



PHASE II ENVIRONMENTAL SITE ASSESSMENT



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PHASE II ENVIRONMENTAL SITE ASSESSMENT

2419 Route 33
2425 Corlies Avenue, 2419-2425 Route 33
Neptune Township, New Jersey 07753

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TABLE OF CONTENTS

- 1 Introduction..... 1**
- 2 Background..... 2**
 - 2.1 Site Description and Features 2
 - 2.2 Physical Setting 2
 - 2.2.1 USGS Topographic Map Review 2
 - 2.2.2 Generalized Geology 2
 - 2.2.3 Hydrogeology 2
 - 2.2.4 Soils 2
 - 2.3 Recognized Environmental Conditions 3
- 3 Work Performed and Rationale..... 4**
 - 3.1 Target Analytes 4
 - 3.2 Likely Release Areas 4
 - 3.3 Environmental Media of Concern 4
 - 3.4 Quality Assurance/Quality Control for Sampling and Chemical Testing 4
 - 3.5 Exploration, Screening, and Sampling Methodologies and Procedures 5
 - 3.5.1 Subsurface Exploration Methodologies and Field Screening Procedures – Initial Sampling Event 5
 - 3.5.2 Subsurface Exploration Methodologies and Field Screening Procedures – Supplemental Sampling Event 5
 - 3.5.3 Soil Sampling Procedures – Initial Sampling Event 5
 - 3.5.4 Groundwater Sampling Procedures – Initial Sampling Event 6
 - 3.5.5 Groundwater Sampling Procedures – Supplemental Sampling Event: Temporary Well Points... 6
 - 3.5.6 Groundwater Sampling Procedures – Supplemental Sampling Event: Monitoring Well..... 6
 - 3.6 Chemical Testing Methods 6
 - 3.6.1 Soil Sample Testing 6
 - 3.6.2 Groundwater Sample Testing..... 7
- 4 Presentation and Evaluation of Results..... 8**
 - 4.1 Field Investigation 8
 - 4.1.1 Soil Survey – Initial Sampling Event 8
 - 4.1.2 Groundwater Survey – Initial Sampling Event..... 8
 - 4.1.3 Groundwater Survey – Supplemental Sampling Event 8
 - 4.2 Chemical Testing Results 8
 - 4.2.1 Soil Samples – Initial Sampling Event: UST Areas 8
 - 4.2.2 Soil Samples – Initial Sampling Event: Septic Area 9
 - 4.2.3 Groundwater Samples – Initial Sampling Event: UST Areas 9
 - 4.2.4 Groundwater Samples – Initial Sampling Event: Septic Area 9
 - 4.2.5 Groundwater Samples – Supplemental Sampling Event 10
- 5 Interpretations and Conclusions 11**
 - 5.1 Recognized Environmental Conditions 11
 - 5.2 Conceptual Model Validation/Adequacy of Investigation 11
 - 5.3 Scope Limitations and/or Qualifications of Assessment 11
 - 5.4 Objectives Met..... 11
 - 5.5 Conclusions 11
 - 5.5.1 Initial Sampling Event 11
 - 5.5.2 Supplemental Sampling Event 12
- 6 Recommendations 13**
- 7 Limitations and User Reliance, Terminology, and References 14**
 - 7.1 Limitations and User Reliance..... 14
 - 7.2 Terminology 14
 - 7.3 References 16
- 8 Certification 17**
- 9 Appendices 18**



1 Introduction

EMG performed a Phase II Environmental Site Assessment (ESA) of 2419 Route 33 (the "Project"), located in 2425 Corlies Avenue, 2419-2425 Route 33, Neptune Township, New Jersey 07753. This Phase II ESA was completed in accordance with ASTM E1903-11: *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process* and in accordance with the scopes of work prepared as part of EMG's Proposals (incorporated herein by reference), dated June 20, 2019 and August 22, 2019, respectively, and agreed to and authorized by Premier Storage Investors (the "Client" and "User") on June 21, 2019 and August 22, 2019, respectively. Additional Users, if any, are listed on the cover page of this report.

EMG previously completed a Phase I ESA report in accordance with ASTM E1527-13: *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, as part of ongoing environmental due diligence efforts (EMG Project #138092.19R000-001.135; dated May 24, 2019) at the Project.

Based on the results of the Phase I ESA, EMG was contracted to perform a more comprehensive investigation of the Project, specifically to complete a Phase II ESA of the Project to determine if soil and/or groundwater were impacted by onsite underground storage tanks (USTs) and/or by an onsite septic system at the Project.

The Phase II ESA included the collection of soil and groundwater samples, specifically to identify the possible presence of extractable petroleum hydrocarbons, volatile organic compounds, semi-volatile organic compounds, pesticides, polychlorinated biphenyls (PCBs), metals, and/or cyanide in one or both of these environmental media at the Project.

