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FINAL REMEDIAL INVESTIGATION REPORT

Granite Pointe Subdivision Off-Site OU1
114 Route 118, Somers, Westchester County, New York
Site Number C360107A
Contract Work Authorization Number: D006132-14

Shaw Project No.: 134685.1404

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Acronyms and Abbreviations

µg/L	micrograms per liter
ASTM	American Society for Testing and Materials
BCP	Brownfield Cleanup Program
bgs	below ground surface
CT Male	C.T. Male Associates
DUSR	Data Usability Summary Report
DER	Department of Environmental Remediation
DVS	Data Validation Services, Inc.
FAP	Field Activities Plan
GES	Groundwater Environmental Services
GIS	Geographic Information System
Katahdin	Katahdin Analytical Services
MS/MSD	Matrix Spike / Matrix Spike Duplicate
NAD	North American Datum
NAVD	North American Vertical Datum
NTUs	nephelometric units
NYCDEP	New York City Department of Environmental Protection
NYSDEC	New York State Department of Environmental Conservation
NYSGWQS	New York State Groundwater Quality Standard
ppb	parts per billion
ppm	parts per million
PW	Parratt Wolff, Inc.
QAPP	Quality Assurance Project Plan
QA/QC	quality assurance and quality control
RAWP	Remedial Action Work Plan
RI	Remedial Investigation
RSCO	Recommended Soil Cleanup Objectives
SCO	Soil Cleanup Objectives
SCOPER	Soil Cleanup Objectives for Protection of Ecological Resources
Shaw	Shaw Environmental & Infrastructure Engineering of New York, P.C.
TAL	Target Analyte List
TOGS	Technical and Operations Guidance Series

USCS	Unified Soil Classification System
USEPA	United State Environmental Protection Agency

1.0 Introduction

Shaw Environmental & Infrastructure Engineering of New York, P.C. (Shaw) has prepared this Remedial Investigation (RI) Report summarizing the collection of surface and subsurface soil, groundwater, sediment and surface water samples at the Granite Pointe Subdivision Off-Site Project (Site No. C360107A) located at 144 Route 118 Somers, Westchester County, NY (Site) (**Figure 1**). The primary purpose of the RI was to document soil and groundwater quality conditions at the site, specifically lead and antimony. This summary is an addendum to the Remedial Investigation Report submitted to the New York State Department of Environmental Conservation (NYSDEC) on August 23rd, 2011.

1.1 Site Description & Location

This Site is the off-site portion of a Brownfield Cleanup Program (BCP) site located in Somers, Westchester County, New York. The Site is undeveloped, primarily wooded and has no history of remediation. The western portion, as reported in the January 2010 Remedial Action Work Plan (RAWP) completed by Groundwater Environmental Services (GES) submitted to the NYSDEC, is the BCP property; a former gun range where target and trap shooting were common. The range was active from 1938 to 1968. During that period surface and subsurface soils were contaminated with Lead and a number of semi-volatile organic compounds. The Amawalk Reservoir borders the Site to the East. The reservoir is a source of potable water to New York City and is maintained and protected by the New York City Department of Environmental Protection (NYCDEP). The property on which the current Site investigation occurred is part of the Lands of the City of New York.

In April 2011 Shaw completed the initial phase of site investigation, consisting of obtaining soil samples from 6 inch intervals; one surficial sample from the first 6 inches and in 6 inch intervals thereafter to 4 feet below ground surface (bgs). A total of eight samples were collected from each of the 16 proposed locations (SS-1 to SS-16). The samples were collected using a hand auger and a post hole digger. The investigation showed the presence of lead contamination throughout the majority of the study area. During laboratory analysis for metals compounds the laboratory notified Shaw of the presence of antimony within some samples; upon NYSDEC approval antimony was listed with lead as a contaminant of concern. The intent of this initial

phase of site investigation was to spatially delineate and quantify the presence of lead and antimony contamination over the northeastern boundary of the BCP property. The results of this site assessment are included in this report.

The resulting analytical data warranted the collection of additional soil, groundwater and surface water samples to further characterize the nature and extent of impacts across the site and adjacent BCP property. The scope of work and results of this additional assessment program is detailed in the remaining portions of this report.

2.0 Site Assessment Activities

2.1 Phase 1 – April 2011

The intent in completing this assessment program was to document the vertical distribution of lead within the upper four feet of the soil column as well as characterizing surficial soil quality adjacent to the BCP property.

The scope of work included the advancement of 16 soil borings to a depth of 4-feet below ground surface using Direct Push/Geoprobe Technology. Upon retrieval of the soil core, samples were to be collected every 6- inches, providing eight samples per soil boring. It was anticipated that a total of 128 Subsurface Soil and 27 Quality Assurance / Quality Control (QA/QC) samples (7 Duplicates, 7 rinse blanks, and 7 Matrix Spike / Matrix Spike Duplicates [MS/MSD]) were to be collected, packed into glass jars, and shipped to an approved laboratory for analysis of total lead and total antimony using United States Environmental Protection Agency (USEPA) method 6010B/7010B.

2.1.1 Field Sampling Activities

On April 26th, 27th, and 29th 2011 Shaw personnel collected a total of 119 surficial/subsurface soil samples from 16 locations (designated SS-1 through SS-16) as shown in **Figures 2** and **3**. Sampling was initially conducted using a JMC Direct Push spring loaded floor jack soil sampler; however sample volume recovery was inconsistent and not representative of the sampling intervals. After approval from the NYSDEC the samples were collected using a hand auger and post-hole digger. A photolog of field activities is included in **Appendix A**.

The soils in this area consisted primarily of light to dark brown clayey silts with organic material; some locations contained rounded cobbles, gravel, and trace sand. Soil samples were collected from the full 0-4 foot interval at 11 of the 16 (SS-1 through SS-9 and SS-15 through SS-16) sample locations. The saturation zone at the remaining five locations (SS-10, SS-11, SS-12, SS-13, SS-14), created maximum sampling depths varying from 30-inches to 42-inches (**Table 1a**). Field sample locations were adjusted according to boulders, trees and other detritus. In accordance with Shaw's Field Activities Plan (FAP), six MS/MSD, six field duplicate samples and seven equipment rinse blanks (four for the post hole digger and three for the hand auger)

were collected for QA/QC purposes. Decontamination procedures between each sample and sampling location followed the procedures outlined in the Quality Assurance Program Plan (QAPP).

Soil samples were shipped to Katahdin Analytical Services (Katahdin) of Scarborough, ME for analysis of Target Analyte List (TAL) metals, exclusively lead, via USEPA method 6010B/7010B. At the time of Phase 1 sample shipment the presence of antimony was unknown at the Site. During laboratory extraction of the TAL metals from samples collected during the first phase of site assessment activities Katahdin notified Shaw of elevated levels of antimony within some of the samples. Upon NYSDEC approval antimony was included in the analytical package. Sampling locations are presented as **Figure 2 and 3**, and field notes are included as **Appendix B**.

2.2 Phase 2 Scope of Work

The intent in completing Phase 2 of this assessment program was to fill spatial gaps of the horizontal and vertical distribution of lead within the upper four feet of the soil column, collect groundwater samples from three newly installed monitoring wells to determine if lead and/or antimony has leached into the overburden aquifer and to collect sediment and water samples from the Amawalk Reservoir.

The Phase 2 scope of work included the advancement of an additional 21 soil borings to a depth of 4-feet below ground surface using Direct Push/Geoprobe Technology. Upon retrieval of the soil core, samples were to be collected every 6- inches, providing eight samples per soil boring. It was anticipated that a total of 168 Subsurface Soil and 27 QA/QC samples (9 Duplicates and 9 MS/MSD) were to be collected, packed into glass jars, and shipped to an approved laboratory for analysis of total lead and total antimony using USEPA Method 6010B/7010B. Soil sampling was conducted by Parratt Wolff, Inc. (PW) via the Direct Push methodology utilizing a Geoprobe® 7720, and sampling locations are presented as **Figure 2 and 3**.

Phase 2 of this investigation was to also include the installation of three two-inch monitoring wells to a depth of approximately thirteen feet below ground surface. These three monitoring wells were to supplement the 21soil borings and were to be installed during the same field mobilization. Soil samples were to be collected from soil groundwater interface level. Well

construction took place in accordance with Shaw's master FAP and all well borings were properly logged by the Shaw Geologist providing oversight of the installation. A photolog of field activities is included as **Appendix A**.

Upon completion of their installation, each monitoring well was to be developed following the procedure outlined in Shaw's FAP. Once the three monitoring wells had been developed, they were left to stabilize for no less than two weeks. After this two week period, Shaw personnel was to return to the site for groundwater sampling via low-flow techniques outlined in the FAP. Depth-to-water measurements were to be collected to facilitate the production of a groundwater contour map. One sample was to be collected from each of the three monitoring wells. Including one set of QC samples (duplicate and MS/MSD), a total of six groundwater samples were to be shipped to an approved laboratory for analysis of total and dissolved lead and antimony via USEPA method 6010B/7010B.

Phase 2 also included three surface water samples to be collected a short distance from the shoreline in the Amawalk Reservoir. To minimize the disturbance of sediment near the shore, these were to be simple "grab" samples directly from the surface of the water body. Three samples and one set of quality control samples were to be collected (six total) and sent to an approved laboratory for analysis of total lead and total antimony via USEPA method 6010B/7010B.

Additionally, three sediment samples from the reservoir were to be collected as close as possible to the location of the surface water sample points. These samples were to be collected from the first three inches of the sediment using a "Petite Ponar" sampler. The Ponar sampler was to be decontaminated between sampling points, using the method outlined in Shaw's QAPP. Three samples and one set of quality control samples were to be collected (six total) and sent to an approved lab for analysis of total lead and total antimony via USEPA method 6010B/7010B.

2.2.1 Geoprobe® Soil Sampling Activities

On November 8th, 9th, and 10th 2011 PW along with Shaw personnel, using a Geoprobe® 7720, collected a total of 168 surficial/subsurface soil samples from 21 locations (designated SB-17 through SB-37) as shown on **Figure 2 and 3**. The soils in this area consisted primarily of light to dark brown clayey silts with organic material; some locations contained rounded cobbles,

gravel, and trace sand. Soil samples were collected from 2-foot Macro Core Sampler and acetate sleeve liner provided by PW. Field sample locations were adjusted to avoid boulders, trees and other detritus. In accordance with Shaw's FAP, six MS/MSD, and nine field duplicate samples were collected for QA/QC purposes. Decontamination procedures between each sample and sampling location followed the procedures outlined in the QAPP.

Soil samples were shipped to Katahdin for analysis of TAL (exclusively lead and antimony), via USEPA Method 6010B. Field notes are included as **Appendix B**.

