LI TUNGSTEN SUPERFUND SITE

NASSAU COUNTY, NEW YORK

Construction Completion Report

USEPA Identification Number: NYD986882660

NYSDEC Site Number: 130046

Prepared for:

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JANUARY 2017

458596

CERTIFICATIONS

I, Paul K Boyce, am currently a registered professional engineer (PE) licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Pre-Construction Remedial Action Work Plan (RAWP) was implemented and that construction activities were completed in substantial conformance with the United States Environmental Protection Agency (USEPA), New York State Department of Environmental Conservation (NYSDEC), and New York State Department of Health (NYSDOH), collectively referred to as the "Agencies"-approved Pre-Construction RAWP.

I certify that documents generated in support of this report have been submitted in accordance with the NYSDEC Division of Environmental Remediation's (DER's) electronic submission protocols and have been accepted by the Agencies.

I certify that data generated in support of this report have been submitted in accordance with the NYSDEC's electronic data deliverable (EDD) and have been accepted by the Agencies.

I certify that information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Paul K Boyce, of 630 Johnson Avenue, Suite 7, Bohemia, New York 11716, am certifying as RXR Glen Isle Partners, LLC (RXRGIP) designated site representative and I have been authorized and designated to sign this certification for the site.

074604	02.17.17	Paul Boyce
New York State PE #	Date	Signature

STATE OF NEW YORK
PAUL KENNETH BOYCE
EXCELSIOR
074604
LICENSED PROFESSIONAL ENGINEER

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LIST OF ACRONYMS

Acronym	Definition
µg/m^3	microgram per cubic meter
µR	micro-roentgen
AES	Associated Environmental Services, Ltd.
ARI	Action Remediation, Inc.
AROD	Record of Decision Amendment
ASP	Analytical Services Protocol
bgs	below ground surface
CAMP	Community Air Monitoring Plan
CCR	Construction Completion Report
CEI	Clean Earth Inc.
CIP	Cipriano Excavation Inc.
City	City of Glen Cove
cpm	counts per minute
D&B	D&B Engineers and Architects, P.C.
DER	Division of Environmental Remediation
DER-10	Technical Guidance for Site Investigation & Remediation
DGI	Delta Geophysics Inc.
EC/IC	Engineering Control / Institutional Control
EDD	Electronic Data Deliverables
ELAP	Environmental Laboratory Approval Program
GCIDA	Glen Cove Industrial Development Agency
GM	Geiger-Muller
GPR	Ground Penetrating Radar
GPS	Global Positioning System
GWS	Gamma Walkover Survey
HASP	Health & Safety Plan
IRT	Innovative Recycling Technologies
LDC	Laboratory Data Consultants, Inc.
MEC	Metro Environmental Contracting Corporation
Mhz	megahertz
MS/MSD	Matrix spike/matrix spike duplicate
NaI	Sodium Iodide
NAPL	Non-Aqueous Phase Liquid
NIST	National Institute of Standards & Technology
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OSHA	Occupational Safety & Health Administration
PCB	Polychlorinated Biphenyl

Acronym	Definition
PCI	Pre-Construction Investigation
pCi/g	picocuries per gram
PE	Professional Engineer
PID	Photo-Ionization Detector
Posillico	Posillico Environmental
ppm	parts per million
PWGC	P.W. Grosser Consulting Engineer & Hydrogeologist, P.C.
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RAO	Remedial Action Objective
RARC	Remedial Action Removal Criteria
RAWP	Remedial Action Work Plan
RCA	Recycled Concrete Aggregate
RMP	Radiation Monitoring Plan
ROD	Record of Decision
RXRGIP	RXR Glen-Isle Partners, LLC
SCO	Soil Cleanup Objective
SCE	Stabilized Construction Entrance
SEC	Safety& Ecology Corporation
SMP	Site Management Plan
SVOC	Semi-Volatile Organic Compound
SWPPP	Storm Water Pollution Prevention Plan
TAL	TestAmerica Laboratories, Inc.
TSCA	Toxic Substances Control Act
URS	URS Corporation
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

1.0 BACKGROUND AND SITE DESCRIPTION

This Construction Completion Report (CCR) addresses the remedial requirements completed as required in the Record of Decision Amendment (AROD) to allow for restricted residential use development of the site. The work was performed in accordance with the Pre-Construction RAWP, August 2016.

The site is located in the County of Nassau, New York and is identified as Section 21, Block A, Lots 14, 15, 142, 431, 459, 541, 542, 543, 544, 545, 648, 649, and 650 and Section 31, Block G, Lot 311 on the Nassau County Tax Map. The site occupies approximately 27 acres and is comprised of five distinct areas which are referred to as Parcels A through C Prime.

- Parcel A is an approximate 7-acre parcel that is bordered to the south by Glen Cove Creek, to the west by the Former Doxey property, to the east by commercial properties, and to the north by Herb Hill Road.
- Parcel B is an approximate 6-acre parcel that is bordered to the north by The Place (a local street) and residential properties, to the south by Herb Hill Road, to the east by commercial properties (including the Crown Dykman Site), and to the west by Dickson Street.
- Parcel C is an approximate 14-acre parcel that is bordered to the north by residential properties, to the south by Garvies Point Road, to the east by Dickson Street, and to the west by commercial properties (including the Former Mattiace property). Parcel C is divided into three separate areas.
    - Upper C
    - Lower C
    - C Prime

A Site Location Map is included as **Figure 1**. The boundaries of the Site are fully described in **Appendix A**: Survey Map Metes and Bounds. Please note that the site, as defined in this CCR, does not include Parcel Lower C. This portion of the site is being remediated by the USEPA.

2.0 SUMMARY OF SITE REMEDY

2.1 Remedial Action Objectives

Since the completion of the original site remedial actions performed by the USEPA in September of 2008, multiple investigations have been performed to characterize post-remedial conditions. These investigations have been referred to as the Pre-Construction Investigations (PCIs) which included the following:

- Metron Development Services, Glen Isle Field Verification Program Certification Sampling Event #1, May 2004;
- USEPA, Remedial Action Report for Operable Unit One (Li Tungsten Facility), September 2008;
- Environmental Chemical Corporation, Draft Final Status Survey Report, September 2008;
- PWGC, Pre-Construction Confirmatory/Insurance Data Gap Subsurface Investigation Report, May 2014;
- PWGC, Supplemental Soil Testing – Former Li Tungsten Site – Lounge and Benbow Buildings, December 2014;
- Gannett Fleming Engineers, P.C., Draft Contaminated Material Assessment Report, January 2015;
- PWGC, Arsenic and Lead Groundwater Report, February 2015;
- TRC Companies, Inc., Supplemental Remedial Investigation Report, February 2014;
- PWGC, Leachable Arsenic and Lead Sampling Report, February 2015;
- PWGC, Visually Stained Petroleum Soil Investigation/Remediation Report, April 2015;
- PWGC, Visually Stained Petroleum Soil Investigation/Remediation Report Addendum 1, May 2015;
- USEPA, Remedial Investigation, August 2015;
- D&B Engineers and Architects, P.C., Construction Completion Report – 10 Garvies Point Road Brownfield Site, February 2016; and,
- PWGC, Synthetic Precipitation Leaching Procedure Investigation/Red Flag Area Characterization Report, February 2016.

Based on the results of the PCIs, the following Remedial Action Objectives (RAOs) were identified for the site.

2.1.1 Groundwater Remedial Action Objectives

RAOs for Public Health Protection:

- Prevent ingestion of groundwater containing contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles emanating from contaminated groundwater.

RAOs for Environmental Protection:

- Restore groundwater aquifer, to the extent practicable, to pre-disposal/pre-release conditions.
- Remove the source of ground or surface-water contamination.

2.1.2 Soil Remedial Action Objectives

RAOs for Public Health Protection:

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of, or exposure to, contaminants volatilizing from contaminated soil.

RAOs for Environmental Protection:

- Prevent migration of contaminants that would result in groundwater or surface-water contamination.
- Prevent impacts to biota due to ingestion/direct contact with contaminated soil that would cause toxicity or bioaccumulation through the terrestrial food chain.

2.1.3 Soil Vapor Remedial Action Objectives

RAOs for Public Health Protection:

- Mitigate impact to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

2.2 Description of Selected Remedy

The USEPA published a Superfund Proposed Plan for Remedy Modification for the site in May of 2016 based upon the findings of the PCIs. The plan identified USEPA's preferred remedy for the isolated areas (Hot Spots) of arsenic, lead, and polychlorinated biphenyls (PCBs), identified during the PCIs, would be excavation and disposal offsite allowing for restricted-residential use development. These "Hot Spots" included the PCI locations listed below (see **Figure 2** for locations).

In addition, during performance of the remedial activities, grossly contaminated media and Non-Aqueous Phase Liquid (NAPL) were identified at 5-EP-2, 5-EPSW-1, and a new location identified as LT-TSA to the north of 5-EP-2. Finally, surface soils with radionuclides at levels exceeding site cleanup goals were identified on Parcel A (**Figure 3**).