2 Background

2.1 Site Description and Features

Land use in the Project area generally consists of residential, commercial, and undeveloped land. A Site Location Plan is included in Appendix A, Figure 1.

Project site use history is as follows:

- Prior to 1888: No historical data available
- 1888 to 1931: Naturally vegetated land
- 1931 to Current: Nursery with greenhouses, residence, and garage

2.2 Physical Setting

2.2.1 USGS Topographic Map Review

- Topographic Map Name: Asbury Park, New Jersey
- Topographic Map Year: 2016
- Upper Elevation (feet): 55
- Lower Elevation (feet): 45
- Surface Slope: Gently sloping
- Slope Direction: East-Northeast
- Nearest Surface Water Feature: Musquash Brook
- Nearest Surface Water Feature Distance: 200 feet
- Nearest Surface Water Feature Direction: East-Northeast

2.2.2 Generalized Geology

- Source: ERIS
- Geologic Description: Lower Member of Quaternary Kirkwood Formation

2.2.3 Hydrogeology

- Source: Review of USGS topographic map
- Estimated Water Table Depth: 10 to 15 feet below ground surface
- Estimated Groundwater Flow Direction: East-Northeast

2.2.4 Soils

- Source: Soil Survey Geographic Database
- Soil Series Names: Evesboro, Freehold, Urban Land Complex
- Soil Types/Textures: Sand, sandy loam

2.3 Recognized Environmental Conditions

According to EMG's Phase I ESA for the Project (EMG Project 138092.19R000-001.135; dated May 24, 2019), a geophysical survey was performed by Geo-Graf, Inc. (on behalf of Ingram Engineering Services, Inc., who was retained directly by the Client). The geophysical survey identified the following potential subsurface anomalies:

- One (1), 550-gallon (estimated, identified as A-1), petroleum UST is apparently located abutting the southeast corner of the Project residence;
- Two (2), abutting, 3,000-gallon (estimated, identified as A-5/A-6), petroleum USTs are apparently located between the garage and the southern greenhouse structures;
- One (1), 4,000-gallon (estimated, identified as A-4), petroleum UST is apparently located along the south side of the northern greenhouse structures and north of the garage; and
- One (1) septic structure (identified as A-7) and related piping, associated with the garage, are situated around and likely north of a septic feature located southeast of the northern greenhouse structures.

3 Work Performed and Rationale

Prior to execution of this Phase II ESA, EMG submitted two (2) proposals (incorporated herein by reference) to the Client, including a general scopes of work. This scopes of work were approved by the Client and EMG subsequently completed the same, unless specifically noted in Section 5.3, Scope Limitations and/or Qualifications of Assessment, of this report.

3.1 Target Analytes

- Volatile Organic Compounds (VOCs)
- Extractable Petroleum Hydrocarbons (EPH)
- Semi-Volatile Organic Compounds (SVOCs)
- Target Analyte List (TAL) Metals, including Arsenic, Chromium, and Lead
- Polychlorinated Biphenyls (PCBs)
- Chlorinated Pesticides
- Cyanide

3.2 Likely Release Areas

- Vicinity of one (1), 550-gallon (estimated), petroleum UST
 - Abutting the southeast corner of the residence
- Vicinity of two (2), abutting, 3,000-gallon (estimated), petroleum USTs
 - Between the garage and the southern greenhouse structures
- Vicinity of one (1), 4,000-gallon (estimated), petroleum UST
 - South side of the northern greenhouse structures and north of the garage
- Vicinity of one (1) septic system (associated with the garage), including suspected septic tank and drainfield
 - Around and likely north of a septic feature located southeast of the northern greenhouse structures

3.3 Environmental Media of Concern

- Soil
 - Shallow (0-5 feet)
 - Moderate (5-15 feet)
- Groundwater
 - Shallow (0-15 feet)

3.4 Quality Assurance/Quality Control for Sampling and Chemical Testing

A quality assurance/quality control (QA/QC) plan was followed to provide assurance that the samples collected were representative of the environmental media and locations specified in the sampling plan, that sample integrity was not compromised with regard to target analyte presence and levels (as a result of the sampling and sample handling procedures), and that the chemical testing results were properly evaluated to ensure reliability. The Phase II Assessor incorporated provisions in the QA/QC plan to require appropriate sample handling prior to delivery to the laboratory, including ensuring that samples were properly preserved (e.g., refrigerated, or combined with appropriate preservative chemicals), that samples were available for chemical testing within required holding times, and that sample chain of custody was documented prior to being relinquished to the appropriately accredited laboratory. Deviations from the sampling plan, if any, were noted and justified or reconciled prior to completion of the investigation.