2.2.2 Monitoring Well Installation Activities

On November 9th, and 10th 2011 PW along with Shaw personnel, using a Geoprobe® 7720 advanced three soil borings which would be completed as monitoring wells MW-1A, MW-2 and MW-3. Continuous soil logging was completed from the ground surface to the top of the groundwater table using a 4-foot Macro Core sampler and acetate liner. The soil macro cores were logged by a Shaw geologist according to the Unified Soil Classification System (USCS) (American Society for Testing and Materials (ASTM) D 2487-85).

The soils in this area consisted primarily of light to dark brown clayey silts with organic material; some locations contained rounded cobbles, gravel, and trace sand. Soil samples. MW-1A (8'), MW-2 (12') and MW-3 (8'), were collected at the soil/groundwater interface. QA/QC samples accompanied the monitoring well soil samples as well as the Geoprobe® Soil Samples in ratios consistent with Shaw's QAPP. Field notes are included as **Appendix B**.

Soil boring MW-1 was abandoned when the direct push rod reached refusal at 12.5-foot bgs; the boring was temporary left open in the event that groundwater would collect within the boring. No groundwater collected overnight and boring MW-1 was abandoned. MW-1A, which was advanced approximately 15-feet east of MW-1, was successfully installed as scoped.

Soil samples MW-1 (12'), MW-2 (12'), MW-3 (8'), MW-1A (6') and MW-1A (8') were shipped to Katahdin under proper chain-of-custody for analysis of TAL metals (exclusively lead and antimony), via USEPA method 6010B.

The monitoring wells were constructed using 1 ½-inch pre-packed schedule 40 PVC with a pre-packed 10-foot screen. The monitoring wells were finished as stick-ups with a 3-foot PVC riser secured with a locking cap; the construction specifics are included in the soil boring / monitoring well construction logs (**Appendix C**).

The monitoring wells were developed on November 15, 2011 using a peristaltic GeoPump® with new polyethylene tubing. Well development ceased when 10 well volumes were removed or when the measured turbidity was below 50 nephelometric units (NTUs). Well development data sheets are included as **Appendix C**.

2.2.3 Groundwater Sampling Activities

On March 15, 2012 groundwater samples were collected from the newly installed monitoring wells MW-1A, MW-2 and MW-3. The monitoring wells were gauged for depth to water and depth to bottom prior to purging and sampling.

Groundwater samples were collected using the "low-flow" methodology with a battery powered peristaltic GeoPump® with dedicated polyethylene tubing in accordance with Shaw's FAP. Groundwater field parameters (pH, temperature, specific conductivity, dissolved oxygen, oxidation reduction potential and turbidity) were allowed to stabilize prior to sampling. MW-1A went dry while collecting the sample; the monitoring well was allowed to recharge to 80% of the initial volume prior to collecting the remaining sample aliquot.

Table 2 summarizes monitoring well gauging and parameter readings. The groundwater samples were shipped to Katahdin and analyzed for total and dissolved lead and antimony via USEPA method 6010/6020. A MS/MSD was collected at MW-2 and a blind field duplicate was collected from MW-3. Groundwater sampling data sheets are included as **Appendix D**.

2.2.4 Reservoir Sampling Activities

On March 15th, 2012 Shaw personnel returned to the Site to collect sediment and surface water samples adjacent to the shoreline of the Amawalk Reservoir. The surface water samples (SW-1, 2, and 3) were collected via dedicated polyethylene bailers and transferred in into their proper laboratory bottles. The surface water samples were shipped to Katahdin and analyzed according to USEPA method 6010/6020 for total and dissolved lead and antimony. A MS/MSD was collected at SW-2 and a blind field duplicate was collected from SW-1.

Sediment samples (designated SED-1, 2 and 3) were collected at approximately the same locations as the surface water samples from a depth of approximately 0 - 3-inches. Samples were initially proposed to be collected via a "petite ponar" dredge sampler however field constraints such as cobbles and a shallower than expected water depth provided inadequate sample aliquots from within the "dredge." At the request of the NYSDEC, samples were collected via a retrofitted polyethylene bailer that was used to collect the surficial water samples. The bailer was used as a direct push implement, returning approximately 3-inches of soil. The sediments were then transferred to a stainless steel bowl where the material was composited. Decontamination procedures were followed using the method outlined in Shaw's QAPP. The Reservoir sediment samples were shipped to Katahdin and analyzed according to USEPA method 6010/6020 for total and dissolved lead and antimony. A MS/MSD was collected at SED-2 and a blind field duplicate was collected from SED-1.

2.2.5 Site Survey

On March 15th and 16th, 2012, C.T. Male Associates (CT Male) completed a site survey of the RI Site as well as portions of the BCP Site survey as shown on **Figure 2**. Coordinates were gathered for each of the 37 (16 original hand auger locations as well as the 21 Geoprobe) soil sample locations and 3 newly installed monitoring wells. CT Male provided Shaw with coordinates in New York State Plane North American Datum (NAD) 1983 and groundwater monitoring well elevations in North American Vertical Datum (NAVD) 1988. The original geographic data from the initial 16 soil sample locations was collected using a Trimble Unit and then overlain onto a base map. An updated Geographic Information System (GIS) Sample Location Map from the Site Survey is included as **Figure 3**.

The ground surface of the general area surrounding the site slopes gradually upward to the west / southwest away from the Amawalk Reservoir toward Granite Springs Road. A Groundwater Flow Map was prepared using the groundwater elevation data obtained during the March sampling event and is presented as **Figure 3**. The groundwater elevation difference between MW-1A and MW-3 was 1.91-feet. The horizontal hydraulic gradient for the March event is 0.00468-feet (MW-1A to MW-3). Groundwater appears to be flowing in a southern direction toward the Amawalk Reservoir, located approximately 250 ft from the western boundary of the area of investigation.

2.2.6 Biologic Resource Inventory

On November September 8, 2011, Shaw personnel performed a limited biological resources inventory at the Site. The purpose in completing this assessment was to identify habitats present on site and create a limited inventory of vegetative and wildlife species, including those listed in the New York Natural Heritage Program's database as part of the Fish and Wildlife Resources Impact Analysis Part 1: Resource Characterization outlined in Section 3.10.1 of NYSDEC Department of Environmental Remediation (DER)-10: Technical Guidance for Site Investigation and Remediation dated May 3, 2010. Four data points were established at various locations throughout the site. At each location as well as the area between locations, a list of observed vegetation and wildlife species was generated and a limited evaluation of the availability of food, water, cover, and breeding and roosting habitat was noted. The results are summarized in Section 3.5 and in **Appendix E** of this report.

3.0 Results

3.1 Surface Soil Sampling - Phase 1

During laboratory extraction of the TAL metals from samples collected during the first phase of site assessment activities Katahdin notified Shaw of elevated levels of antimony within some of the samples. Antimony is used as a coating alloy for some firearm projectiles. Upon NYSDEC approval antimony was included in the analytical package. The complete analytical package is included as **Appendix F**. A Soil Quality Map is included as **Figure 4**. Soil Zone of Impact Maps for unrestricted use, restricted commercial use and restricted industrial use are presented as **Figures 7a** through **7c**.

The analytical results for lead and antimony from the initial investigative activities are summarized and compared to NYSDEC Recommended Soil Cleanup Objectives (RSCOs) for unrestricted, commercial, industrial use as defined by 6 NYCRR Part 375 (December 2006), as well as NYSDEC CP-51 Supplemental Soil Cleanup Objective for Protection of Ecological Resources (SCOPER) (October 2010) on **Table 1a**, and illustrated on **Figures 4** and **7a** through **7c**. Lead detections above the RSCOs were reported at all locations. Locations SS-1 and SS-4 only had lead detections above the unrestricted use RSCO. Sample locations SS-2, SS-3, SS-5, SS-8, SS-9, SS-12 and SS-15 had lead detections over the unrestricted use RSCO and at least one interval with detection over the restricted commercial use RSCO. The remaining locations, SS-6, SS-7, SS-9, SS-10, SS-11, SS-13, SS-14 and SS-16 had detections that exceeded the unrestricted use RSCO, restricted commercial use RSCO as well as the restricted industrial use RSCO. Antimony was detected at each sampling location and exceeded the SCOPER at SS-5, SS-6 through SS-14, and SS-16.

3.2 Surface Soil Sampling - Phase 2

The analytical results for lead and antimony from the second phase of investigative activities are summarized and compared to NYSDEC RSCOs for unrestricted, restricted commercial, and restricted industrial use as defined by 6 NYCRR part 375 (December 2006), as well as SCOPER (October 2010) on **Table 1b**. The complete analytical package is included as **Appendix F**. A Soil Quality Map is included as **Figure 5**.

Antimony was detected at all locations except MW-1 and MW-3. Detections exceeded SCOPER at SB-18, SB-20, SB-21, SB-23, SB-25 through SB-27, and SB-34. Lead was detected above the RSCOs at all locations except SB-30 and MW-3. Locations SB-19, SB-22, SB-24, SB-29, SB-31 through SB-33, SB-36, SB-37, MW-1A and MW-2 only had lead detections above the unrestricted use RSCO. Sample locations SB-28 and SB-35 had lead detections over the unrestricted use RSCO and at least one interval with detection over the restricted commercial use RSCO. The remaining locations, SB-17, SB-18, SB-25, SB-26, SB-27 and SB-34 had detections that exceeded the unrestricted use RSCO, restricted commercial use RSCO as well as the restricted industrial use RSCO. These results are illustrated on **Figures 5** and **7a** through **7c**.

3.3 Groundwater Sampling

The analytical results from the March 15th, 2012 sampling event for total and dissolved lead and antimony are summarized and compared to New York State Groundwater Quality Standards (NYSGWQS) as defined in Technical and Operations Guidance Series (TOGS) 1.1.1 on **Table 3** and **Figure 6.** The complete analytical data package is included as **Appendix F**. A Groundwater Quality Map is included as **Figure 6**.

Only the sample from MW-3 had detections for antimony. This detection at (1.8J µg/L) was below the NYSGWQS. Total lead was detected in all three monitoring well samples; dissolved lead in two monitoring well samples (MW-2 and MW-3). Only total lead result in MW-2 exceeded the NYSGWQS; the dissolved fraction for this sample was below the NYSGWQS (1.4J µg/L).

3.4 Amawalk Reservoir Sampling (Surface Water and Sediment)

The analytical results from the March 15th, 2012 Amawalk Reservoir Surface Water sampling event (SW-1, SW-2, SW-3) for total and dissolved lead and antimony are summarized and compared to New York State Source of Drinking Water Standards as defined in TOGS 1.1.1 on **Table 4** and illustrated on **Figure 6**. The sediment samples (SED-1, SED-2 and SED-3) collected from the same general locations are also summarized and compared to NYSDEC Technical Guidance for Screening Contaminated Sediments (January 1999) on **Table 5** and illustrated on **Figure 6**.