- Parcel A Locations:
  - 5 (Arsenic)
  - PA-3 (Arsenic)
  - PA-12 (Arsenic)
  - 5-EP-2 (Arsenic, Grossly Contaminated Media, and NAPL)
  - 5-EPSW-1 (Lead, Grossly Contaminated Media, and NAPL)
  - SBFT-19 (PCBs)
  - LT-GI-001 (Lead)
  - LT-G-019 (Arsenic)
  - LT-G-022 (Lead)
  - LT-TSA (Grossly Contaminated Media and NAPL)
  - LT_RAD_092916_001 (Radiological)
  - LT_RAD_092916_002 (Radiological)
- Parcel B
  - LT-XC-007 (PCBs)

Additional Hot-Spots were identified on Parcel C. The USEPA recently completed remedial activities on Parcel Lower C. In order to complete these activities, portions of Parcel Upper C were utilized during the course of the remediation. The USEPA's Parcel

Lower C remedial activities as well as their use of Parcel Upper C will be documented under separate cover.

A Pre-Construction RAWP was prepared for the site in August of 2016. The RAWP detailed the procedures for implementing the May 2016 Superfund Proposed Plan for Remedy Modification for the site. The RAWP was submitted to the Agencies on August 31, 2016.

The USEPA published the AROD in September of 2016 memorializing the remedy modifications. The decision document set forth an amendment to the September 1999 Record of Decision (ROD) for the site.

Site remediation was performed in accordance with the remedy selected by the Agencies in the AROD and the Pre-Construction RAWP for the site, and in consideration to those factors listed in 6 New York Codes, Rules, and Regulations (NYCRR) 375-1.8. The following components of the selected remedy were completed.

1. Mobilized for remedial action involving site security setup, equipment mobilization, utility mark outs, and marking and staking excavation areas.

2. Established site-specific remedial action removal criteria (RARC). Excavated and removed soil delineated during the PCIs exceeding RARC, as detailed below:

    a. Arsenic above 175 parts per million (ppm);
    b. Lead above 660 ppm;
    c. PCBs above 10 ppm;
    d. Radium-226 above 5 picocuries per gram (pCi/g) (not including the natural background radiation of nuclide of approximately 1 pCi/g);
    e. Thorium-232 above 5 pCi/g (not including the natural background radiation of nuclide of approximately 1 pCi/g);
    f. Grossly contaminated media, as defined by 6 NYCRR Part 375-1.2(u); and
    g. NAPL, as defined by 6 NYCRR Part 375-1.2 (ac).

3. Screened excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a photoionization detector (PID), radiological count-rate meter and scaler;

4. Performed a community air monitoring program for particulates and volatile organic vapors;
5. Collected and analyzed end-point samples to determine the performance of the remedy with respect to attainment of RARC;
6. Sampled and analyzed excavated media to determine appropriate disposal as required by disposal facilities. Appropriately segregated excavated media onsite;
7. Transported and disposed of excavated soil/fill exceeding RARC at offsite permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal;
8. Characterized onsite materials for reuse;
9. Imported materials to be used for backfill and cover in accordance with applicable laws and regulations;
10. Backfilled remedial excavations in compliance with applicable laws and regulations;
11. Implemented sediment and erosion control methods in compliance with applicable laws and regulations; and
12. Prepared a CCR documenting the remedial activities performed, certified that the remedial requirements were achieved and documented any changes from the RAWP.

3.0 INTERIM REMEDIAL MEASURES, OPERABLE UNITS AND REMEDIAL CONTRACTS

The remedy for this site was performed as two separate construction contracts. As previously discussed, the Parcel Lower C remediation is being performed by the USEPA and a separate CCR will be prepared for that portion of the site.

4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the site were conducted in accordance with the AROD for the site dated September 2016 and the Agencies-approved Pre-Construction RAWP for the site (August 2016). Deviations from the RAWP are noted below. The remedial activities took place between September 2 and December 7, 2016.

4.1 Roles and Responsibilities

Responsibilities and authorities of the organizations and key personnel involved in the remedial action were as follows:

- Regulatory:
  - The USEPA in conjunction with the NYSDEC served as the lead agencies for the remedial action performed at the site. Mr. Mark Gallo of the USEPA and Ms. Heidi Dudek, P.E., of the NYSDEC were onsite for key stages of the remedial activities to provide oversight, direction and documentation.
  - The NYSDEC contracted URS Corporation (URS) to serve as their onsite representative during the course of the remedial activities. URS was onsite throughout the duration of the project to provide oversight, direction, and documentation.
- Site Owner:
  - The site was owned by the Glen Cove Industrial Development Agency (GCIDA) until November 22, 2016. The majority of the remedial activities were performed during GCIDA ownership. Ms. Myralee Machol served as the GCIDA representative throughout the duration of the project.
  - The GCIDA contracted D&B Engineers and Architects, P.C. (D&B) to serve as GCIDA's representative throughout the course of the project. D&B was onsite until November 29, 2016 to provide direct communication with the Agencies, oversee, direct and document field activities.

- Developer:
  - RXRGIP purchased the property from the GCIDA on November 22, 2016. While still under GCIDA ownership RXRGIP volunteered to perform the remedial action on behalf of the GCIDA.
    - RXRGIP contracted P.W. Grosser Consulting Engineer & Hydrogeologist, P.C. (PWGC) to serve as their site representative throughout the course of the project. PWGC was onsite throughout the duration of the project to provide project management and environmental and engineering services.
    - RXRGIP contracted Posillico Environmental (Posillico) to perform the remedial construction activities.
    - RXRGIP contracted Safety and Ecology Corporation (SEC) to serve as their radiological site representative throughout the course of the project.

4.2 Governing Documents

4.2.1 Site Specific Health & Safety Plan

The Health and Safety Plan (HASP) was included as Appendix A of the RAWP approved by the Agencies. Remedial work performed under this remedial action was in compliance with governmental requirements, including site and worker safety requirements mandated by the Federal Occupational Safety and Health Administration (OSHA).

4.2.2 Quality Assurance Project Plan

The Quality Assurance Project Plan (QAPP) was included as Appendix B of the RAWP approved by the Agencies. The QAPP described the specific policies, objectives, organization, functional activities and quality assurance/quality control (QA/QC) activities designed to achieve the project data quality objectives.

Quality Assurance Project Plan Clarification

On September 8, 2016, URS informed D&B of a discrepancy between RAWP Appendix B - QAPP and Appendix D – Radiation Monitoring Plan (RMP) regarding analytical

requirements for radiological confirmatory soil samples. QAPP Worksheet #17 stated that confirmatory soil samples would be analyzed for Radium-226 & Other Gamma Emitters (by gamma spectrometry following Method GA-01-R) and Thorium-232 (by alpha spectrometry following Method A-01-R), while Section 5.1 of the RMP stated that confirmatory soil samples would only be analyzed by gamma spectrometry by Method 901.1.

On September, 13, 2016, SEC submitted a letter clarifying the work plan discrepancies. In summary, confirmatory soil samples (if necessary) would be analyzed for gamma spectrometry by Method 901.1 (equivalent to Method GA-01-R) in accordance with the RMP. Activity for both Radium-226 and Thorium-232 (via its daughter product Actinium-228) will be measured, thus allowing for proper characterization of the soil for disposal purposes.

This correspondence as well as the SEC letter was documented in Field Order #07 (**Appendix B)** which URS submitted to D&B on September 15, 2016. D&B forwarded the field order to PWGC on September 21, 2016.

4.2.3 Storm-Water Pollution Prevention Plan

A site-specific Storm-Water Pollution Prevention Plan (SWPPP) was included as Appendix F of the RAWP approved by the Agencies. The erosion and sediment controls for remedial construction were performed in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control and the site-specific SWPPP.

4.2.4 Community Air Monitoring Plan

A site-specific Community Air Monitoring Plan (CAMP) was included as Appendix C of the RAWP approved by the Agencies. The CAMP describes measures for protection of onsite workers and the downwind community (i.e., offsite receptors including residences, businesses, and onsite workers not directly involved in the remedial work) from potential airborne contaminants as a direct result of the remedial activities.

4.2.5 Radiation Monitoring Plan

A site-specific RMP was included as Appendix D of the RAWP approved by the Agencies. The RMP describes measures for radiation monitoring activities performed during remedial activities.

4.2.6 Decontamination Plan

A site-specific Decontamination Plan was included as Appendix E of the RAWP approved by the Agencies. The plan details general and specific procedures, methods, and considerations to be utilized with regard to decontamination during the course of the remedial action.