3.5 Exploration, Screening, and Sampling Methodologies and Procedures

3.5.1 Subsurface Exploration Methodologies and Field Screening Procedures – Initial Sampling Event

On July 1, 2019, soil borings and temporary well installations were completed by FirstProbe Environmental, Inc., with drilling at the Project completed using a track-mounted, direct-push (Geoprobe®) rig. EMG monitored the advancement of the soil borings to depths of 15 feet below the ground surface. Soil samples were obtained continuously at 5-foot intervals from each of the soil borings.

Once groundwater was encountered in the selected borings, the boring operations were continued until the bore hole was advanced to approximately 5 to 10 feet below the water table. Temporary well points were installed utilizing 1-inch diameter, solid, schedule 40 PVC risers and 0.010-slot, schedule 40 PVC screen. PVC screen was extended from the bottom of the borehole to at least 5 feet above the static water table level. A solid riser was extended from the top of the PVC screen to the ground surface. The temporary well points were removed immediately following completion of groundwater sampling activities.

All tooling equipment and sampling equipment with potential contact with soil and groundwater were decontaminated between locations using a solution of detergent and water and a distilled water rinse. Sampling personnel used fresh nitrile gloves in handling each sample and related equipment and bottleware. If submitted for laboratory analyses, samples were placed immediately into laboratory-supplied bottleware and stored in an ice-filled cooler.

All soils encountered were logged and screened with a calibrated PID (Mini RAE-3000) for evidence of volatile organic compounds (VOCs).

Soil samples were selected for laboratory analyses based on the presence of chemical/petroleum odors, sheens, discoloration, or elevated PID readings significantly in excess of background levels; in the absence of field indications of impact, soil samples were collected for laboratory analyses at the observed soil/groundwater interface. Temporary well point locations were selected for each suspected UST area after all of the soil borings were completed and the soil evaluated for evidence of impacts. A temporary well point was installed in the soil boring exhibiting the greatest degree of impact, based on the professional opinion of the geologist; where obvious impacts were not observed, a temporary well point was installed in the soil boring in the anticipated downgradient direction from the suspected UST or other area of concern.

3.5.2 Subsurface Exploration Methodologies and Field Screening Procedures – Supplemental Sampling Event

On September 5, 2019, monitoring well and temporary well point installations were completed by FirstProbe drilling contractor, with drilling at the Project completed using a track-mounted, direct-push (Geoprobe®) rig. EMG monitored the advancement of the soil borings to depths of 15 feet below the ground surface. Soil samples were not obtained because no soil sampling was proposed.

Once groundwater was encountered in the borings, the boring operations were continued until each bore hole was advanced to approximately 5 to 10 feet into the water table. Monitoring well (identified as MW-1) was installed utilizing 2-inch, solid, schedule 40 PVC riser and 2-inch, 0.010-slot, schedule 40 PVC screen. PVC screen was extended from the bottom of the borehole to approximately 5 feet above the static water table level. A solid riser was extended from the top of the PVC screen to the ground surface. A water-tight cap and flush-mounted protected cover completed the installation procedures. The monitoring well was developed using a properly decontaminated submersible pump, with dedicated disposable polyethylene tubing to increase production and remove soil particles from the well introduced during drilling operations. See Appendix C, Monitoring Well Log (NJDEP Record).

All tooling equipment and sampling equipment with potential contact with groundwater were decontaminated between locations using a solution of detergent and water and a distilled water rinse. Sampling personnel used fresh nitrile gloves in handling each sample and related equipment and bottleware. If submitted for laboratory analyses, samples were placed immediately into laboratory-supplied bottleware and stored in an ice-filled cooler.

3.5.3 Soil Sampling Procedures – Initial Sampling Event

On July 1, 2019, soil samples collected for VOC chemical testing were placed in pre-labeled, 40-milliliter, VOA vials containing a methanol preservative. Approximately 5 grams of soil sample were added to each preserved vial. Soil samples collected for moisture contents and total solids were placed in pre-labeled, 2-ounce, clear glass jars. Soil sample collected for other chemical testing were placed in pre-labeled, 16-ounce, clear glass jars.

The soil sample containers were immediately placed in a cooler containing ice for preservation. The soil sample containers were then delivered to an accredited laboratory for chemical testing. The chemical testing of the soil samples was performed within the respective holding times. Chain-of-custody was maintained utilizing laboratory chain-of custody tracking forms.

3.5.4 Groundwater Sampling Procedures – Initial Sampling Event

On July 1, 2019 and at the direction of EMG, FirstProbe installed 1-inch diameter, schedule 40 PVC, temporary well points within the completed soil bores, to a depth of approximately 5 feet below the water table encountered in the soil borings. A groundwater sample was then collected from each temporary well point via a dedicated, disposable Teflon tubing connecting the well screen to a surface peristaltic pump. Prior to sampling, temporary well points were not evacuated due to low recharge rates. Groundwater samples collected were poured into laboratory-supplied, pre-labeled, 40-milliliter VOA vials, 1-liter amber glass bottles, 120-milliliter amber glass bottles, and 1-liter plastic bottles.