The complete analytical data package is included as **Appendix F**. The analytical results for samples collected from within the reservoir did not exceed either of the regulatory standards. A Reservoir Quality Map is included as **Figure 6**.

There no detections for either antimony or lead in the surface water samples above the laboratory method detection limits. Lead was detected in all three sediment samples; the samples were below all guidance criteria. Antimony was detected in SED-2 and SED-3 but did not exceed the guidance criteria.

3.5 Biologic Resource Inventory

During the one day site inspection, a total of 12 vegetative species, 11 avian, three mammalian, and one amphibian species were observed or detected within the project area. In immediately adjacent sites and the Amawalk Reservoir, a total of nine avian, one mammalian, and one amphibian species were detected. None of the threatened, endangered or protected species listed for the Town of Somers were observed during the site inspection; however, the Sharp-Shinned Hawk, considered a Species of Special Concern by the NYSDEC, was observed.

Habitat characteristics such as food, cover, water, and breeding and roosting habitat were evaluated at and between each data point. The project site contains a variety of food or prey items ranging from invertebrates such as beetles, earthworms, flies, and moths to smaller vertebrates. A cursory visual inspection revealed a well developed canopy within the project site. Soils within the project site are generally moist. The presence of Redback Salamander in several locations suggests the soil remains moist for much of the year. The habitat on site provides the breeding and roosting requirements for many species of invertebrates and birds, several mammals, and at least one (1) amphibian species. A copy of the report is included as **Appendix G**.

3.6 Quality Assurance / Quality Control Management

QA/QC samples were collected and analyzed to evaluate field and laboratory quality control. Results are included in the laboratory package (**Appendix F**). In addition to the standard QA/QC samples, seven equipment rinse blank samples were collected analyzed for TAL Lead. The results of QA/QC sampling, along with the date, time, and sampling equipment for Equipment Rinse Blank samples, are summarized in **Table 1c**.

3.7 Data Usability Summary Report (DUSR) - Phase 1

Analytical data generated throughout the course of this investigation was sent for third party validation. Data Validation Services, Inc. (DVS) reviewed all the generated data and prepared a Data Usability Summary Report (DUSR) for each package which is included as **Appendix G**. As noted in the DUSR for SDG Nos. Granite 1 through Granite 7 (soil), all results are usable either as reported or with minor qualifications.

As noted in the DUSR, the blind field (Dup. 01) collected form SS-3 18" shows "very significant outlying correlations" for both antimony and lead. Results for both elements in the parent sample and Dup. 01 have been qualified as estimated. Although it can be stated that the elements are present at this location, the quantitative value is uncertain.

Lead was detected at 179 micrograms per liter (µg/L) in the rinse blank collected on April 26, 2011. Eleven samples (SS-1 18", SS-1 24", SS-1 30", SS-1 36", SS-2 18", SS-2 24", SS-2 30", SS-3 30", SS-3 36", SS-3 42" and SS-3 48") with marginally reported detections have been revised and are now reported as "non-detect".

3.8 Data Usability Summary Reports (DUSRs) - Phase 2

The DUSR produced for the 173 field samples, nine field duplicates and three equipment rinse blanks samples collected between 11/08/11 and 11/10/11 by DVS is included as **Appendix G**. As stated in the DUSR report, all are considered "usable" or usable with minor qualification and "some of the samples were processed at dilution due to interferences from elevated iron concentrations". The dilutions are presented on **Tables 1a** and **1b**.

Five of the field duplicate evaluations (SB-34 36", SB-37 48", SB-24 36", SB-27-48" and SB 27 36") had acceptable duplicate corrections.

<u>Antimony</u>

Three antimony detected values were revised to reflect non-detections because evidence indicated a significant non-homogenous matrix for one of the field duplicates. Samples SB-24 12", SB-23 24" and SB-18 12" were revised to reflect non-detection because they were considered to contain external contamination.

The duplicate evaluation for sample SB-18 30" had outlying correlations. Results for the parent samples and its duplicate were "qualified as estimate, and should be used with caution".
The antimony results in samples SB-36 42", SB-24 48", SB-25 6", SB-34 48", SB-33 24", SB-28 6", SB-18 48", SB-29 42", SB-21 48" and MW-1A 8" had low recoveries for the matrix spikes of the parent samples and were qualified as estimated in value, with low possible bias. Additionally, SB-28-6 had an elevated duplicate correlation and was qualified as estimated in value.

Lead

The duplicate evaluation for sample SB-18 30" had outlying correlations. Results for the parent samples and its duplicated were "qualified as estimate, and should be used with caution". Furthermore, the duplicate evaluation for samples SB-29 12", SB021-18" and MW-1A-6" had relative percent differences outside the limits. Results for the parent samples and it's the duplicates were qualified as estimated.

The DUSR produced by DVS for the six aqueous samples, three sediment samples and three duplicate field samples (two aqueous and one sediment) collected on March 15, 2012 is included as **Appendix F**. As stated in the DUSR report, all are considered "usable", or usable with minor qualification. Note that elevated iron concentrations caused some of the samples to be run at a dilution.

The samples were not field filtered but rather sent to the laboratory in unpreserved bottles. The laboratory filtered and preserved the dissolved lead and antimony samples. Since the filtration was performed by the laboratory, all of the results for dissolved antimony and lead were qualified as estimated.

The SED-2 and the corresponding duplicate results were qualified as estimated because the recoveries for these compounds were outside the acceptable range. The correlations for the total and dissolved fractions of MW-2 and SW-2 were within the acceptable limits.

4.0 Investigation Findings

Soil data generated during the course of Phase 1 and Phase 2 Site investigative activities are summarized on **Figures 4** through **7c** and indicate the following findings:

1. Of the 119 samples collected during the Phase 1 hand auger assessment 108 returned with detection for lead, 67% (80 Samples) of which exceeded NYSDEC Soil Cleanup Objectives (SCO) for unrestricted use; 25% (30 Samples) exceeded the SCO for unrestricted and commercial use; and 10% (12 Samples) exceeded the SCO for unrestricted, commercial, and industrial use.
2. All of the Phase 1 locations (SS-1 to SS-16) exceeded the SCO standard for the concentration of lead for unrestricted use through the 1 foot interval.
3. Seven of the Phase 1 locations (SS-6, 7, 10, 11, 13, 14 and 16) had concentrations which exceeded the SCO for unrestricted, commercial and Industrial use. The depths of these detections range from surficial to 30 inches bgs.
4. Of the 173 samples collected during the Phase 2 geoprobe® assessment, all 173 returned with lead detections; 12.7% (22 Samples) exceeded the NYSDEC SCO for Unrestricted use; 3.5% (6 Samples) exceeded the SCO for unrestricted and commercial use; and 6.9% (12 Samples) exceeded the SCO for unrestricted, commercial, and industrial use.
5. Phase 2 locations recorded exceedences for the lead unrestricted SCO standard at all locations collected from the 6" interval with the exception of SB-30 (southern most sampling location and potential lateral extent).
6. Nine of the Phase 2 locations (SB-17, 18, 20, 21, 23, 25, 26, 27 and 34) had concentrations which exceeded the SCO for unrestricted, commercial and industrial use. The depths of these detections range from surficial to 24 inches bgs.
7. Two (MW-1A-6' and MW-2-12') of five soil samples collected during monitoring well installation activities yielded results above the lead SCO standard for Unrestricted use.
8. One groundwater sample (MW-2) collected from the three newly installed monitoring wells yielded results above NYSGWQS as defined in TOGS 1.1.1. However, the dissolved fraction (i.e. filtered sample) was below the NYSGWQS, and it is likely that the exceedence for total lead was due to the silty nature of the sample.
9. None of the surficial water samples (collected approximately 5 to 10 feet off the shoreline) yielded results at or above laboratory Method Detection Limits.
10. None of the three Amawalk Reservoir Sediment samples yielded values above the SCOPER standard for lead or antimony.

5.0 Conclusions

Shaw has completed two phases of Remedial Investigative activities on the Granite Pointe Subdivision Off-Site property in conjunction with the RAWP submitted by GES in regard to the adjacent former gun range and current BCP Site. Elevated levels of lead and antimony are present in various "hotspot" locations where firing range activities historically occurred. Both lead and antimony concentrations decrease with depth directionally away from the BCP site, moving toward the Amawalk Reservoir as shown on **Figures 7a** through **7c**. However, the horizontal distribution of lead was not fully delineated to the northern and southern boundaries and the delineation should be completed under a pre-design delineation study.

The laboratory detections from sediment samples collected within the Amawalk Reservoir (SED-1, 2, 3) are below NYSDEC SCOPER, indicating no impacts to sediments based upon these three samples. The southerly extent of soil impact has been determined through the results collected at SB-30; the westerly extent is comprised of the BCP Site scheduled for remediation according to the RAWP; finally, to the north residual lead impacts remain in the surface soils (detections above SCOs are from the 0-6" interval) as shown on the attached figures.

Based on the results of the RI, it is recommended that the affected portions of the property be remediated to protect human health and the environment in a manner consistant with the potential future use of the property.