4.3 Remedial Program Elements

4.3.1 Contractors and Consultants

The following Consultant and Contractors performed work at the site during implementation of the RAWP:

- Action Remediation, Inc. (ARI) Wantagh, NY – ARI provided environmental contracting services during the course of the remedial action.
- Associated Environmental Services, Ltd (AES), Hauppauge, NY – AES provided environmental drilling services during the course of the remedial action.
- Cipriano Excavation Inc. (CIP), Glen Cove, NY – CPI provided environmental contracting services during the course of the remedial action.
- Clean Earth Inc. (CEI) Merrick, NY – CEI coordinated the disposal of materials from the site.
- D&B Engineers and Architects, P.C., Woodbury, NY – D&B served as the City of Glen Cove's (the City's) environmental representative. D&B was onsite until November 29, 2016.
- DELTA Geophysics Inc. (DGI), Catasauqua, PA – DGI provided utility location services throughout the project.

- Innovative Recycling Technologies, Inc. (IRT), Lindenhurst, NY – IRT provided vacuum enhanced fluid recovery (VEFR), transportation, and disposal services throughout the course of the remedial action.
- Laboratory Data Consultants, Inc. (LDC), Carlsbad, CA – LDC provided data validation services.
- Metro Environmental Contracting Corp., (MEC) Lindenhurst, NY – MEC provided environmental contracting services during the course of the remedial action as a subcontractor to Posillico.
- Posillico, Farmingdale, NY – Posillico provided environmental contracting services during the course of the remedial action.
- PWGC, Bohemia, NY – PWGC provided project management, environmental and engineering services during the course of the remedial action.
- SEC, Knoxville, TN – SEC provided radiological screening throughout the duration of the remedial action.
- TestAmerica Laboratories, Inc. (TAL), Edison, NJ – TAL provided environmental analytical services for the project.
- URS, Buffalo, NY – URS served as the NYSDEC's representative during the course of the remedial action.
- USEPA, New York, NY – USEPA served as their own representative during the course of the remedial action.

The Engineer of Record responsible for inspection of the work is Paul K. Boyce, P.E. of PWGC.

4.3.2 Permits, Approvals, Licenses and Notifications

The City waived project-specific permits for the project because the site work was undertaken on their behalf. However, work conducted at the site conformed to the requirements of the City regardless of whether a permit was issued.

4.3.3 Pre-Construction Meetings

Pre-construction meetings were held with D&B, Posillico, PWGC, and RXRGIP on March 21, and September 6 & 7, 2016. The meetings were conducted prior to the performance of any work to ensure the contractor was aware of requirements of the RAWP and to answer questions related to the scope of work.

4.3.4 Notifications

Prior to the start of activities contemplated as part of the RAWP, D&B submitted either a "Notification of Proposed Site Activity" form or direct email to the agencies. The forms/emails provided a description of the work requested for approval by the Agencies. The forms and Agency responses are included in **Appendix C**. Work conducted under the approved notifications is detailed in the following sections.

Utility Clearance Notification (2016-08-31)

PWGC submitted a "Notification of Proposed Site Activity" form to D&B on August 31, 2016. The form requested permission to stake out the proposed remedial excavations and perform a utility clearance survey for each area, 30 feet by 30 feet on center. No soil disturbance activities were proposed. D&B submitted the request to the Agencies on September 1, 2016. The NYSDEC and USEPA approved the proposed site activity in a September 1, 2016 email.

Site Preparation Notification (2016-09-06)

PWGC submitted a "Notification of Proposed Site Activity" form to D&B on September 06, 2016. The form requested permission to deliver construction equipment and materials, install temporary construction fences, clear and grub excavation areas, and install signage. No soil disturbance activities were proposed. D&B submitted the request to the Agencies on September 6, 2016. The NYSDEC and USEPA approved the proposed site activity in a September 13, 2016 email.

Waste Characterization Notification (2016-09-07)

PWGC submitted a "Notification of Proposed Site Activity" form to D&B on September 7, 2016. The form transmitted the proposed sampling plan to characterize materials that would be excavated in-situ for disposal facility testing requirements. The plans were attached to the notification.

Stabilization Request (2016-09-13)

On September 13, 2016, RXRGIP submitted an email request to D&B to utilize onsite crushed concrete to stabilize the northeast corner of Parcel A. D&B indicated that the use of crushed concrete for stabilization purposes was approved as long as the materials were placed on top of a demarcation layer (orange construction fence). The NYSDEC and USEPA approved the request in a September 13, 2016 email.

Materials Import Request -Con-Strux

On September 14 (Request #1), November 01 (Request #2), and 15 (Request #3), 2016, D&B submitted email requests to import recycled concrete aggregate (RCA) from an offsite source (Con-Strux, LLC). See **Section 4.9** for further details. The NYSDEC and USEPA approved the import in September 15, 16 (Request #1), November 03, 04 (Request #2), 07 (Request #3), 2016 emails.

Backfill Request (2016-09-15)

On September 15, 2016, D&B submitted an email request to backfill an open spill excavation area on Parcel A to facilitate performance of the remedial excavation activities. D&B submitted a follow-up email on September 16, 2016 indicating that the remediation team understood that the backfill operations would be at risk since the spill closure report was not yet approved. See **Section 4.9** for further details. The NYSDEC and USEPA approved the import in a September 16, 2016 email.

Radiological Remediation Correspondence (2016-09-21)

On September 21, 2016, D&B submitted an email providing clarification as to the intended remedial approach for addressing isolated areas of elevated radioactivity encountered on Parcel A. The email indicated that investigative/remedial efforts would be performed in accordance with the RMP. In addition, following completion of the investigation and/or remediation, confirmatory soil samples would also be collected and analyzed for arsenic and lead. See **Section 4.4** for further details. The NYSDEC and USEPA acknowledged the clarification in a September 28, 2016 email.

Backfill Request (2016-09-26)

On September 26, 2016, D&B formally requested permission to backfill LT-GI-001, LT-G-019, and LT-G-022. URS reviewed the end-point data collected at these locations and

approved the request to backfill contingent upon USEPA approval. This was documented in URS Field Order #10 (**Appendix B**). The USEPA approved the backfill in a September 27, 2016 email.

Historical Sampling Point References (2016-09-29)

On September 29, 2016, D&B started an email chain with the NYSDEC, USEPA, and URS to discuss the accuracy in locating sample locations PA-3, PA-12, and 5 as survey coordinates were not previously available (see **Section 4.5.2** for more details). URS georeferenced the historical figures and identified approximate locations for the points. The accuracy of the georeferenced locations was 7.3 feet, so it was decided to increase these excavation areas from 5-feet by 5-feet to 15-feet by 15-feet. The USEPA approved the approach in a September 30, 2016 email.

Backfill Request (2016-10-13)

On October 13, 2016, D&B formally requested permission to backfill remedial excavations 5, LT-XC-007, PA-01, and SBFT-19. The NYSDEC and USEPA approved backfill of these remedial excavations on October 13, 2016.

Materials Disposal (2016-10-13)

On October 13, 2016, D&B formally requested approval to dispose of Toxic Substances Control Act (TSCA) PCB-contaminated soils and non-hazardous soils at Clean Earth of North Jersey. See **Section 4.3.8** for further details. The NYSDEC and USEPA approved disposal on October 21, 2016.

Materials Reuse (2016-10-18)

On October 18, 2016, D&B formally requested approval to reuse materials from site activities that were characterized in accordance with the RAWP for reuse beneath the final cover soils. See **Section 4.8.1** for further details. The NYSDEC and USEPA approved reuse in October 28 and 30, 2016 emails.

Materials Disposal (2016-10-19)

On October 19, 2016, D&B formally requested approval to dispose of liquid wastes from the site at Republic Environmental Systems, Inc. (Hatfield, PA). See **Section 4.3.8** for further details. The NYSDEC and USEPA approved disposal on October 20, 2016.

Materials Reuse (2016-10-19)

On October 19, 2016, D&B formally requested approval to take characterized materials from site activities and reuse them beneath the final cover soils. See **Section 4.8.1** for further details. The NYSDEC and USEPA approved reuse in October 28 and 30, 2016 emails.

Transport and Disposal (2016-10-26)

On October 26, 2016, D&B formally requested approval of J&D Trucking, Inc. as the transporter for the hazardous PCB-contaminated soils from the Li Tungsten Site. See **Section 4.5.2** for further details. The NYSDEC and USEPA approved the transporter in October 27 and 28, 2016 emails.

Transport and Disposal (2016-10-28)

On October 28, 2016, D&B formally requested approval of J&D Trucking, Inc. as the transporter for the non-hazardous arsenic-contaminated soils from the Li Tungsten Site. See **Section 4.5** for further details. The NYSDEC and USEPA approved the transporter in October 28 and 29, 2016 emails.

Transport and Disposal (2016-10-30)

On October 30, 2016, D&B formally requested approval to dispose of non-hazardous contaminated soils (arsenic-contaminated soils and non-hazardous metals) at Clean Earth of North Jersey (initial) and GROWS or BFI (final). See **Section 4.5.2** for further details. The NYSDEC and USEPA approved the disposal facilities in October 31 and November 6, 2016 emails.