The water sample containers were immediately placed in a cooler containing ice for preservation. The water sample containers were then delivered to an accredited laboratory for chemical testing. The chemical testing of the water samples was performed within the respective holding times. Chain-of-custody was maintained utilizing laboratory chain-of custody tracking forms.

3.5.5 Groundwater Sampling Procedures – Supplemental Sampling Event: Temporary Well Points

On September 5, 2019 and at the direction of EMG, FirstProbe installed temporary well points (identified as TWP-16, TWP-17, and TWP-18) within the completed soil bores, to a depth of approximately 5 feet below the water table encountered in the soil borings. Temporary well points were installed utilizing 1-inch diameter, solid schedule 40 PVC risers and 1-inch diameter, 0.010-slot schedule 40 PVC screen. PVC screen was extended from the bottom of each borehole to at least 5 feet above the static water table level. A solid riser was extended from the top of the PVC screen to the ground surface. The temporary well points were removed immediately following completion of groundwater sampling activities.

A groundwater sample was then collected from each temporary well point via a dedicated, disposable bailers. Prior to sampling, temporary well points were not evacuated due to low recharge rates. Groundwater samples collected were poured into laboratory-supplied, pre-labeled, 1-liter, nitric acid preserved plastic bottles.

The water sample containers were immediately placed in a cooler for preservation. The water sample containers were then delivered to an accredited laboratory for chemical testing. The chemical testing of the water samples was performed within the respective holding times. Chain-of-custody was maintained utilizing laboratory chain-of custody tracking forms.

3.5.6 Groundwater Sampling Procedures – Supplemental Sampling Event: Monitoring Well

On September 19, 2019, prior to sampling, monitoring well MW-1 was evacuated with a minimum of three (3) well volumes removed. Groundwater purging was performed using dedicated disposable polyethylene tubing and a surface peristaltic pump. A groundwater sample was then collected from the monitoring well after the groundwater level recharged to within 2 feet of the static (pre-purge) water level. A groundwater sample was collected from the monitoring well via a dedicated, disposable bailer and was then poured into a laboratory-supplied, pre-labeled, 1-liter, nitric acid-preserved plastic bottle.

The water sample container was immediately placed in a cooler for preservation. The water sample container was then delivered to an accredited laboratory for chemical testing. The chemical testing of the water sample was performed within the respective holding times. Chain-of-custody was maintained utilizing laboratory chain-of custody tracking forms.

3.6 Chemical Testing Methods

All soil and groundwater samples were accompanied by a chain of custody form, and were transported via courier to Hampton-Clarke, Inc. laboratory of Fairfield, New Jersey, a New Jersey-accredited laboratory for applicable chemical testing.

3.6.1 Soil Sample Testing

Soil samples were tested for the following target analytes via the corresponding United States Environmental Protection Agency (USEPA) and New Jersey Department of Environmental Protection (NJDEP) analytical methodologies:

- VOCs: 8260 method
- EPH: NJDEP EPH method
- SVOCs: 8270 method
- Target Analyte List (TAL) Metals: 6010S/6020S method
- PCBs: 8082 method

- Chlorinated Pesticides: 8081 method
- Cyanide: S-9012 method

3.6.2 Groundwater Sample Testing

Groundwater samples were tested for the following target analytes via the corresponding USEPA and NJDEP analytical methodologies:

- VOCs: 8260 method
- SVOCs: 8270/SIM-8270 method
- Target Analyte List (TAL) Metals: 6010W/6020W/7470W method
- Dissolved Arsenic, Chromium, and Lead: 6010W/6020W method
- PCBs: 8082 method
- Chlorinated Pesticides: 8081 method
- Cyanide: W-9012 method

4 Presentation and Evaluation of Results

4.1 Field Investigation

4.1.1 Soil Survey – Initial Sampling Event

EMG monitored the advancement of 15 soil borings on the Project.

Four (4) soil borings (SB-1 through SB-4) were advanced within the gravel area surrounding the one (1), suspected 4,000-gallon petroleum UST (identified as A-4); four (4) soil borings (SB-5 through SB-8) were advanced within the asphalt and grass area surrounding the two (2), abutting, suspected 3,000-gallon petroleum USTs (identified as A-5/A-6); three (3) soil borings (SB-9 through SB-11) were advanced within the concrete and grass area surrounding the one (1), suspected 550-gallon petroleum UST (identified as A-1); and four (4) soil borings (SB-12 through SB-15) were advanced within the gravel area surrounding the one (1), suspected septic feature (identified as A-7).

Soil boring locations are shown in Appendix A, Figures 2 through 5. Photographs of the soil boring operations are included in Appendix B.