Table 1a
Soil Analytical Results; Phase 1
Granite Pointe
Somers, Westchester County, New York
April 26, 27 and 29, 2011

Location / Analyte	Sample Date				DEPTH							
	NYSDEC Soil Cleanup Objectives (Unrestricted)	NYSDEC Soil Cleanup Objectives (Commericial)	NYSDEC Soil Cleanup Objectives (Industrial)	NYSDEC CP-51 Supplemental Soil Cleanup Objective for Protection of Ecological Resources	6"	12"	18"	24"	30"	36"	42"	48"
SS-1	4/26/2011				**DF: 2**	**DF: 1**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 5**
Antimony	NGV	NGV	NGV	12[d]	**0.69 J**	**0.69 J**	**0.32 J**	**0.32 J**	**0.23 J**	**0.26 J**	0.13 UJ	**0.64 J**
Lead	63[c]	1,000	3,900	NGC	**130**	**173**	59.5 U	30.5U	24.3 U	66.9 U	**121**	**203**
SS-2	4/26/2011				**DF: 2**	**DF: 1**	**DF: 5**	**DF: 1**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 1**
Antimony	NGV	NGV	NGV	12[d]	**3.4 J**	**0.99 J**	0.28 UJ	**0.19 J**	0.09 UJ	**0.68 J**	**0.43 J**	**28.5 J**
Lead	63[c]	1,000	3,900	NGC	**805**	**341**	95.9 U	77.1U	27.3 U	**415**	**231**	**2,060**
SS-3	4/26/2011				**DF: 2**	**DF: 1**	**DF: 1 / DF: 2 (50 for Lead)**	**DF: 1**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**
Antimony	NGV	NGV	NGV	12[d]	**0.86 J**	**1.8 J**	**3.7 J / 811 J Dup. 01**	**1.9 J**	**0.12 J**	**0.24 J**	**1.4 J**	**0.22 J**
Lead	63[c]	1,000	3,900	NGC	**213**	**396**	**1,320 J_1 / 62,220 J_1 Dup. 01**	**728**	26.4 U	20.6 U	78.0 U	37.9 U
SS-4	4/27/2011				**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**
Antimony	NGV	NGV	NGV	12[d]	**2.1 J**	**1.2 J**	**1.2 J**	**0.14 J**	**1.6 J**	**0.32 J**	**0.15 J**	**0.56 J**
Lead	63[c]	1,000	3,900	NGC	**366**	**290**	**427**	**44.8**	**247**	**37.6**	**35.3**	**133**
SS-5	4/27/2011				**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2 / DF: 2**	**DF: 2**
Antimony	NGV	NGV	NGV	12[d]	**23.2 J**	**5.5 J**	**0.60 J**	**0.50 J**	**1.4 J**	**0.25 J**	**0.91 J / 0.76 J Dup. 02**	**0.13 J**
Lead	63[c]	1,000	3,900	NGC	**2,550**	**1,910**	**148**	**54.5**	**66.2**	**56.2**	**294 / 234 Dup. 02**	**89.5**
SS-6	4/27/2011				**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF:2 (50 for Lead)**	**DF: 2**	**DF: 2**	**DF: 2**
Antimony	NGV	NGV	NGV	12[d]	**8.4 J**	**21.2 J**	**1.2 J**	**4.4 J**	**1930 J**	**3.0 J**	**0.76 J**	**0.32 J**
Lead	63[c]	1,000	3,900	NGC	**1,160**	**3,540**	**166**	**1,840**	**42,220**	**285**	**26.7**	**25.2**
SS-7	4/27/2011				**DF: 2**	**DF:2 (50 for Lead)**	**DF: 2**	**DF: 2**	**DF:2 (50 for Lead)**	**DF: 2**	**DF: 2**	**DF: 2**
Antimony	NGV	NGV	NGV	12[d]	**11.8 J**	**2,300 J**	**2.3 J**	**1.2 J**	**776 J**	**1.3 J**	**0.50 J**	**0.37 J**
Lead	63[c]	1,000	3,900	NGC	**1,110**	**51,100**	**201**	**152**	**23,000**	**57.3**	**14.0**	**71.3**
SS-8	4/27/2011				**DF: 2**	**DF: 2**	**DF: 2 (lead only)**	**DF: 2 (lead only)**	**DF: 2 (lead only)**	**DF: 2**	**DF: 2**	**DF: 2 (lead only)**
Antimony	NGV	NGV	NGV	12[d]	**10 J**	**5.5 J**	0.63 UJ / 0.72 UJ Dup. 03	**0.56 J**	**0.84 J**	1.4 UJ	**0.45 J**	0.59 UJ
Lead	63[c]	1,000	3,900	NGC	**1,370**	**1,170**	**40.2 / 35.5 Dup. 03**	**346**	**386**	**93.9**	**25.6**	**66.2**
SS-9	4/27/2011				**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2 (lead only)**	**DF: 2 (lead only)**
Antimony	NGV	NGV	NGV	12[d]	**34.0 J**	**1.1 J**	**27.0 J**	**2.0 J**	**1.9 J**	1.6 UJ	0.77 UJ	0.62 UJ
Lead	63[c]	1,000	3,900	NGC	**3,340**	**392**	**1,620**	**537**	**663**	**36.6**	**124**	**83.3**
SS-10	4/27/2011				**DF: 2 (antimony) 50 (lead)**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2 (antimony) 50 (lead)**	**DF: 2**		
Antimony	NGV	NGV	NGV	12[d]	**990 J**	**1.7 J / 3.2 J Dup. 04**	**41.7 J**	**0.96 J**	**1,460 J**	0.13	NS	NS
Lead	63[c]	1,000	3,900	NGC	**43,900 J**	**915 / 1,170 Dup. 04**	**758**	**320**	**33,700**	**22.0**	NS	NS
SS-11	4/27/2011				**DF: 2 (antimony) 5 (lead)**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	
Antimony	NGV	NGV	NGV	12[d]	**42.9**	**6.4**	**1.1 J**	0.11U	**9.8**	1.5 UJ	**0.56 J**	NS
Lead	63[c]	1,000	3,900	NGC	**6,440**	**1,530**	**272**	**62.8**	**536**	**74.8**	**146**	NS
SS-12	4/29/2011				**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**			
Antimony	NGV	NGV	NGV	12[d]	**12.4**	**4.7**	1.3U	**0.93 J**	0.10U	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**2,610**	**470**	**111**	**464**	**81.3**	NS	NS	NS
SS-13	4/29/2011				**DF: 2 (antimony) 50 (lead)**	**DF: 2 (antimony) 50 (lead)**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**		
Antimony	NGV	NGV	NGV	12[d]	**2,300**	**722**	**26.0**	**2.4**	**0.98 J**	**2.2**	NS	NS
Lead	63[c]	1,000	3,900	NGC	**53,200**	**17,900**	**2,600**	**770**	**125**	**681**	NS	NS
SS-14	4/29/2011				**DF: 2 (antimony) 10 (lead)**	**DF: 2 (antimony) 10 (lead)**	**DF: 1**	**DF: 2**	**DF: 2 (antimony) 10 (lead)**	**DF: 2**	**DF: 2**	
Antimony	NGV	NGV	NGV	12[d]	**41.5 J / 104 J Dup. 05**	**22.7 J**	**0.28 J**	**0.16 J**	**19.4 J**	**0.33 J**	**0.26 J**	NS
Lead	63[c]	1,000	3,900	NGC	**5,650 / 8,160 Dup.05**	**4,360**	**46.0**	**22.5**	**5,200**	**67.1**	**154**	NS
SS-15	4/29/2011				**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**
Antimony	NGV	NGV	NGV	12[d]	**10.2 J**	**6.2 J**	**0.58 J**	**0.52 J**	**0.88 J**	**0.21 J**	**0.26 J**	**0.16 J**
Lead	63[c]	1,000	3,900	NGC	**1,960**	**1,740**	**54.7**	**105.0**	**47.9**	**52.2**	**61.0**	**54.2**
SS-16	4/29/2011				**DF: 2 / 1 (antimony) 5 (lead)**	**DF: 2 (antimony) 10 (lead)**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**
Antimony	NGV	NGV	NGV	12[d]	**6.1 J / 13.3 J Dup. 06**	**124 J**	**0.59 J**	**0.42 J**	**0.45 J**	**0.68 J**	**0.29 J**	**0.21 J**
Lead	63[c]	1,000	3,900	NGC	**2,730 / 3,530 Dup. 06**	**4,240**	**37.6**	**26.3**	**48.9**	**56.8**	**34.5**	**18.6**

Notes:

Metals data are presented in mg/kg (ppm).

NYSDEC Soil Cleanup Objectives obtained from 6 NYCRR Part 375, Table A - Unrestricted use; Table B - Restricted commercial use; Table C- Restricted industrial use

[c] = For constituents where the calculated SCO was lower than the rural soil background concentration, the rural soil background is used.

Bold = Analyte detected above laboratory method detection limits

[d] = SCO limited by contract required quantitation limit.

J = Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ), but above the Method Detection limit (MDL).

U = The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.

UJ = The analyte was not detected. The associated reported quantitation limit is an estimate and may be inaccurate or imprecise

NGV = No Guidance Value

NS - Not Sampled due to water table

Yellow: Analyte exceeded NYSDEC Soil Cleanup Objective for *Unrestricted Use; obtained from 6 NYCRR Part 375 Table A* ***(63 ppm)***

Pink: Analyte exceeded NYSDEC Soil Cleanup Objective for *Unrestricted and Commercial Use; obtained from 6 NYCRR Part 375 Table B* ***(1,000 ppm)***

Red: Analyte exceeded NYSDEC Soil Cleanup Objective for *Unrestricted, Commercial, and Industrial Use; obtained from 6 NYCRR Part 375 Table C* ***(3,900 ppm)***

Orange: Analyte exceeded NYSDEC Supplemental Soil Cleanup Objective (SCO) for Protection of Ecological Resources (PER)

NS = Snot Sampled

DF = Dilution Factor

Table 1b
Soil Analytical Results; Phase 2
Granite Pointe
Somers Westchester County, New York
November 8 - 10, 2011