Materials Reuse (2016-11-03)

On November 3, 2016, D&B formally requested approval to take characterized materials from site activities and reuse them beneath the final cover soils. See **Section 4.8.1** for further details. The NYSDEC and USEPA approved reuse in November 3 and 7, 2016 emails.

Materials Disposal (2016-11-07)

On November 7, 2016, D&B formally requested approval to dispose of non-hazardous contaminated soils (Petroleum Soils, non-hazardous metals) at Clean Earth of North Jersey

(initial) and GROWS or BFI (final). See **Section 4.3.8** for further details. The NYSDEC and USEPA approved the disposal facilities in November 7, 14, and 16, 2016 emails.

Materials Reuse (2016-11-09)

On November 9, 2016, D&B formally requested approval to take characterized materials from site activities and reuse them beneath the final cover soils. See **Section 4.8.1** for further details. The NYSDEC and USEPA approved reuse in November 16 and 18, 2016 emails.

Backfill Request (2016-11-14)

On November 14, 2016, D&B formally requested permission to backfill remedial excavations 5-EP-2, 5-EPSW-1 and LT-TSA. The NYSDEC and USEPA approved the backfill in November 15 and 18, 2016 emails.

Materials Import Request – 110 Sand

On September 21 (Request #1) and November 16 (Request #2), 2016, D&B submitted email requests to import general backfill materials from an offsite source (110 Sand Company). See **Section 4.9** for further details. The NYSDEC and USEPA approved the import in September 23 (Request #1), November 16 and 18 (Request #2), 2016 emails.

Change of Ownership and Generator (2016-11-23)

On November 23, 2016, PWGC formally submitted revised approval letters for Clean Earth of North Jersey documenting the change in ownership and generator. See **Section 4.3.8** for further details. The NYSDEC and USEPA acknowledged receipt on November 23, 2016.

Materials Disposal (2016-11-30)

On November 30, 2016, PWGC formally requested approval to dispose of liquid wastes from the site at Republic Environmental Systems, Inc. (Hatfield, PA). See **Section 4.3.8** for further details. The NYSDEC and USEPA approved disposal on December 1 and 2, 2016.

Offsite Materials Characterization

On November 29, 2016, PWGC submitted the North Hills Soil Characterization Plan. See **Section 4.9** for further details**.** The NYSDEC and USEPA approved the plan in December 09 and 12, 2016 emails.

Materials Import Requests – Inwood Materials Terminal – Glen Cove

On December 01 (Request #1), 08 (Request #2), and 19 (Request #3), 2016, PWGC submitted email requests to import general backfill materials from an offsite source (Inwood Material Terminal – Glen Cove). See **Section 4.9** for further details. The NYSDEC and USEPA approved the import in December 05 (Request #1), 09, 17 (Request #2), and 19 (Request #3) 2016 emails.

Materials Import Request (2017-07-01)

On January 09, 2017 PWGC submitted a requests to import materials from an offsite source (North Hills). See **Section 4.9** for further details. The NYSDEC and USEPA approved the import in January 10 and 17, 2017 emails.

Geotechnical Investigation Scope of Work (2016-12-06)

On December 06, 2016, PWGC submitted the Geotechnical Investigation Scope of Work. See **Section 5.0**. The NYSDEC and USEPA approved the plan in December 12 and 17, 2016 emails.

Test Pile Scope of Work (2016-12-06)

On December 27, 2016, PWGC submitted the Test Pile Scope of Work. See **Section 5.0**. The NYSDEC and USEPA approved the plan in January 03 and 09, 2017 emails.

4.3.5 Mobilization

Mobilization included delivery of construction equipment and materials to the site. Equipment used for the remedial action was mobilized on the site and left onsite throughout the duration of the project until it was no longer needed. PWGC provided site orientation and training to the site workers directly involved with the remedial action. A detailed description of the equipment, materials, and personnel mobilized to the site each day is included in the "Daily Activity Field Reports" (**Appendix D**).

4.3.6 Pre-Excavation Utility Location Survey

On September 2 and 21, 2016, PWGC and DGI mobilized to the site to perform the pre-excavation utility location survey. PWGC utilized a Trimble® GeoXT™ handheld global positioning system (GPS) device to locate the center point of each proposed remedial excavation. Once located, DGI performed a 30-foot by 30-foot utility survey around each location. For this project the technician utilized the following equipment to survey the area of concern:

- Geophysical Survey Systems Inc. SIR-3000 cart-mounted Ground Penetrating Radar (GPR) unit with a 400 megahertz (Mhz) antenna.
- Radiodetection RD7000 precision utility locator.
- Fisher M-Scope TW-6 pipe and cable locator.

The following utilities were detected: electric, water, gas and storm sewer. Detectable utilities were marked onsite with appropriate colors. The utilities were located outside the limits of the proposed excavations with the exception of location SBFT-19. Electric and gas were identified within the 30-foot by 30-foot grid. Anomalous features and unknown utilities were marked onsite in pink paint. Copies of the utility survey reports are included in **Appendix E.**

4.3.7 Site Preparation

Prior to the start of remedial excavations, Posillico prepared the site for the remedial action.

Site Security

An existing chain link fence spanned the entire property boundary with the exception of the southeastern portion of the site. CIP constructed a temporary fence (orange construction fencing and fence poles) on September 9, 2016 as a preliminary measure. On September 15, 2016, a more secure fencing system composed of chain link fence panels was installed to secure the site. This system remained in place throughout the duration of the remedial phase of the work. At the request of the City, construction signage was installed along the fencing. In addition, the City requested additional police patrols in the area to deter theft and trespassing.

The following security question was brought up during the remedial action:

- On September 12, 2016, D&B asked to discuss location SBFT-19 security. SBFT-19 is located on the grassy area on the south side of Herb Hill Road outside of the existing fencing. It was determined that excavation in accordance with the RAWP would require traffic control measures. URS indicated that the use of protective traffic barriers around the work area in the roadway would be enough security while work was occurring and personnel were present. The excavation would still need to be fully fenced when left unattended. This conversation was documented in Field Order #03 (**Appendix B**).

Posillico was responsible for the security of equipment, materials, supplies, facilities, personnel and incidents throughout the duration of the project. Only persons associated with the project were admitted onsite. PWGC kept a list of personnel onsite during each work day, as documented in the "Daily Activity Field Reports" (**Appendix D**). No security incidents occurred during performance of the remedial activities.

One Call Utility Mark Out

Posillico contacted the New York State One Call system to notify the local utility companies of the proposed work so that they could mark out the location of utilities in the area of the site. The utilities were marked out from their service origin up to the property boundary.

Clearing and Grubbing

Posillico/CIP performed clearing and grubbing between September 7 and 20, 2016. Clearing and grubbing was necessary to facilitate the installation of erosion and sediment controls, excavation/removal of contaminated soil, and to gain access to densely vegetated portions of the site. Clearing and grubbing was performed as discussed below.

Prior to any intrusive activities, SEC performed a gamma walkover survey (GWS) of the area to be disturbed. The GWS was performed over each area using a 2-inch by 2-inch sodium iodide (NaI) detector. SEC recorded the range of observable count rates in their daily field reports and compared it against the site-specific criterion of two-times the site

background level of 15,000 counts per minute (cpm). SEC's daily field reports are included as an attachment to the "Daily Activity Field Report" (**Appendix D**).

The site-specific criterion was exceeded at two locations on Parcel A, as identified during performance of the GWSs. On September 13, 2016, an elevated reading of up to 257,000 cpm was identified at an isolated area along the southern boundary of Parcel A. On September 14, 2016 an elevated reading of up to 49,000 cpm was identified at an isolated area along the northern boundary of Parcel A. The locations of the elevated detections are shown in **Figure 3**. The identification of these isolated areas was memorialized in Field Order # 05 prepared by URS (**Appendix B**). [Please note that the field order incorrectly states that the readings were identified on September 12.] Orange construction fence was utilized to demarcate these areas. The investigation of these areas is discussed in **Section 4.4**.

Following the GWS, clearing and grubbing activities were performed with chainsaws and excavators using traditional methods for cutting and stockpiling trees and brush. In general, small diameter trees, tree limbs and brush were cleared.

During clearing and grubbing activities, existing site materials were encountered, stockpiled in accordance with the procedures detailed in the RAWP, and fully characterized for offsite disposal or onsite reuse. Characterization of these materials is discussed in the **Sections 4.5** and **4.8**. In addition, an isolated area of discolored surface soils was identified. URS requested that the surface of the area be scraped down slightly, since the discoloration appeared surficial. This was documented in Field Order #08 (**Appendix B**). Visual discoloration was still present after initial scraping. In order to determine if the discoloration was a result of petroleum contamination, surface soil characterization was performed.