Soils encountered in the soil borings consisted of brown to tan to gray, silty fine to medium SAND; gray to black SILT; and Fill consisting of brown silty fine SAND, with varying amounts of gravel. Equipment refusal on bedrock was not encountered in any of the soil borings to a depth of 15 feet below grade. Moisture contents of the soil samples at the time of the investigation ranged from low to high.

Shallow groundwater, as measured in temporary well points at the four (4) areas of work, was encountered at depths of 5.4 to 11.6 feet below grade. No unusual odors or stains were noted in any of the soil samples collected from the soil borings. The soil samples collected during the drilling operations were screened with a PID. No elevated PID readings were detected in any of the soil samples collected from the soil borings. Boring logs are included in Appendix C.

Upon completion, the boreholes were backfilled with excess soil cuttings and bentonite chips.

4.1.2 Groundwater Survey – Initial Sampling Event

Shallow groundwater was encountered in all four (4) of the temporary well points at depths of approximately 5.4 to 11.6 feet below the ground surface. No unusual odors or sheens were noted in any of the groundwater samples collected from the temporary well points. Groundwater sample locations are shown in Appendix A, Figures 2 through 5.

4.1.3 Groundwater Survey – Supplemental Sampling Event

Shallow groundwater was encountered in all three (3) of the temporary well points at depths of approximately 6 to 13 feet below the ground surface. No unusual odors or sheens were noted in any of the groundwater samples collected from the temporary well points. Groundwater sample locations are shown in Appendix A, Figure 6. Photographs of the groundwater sampling operations are included in Appendix B.

4.2 Chemical Testing Results

4.2.1 Soil Samples – Initial Sampling Event: UST Areas

The soil sample results are presented in Appendix D, Table 1 — Soil Sample Results - UST Areas. Copies of the laboratory analytical report and chain-of-custody are included in Appendix E.

As indicated in Table 1, no target analyte was detected above its respective method detection limit in any of the soil samples, with the exception of the following soil sample:

- Soil sample SB-8

Soil sample results were compared to NJDEP standards. As indicated in Table 1, no target analyte was detected above its respective NJDEP standard (5,100 parts per million [ppm]) or screening level (1,000 ppm) in any of the soil samples. Because no results exceeded the NJDEP screening level, contingency analysis for semi-volatile compounds (naphthalene and 2-methylnaphthalene) was not needed and thus not performed.

Based on these results, EPH in soil is not considered significant environmental concern with respect to these areas of assessment.

4.2.2 Soil Samples – Initial Sampling Event: Septic Area

The soil sample results are presented in Appendix D, Table 2 — Soil Sample Results - Septic Area. Copies of the laboratory analytical report and chain-of-custody are included in Appendix E.

As indicated in Table 2, target analytes were detected above their respective method detection limits in the following soil samples:

- Soil sample SB-12
- Soil sample SB-13
- Soil sample SB-14
- Soil sample SB-15

Soil sample results were compared to NJDEP standards. As indicated in Table 2, no target analyte was detected above its respective NJDEP standard or screening level in any of the soil samples.

Based on these results, EPH, metals, PCBs, SVOCs, VOCs, and cyanide in soil are not considered significant environmental concerns with respect to this area of assessment. However, the presence of pesticides in three (3) of the four (4) soil samples is considered a potential environmental concern with respect to this assessment; see Sections 5 and 6 for further discussion of this concern.

4.2.3 Groundwater Samples – Initial Sampling Event: UST Areas

The groundwater sample results are presented in Appendix D, Table 3 — Groundwater Sample Results - UST Areas. Copies of the laboratory analytical report and chain-of-custody are included in Appendix E.

As indicated in Table 3, no target analyte was detected above its respective method detection limit in any of the groundwater samples, with the exception of the following groundwater samples:

- Groundwater sample TWP-4
- Groundwater sample TWP-8

Groundwater sample results were compared to NJDEP standards.

As indicated in Table 3, no target analyte was detected above its respective NJDEP standards in any of the groundwater samples.

Based on these results, SVOCs and VOCs in groundwater are not considered significant environmental concerns with respect to this assessment.

4.2.4 Groundwater Samples – Initial Sampling Event: Septic Area

The groundwater sample results are presented in Appendix D, Table 4 — Groundwater Sample Results – Septic Area. Copies of the laboratory analytical report and chain-of-custody are included in Appendix E.

As indicated in Table 4, target analytes were detected above their respective method detection limits in the following groundwater sample:

- Groundwater sample TWP-12

Groundwater sample results were compared to NJDEP standards.

As indicated in Table 4, no target analyte was detected above its respective NJDEP standards in any of the groundwater samples, with the exception of the following groundwater sample and respective target analytes:

- Groundwater sample TWP-12: arsenic, chromium, and lead

Based on these results, select metals, PCBs, pesticides, SVOCs, VOCs, and cyanide in groundwater are not considered significant environmental concerns with respect to this assessment.