Location / Analyte	Sample Date				DEPTH										
	NYSDEC Soil Cleanup Objectives (Unrestricted)	NYSDEC Soil Cleanup Objectives (Commericial)	NYSDEC Soil Cleanup Objectives (Industrial)	NYSDEC CP-51 Supplemental Soil Cleanup Objective for Protection of Ecological Resources	6"	12"	18"	24"	30"	36"	42"	48"	6'	8'	12'
SB-17	11/10/2011				**DF: 1 (antimony) 5 (lead)**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 2**	**DF: 1**	**DF: 2**	**DF: 2**			
Antimony	NGV	NGV	NGV	12[d]	**8.7 J**	0.09 UJ	**0.13 J**	**0.43 J**	0.10 UJ	0.08 UJ	0.14 UJ	0.09 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**4,500**	**88.7**	**10.5**	**516**	**15.5**	**10.1**	**8.2**	**8.8**	NS	NS	NS
SB-18	11/9/2011				**DF: 1 (antimony) 5 (lead)**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**			
Antimony	NGV	NGV	NGV	12[d]	**50.9 J**	0.20 UJ	0.07 UJ	0.08 UJ	0.06 UJ / **9.3 J Dup. 06**	0.07 UJ	0.08 UJ	0.06 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**5,500**	**138**	**11.7**	**33.2**	**18.1 J / 100 J Dup.06**	**7.2**	**10.8**	**3.9**	NS	NS	NS
SB-19	11/9/2011				**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 2**	**DF: 1**	**DF: 2**	**DF: 2**			
Antimony	NGV	NGV	NGV	12[d]	**3.6 J**	**0.20 J**	**0.14 J**	0.07 UJ	0.12 UJ	0.07 UJ	0.12 UJ	0.11 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**327**	**28.9**	**36.4**	**7.8**	**9.3**	**8.6**	**12.7**	**7.5**	NS	NS	NS
SB-20	11/9/2011				**DF: 1 (antimony) 10 (lead)**	**DF: 1 (antimony) 2 (lead)**	**DF: 1**	**DF: 1 (antimony) 2 (lead)**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**			
Antimony	NGV	NGV	NGV	12[d]	**87.9 J**	**7.2 J**	0.04 UJ	**9.0 J**	0.06 UJ	0.08 UJ	0.08 UJ	0.08 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**19,900**	**2,280**	**53.4**	**3,590**	**17.7**	**7.8**	**12.7**	**9.8**	NS	NS	NS
SB-21	11/10/2011				**DF: 1 (antimony) 5 (lead)**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 2**	**DF: 2**	**DF: 2**			
Antimony	NGV	NGV	NGV	12[d]	**23.4 J**	**2.5 J**	0.06 UJ / 0.07 UJ Dup. 08	**0.14 J**	0.08 UJ	0.08 UJ	0.11 UJ	0.08 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**6,700**	**969**	**10.7 J / 20.8 J Dup.08**	**36.8**	**12.4**	**7.8**	**6.7**	**7.7**	NS	NS	NS
SB-22	11/8/2011				**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**			
Antimony	NGV	NGV	NGV	12[d]	**3.7 J**	0.07 UJ	0.07 UJ	0.06 UJ	0.13 UJ	0.12 U	0.13 UJ	0.12 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**657**	**45.3**	**20.3**	**23.8**	**11.8**	**11.3**	**7.4**	**13.2**	NS	NS	NS
SB-23	11/9/2011				**DF: 50**	**DF: 1**	**DF: 2**	**DF: 1**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 2**			
Antimony	NGV	NGV	NGV	12[d]	**2,820 J**	**0.9 J**	0.10 UJ	0.12 UJ	0.10 UJ	0.12 UJ	0.13 UJ	0.11 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**60,600**	**245**	**42.4**	**8.0**	**11.3**	**10.9**	**10**	**11.4**	NS	NS	NS
SB-24	11/9/2011				**DF: 1**	**DF: 1**	**DF: 1**	**DF: 50**	**DF: 2**	**DF: 1 / DF: 2**	**DF: 2**	**DF: 2**			
Antimony	NGV	NGV	NGV	12[d]	**1.4 J**	0.13 UJ	0.08 UJ	**2020 J**	0.13 UJ	0.07 UJ / 0.11 UJ Dup.02	0.10 UJ	0.10 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**324**	**63.3**	**39.0**	**50,900 ***	**10**	**6.8 / 7.6 Dup.02**	**7.4**	**12.2**	NS	NS	NS
SB-25	1/9/2011				**DF: 5**	**DF: 50**	**DF: 1**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 1**	**DF: 1**			
Antimony	NGV	NGV	NGV	12[d]	**16.6 J**	**2,480 J**	**0.15 J**	**5.3 J**	0.09 UJ	0.10 UJ	0.08 UJ	0.06 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**3,530 J**	**44,700 J**	**45.2 J**	**286 J**	**9.3J**	**7.1 J**	**8.4 J**	**8.6 J**	NS	NS	NS
SB-26	11/9/2011				**DF: 10**	**DF: 5**	**DF: 2**	**DF: 50**	**DF: 1**	**DF: 2**	**DF: 1**	**DF: 2**			
Antimony	NGV	NGV	NGV	12[d]	**76.9 J**	**15.7 J**	**19.1 J**	**17.4 J**	**0.07 UJ**	0.09 UJ	0.08 UJ	0.09 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**14,300**	**5,790**	**3,190**	**5,910**	**59.9**	**6.0**	**10.5**	**17.2**	NS	NS	NS
SB-27	11/9/2011				**DF: 1 (antimony) 5 (lead)**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 2 / DF: 1**			
Antimony	NGV	NGV	NGV	12[d]	**54.8 J**	**3.2 J**	**0.08 J**	**0.53 J**	0.07 UJ	0.07 UJ / 0.006 J Dup.05	0.07 UJ	0.10 UJ / 0.07 UJ Dup.04	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**6,910**	**1,250**	**15.2**	**361**	**37.5**	**5.1 / 7.2 Dup.05**	**8.1**	**8.7 / 5.8 Dup.04**	NS	NS	NS
SB-28	11/9/2011				**DF: 1**	**DF: 1**	**DF: 1**	**DF: 2**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 2**			
Antimony	NGV	NGV	NGV	12[d]	**5.2 J**	0.08 UJ	0.07 UJ	0.11 UJ	0.07 UJ	0.06 UJ	0.07 UJ	0.11 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**1,210**	**19.3**	**8.0**	**7.7**	**10.2**	**5.8**	**7.6**	**7.7**	NS	NS	NS
SB-29	11/10/2011				**DF: 2**	**DF: 2 / DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 2**			
Antimony	NGV	NGV	NGV	12[d]	**1.5 J**	0.09 UJ / **0.11 J Dup.07**	**0.24 J**	0.07 UJ	0.07 UJ	0.06 UJ	**0.35 J**	0.13 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**418**	**21.1 J / 42.8 J Dup.07**	**21.2**	**22.8**	**13.4**	**6.2**	**5.1**	**11.1**	NS	NS	NS
SB-30	11/10/2011				**DF: 1**	**DF: 1**	**DF: 1**	**DF: 2**	**DF: 1**	**DF: 2**	**DF: 2**	**DF: 1**			
Antimony	NGV	NGV	NGV	12[d]	0.08 UJ	0.08 UJ	**0.21 J**	0.09 UJ	0.06 UJ	0.09 UJ	0.08 UJ	0.07 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**11.7**	**6.5**	**8.2**	**12.3**	**8.5**	**4.9**	**6.1**	**8.0**	NS	NS	NS
SB-31	11/10/2011				**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 2**	**DF: 2**	**DF: 2**	**DF: 1**			
Antimony	NGV	NGV	NGV	12[d]	**0.31 J**	**0.22 J**	0.06 UJ	0.08 UJ	0.13 UJ	0.09 UJ	0.13 UJ	0.07 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**112**	**12.0**	**8.7**	**13.6**	**10.9**	**6.9**	**7.1**	**6.5**	NS	NS	NS
SB-32	11/10/2011				**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**			
Antimony	NGV	NGV	NGV	12[d]	**0.53 J**	**0.40 J**	**0.10 J**	**0.15 J**	0.07 UJ	**0.26 J**	0.08 UJ	0.06 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**89.5**	**87.1**	**12.2**	**7.7**	**8.4**	**8.4**	**8.0**	**6.5**	NS	NS	NS

Table 1b
Soil Analytical Results; Phase 2
Granite Pointe
Somers Westchester County, New York
November 8 - 10, 2011

Location / Analyte	Sample Date				DEPTH											
	NYSDEC Soil Cleanup Objectives (Unrestricted)	NYSDEC Soil Cleanup Objectives (Commericial)	NYSDEC Soil Cleanup Objectives (Industrial)	NYSDEC CP-51 Supplemental Soil Cleanup Objective for Protection of Ecological Resources	6"	12"	18"	24"	30"	36"	42"	48"	6'	8'	12'
SB-33	11/9/2011				**DF: 1**	**DF: 2**	**DF: 2**	**DF: 1**	**DF: 2**	**DF: 2**	**DF: 1**	**DF: 1**			
Antimony	NGV	NGV	NGV	12[d]	**0.54 J**	**0.35 J**	0.11 UJ	0.05 UJ	0.12 UJ	0.10 UJ	0.07 UJ	0.07 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**294**	**48.8**	**13.7**	**6.2**	**7.3**	**2.4**	**7.4**	**5.1**	NS	NS	NS
SB-34	11/9/2011				**DF: 10**	**DF: 1**	**DF: 1**	**DF: 2**	**DF: 2**	**DF: 2 / DF: 1**	**DF: 2**	**DF: 1**			
Antimony	NGV	NGV	NGV	12[d]	**79.0 J**	**7.3 J**	0.07 UJ	**0.52 UJ**	0.09 UJ	0.11 UJ / 0.06 UJ Dup. 03	0.11 UJ	0.06 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**11,700 J**	**958 J**	**10.6 J**	**84.4 J**	**9.7**	**9.1 / 9.2 Dup. 03**	**12.6**	**8.7**	NS	NS	NS
SB-35	11/9/2011				**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 1**			
Antimony	NGV	NGV	NGV	12[d]	**10.5J**	0.08 UJ	0.05 UJ	0.07 UJ	0.05 UJ	0.07 UJ	0.07 UJ	0.07 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**1,560 J**	**16.2 J**	**24.2 J**	**75.0 J**	**7.8 J**	**7.4 J**	**7.9 J**	**7.8 J**	NS	NS	NS
SB-36	11/8/2011				**DF: 1**	**DF: 1**	**DF: 2**	**DF: 1**	**DF: 2**	**DF: 1**	**DF: 1**	**DF: 1**			
Antimony	NGV	NGV	NGV	12[d]	**0.84 J**	0.08 UJ	0.11 UJ	0.07 UJ	0.10 UJ	0.07 UJ	0.08 UJ	0.07 UJ	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**551**	**70.1**	**60.1**	**8.9**	**9.2**	**3.1**	**6.5**	**2.2**	NS	NS	NS
SB-37	11/8/2011				**DF: 1**	**DF: 1**	**DF: 1**	**DF: 2**	**DF: 1**	**DF: 1**	**DF: 1**	**DF: 2 / DF: 1**			
Antimony	NGV	NGV	NGV	12[d]	**0.73 J**	0.07 UJ	0.08 UJ	0.14 UJ	0.06 UJ	0.07 UJ	0.07 UJ	0.15 UJ / 0.07J U Dup. 01	NS	NS	NS
Lead	63[c]	1,000	3,900	NGC	**355**	**9.6**	**10.0**	**19.6**	**4.0**	**5.3**	**6.6**	**10.0 / 6.3 Dup. 01**	NS	NS	NS
MW-1 12'	11/9/2011														**DF: 2**
Antimony	NGV	NGV	NGV	12[d]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.14 UJ**
Lead	63[c]	1,000	3,900	NGC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**22.3**
MW-1A-6'	11/10/2011												**DF: 2 / DF: 1**	**DF: 1**	
Antimony	NGV	NGV	NGV	12[d]	NS	NS	NS	NS	NS	NS	NS	NS	**0.10 UJ / 0.07 J Dup.09**	**0.06 UJ**	NS
Lead	63[c]	1,000	3,900	NGC	NS	NS	NS	NS	NS	NS	NS	NS	**84.4 J / 39.2 J Dup.09**	**7.8**	NS
MW-2-12'	11/9/2011														**DF: 2**
Antimony	NGV	NGV	NGV	12[d]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2.4 J**
Lead	63[c]	1,000	3,900	NGC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**172**
MW-3-8'	11/10/2011													**DF: 1**	
Antimony	NGV	NGV	NGV	12[d]	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.07 UJ**	NS
Lead	63[c]	1,000	3,900	NGC	NS	NS	NS	NS	NS	NS	NS	NS	NS	**7.2**	NS

Notes:

Metals data are presented in mg/kg (ppm).