Initially, a grab sample was collected for volatile organic analysis utilizing a tera-core sampling device. The grab sample was collected from 2-4 inches below ground surface (bgs) in accordance with NYSDEC's Technical Guidance for Site Investigation and Remediation (DER-10). Following collection of the grab sample, a dedicated plastic scoop was utilized to collect materials from five surface locations. The sample volumes were transferred to a stainless steel bowl and homogenized. Once homogenized, samples were

transferred to laboratory supplied glassware, packed in a cooler with ice and shipped under proper chain-of-custody procedures to TAL, a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory, for analysis in accordance with NYSDEC Analytical Services Protocol (ASP) Category B Data Deliverables. Sampling equipment decontamination was performed in accordance with the project QAPP.

The soil sample was analyzed for volatile organic compounds (VOCs) by USEPA Method 8260C, semi-volatile organic compounds (SVOCs) by USEPA Method 8270D, and for total arsenic and lead by USEPA Method 6010C. Analytical results were compared against the RARC. In the absence of RARC, the Restricted-Residential Use Soil Cleanup Objectives (RRUSCOs) specified in 6 NYCRR Part 375 were utilized for comparison purposes to allow soil reuse beneath the soil cover.

Analytical results were within RARC or RRUSCOs with the exception of Indeno[1,2,3-cd]pyrene. The detection of Indeno[1,2,3-cd]pyrene is not indicative of grossly contaminated media and/or NAPL. Analytical results are summarized in **Tables 1** through **3** and sample locations are shown on **Figure 4**. The complete laboratory analytical report is included in **Appendix F**.

Erosion and Sediment Controls

Posillico/CIP performed the installation of erosion and sediment controls between September 13 and November 30, 2016. The erosion and sediment controls were installed in accordance with the RAWP and site specific SWPPP with the following deviations, additions, and clarifications:

- On September 8, 2016, URS issued Field Order #01 (**Appendix B**) indicating that the erosion and sediment controls must be fully in place prior to initiation of remedial excavations.
- On September 12, 2016, D&B asked to discuss sediment control measures at location SBFT-19, which is located in the grassy area on the south side of Herb Hill Road. URS indicated that hay bales would be required around the entire work area in the road to prevent the escape of any soils dropped during loading activity.

Hay/straw bales were not originally proposed. However, based upon the issuance of Field Order # 03 (**Appendix B**), described above, they were utilized as needed.

- On September 14, 2016, D&B requested approval to build the Stabilized Construction Entrance (SCE) on Parcel A before silt fencing around the site was complete. In addition, D&B asked if a 5-gallon plastic bucket with drilled perforations could be used instead of the two-foot by two-foot concrete collar sump. URS approved the request and requested in turn that the SCE include splash guards. This correspondence was recorded in Field Order #06 (**Appendix B**).
- On September 19, 2016, Posillico submitted an email request to modify the locations of the silt fence on Parcel A and the width of the SCE on Parcel B to accommodate construction. PWGC reviewed the proposed modifications and found them acceptable to complete the work detailed in the RAWP. A memo was prepared documenting the request and approval (**Appendix G**).
- On September 14, 2016, D&B requested that PWGC collect two soil samples prior to construction of each SCE to document the soil quality prior to use.
    - PWGC collected the two pre-construction samples from Parcel A (LT-091416-001 and LT-091416-002) on September 14, 2016 and from Parcel B (LT-092016-01 and LT-092016-02) on September 20, 2016. Soil samples were retrieved from the base of the SCE utilizing dedicated polyethylene scoops. The sample volume was transferred to a stainless steel bowl and homogenized. Once homogenized, samples were transferred to laboratory supplied glassware, packed in a cooler with ice and shipped under proper chain-of-custody procedures to TAL, a NYSDOH ELAP certified laboratory, for analysis in accordance with NYSDEC ASP Category B Data Deliverable packages and EDDs in EQuIS format. Sampling equipment decontamination was performed in accordance with the project QAPP. The samples were analyzed for total arsenic and lead by USEPA Method 6010C and for PCBs by USEPA Method 8082A. The analytical data are summarized in **Table 4.**

- On November 15, 2016, the GCIDA verbally requested permission to leave the erosion and sediment controls in place after remediation for use during construction. As documented in Field Order #14 (**Appendix B**), URS found the request acceptable with the following contingencies:
    - The SCE must be securely tarped during periods of inactivity;
    - The erosion and sediment controls must be inspected at least once a week and after major storms;
        - Please note that while the URS Field Order #14 required inspections at least once a week and after major storm events, the actual inspection frequency remained at twice a week and after major storm events in accordance with the SWPPP.
    - A minimum of two confirmatory soil samples must be collected from beneath each SCE upon removal for comparison to pre-construction samples;
    - Stone for site roads must be removed before placement of the final cover system begins, and disposed of or stockpiled and tested for on-site reuse; and
    - Stone and soils from the decontamination pads should be properly profiled and disposed upon removal.
- On September 14, 2016, PWGC noted that the SCE on Parcel A was installed with a variation from the provided detail. Rather than utilizing a single contiguous liner, Posillico layered several sheets of the liner with overlap. The sheets were overlapped so that liquids migrating down to the SCE would cascade along the liner and accumulate at the sump.

Once fully installed, PWGC performed inspections of the erosion and sediment controls in accordance with the SWPPP. Deficiencies were immediately reported to Posillico and corrective measures were implemented.

- On November, 23, 2016, a holding tank was inadvertently punctured resulting in the release of an estimated 250-gallons of liquids collected from the decontamination process at Parcel A onto the adjacent construction road. PWGC prepared Pre-Construction RAWP Memo 2 REV 1 to document the release and propose corrective measures.
- On November 30, 2016 Posillico was notified of a release (~500-gallons) from the SCE sump on Parcel A. The release was a result of excess storm-water entering the SCE.
- On November 30, 2016, during removal of liquids from the sump, a small volume of liquids (125-gallons) siphoned back into the sump from the tote. A magenta color was noticed in the sump which spread out past the SCE. PWGC contacted the supplier of the totes whom indicated that the color was a result of residual potassium permanganate. Potassium permanganate is commonly used in environmental remediation projects. PWGC prepared Pre-Construction RAWP Memo 2 REV1 (**Appendix G**) to document the release and corrective measures that were performed. Posillico performed corrective measures on December 1, 2016 which included diversion of storm-water onto the site with sand bags, creation of a berm around the low points of the SCE, and addition of RCA to raise the grade of the SCE.
    - In order to determine if the release had impacted the surface, the access roadway was removed, stockpiled, and characterized for reuse (See **Section 4.8**), and then two surface soil samples were collected from the immediate area down-gradient of the sump and analyzed for metals. Analytical results were within RARC. Analytical results are summarized in **Table 3** and are shown on **Figure 4**. The complete laboratory analytical report is included in **Appendix F**.

Copies of the SWPPP inspection reports and sign-offs are included in **Appendix H**.

Site Stabilization

In order to perform the remedial activities, several open excavations were partially backfilled and access roads were created. Based upon Agency approval, previously tested crushed concrete which was already onsite and recently tested RCA imported from Con-Strux (See **Sections 4.8** and **4.9**) were used to backfill the open excavations and create access roads. Prior to backfilling, a highly visible demarcation barrier (orange construction fence) was placed beneath the material. Documentation of the site stabilization is detailed in the "Daily Activity Field Reports" (**Appendix D**).

Equipment Staging

Materials were staged onsite as necessary for completion of remedial tasks.

4.3.8 Waste Characterization Evaluation

Prior to the removal of materials from the site, materials were evaluated to determine appropriate disposal options.

Facility Evaluation

Prior to performing the waste characterization evaluation, PWGC provided Posillico with a summary of the site history and available data from the proposed remedial areas and stockpiled soils. Based upon the data, PWGC and Posillico developed the following potential waste streams:

Waste Stream	Locations
Heavy Metals and Grossly Contaminated Material	5-EP-2 and 5-EPSW-1
Heavy Metals	PA-3, PA-12, 5, LT-GI-001, LT-G-019, LT-G-022
PCBs (Hazardous)	SBFT-19, LT-XC-007

In-Situ Waste Characterization

On September 7, 2016, D&B requested that PWGC collect in-situ soil samples from the Li Tungsten remedial excavation areas (5, 5-EP-2, 5-EPSW-1, PA-3, PA-12, LT-XC-007, SBFT-19, LT-GI-001, LT-G-019, and LT-G-022) for laboratory analysis and waste

classification evaluation for the purpose of coordinating the materials' transport and disposal.

PWGC reviewed the historical data from the remedial excavation areas with Posillico to determine which samples were similar and would likely fall under the same waste classifications. Two potential waste classifications were identified:

- Hazardous PCB soil; and
- Low level metals (arsenic less than 1,000 ppm and/or lead less than 1,000 ppm).