Based on these results, arsenic, chromium, and lead in groundwater were initially considered a potential environmental concern with respect to this assessment; see Section 4.2.5 for further assessment of this concern.

4.2.5 Groundwater Samples – Supplemental Sampling Event

The groundwater sample results are presented in Appendix D, Table 5 — Groundwater Sample Results. Copies of the laboratory analytical report and chain-of-custody are included in Appendix E.

As indicated in Table 5, target analytes were detected above their respective method detection limits in the following groundwater samples:

- Groundwater sample TWP-16
- Groundwater sample TWP-17
- Groundwater sample TWP-18
- Groundwater sample MW-1

Groundwater sample results were compared to New Jersey Department of Environmental Protection (NJDEP) standards.

As indicated in Table 5, target analytes were detected above their respective NJDEP standards in all of the groundwater samples, as follows:

- Groundwater sample TWP-16: arsenic, chromium, and lead
- Groundwater sample TWP-17: arsenic, chromium, and lead
- Groundwater sample TWP-18: arsenic, chromium, and lead
- Groundwater sample MW-1: arsenic and lead

See Section 5.5 for further discussion of these results.

5 Interpretations and Conclusions

Following completion of an ASTM E1527-13 Phase I ESA, EMG evaluated the Project through the completion of an ASTM E1903-11 Phase II ESA. Presented below are EMG's interpretations and conclusions from the data gathered as part of this Phase II ESA.

5.1 Recognized Environmental Conditions

According to EMG's Phase I ESA for the Project (EMG Project 138092.19R000-001.135; dated May 24, 2019), a geophysical survey was performed by Geo-Graf, Inc. (on behalf of Ingram Engineering Services, Inc., who was retained directly by the Client). The geophysical survey identified the following potential subsurface anomalies:

- One (1), 550-gallon (estimated, identified as A-1), petroleum UST is apparently located abutting the southeast corner of the Project residence;
- Two (2), abutting, 3,000-gallon (estimated, identified as A-5/A-6), petroleum USTs are apparently located between the garage and the southern greenhouse structures;
- One (1), 4,000-gallon (estimated, identified as A-4), petroleum UST is apparently located along the south side of the northern greenhouse structures and north of the garage; and
- One (1) septic structure (identified as A-7) and related piping, associated with the garage, are situated around and likely north of a septic feature located southeast of the northern greenhouse structures.

5.2 Conceptual Model Validation/Adequacy of Investigation

The scope of EMG's general evaluation of soil and groundwater at the Project was appropriate to support an evaluation of the potential impacts to soil and/or groundwater from the four (4) suspected onsite USTs and/or from one (1) onsite septic structure associated with the garage.

EMG's opinion is that the conceptual model developed for this assessment was validated and no additional data are required to support an opinion regarding environmental conditions at the Project.

5.3 Scope Limitations and/or Qualifications of Assessment

EMG encountered no limitations to the proposed scopes of work and there are no qualifications to this report.

5.4 Objectives Met

The User(s) of this Phase II ESA report provided guidance as to the desired objective to be achieved from the Phase II ESA process. With respect to the Project, the objective was to determine if four (4) suspected onsite USTs and/or the onsite septic structure associated with the garage impacted soil and/or groundwater at the Project.

EMG concludes that the objectives, defined as part of the ASTM E1903-11 standard practice, were met through execution of this Phase II ESA.

5.5 Conclusions

5.5.1 Initial Sampling Event

Chemical testing of soil and groundwater samples indicates that any release(s) from the four (4) suspected onsite USTs and/or from the onsite septic structure associated with the garage, if occurred, did not impact soil and/or groundwater at the Project in any significant manner.

Chemical testing of groundwater samples indicates regulatory exceedances of several metals (arsenic, chromium, and lead). However, it was not known whether these exceedances were due to excessive sample turbidity (as is common with temporary well point groundwater samples) or whether these compounds were naturally occurring or the results of an onsite source (such as from pesticides). If some or all of the metals were from an onsite source it would be a reportable release, but if the metals were elevated due to turbidity, it would not be a reportable release. See Section 5.5.2 for further assessment of metals in groundwater.

Chemical testing of soil samples indicates the presence of pesticides (chlordanes, DDD, DDE, and DDT) at concentrations below regulatory limits.

5.5.2 Supplemental Sampling Event

Chemical testing of groundwater samples identified dissolved arsenic, chromium, and lead at concentrations exceeding applicable cleanup standards in upgradient temporary well points TWP-16, TWP-17, and TWP-18, at significantly higher concentrations than in initial temporary well point TWP-12 and in supplemental monitoring well MW-1.

EMG concludes that the metal exceedances are naturally occurring and not due to on-site contributions.

