration.

Please feel free to call me at (518) 266-7328 with any questions.

Sincerely,



Arlette St. Romain

Director, Environmental Due Diligence and Brownfield Investigations