Based upon these waste streams, the following sampling approach was proposed:

LI TUNGSTEN		
Sample ID	**Contaminant Class**	**Composite Locations**
WC001	PCBs	LT-XC-007(0-2') & SBFT-19(0-5')
WC002	As <1,000 mg/kg and/or Lead <1,000 mg/kg	LT-G-019(0-4'), LT-G-022(0-2'), LT-GI-001(0-6') & PA03(0-5')
WC003	As <1,000 mg/kg and/or Lead <1,000 mg/kg	5(0-5'), PA12(0-3.5'), 5-EP-2(10.5-12.5'), & 5-EP-SW-1(10.5-12.5')

A "Notification of Site Activity" form was submitted to D&B on September 7, 2016 detailing the proposed sampling approach. In-situ waste classification was performed at the site on September 9, 2016. A Waste Characterization Report (**Appendix I**) was prepared by PWGC detailing the sampling approach, sampling protocol, and provided the analytical results from the testing.

On September 9, 2016, URS noted that waste characterization sampling of the proposed excavation occurred by collecting soil core samples using a hand auger or Geoprobe® rather than by collecting representative soil samples from excavated soil stockpiles. URS acknowledged that waste characterization for direct loading using a Geoprobe® was an acceptable method, if approved by the disposal facility. URS also indicated that this method of waste characterization sampling cannot be used to clear materials for reuse as backfill. This correspondence was recorded in Field Order #02 (**Appendix B**).

On September 9, 2016, URS noted that during the waste characterization sampling volatile organic analysis samples were not collected immediately. URS discussed the matter with

D&B to ensure that all future volatile organic analysis samples were collected immediately, to the extent feasible. All future samples for volatile organic analysis were collected immediately following collection as designed. This correspondence was recorded in Field Order #04 (**Appendix B**).

Stockpile Waste Characterization

Throughout the course of the remedial activities, several soil stockpiles were generated that were not representative of the in-situ characterization. In order to characterize this material to support waste classification, transport and disposal, PWGC sampled the stockpiles individually.

On October 11, 2016, PWGC performed waste characterization of the materials generated from 5-EP-2 and 5-EPSW-1. Due to the identification of grossly contaminated media at these locations, materials excavated from these two locations were stockpiled separately from the rest of the site materials. The material was staged in two areas and was approximately 500-cubic yards in volume. See **Section 4.5.3** for further details related to the identification of grossly contaminated media. The stockpile was uncovered to allow access for sampling. Initially, grab samples were collected for volatile organic analysis utilizing a terra-core sampling device. The grab samples were collected from 6-12 inches into the piles in accordance with DER-10. Following collection of the grab samples, a dedicated plastic scoop was utilized to collect materials from ten locations of the stockpile (see **Figure 5** for approximate sample locations). The sample volumes were transferred to stainless steel bowls and homogenized. A total of five locations made up one homogenized sample so that a total of two composite samples were collected from the stockpiles. Once homogenized, samples were transferred to laboratory supplied glassware, packed in a cooler with ice, and shipped under proper chain-of-custody procedures to TAL, a NYSDOH ELAP certified laboratory, for analysis in accordance with NYSDEC ASP Category A Data Deliverables. Sampling equipment decontamination was performed in accordance with the project QAPP.

Liquid Waste Characterization

On September 28 and October 4, 2016, PWGC performed liquid waste characterization at

5-EP-2 and 5-EPSW-1 in response to the identification of NAPL at the water table.

On October 24, 2016, PWGC performed liquid waste characterization of the waste water collected from the SCEs.

Disposal Evaluation

Upon receipt, PWGC submitted the laboratory analytical data packages to Posillico and D&B for review. Posillico reviewed the data packages and identified several potential facilities that could accept the materials.

1. Clean Earth (Kearny, North Jersey); Hazardous Soils – PCBs
2. Clean Earth (Kearny, North Jersey); Non-Hazardous Soils – EP013, EP020, Non-Hazardous Metals, & Petroleum Soils
3. Republic Environmental Systems, LLC (Hatfield, PA); Non-Hazardous Liquids
4. Republic Environmental Systems, LLC (Hatfield, PA); Hazardous Liquids

On September 30, October 13, 19 and November 1 and 14, 2016, D&B prepared submittal packages for these facilities. The submittals included the respective facilities' waste profile forms and a link to a share file with the applicable waste characterization analytical data. Copies of these packages are included as **Appendix J**.

The facilities reviewed the information and determined that they could accept the materials as profiled. Updated profiles were forwarded to the facilities on November 23, 2016 documenting the change in ownership and generator. Waste acceptance letters and current permits to operate are included in **Appendix K**.

4.3.9 Initial Site Survey

Prior to construction activities, an initial site survey was performed to verify the existing site conditions and establish the exact limits of the work. The initial site survey included the following:

- Establishing reference points;
- Measuring ground surface elevations across a 50-foot by 50-foot area centered on each Hot Spot slated for remediation at the intersection points of a 10-foot by 10-foot grid;

- Locating existing site features within and immediately surrounding the above referenced areas (e.g., site structures, limits of paved areas, fence, gates, etc.); and
- Establishment of the excavation locations.

A copy of the initial site survey is included in **Appendix L**.

4.3.10 General Site Controls

- **Site Security -** The construction entrances are secured and locked every day after work. The City of Glen Cove Police Department patrols the site.
- **Job Site Record Keeping -** PWGC personnel keep daily notes in a dedicated bound field book. Field notes are translated into daily reports for the site and stored as an electronic file. Copies of "Daily Activity Field Reports" are included as **Appendix D**.
- **Erosion and Sediment Controls** - The erosion and sediment controls were checked at a frequency of twice a week and after significant precipitation events. Deficiencies were reported to the general contractor and repairs were made. Erosion and sediment controls were documented in the field in a dedicated bound field notebook and translated into a weekly electronic report. Copies of SWPPP Inspections are included as **Appendix H**.
- **Equipment Decontamination and Residual Waste Management -** Equipment used during the remediation process was decontaminated utilizing the following protocol:
    - A personnel decontamination area was setup at the site which included a boot wash station. Liquid generated during cleaning was transferred to 55-gallon drums or plastic storage tanks, as necessary.
    - A field equipment (hand augers, stainless steel bowls, etc.) decontamination area was setup at the site. The decontamination procedure consisted of cleaning by brush with a water/detergent solution followed by a potable water rinse. Waste water generated during the decontamination process was

collected and stored in 55-gallon drums or plastic storage tanks. All other decontamination was performed at the SCE.

- The SCEs were utilized for vehicle decontamination. The vehicle decontamination procedure included the following:
  - Prior to leaving the work area, loose soils were scraped/brushed from the vehicle to the extent possible;
  - When necessary, an environmentally friendly cleaning agent was applied to the contaminated parts of the equipment;
  - Potable water was utilized to wash the vehicles;
  - Solids and liquids were collected and stored in 55-gallon drums or plastic storage tanks.

- **Stockpile Methods –** Soils that were not loaded directly into dump trucks were placed on two layers of 10-mil plastic sheeting and covered with 10-mil plastic sheeting. The soil stockpiles were surrounded by a silt fence to collect runoff sediment from the pile. The stockpiles were routinely inspected and damaged sheeting was promptly replaced.

4.3.11 Nuisance controls

- **Truck wash and egress housekeeping** – Excavation vehicles were kept onsite for the duration of the project, eliminating the need for daily vehicle decontamination. Prior to leaving the work area, equipment was decontaminated. General site housekeeping was performed each day.

- **Dust Control** - Dust control consisted of wetting down the heavy traffic areas routinely when dust was observed or detected. Wetting the areas was successful in reducing dust levels to below required action levels.

- **Odor Control** - Odor controls were not implemented during the remediation of contaminated soils from the site as no action levels were exceeded.

- **Truck Routing** - Truck routing was managed by the general contractor. PWGC recorded trucks as they arrived and left the site and signed off on trucking manifests.

4.3.12 CAMP results

PWGC conducted dust and organic vapor air monitoring a continual basis during ground intrusive work. The exclusion zone action level of 2.5 times background and/or greater than 150 micrograms per cubic meter (ug/m^3) for dust and 5 ppm for VOCs in the breathing zone were enforced during work.

Two site perimeter air monitoring stations (one upwind and one downwind) were setup to continuously monitor air quality. Each station was equipped with a dust meter and organic vapor meter. The meters were programmed to output results based on a 15-minute real-time average. The stations were positioned based on the area(s) of the site being disturbed and current weather conditions. The perimeter action levels for VOCs and dust were not exceeded. The daily air monitoring data is included in the individual "Daily Activity Field Reports" (**Appendix D)**.

4.3.13 Reporting

PWGC personnel completed "Daily Activity Field Reports" at the end of each day. These reports were subsequently reviewed by the PWGC project manager. "Daily Activity Field Reports" are included in **Appendix D**.

4.3.14 Radiological Monitoring

SEC was contracted to perform radiological monitoring throughout the course of the remedial action in accordance with the RMP.

Instrumentation

SEC utilized the following radiation detectors:

- Gamma Radiation Detectors: Gamma surveys were performed using a 2-inch by 2-inch NaI detector (Ludlum 44-10).
- Alpha and Beta Radiation Detectors: Alpha and beta surveys were performed with a Geiger-Muller (GM) detector (Ludlum Model 44-9) capable of detecting alpha, beta, and gamma radiation coupled with a Ludlum Model 12 ratemeter.