6 Recommendations

Based on the results of the initial sampling event, EMG recommends the following:

- One (1), 550-gallon (estimated, identified as A-1), petroleum UST is apparently located abutting the southeast corner of the Project residence. EMG recommends the UST be emptied and removed by a NJDEP-licensed tank removal contractor during site redevelopment activities.
- Two (2), abutting, 3,000-gallon (estimated, identified as A-5/A-6), petroleum USTs are apparently located between the garage and the southern greenhouse structures. No evidence of fill ports or vents were observed and thus EMG suspects these USTs are no longer in use. EMG recommends the USTs registered with the NJDEP, emptied, and removed by a NJDEP-licensed tank removal contractor during site redevelopment activities.
- One (1), 4,000-gallon (estimated, identified as A-4), petroleum UST is apparently located along the south side of the northern greenhouse structures and north of the garage. No evidence of fill ports or vents were observed and thus EMG suspects the UST is no longer in use. EMG recommends the UST be registered with the NJDEP, emptied, and removed by a NJDEP-licensed tank removal contractor during site redevelopment activities.
- One (1) septic structure (identified as A-7) and related piping, associated with the garage, are situated around and likely north of a septic feature located southeast of the northern greenhouse structures. The manhole lid identified on the geophysical map (provided to EMG) as A-7 was opened and the structure was observed. The structure does not appear to be a typical septic tank, but rather a possible overflow feature. No septic leachfield was identified in the geophysical survey and leachfield bedding material was not observed during soil boring activities. Should any septic-related features be encountered during site redevelopment activities, such features should be addressed in accordance with all applicable local and state regulations.
- One UST vent and suspected former pump dispenser base were observed at the northeast corner of the garage building attached to the office (the vent is depicted on the geophysical survey map). Whereas it is possible UST A-4 is related to the vent and dispenser base, EMG suspects it is not, due to its distance from the vent and because A-4 was reported as a heating oil UST (which would not have a dispenser). If an additional UST is located in this area, EMG recommends the UST be registered with the NJDEP, emptied, and removed by a NJDEP-licensed tank removal contractor during site redevelopment activities.
- Chemical testing of soil samples in the area of the septic structure indicates the presence of pesticides (chlordanes, DDD, DDE, and DDT) at concentrations below regulatory limits. Any pesticide-impacted soils encountered during site redevelopment activities should be characterized and handled in accordance with all applicable local and state regulations.

Based on the results of this supplemental sampling, EMG recommends no additional investigative action with respect to dissolved arsenic, chromium, and lead in shallow groundwater at the Project. However, EMG recommends the following:

- The permanent monitoring well (MW-1) should be properly sealed by a New Jersey-licensed well driller during site redevelopment activities.

7 Limitations and User Reliance, Terminology, and References

7.1 Limitations and User Reliance

EMG has completed a Phase II Environmental Site Assessment of 2419 Route 33 (the "Project"), located in 2425 Corlies Avenue, 2419-2425 Route 33, Neptune Township, New Jersey 07753. The assessment was performed at the Client's request using the methods and procedures consistent with good commercial and customary practice designed to conform with acceptable industry standards.

This report has been prepared for and is exclusively for the use and benefit of the Client identified on the cover page of this report. The purpose for which this report shall be used shall be limited to the use as stated in the contract between the client and EMG.

This report, or any of the information contained therein, is not for the use or benefit of, nor may it be relied upon by any other person or entity, for any purpose without the advance written consent of EMG. Any reuse or distribution without such consent shall be at the client's or recipient's sole risk, without liability to EMG.

In expressing the opinions stated in this report, EMG has exercised the degree of skill and care ordinarily exercised by a reasonable prudent environmental professional in the same community and in the same time frame given the same or similar facts and circumstances. Documentation and data provided by the Client, designated representatives of the Client or other interested third parties, or from the public domain, and referred to in the preparation of this assessment, have been used and referenced with the understanding that EMG assumes no responsibility or liability for their accuracy.

EMG's professional services have been performed, our findings obtained, and our recommendations prepared in accordance with customary principles and practices in the fields of environmental engineering and sciences. EMG is not responsible for the independent conclusions, opinions, or recommendations made by others based on the field exploration and laboratory test data presented in this report.

The investigation performed for this project is intended as a description of available information at the time of the investigation. This report does not warrant against future operations or conditions present of a type or at a location not investigated.

7.2 Terminology

Terminology as defined in *Section 3.1 of ASTM Practice E1903-11: Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process* and/or *Section 3.2 of ASTM Practice E1527-13: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*.