NYSDEC Soil Cleanup Objectives obtained from 6 NYCRR Part 375, Table A - Unrestricted use; Table B - Restricted commercial use; Table C- Restricted industrial use

[c] = For analytes where the calculated SCO was lower than the rural soil background concentration, the rural soil background is used.

Bold = Analyte detected above laboratory method detection limits

[d] = SCO limited by contract required quantitation limit.

J = Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ), but above the Method Detection limit (MDL).

U = The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.

Yellow: Analyte exceeded NYSDEC Soil Cleanup Objective for *Unrestricted Use; obtained from 6 NYCRR Part 375 Table A* ***(63 ppm)***

Pink: Analyte exceeded NYSDEC Soil Cleanup Objective for *Unrestricted and Commercial Use; obtained from 6 NYCRR Part 375 Table B* ***(1,000 ppm)***

Red: Analyte exceeded NYSDEC Soil Cleanup Objective for *Unrestricted, Commercial, and Industrial Use; obtained from 6 NYCRR Part 375 Table C* ***(3,900 ppm)***

SB-24 likely had sampling error; 24" sample is likely from the 6" interval; 6" is from 12"; 12" from 18" and 18" is from 24"

Orange: Analyte exceeded NYSDEC Supplemental Soil Cleanup Objective for Protection of Ecological Resources (12 ppm).

NGV = No Guidance Value

NS = Not Sampled

DF = Dilution Factor

Table 1c
Equipment Rinseate Samples
Granite Pointe
Somers, Westchester County, New York
April and November 2011

Analyte	NYSDEC Guidance Criteria	Sample ID									
		ERB-01 (Post Hole Digger)	ERB-02 (Hand Auger)	ERB-03 (Post Hole Digger)	ERB-04 (Hand Auger)	ERB-05 (Post Hole Digger)	ERB-06 (Hand Auger)	ERB-07 (Post Hole Digger)	RB-1A (Acetate Sleeve)	RB-2A (Acetate Sleeve)	RB-3A (Acetate Sleeve)
		4/26/2011	4/27/2011	4/27/2011	4/27/2011	4/27/2011	4/29/2011	4/29/2011	11/8/2011	11/9/2011	11/10/2011
Antimony	3	1.28U	1.28U	1.28U	1.28U	1.28U	1.28U	1.28U	1.28 U	1.28 U	1.28 U
Lead	25	**179**	1.07U	1.07U	1.07U	**7.3**	**3.9 J**	**12.6**	1.07 U	1.07 U	**1.6 J**

Notes:
All data are presented in µg/L
Analytical rresults are compared against NYSDEC Division of Water Technical and Operation Guidance Series (T.O.G.S) 1.1.1 June 1998 Ambient Water Quality Standards;
Bold = Analyte detected above laboratory method detection limits
Shaded = Analyte detected above NYSDEC Groundwater Guidance Values
U = The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J = Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ), but above the Method Detection limit (MD

Table 2
Groundwater Gauging and Parameters
Granite Pointe
Somers, Westchester County, New York
March 2012

Depth to Water and Final Parameter Readings											
Well ID	**Date Sampled**	**Top of PVC Casing (feet) MSL**	**Depth to Water (feet)**	**Depth to Bottom (feet)**	**Groundwater Elevation (feet) MSL**	**Dissolved Oxygen mg/L**	**pH (SU)**	**Specific Conductivity (mS/cm)**	**ORP mV**	**Temperature (^{o}C)**	Turbidity (NTU)
MW-1A	03/15/12	409.32	11.18	16.93	398.14	0.60	7.87	0.275	-16	9.77	19.0
MW-2	03/15/12	409.08	11.26	17.40	397.82	6.66	7.41	0.271	181	9.56	28
MW-3	03/15/12	403.44	7.21	17.72	396.23	3.96	7.69	0.374	162	9.10	29

Notes:

All measurements recorded in feet;

MSL - Mean Sea Level;

mg/L - Milligrams per Liter;

SU - Standard Units;

mS/cm - micro siemens per centimeter;

^{o}C - Degrees Celsius;

mV - Millivolts;

NTU - Nephelometric turbidity units

Table 3
Groundwater Analyitical Results
Granite Pointe
Somers, Westchester County, New York
March 15, 2012

	Site ID	MW-1A	MW-2	MW-3	DUP.
	Field Sample ID	MW-1A 031512	MW-2 031512	MW-3 031512	DUP.
	Sample Date	03.15.12	03.15.12	03.15.12	03.15.12
	Sample Depth Approx.(ft)	16.75'	17.30'	17.60'	17.60'
Analyte (µg/L)	TOGS 1.1.1	Primary	Primary	Primary	Primary
Antimony	3	1.28 U	1.28 U	**1.8 J**	1.28 U
Lead	25	**16.2**	**51.1**	**12.9**	**10.0**
Antimony, DISSOLVED	3	1.28 UJ	1.28 UJ	1.28 U	1.28 UJ
Lead, DISSOLVED	25	1.07 UJ	**1.4 J**	**1.6 J**	1.07 UJ

All data are presented in µg/L

Analytical results are compared against NYSDEC Division of Water Technical and Operation Guidance Series (T.O.G.S) 1.1.1 June 1998 Ambient Water Quality Standards;

Dup - MW-3

Bold = Analyte detected above laboratory method detection limits

Shaded = Analyte detected above NYSDEC Groundwater Guidance Values

U = The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.

J = Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ), but above the Method Detection limit (MDL).

UJ = The analyte was not detected. The associated reported quantitation limit is an estimate and may be inaccurate or imprecise

Table 4
Reservoir Sampling Analyitcal Results - Surface Water
Granite Pointe
Somers, Westchester County, New York
March 15, 2012

	Site ID	**SW-1**	**DUP.**	**SW-2**	**SW-3**
	Field Sample ID	**SW-1 031512**	**DUP.**	**SW-2 031512**	**SW-3 031512**
	Sample Date	**03.15.12**	**03.15.12**	**03.15.12**	**03.15.12**
	Sample Depth Approx.(ft)	**Surface Water**	**Surface Water**	**Surface Water**	**Surface Water**
Analyte (µg/L)	**TOGS 1.1.1**	**Primary**	**Duplicate**	**Primary**	**Primary**
Antimony	3	1.28 U	1.28 U	1.28 U	1.28 U
Lead	50	1.07 U	1.07 U	1.07 U	1.07 U
Antimony, DISSOLVED	3	1.28 U	1.28 U	1.28 U	1.28 U
Lead, DISSOLVED	50	1.07 U	1.07 U	1.07 U	1.07 U

Notes:

All data are presented in µg/L

Analytical rresults are compared against NYSDEC Division of Water Technical and Operation Guidance Series (T.O.G.S) 1.1.1 June 1998 Ambient Water Quality Standards;

Dup - SW-1

Bold = Analyte detected above laboratory method detection limits

U = The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.

Table 5
Reservoir Sampling Analyitcal Results - Sediment
Granite Pointe
Somers, Westchester County, New York
March 15, 2012

Site ID	Technical Guidance for Screening Contaminated Sediments	SED-1	DUP. (SED-1)	SED-2	SED-3
Field Sample ID		**SED-1**	**DUP.**	**SED-2**	**SED-3**
Sample Date		**03.15.12**	**03.15.12**	**03.15.12**	**03.15.12**
Sample Depth Approx.(ft)		**Surficial Sediment**	**Surficial Sediment**	**Surficial Sediment**	**Surficial Sediment**
Analyte (mg/kg)		**Primary**	**Duplicate**	**Primary**	**Primary**
		DF: 1	**DF: 1**	**DF: 2**	**DF: 1**
Antimony	2.0 (L)	0.08 UJ	**0.08 J**	**0.30 J**	**0.23 J**
Lead	31.0 (P)	**19.6 J**	**12.9 J**	**26.0 J**	**29.8 J**

Notes:

Metals data are presented in mg/kg (ppm).

Compound values compared to Lowest Effect Level NYSDEC Technical Guidance for Screening Contaminated Sediments (1999).

(L) = Value derived form Long and Morgan (1990)

(P) = Value derived from Persaud et al. (1992). DF = Dilution Factor

Bold = Analyte detected above laboratory method detection limits

J = Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ), but above the Method Detection limit (MDL).

UJ = The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.

DRAWING NUMBER	APPROVED BY	CHECKED BY	DRAWN BY	DESIGNED BY	DATE	OFFICE
134685-14B2	DCS	SJW	MJS	MJS	05/29/12	LATHAM, NY

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Shaw Environmental & Infrastructure, Inc.

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION

FIGURE 1

SITE LOCATION MAP
GRANITE POINTE SUBDIVISION OFF-SITE OU-1

SOMERS, NEW YORK

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DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
RA	MJS	RA	DS	134685-14B4

OFFICE	DATE
LATHAM, NY	05/22/12

AMAWALK RESERVOIR

EDGE OF WATER LOCATED ON MARCH 15, 2012

LANDS NOW OR FORMERLY OF
THE CITY OF NEW YORK

APPROXIMATE LOCATION OF PROPERTY LINE

3' WIDE STONE WALL

LANDS NOW OR FORMERLY OF
GRANITE POINT DEVELOPMENT

5' WIDE STONE WALL

2' WIDE STONE WALL

LANDS NOW OR FORMERLY OF
THE CITY OF NEW YORK

LANDS NOW OR FORMERLY OF
GRANITE POINT DEVELOPMENT

LANDS NOW OR FORMERLY OF
GRANITE POINT DEVELOPMENT

MAP NOTES:

1. Topographic information shown hereon was compiled from an actual field survey conducted on March 15, 2012.
2. Vertical datum shown hereon is NAVD 88 and was obtained through GPS observations.
3. North orientation and coordinates shown are referenced to Grid North and are based on the New York State Plane Coordinate System, East Zone, NAD 83 obtained from GPS observations made on March 15, 2012.
4. No attempt was made to locate any underground utilities.
5. Boundary lines shown hereon were taken from Tax Map Data as provided by the Westchester County Geographic Information Systems, Data Warehouse and does not represent a boundary survey by the undersigned.
6. Phase I boring samples collected via hand auger (April 2011).
7. Phase II boring samples collected via direct push geoprobe (November 2011).
8. Method of data collection used was GPS Carrier Phase Kinematic Relative–Positioning Technique.