- Dose/Exposure Rate Detectors: A micro-roentgen (µR) exposure rate meter (Ludlum Model 19) and a dose rate meter (Bicron micro-rem meter) were used to evaluate external radiation hazards on site and to verify that the materials derived from intrusive activities were within acceptable levels prior to leaving the site.

Instruments used during the remedial action were within 12 months of calibration to a National Institute of Standards and Technology (NIST) traceable source. Operational field checks were performed daily when an instrument was used in support of the remedial action. Calibration certificates are included in **Appendix M**.

Localized Dose/Exposure Rate Background

A site-wide dose/exposure rate survey was performed prior to remedial activities to establish localized dose/exposure rate background levels. Readings were within the expected range of background. The SEC Exposure Rate Survey Summary is included in **Appendix N**.

Personnel and Equipment Surveys

Personnel and equipment that came in contact with native soil during site activities were periodically surveyed to ensure that they were free from contamination. Based upon the screening results, personnel and equipment were free from contamination. Surveys are documented in SEC's daily reports (**Appendix D**).

Radiation Monitoring During Earthwork Activities

Radiological monitoring was performed during the course of the remedial excavation activities and included the following:

- Pre-Excavation Survey
- Periodic screening during excavation and stockpiling activities
- Final excavation surveys

Results of the surveys are discussed in their appropriate sections below.

4.4 Radiological Investigation

In accordance with the RMP, SEC investigated the source of the elevated radiation levels. SEC investigated Parcel A on September 29, 2016. Two locations were identified with elevated radiation levels (**Figure 3**). At each of these two hotspot locations, suspicious soils were spread out on polyethylene sheeting and screened to identify the source of radiation. Materials with elevated radiation levels were segregated and removed so that radiation levels in the remaining soils and on the surrounding ground surface were at background levels.

The materials with elevated radiation screening results were combined and transferred to laboratory supplied glassware, packed in a cooler with ice, and shipped under proper chain-of-custody procedures to TAL, a NYSDOH ELAP certified laboratory, for analysis in accordance with NYSDEC ASP Category B Data Deliverables. The soil sample was analyzed for Radium-226 & Other Gamma Emitters by Method 901.1 with a 21 day in-growth period.

Analytical results were compared against the RARC. Radium-226 and Thorium-232 were detected at concentrations in excess of RARC. Analytical results are summarized in **Table 5** and sample locations are shown on **Figure 4**. The complete laboratory analytical report is included in **Appendix F**.

Since all radioactive material was sent off as a sample, no waste was generated from either hotspot. A copy of the investigative letter report is included as **Appendix N**.

Following completion of SEC's investigation, surface soil samples were collected at each radiological hotspot area: LT_RAD_0092916_001 and LT_RAD_0092916_002, shown on **Figure 4**. A dedicated plastic scoop was utilized to collect materials from the surface locations. The sample volumes were transferred to a stainless steel bowl and homogenized. Once homogenized, samples were transferred to laboratory supplied glassware, packed in a cooler with ice, and shipped under proper chain-of-custody procedures to TAL, a NYSDOH ELAP certified laboratory, for analysis in accordance with NYSDEC ASP Category B Data Deliverables. Sampling equipment decontamination was performed in accordance with the project QAPP.

The soil samples were analyzed for total arsenic and lead by USEPA Method 6010C. Analytical results were within RARC, and are summarized in **Table 3.** The complete laboratory analytical report is included in **Appendix F**.

4.5 Contaminated Materials Removal

The goal of the remedial program was to remove contaminated materials identified at the site in excess of the following RARC for soils:

Analyte	RARC
Arsenic	175 ppm
Lead	660 ppm
PCBs	10 ppm
Radium-226	> 5 pCi/g*
Thorium-232	> 5 pCi/g*
Grossly Contaminated Media	As defined in 6 NYCRR Part 375-1.2(u)**
NAPL	As defined in 6 NYCRR Part 375-1.2(ac)***

* Not including the natural background radiation of nuclide of approximately 1 pCi/g

** Grossly Contaminated media means soil, sediment, surface water or groundwater which contains sources or substantial quantities of mobile contamination in the form of NAPL, as defined in subdivision 375-1.2 (ac), that is identifiable either visually, through strong odor, by elevated contaminant vapor levels or is otherwise readily detectable without laboratory analysis.

*** NAPL means a contaminant that is a liquid which may be denser or lighter than water and does not mix easily or dissolve in water, but remains as a separate phase.

As delineated by the PCI Report, the following soil sample locations were identified as containing contaminants above the RARCs referenced above (See **Figure 2**):

- 5 (Arsenic)
- PA-3 (Arsenic)

- PA-12 (Arsenic)
- 5-EP-2 (Arsenic)
- 5-EPSW-1 (Lead)
- SBFT-19 (PCBs)
- LT-XC-007 (PCBs)
- LT-GI-001 (Lead)
- LT-G-019 (Arsenic)
- LT-G-022 (Lead)

During the course of the remedial activities the following additional areas of contamination were identified:

- NAPL and grossly contaminated media was identified during excavation at 5-EP-2, 5-EPSW-1, and LT-TSA.
- Two isolated areas of radiation were identified during the radiological investigation.

During the course of the remedial activities the following materials were transported and disposed of offsite:

Waste Description	Disposal Facility	Volume	Units
PCB Soils (Haz)	Clean Earth of North Jersey	75.2	Tons
Metals Soils (Non-Haz)	Clean Earth of North Jersey	153.93	Tons
Petroleum Soils (Non-Haz)	Clean Earth of North Jersey	609.78	Tons
Oily Water (Non-Haz)	Republic Environmental	2,872	Gallons
Decon Water – Parcel A	Republic Environmental	2,809	Gallons
Decon Water – Parcel B	Republic Environmental	25	Gallons

4.5.1 PCB Contaminated Media

During the PCIs, two areas of PCB-contaminated media were identified: SBFT-19 and LT-XC-007. SBFT-19 is located in the City-owned right-of-way along Parcel A and LT-XC-007 is located along the eastern fence line of Parcel B. On September 22, 2016, remedial excavation activities were initiated for these areas.

Pre-Excavation RAD Screening

Prior to intrusive activities, the designated area of disturbance was identified. The excavation areas were given unique identifiers and a GWS was performed over each area using a 2-inch by 2-inch NaI detector. SEC recorded the range of observable count rates in their daily field reports (**Appendix D**) and compared it against the site-specific criterion of 15,000 cpm (equivalent to two-times background). No readings above the site-specific criterion were identified.

Excavation and Screening Protocol

Soil excavation was accomplished by means of mechanical equipment and hand tools, including, but not limited to, an excavator, shovels, and digging bars. Each excavation area started with an area of 5-feet wide by 5-feet long centered on the historical sample location (i.e., LT-XC-007 and SBFT-19). The initial excavation depths (two feet at LT-XC-007 and 5 feet at SBFT-19) were predetermined based on PCI analytical data.

During excavation activities, excavated materials were characterized and screened for the following:

- Visual signs of staining or discoloration;
- Volatile organic vapors utilizing a PID; and,
- Periodic radiation screening utilizing a radiation rate meter/scale.

Visual discoloration (gray soils) was observed at location LT-XC-007 near ground surface. The excavations were expanded horizontally and vertically until attainment of acceptable end-point analytical data, as detailed in **Section 4.6**. Screening results did not identify volatile organic vapors or radiation above background levels. Screening results are documented in the “Daily Activity Field Reports” (**Appendix D**).

A summary of the remedial excavations follows.

- Location LT-XC-007:
  - September 22, 2016 – 5-feet by 5-feet by 2-feet excavation performed (Initial Target Dimensions).
  - September 27, 2016 – Excavation expanded 5 feet to the north, 5 feet to the east and 2 feet deeper as a result of end-point analytical results in excess of RARC (See **Section 4.6**), resulting in new excavation dimensions of 10 feet by 10 feet by 4 feet.
  - October 3, 2016 – Excavation expanded 5 feet to the north as a result of end-point analytical results in excess of RARC (See **Section 4.6**), resulting in new and final excavation dimensions of 15 feet by 10 feet by 4 feet.
- Location SBFT-19:
  - September 29, 2016 – 5-foot by 5-foot by 5-foot excavation performed.

Disposal Details

Excavated contaminated soils were temporarily stockpiled onsite until they could be transported offsite. The stockpile area was constructed with two layers of 10-mil plastic sheeting placed beneath the potentially or known contaminated material to prevent contact with undisturbed soils. A layer of 10-mil plastic sheeting was used to cover the top of the stockpiles. Soil stockpiles were encircled with a silt fence.