- **Background concentration** — The concentration of a *target analyte* in *groundwater*, surface water, air, soil gas, sediment, or soil at a reference location near an area under investigation, which is not attributable to the area under investigation. Background samples may contain the *target analyte*, due to either naturally occurring or man-made sources, but not due to the *release(s)* in question.
- **Business environmental risk** — A risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues investigated in accordance with these practices.
- **Chain of custody** — A written or printed form that documents information regarding sample possession, condition, and responsibility, including the time from sample container acquisition through transportation, sample collection, and *chemical testing*.
- **Chemical testing** — Measurement of the presence and concentration of *target analytes* by analytical chemistry methods in a laboratory; also, for purposes of this practice, measurement of certain *target analytes* by physical methods.
- **Controlled recognized environmental condition** — A *recognized environmental condition* resulting from a past *release of hazardous substances or petroleum products* that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with *hazardous substances or petroleum products* allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).
- **Data gap** — A lack of or inability to obtain information required by the United States Department of Environmental Protection (USEPA) All Appropriate Inquiries (AAI) Rule despite good faith efforts by the *Environmental Professional* to gather such information.
- **De minimis** — Conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.
- **Environmental media** — Soil, rock, *groundwater*, surface water, air, soil gas, and sediment.
- **Environmental Professional** — A person meeting the education, training, and experience requirements set forth in 40 CFR 312.10(b).

- **Field screening** — The measurement of physical properties or presence and approximate concentration of *target analytes* in *environmental media* by methods or techniques employed in the field during explorations and sampling. Measurements can be qualitative (positive/negative) or quantitative. Accuracy and precision of these methods generally are not equivalent to those achieved in a laboratory environment.
- **Groundwater** — Water below the land surface in a zone of saturation.
- **Groundwater flow** — The movement of water in the zone of saturation.
- **Groundwater flow direction** — The compass bearing of the horizontal component, and the vertical component, of water movement in the zone of saturation.
- **Hazardous substance** — A substance defined as a *hazardous substance* pursuant to Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 42 U.S.C. §9601(14), as interpreted by USEPA regulations and the courts: "(A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title, (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, (42 U.S.C. §6921) (but not including any waste the regulation of which under RCRA (42 U.S.C. §6901 *et seq.*) has been suspended by Act of Congress), (D) any toxic pollutant listed under section 1317(a) of Title 33, (E) any hazardous air pollutant listed under section 112 of the Clean Air Act (42 U.S.C. §7412), and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator (of USEPA) has taken action pursuant to section 2606 of Title 15. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a *hazardous substance* under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas)".
- **Historical recognized environmental condition** — A past *release* of any *hazardous substances* or *petroleum products* that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restriction, activity and use restrictions, institutional controls, or engineering controls).
- **Likely release area** — A place where a *Phase II Assessor* judges it likely that *target analytes* were first introduced into *environmental media* as a result of a *release* such that the *target analytes* may now be present in *environmental media* at the property.
- **Migration pathway** — A route through *environmental media* taken by a *target analyte*; the physical feature allowing movement of *target analytes*.
- **Phase II Assessor** — A person meeting the definition of an *Environmental Professional* as provided in Section 3.2.32 of ASTM Practice E1527-13, and possessing sufficient education, professional training, and relevant experience to conduct or be in responsible charge of environmental investigations and other activities in accordance with ASTM Practice E1903-11, and to interpret the resulting data to develop opinions and conclusions regarding the presence of *target analytes* in *environmental media* in connection with the property in question. Overall, a *Phase II Assessor* should understand and be experienced in pertinent aspects of the scientific method, hydrogeology, geochemistry, environmental investigation/exploration techniques, interpretation of *chemical testing* data, and commercial and industrial operations pertaining to the use and handling of site-specific *target analytes* and production and handling of associated wastes.
- **Petroleum products** — Those substances included within the meaning of the petroleum exclusion to CERCLA, 42 U.S.C. §9601(14), as interpreted by the courts and USEPA, that is: petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a *hazardous substance* under Subparagraphs (A) through (F) of 42 U.S.C. §9601(14), natural gas, natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
- **Quality assurance/quality control** — Quality control is the use of standards and procedures designed to promote and ensure the collection of samples and generation of analytical results that are of good and acceptable quality for the purposes intended; quality assurance is the use of standards and procedures to evaluate work products to determine if they achieved good and acceptable quality.
- **Receptor** — A living organism or habitat of a community of organisms; also, an inanimate feature that, if contacted by *target analytes*, would be a proximal means of exposing living organisms to the *target analytes*, e.g., a drinking water well that could convey *groundwater* containing *target analytes* to people.
- **Recognized environmental condition** — The presence or likely presence of any *hazardous substances* or *petroleum products* on property under conditions that indicate an existing *release*, a past *release*, or a material threat of a *release* of any *hazardous substances* or *petroleum products* into structures on the property or into the ground, *groundwater*, or surface water of the property. The term includes *hazardous substances* or *petroleum products* even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that do not present a material risk of harm to public health or the environment and that would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not *recognized environmental conditions*.
- **Release** — A *release* of any *hazardous substance* or *petroleum product* shall have the same meaning as the definition of "release" in CERCLA 42 U.S.C. §9601(22).