Horizontal Accuracy: 0.03 ft. + 1 ppm rms.

Vertical Accuracy: 0.065 ft. + 1 ppm rms.

LEGEND

- MW-1 — MONITOR WELL LOCATION
- SB-8 — PHASE I SOIL BORING LOCATION
- SB-26 — PHASE II SOIL BORING LOCATION
- SED-2/SW-2 — SEDIMENT SAMPLE LOCATION
- STONE WALL

SCALE

0 60 120 180 FEET

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FIGURE 2
SITE SURVEY MAP

GRANITE POINTE SUBDIVISION OFF-SITE OU-1
SOMERS, NEW YORK

Xref : Image : site location.tif Waterford.tif

File: U:\project\134685\14\134685-14B4.dwg
Plot Date/Time: May 29, 2012 - 6:02pm
Plotted By: matt.sausville

NOTES:

1) AERIAL PHOTOGRAPHY IS TAKEN FROM VIRTUAL EARTH.

2) MONITORING WELL COORDINATES ARE PROJECTED ON THE NAD 83 COORDINATE SYSTEM.

3) DEPTHS TO WATER RANGED FROM 11.18 FEET BELOW GROUND SURFACE (BGS) (MW-1A) TO 7.21 FEET BGS (MW-3).

4) GROUNDWATER FLOW TO THE SOUTH TOWARD RESERVOIR OUTFALL.

Amawalk Reservoir

N

SB 37
SB 22
SS 1
SED-1/SW-1
SS 2
SS 4
SB 36
SB 23
MW 1A
SS 3
398.14
GROUNDWATER FLOW DIRECTION
SS 6
SS 5
SB 24
SB 35
SB 25
SS 7
SS 15
SS 8
SB 21
SB 26
SB 34
SS 9
SS 10
SS 14
SED-2/SW-2
SB 20
SS 16
SS 11
SS 13
MW 2
SB 33
SS 12
SB 27
397.82
SB 28
SB 17
SB 19
SB 18
SB 29
SB 32
SED-3/SW-3
SB 31
SB 30
MW 3
396.23

LEGEND

- SEDIMENT SAMPLE
- MONITORING WELL
- PHASE I SOIL BORING
- PHASE II SOIL BORING
- 3 FT WIDE STONE WALL

0 100 200 300 Feet

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GRANITE POINTE

FIGURE 3 -SAMPLE LOCATION AND GROUNDWATER FLOW MAP

GRANITE POINTE SUBDIVISION OFF-SITE OU-1
SOMERS, NEW YORK

DRAWING NUMBER	134685-14B9
APPROVED BY	DCS
CHECKED BY	RA
DRAWN BY	MJS
DESIGNED BY	RA
DATE	05/29/12
OFFICE	LATHAM, NY

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DRAWING NUMBER	134685-14B6
APPROVED BY	DCS
CHECKED BY	RA
DRAWN BY	MJS
DESIGNED BY	RA
DATE	08/01/12
OFFICE	LATHAM, NY

ID	SS-1	Lead
Depth (in.)	6"	130
	12"	173
	42"	121
	48"	203

ID	SS-2	Lead
Depth (in.)	6"	805
	12"	341
	36"	415
	42"	231
	48"	2,060

ID	SS-3	Lead
Depth (in.)	6"	213
	12"	396
	18"	1,320 J
	24"	728

ID	SS-4	Lead
Depth (in.)	6"	366
	12"	290
	18"	427
	30"	247
	48"	133

ID	SS-5	Lead	Antimony
Depth (in.)	6"	2,550	23.2 J
	12"	1,910	5.5 J
	18"	148	0.60 J
	30"	66.2	1.4 J
	42"	294	0.91 J
	48"	89.5	0.13 J

ID	SS-6	Lead	Antimony
Depth (in.)	6"	1,160	8.4 J
	12"	3,540	21.2 J
	18"	166	1.2 J
	24"	1,840	4.4 J
	30"	42,220	1,930 J
	36"	285	3.0 J

ID	SS-7	Lead	Antimony
Depth (in.)	6"	1,110	11.8 J
	12"	51,100	2,300 J
	18"	201	2.3 J
	24"	152	1.2 J
	30"	23,000	776 J
	48"	71.3	0.37 J

ID	SS-8	Lead
Depth (in.)	6"	1,370
	12"	1,170
	24"	346
	30"	386
	36"	93.9
	48"	66.2

ID	SS-9	Lead	Antimony
Depth (in.)	6"	3,340	34.0 J
	12"	392	1.1 J
	18"	1,620	27.0 J
	24"	537	2.0 J
	30"	663	1.9 J
	42"	124	0.77 UJ
	48"	83.3	0.62 UJ

ID	SS-10	Lead	Antimony
Depth (in.)	6"	43,900 J	990 J
	12"	915	1.7 J
	18"	758	41.7 J
	24"	320	0.96 J
	30"	33,700	1,460 J
	42"	NS	NS
	48"	NS	NS

ID	SS-11	Lead	Antimony
Depth (in.)	6"	6,440	42.9
	12"	1,530	6
	18"	272	1.1 J
	24"	62.8	0.11U
	30"	536	9.8
	48"	NS	0.56 J

ID	SS-12	Lead	Antimony
Depth (in.)	6"	2,610	12.4
	12"	470	4.7
	18"	111	1.3U
	24"	464	0.93 J
	30"	81.3	0.10U
	36"	NS	NS
	42"	NS	NS
	48"	NS	NS

ID	SS-13	Lead	Antimony
Depth (in.)	6"	53,200	2,300
	12"	17,900	722
	18"	2,600	26.0
	24"	770	2.4
	30"	125	0.98 J
	36"	681	2.2
	42"	NS	NS
	48"	NS	NS

ID	SS-14	Lead	Antimony
Depth (in.)	6"	5,650	41.5 J
	12"	4,360	22.7 J
	30"	5,200	19.4 J
	36"	67.1	0.33 J
	42"	154	0.26 J
	48"	NS	NS

ID	SS-15	Lead
Depth (in.)	6"	1,960
	12"	1,740
	24"	105.0

ID	SS-16	Lead	Antimony
Depth (in.)	6"	2,730	6.1 J
	12"	4,240	124 J

Table Notes:
Metals data are presented in mg/kg (ppm).
Bold = Analyte detected above laboratory method detection limits
J = Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ), but above the Method
NS - Not Sampled due to water table
Yellow: Analyte exceeded NYSDEC Soil Cleanup Objective for *Unrestricted Use; obtained from 6 NYCRR Part 375 Table A* ***(63 ppm)***
Pink: Analyte exceeded NYSDEC Soil Cleanup Objective for *Unrestricted and Commercial Use; obtained from 6 NYCRR Part 375 Table B* ***(1,000 ppm)***
Red: Analyte exceeded NYSDEC Soil Cleanup Objective for *Unrestricted, Commercial, and Industrial Use; obtained from 6 NYCRR Part 375 Table C* ***(3,900 ppm)***
Orange: *Analyte exceeded NYSDEC Supplemental Soil Cleanup Objective for Protection of Ecological Resources (**12 ppm**).*

LEGEND
PHASE I SOIL BORING
3 FT WIDE STONE WALL

0 60 120 180 Feet

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

GRANITE POINTE

FIGURE 4
PHASE 1 SOIL QUALITY MAP
GRANITE POINTE SUBDIVISION OFF-SITE OU-1
SOMERS, NEW YORK

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DRAWING NUMBER	134685-14B7
APPROVED BY	DCS
CHECKED BY	RA
DRAWN BY	MJS
DESIGNED BY	RA
DATE	08/01/12
OFFICE	LATHAM, NY

ID	SB-22	Lead
Depth (in.)	6"	657

ID	SB-23	Lead	Antimony
Depth (in.)	6"	60,600	2820 J
	12"	245	0.9 J

ID	SB-24	Lead
Depth (in.)	6"	324*
	12"	63.3
	18"	39.0
	24"	50,900*

ID	SB-25	Lead	Antimony
Depth (in.)	6"	3,530 J	16.6 J
	12"	44,700 J	2,480 J
	18"	45.2 J	0.15 J
	24"	286 J	5.3 J

ID	SB-21	Lead	Antimony
Depth (in.)	6"	6,700	23.4 J
	12"	969	2.5 J

ID	SB-26	Lead	Antimony
Depth (in.)	6"	14,300	76.9 J
	12"	5,790	15.7 J
	18"	3,190	19.1 J
	24"	5,910	17.4 J

ID	SB-20	Lead	Antimony
Depth (in.)	6"	19,900	87.9 J
	12"	2,280	7.2 J
	18"	53.4	0.04 UJ
	24"	3,590	9.0 J

ID	SB-27	Lead	Antimony
Depth (in.)	6"	6,910	54.8 J
	12"	1,250	3.2 J
	18"	15.2	0.08 J
	24"	361	0.53 J

ID	SB-17	Lead
Depth (in.)	6"	4,500
	12"	88.7
	18"	10.5
	24"	516

ID	SB-19	Lead
Depth (in.)	6"	327

ID	SB-18	Lead	Antimony
Depth (in.)	6"	5,500	50.9 J
	12"	138.0	7.2 J

ID	SB-29	Lead
Depth (in.)	6"	418

ID	SB-32	Lead
Depth (in.)	6"	89.5
	12"	87.1

ID	SB-30	Lead
	No Detections Above RSCO's	

ID	SB-37	Lead
Depth (in.)	6"	355

ID	SB-36	Lead
Depth (in.)	6"	551
	12"	70.1

ID	MW-1A	Lead
Depth (ft.)	6'	84.4 J

ID	SB-35	Lead
Depth (in.)	6"	1,560 J
	12"	16.2 J
	18"	24.2 J
	24"	75.0 J

ID	SB-34	Lead	Antimony
Depth (in.)	6"	11,700 J	79.0 J
	12"	958 J	7.3 J

ID	SB-33	Lead
Depth (in.)	6"	294

ID	MW-2	Lead
Depth (ft.)	12'	172

ID	SB-28	Lead
Depth (in.)	6"	1,210

ID	SB-31	Lead
Depth (in.)	6"	112

Table Notes:
Metals data are presented in mg/kg (ppm).
Bold = Analyte detected above laboratory method detection limits
J = Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ), but above the Method
NS - Not Sampled due to water table
Yellow: Analyte exceeded NYSDEC Soil Cleanup Objective for *Unrestricted Use; obtained from 6 NYCRR Part 375 Table A* ***(63 ppm)***
Pink: Analyte exceeded NYSDEC Soil Cleanup Objective for *Unrestricted and Commercial Use; obtained from 6 NYCRR Part 375 Table B* ***(1,000 ppm)***
Unrestricted, Commercial, and Industrial Use; obtained from 6 NYCRR Part 375 Table C ***(3,900 ppm)***
SB-24 likely had sampling error; 24" sample is likely from the 6" interval; 6" is from 12"; 12" from 18" and 18" is from 24"
Orange: *Analyte exceeded NYSDEC Supplemental Soil Cleanup Objective for Protection of Ecological Resources (**12 ppm**).*

LEGEND
- MONITORING WELL
- PHASE II SOIL BORING
- 3 FT WIDE STONE WALL

0 60 120 180 Feet

Shaw® Shaw Environmental, Inc.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

GRANITE POINTE

FIGURE 5
PHASE 2 SOIL QUALITY MAP
GRANITE POINTE SUBDIVISION OFF-SITE OU-1
SOMERS, NEW YORK

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DRAWING NUMBER	134685-14B8
APPROVED BY	DCS
CHECKED BY	RA
DRAWN BY	MJS
DESIGNED BY	RA
DATE	08/01/12
OFFICE	LATHAM, NY

Field Sample ID		MW-1A 031512
Analyte (µg/L)	TOGS 1.1.1	Primary
Lead	25	16.2

Field Sample ID	Technical Guidance for Screening Contaminated Sediments	SED-1
Sample Date		03.15.12
Surficial Sediment		
Analyte (mg/kg)		Primary
Antimony	2.0 (L)	0.08 UJ
Lead	31.0 (P)	19.6 J

Field Sample ID	SW-1 031512
Analyte (µg/L) TOGS 1.1.1	Primary
No Detections Above Laboratory Methods	

Field Sample ID	Technical Guidance for Screening Contaminated Sediments	SED-2
Sample Date		03.15.12
Surficial Sediment		
Analyte (mg/kg)		Primary
Antimony	2.0 (L)	0.30 J
Lead	31.0 (P)	26.0 J

Field Sample ID	SW-2 031512
Analyte (µg/L) TOGS 1.1.1	Primary
No Detections Above Laboratory Methods	

Field Sample ID	Technical Guidance for Screening Contaminated Sediments	SED-3
Sample Date		03.15.12
Surficial Sediment		
Analyte (mg/kg)		Primary
Antimony	2.0 (L)	0.23 J
Lead	31.0 (P)	29.8 J

Field Sample ID	SW-3 031512
Analyte (µg/L) TOGS 1.1.1	Primary
No Detections Above Laboratory Methods	

Field Sample ID		MW-2 031512
Analyte (µg/L)	TOGS 1.1.1	Primary
Lead	25	51.1
Lead, DISSOLVED	25	1.4 J

Field Sample ID		MW-3 031512
Analyte (µg/L)	TOGS 1.1.1	Primary
Antimony	3	1.8 J
Lead	25	12.9
Lead, DISSOLVED	25	1.6 J

MW 1A
MW 2
MW 3
SED-1/SW-1
SED-2/SW-2
SED-3/SW-3

N

LEGEND
- SEDIMENT SAMPLE
- MONITORING WELL
- 3 FT WIDE STONE WALL

0 60 120 180 Feet

Notes: Sediment Samples
1) Metals data are presented in mg/kg (ppm).
2)Compound values compared to Lowest Effect Level NYSDEC Technical Guidance for Screening Contaminated Sediments (1999).
3) **Bold** = Analyte detected above laboratory method detection limits
4) J = Estimated value. The analyte was detected in the sample at a [ ] less than the laboratory Limit of Quantitation (LOQ), but above the Method Detection limit (MDL).
5) UJ = The analyte was analyzed for, but was not detected above the level
6) No values exceeded NYSDEC criteria (2.0 (L) Antimony; 31.0 (P) Lead where L is value derived by Long and Morgan (1990) and P is value derived by Pursaud (1992)).

Notes: Groundwater and Surface Water
1) All groundwater / surface water data are presented in µg/l
2) Analytical rresults are compared against NYSDEC Division of Water Technical and Operation Guidance Series (T.O.G.S) 1.1.1 June 1998 Ambient Water Quality Standards;
3) Bold = Analyte detected above laboratory method detection limits
4) J = Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ), but above the Method Detection limit (MDL).
5) Shaded = Analyte detected above NYSDEC Groundwater Guidance Values

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GRANITE POINTE

FIGURE 6
RESERVOIR QUALITY MAP
GRANITE POINTE SUBDIVISION OFF-SITE OU-1
SOMERS, NEW YORK

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DRAWN BY	MJS
DESIGNED BY	RA
DATE	05/30/12
OFFICE	LATHAM, NY

NOTES:

1) SS-10 -WATER AT 42 INCHES BELOW GROUND SURFACE (BGS).
2) SS-11 WATER AT 48 INCHES BGS.
3) SS-12 WATER AT 36 INCHES BGS.
4) SS-13 WATER AT 42 INCHES BGS.
5) SS-3 INCLUDED IN SS-6 FOUR FEET BGS IMPACT ZONE.

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FIGURE 7A - LEAD IMPACTS IN SOIL- UNRESTRICTED USE

GRANITE POINTE SUBDIVISION OFF-SITE OU-1
SOMERS, NEW YORK

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DRAWING NUMBER	134685-14B11
DATE	06/04/12
OFFICE	LATHAM, NY

LEGEND

- MONITORING WELL
- PHASE I SOIL BORING
- PHASE II SOIL BORING
- 3 FT WIDE STONE WALL
- 0-1 FEET COMMERCIAL
- 0-2 FEET COMMERCIAL
- 0-3 FEET COMMERCIAL
- 0-4 FEET COMMERCIAL

NOTES:

1) SS-10 -WATER AT 42 INCHES BELOW GROUND SURFACE (BGS).
2) SS-11 WATER AT 48 INCHES BGS.
3) SS-12 WATER AT 36 INCHES BGS.
4) SS-13 WATER AT 42 INCHES BGS.
5) SS-3 INCLUDED IN SS-6 FOUR FEET BGS IMPACT ZONE.

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FIGURE 7B - LEAD IMPACTS IN SOIL-COMMERCIAL USE

GRANITE POINTE SUBDIVISION OFF-SITE OU-1
SOMERS, NEW YORK

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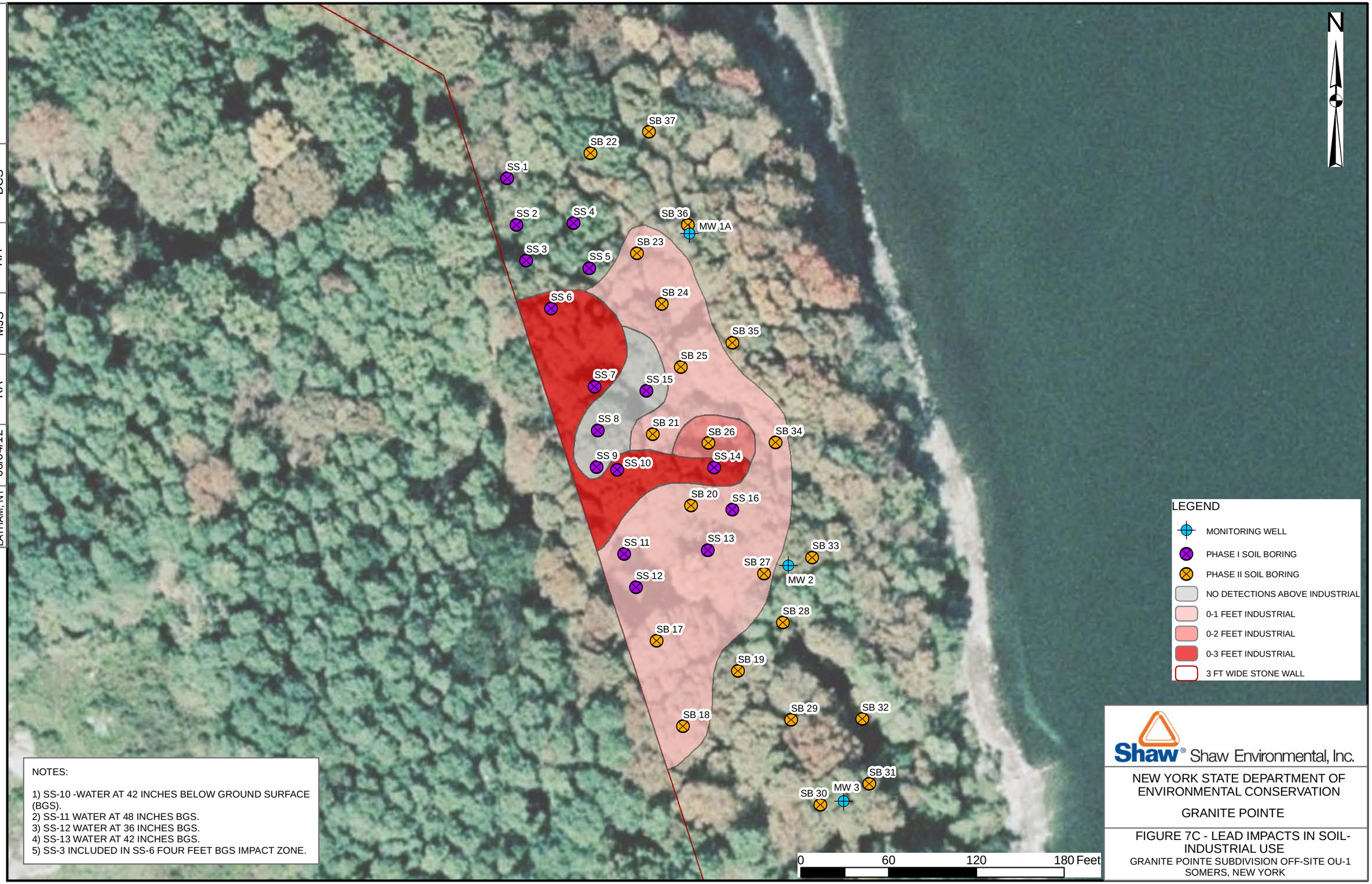
DRAWING NUMBER	134685-14B12
DATE	06/04/12
OFFICE	LATHAM, NY



NOTES:

1) SS-10 -WATER AT 42 INCHES BELOW GROUND SURFACE (BGS).
2) SS-11 WATER AT 48 INCHES BGS.
3) SS-12 WATER AT 36 INCHES BGS.
4) SS-13 WATER AT 42 INCHES BGS.
5) SS-3 INCLUDED IN SS-6 FOUR FEET BGS IMPACT ZONE.

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FIGURE 7C - LEAD IMPACTS IN SOIL-INDUSTRIAL USE

GRANITE POINTE SUBDIVISION OFF-SITE OU-1
SOMERS, NEW YORK

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