Material transport and disposal activities took place from November 2 to 3, 2016. PWGC oversaw and coordinated the load out of materials from the site. Posillico loaded a total of 75.2 tons of PCB-contaminated soils/media and J&D Trucking, Inc. transported the soils to Clean Earth of Kearny, North Jersey. Waste manifests, weight tickets and trucking licenses are included in **Appendix O**.

4.5.2 Metals Contaminated Media

Multiple areas of metals contaminated media were identified during the PCIs including locations 5, 5-EP-2, 5-EPSW-1, PA-3, PA-12, LT-GI-001, LT-G-019 and LT-G-022.

These locations were spread throughout Parcel A. Remedial excavation activities for these areas were initiated on September 21, 2016.

Pre-Excavation RAD Screening

Prior to intrusive activities, the boundaries of the excavation were identified. The excavation areas were given unique identifiers and a GWS was performed over each area using a 2-inch by 2-inch NaI detector. SEC recorded the range of observable count rates in their daily field reports (**Appendix D**) and compared it against the site-specific criterion of 15,000 cpm (equivalent to two-times background). No readings above the site-specific criterion were identified.

Excavation and Screening Protocol

Soil excavation was accomplished by means of mechanical equipment, including, but not limited to a mini-excavator and a large excavator. The excavation areas associated with metals impact started with an area of 5-feet wide by 5-feet long in the area centered on the historical sample location, with the initial excavation depths determined by PCI analytical data.

During excavation activities, excavated materials were characterized and screened for the following:

- Visual signs of staining or discoloration;
- Volatile organic vapors utilizing a PID; and,
- Periodic radiation screening utilizing a radiation rate meter/scale.

Screening results did not identify volatile organic vapors or radiation above background levels with the exception of 5-EP-2 and 5-EPSW-1. During excavation at these two locations, NAPL and grossly contaminated media were encountered. Remedial activities at these locations are discussed in **Section 4.5.3**. Screening results are documented in the "Daily Activity Field Reports" (**Appendix D**).

The excavations were expanded horizontally and vertically until attainment of acceptable end-point analytical data, as detailed in **Section 4.6**. A summary of the remedial excavations are detailed below.

- Location PA-03:
  - September 21, 2016 – A 5-foot by 5-foot by 51-inch (depth) excavation was performed. A concrete slab, believed to be the foundation for the former "East Building" was encountered at a depth of approximately 51 inches bgs. The identification of this slab brought into question the accuracy of the locations without known survey data. Locations 5, PA-3, and PA-12 were performed as part of historical investigations and remedial actions without survey data or as-built drawings. The available maps from these investigations and remedial actions were georeferenced to identify the approximate locations in the field.
  - September 29, 2016 – Test trenches were dug to the south and west in an attempt to locate the edge of the concrete. The southern trench was extended 12 feet off the southeast corner of the original excavation and the western trench was extended 10 feet off the southwest corner of the original excavation. The concrete slab was found to be continuous.
  - October 03, 2016 – URS georeferenced an older aerial photograph from the New York State GIS clearinghouse to provide coordinates for location PA-03. A 15-foot by 17-foot area was excavated based on this information. The concrete slab was encountered throughout the entire area at a depth of 51 inches bgs, with the exception of the southwest corner where the slab was found to terminate. This area was approximately 5 foot by 5 foot where the slab did not exist. The 5-foot by 5-foot area where the slab was absent was excavated to the required depth of 6 feet bgs. As discussed in **Section 4.6**, confirmatory soil samples were collected from the proposed intervals on the south and west walls. However, on the north and west walls, they were only collected from below the slab as the other horizons had been excavated.
- Location PA-12:
  - October 03, 2016 – URS georeferenced an older aerial photograph from the New York State GIS clearinghouse to provide coordinates for location PA-

12 and confirmed that it was within the limits of a previous spill remedial effort excavation. D&B verbally requested permission not to excavate PA-12, since the associated soils had already been removed by a previous oil spill excavation. URS approved D&B's request to forgo excavation PA-12, contingent upon USEPA approval. This correspondence was documented in Field Order #13 (**Appendix B**).

- Location 5
  - October 03, 2016 – URS georeferenced to an older aerial photograph from the New York State GIS clearinghouse to provide coordinates for location 5. A 15-foot by 15-foot excavation was completed. A concrete slab was encountered across the entire area at a depth of 5 feet bgs. The excavation was extended along its entire depth to the slab at 5-feet bgs. URS requested that the slab be penetrated so that a bottom sample collected. This request was documented in URS Field Order #12 (**Appendix B**).
- Location LT-GI-001:
  - September 21, 2016 – A 5-foot by 5-foot by 6-foot deep excavation was completed.
- Location LT-G-019:
  - September 22, 2016 – A 5-foot by 5-foot by 4-foot deep excavation was completed.
- Location LT-G-022:
  - September 21, 2016 – A 5-foot by 5-foot by 2-foot deep excavation was completed.

Disposal Details

Excavated contaminated soils were temporarily stockpiled onsite until they could be transported offsite. The stockpile area was constructed with two layers of 10-mil plastic sheeting placed beneath the potentially or known contaminated material to prevent contact with undisturbed soils. A layer of 10-mil plastic sheeting was used to cover the top of the stockpiles. Soil stockpiles were encircled with a silt fence.

Material transport and disposal activities took place between November 28 and 29, 2016. PWGC oversaw and coordinated the load out of materials from the site. Posillico loaded a total of 153.93 tons of metals-contaminated media/soils and Horwith Trucks, Inc. transported and disposed of the materials at Clean Earth of Kearny, North Jersey. Waste manifests, weight tickets and trucking licenses are included in **Appendix O**.

4.5.3 Grossly Contaminated Media / Metals

Posillico began work at excavation 5-EP-2 on September 22, 2016. URS noted that material in the bucket obtained from the demarcation layer contained black staining. The stained gravel had a light petroleum odor, and registered 3.8 ppm total VOCs on the PID. As the excavation continued, odors were noticeable at a distance five feet away from the excavation as more black material was present in the excavated soils and gravel. URS requested that a test pit be dug in the area of the former building between the Doxey site and the northern extent of the Doxey spill excavation on the site. The URS request and associated conditions was documented in Field Order #09 (**Appendix B**).

On September 27, 2016, D&B indicated that locations 5-EP-2 and 5-EPSW-1 would be excavated as a single excavation. The plan was to use a 15-foot by 15-foot digging box, centered on 5-EP-2 to excavate to a depth of 12.5 feet bgs. The box would remain in place and Posillico could excavate on the outside of the box for location 5-EPSW-1 to a depth of 12.5-feet bgs. D&B indicated that the materials above the water table could be stockpiled for potential reuse.

On September 29, 2016, the test pit requested as part of Field Order #09 was completed in what is referred to as the tire storage area.

Pre-Excavation Radiation Screening

Prior to intrusive activities, the boundaries of the excavation were identified. The excavation areas were given unique identifiers and a GWS was performed over each area using a 2-inch by 2-inch NaI detector. SEC recorded the range of observable count rates in their daily field reports (**Appendix D**) and compared it against the site-specific criterion of 15,000 cpm (two-times background). No readings above the site-specific criterion were identified.

Li Tungsten Tire Storage Area

On October 29, 2016, a test pit investigation was performed at the former tire storage area. Locations were selected by URS in the field. Initially the overburden material was removed, placed in a dump truck and transported to the overburden staging area. A geotextile liner was detected just below the ground surface. A plastic liner was found a few inches below the geotextile. Sand was encountered beneath the plastic liner and then gravel was encountered. The water table was encountered at approximately 6 feet bgs and the associated gravel had a petroleum odor and discoloration. PID readings ranged from 0.0 to 6.7 ppm total VOCs. The excavation was continued to a depth of approximately 9 feet bgs where the meadow mat (native organic layer) was encountered. The material above the meadow mat was determined to be grossly contaminated material with discoloration and PID readings up to 16.8 ppm. Based upon these observations, URS determined that the material beneath the former structure that was not excavated during the Doxey excavation needed to be removed.

Excavation of the former tire storage area followed the excavation and screening protocol summarized below.

Excavation and Screening Protocol

Soil excavation was accomplished by means of mechanical equipment, including, but not limited to a mini-excavator and a large excavator. Surficial materials above the grossly contaminated materials were excavated, loaded into a tri-axel dump truck and transported to a clean staging area. The clean staging area was constructed with a double layer of 10-mil plastic sheeting surrounded by silt fence. PWGC and SEC visually inspected and screened the materials for signs of impact prior to approving it for staging. Once impact was observed, materials were transferred to the contaminated materials staging area. Since the materials associated with locations 5-EP-2, 5-EPSW-1, and LT-TSA were deemed a separate waste stream, a separate staging area was created specifically for these grossly contaminated media/metals. The staging area was constructed with a double layer of 10-mil plastic sheeting surrounded by silt fence.

During excavation activities, excavated materials were characterized and screened for the

following:

- Visual signs of staining or discoloration;
- Volatile organic vapors utilizing a PID; and,
- Periodic radiation screening utilizing a radiation rate meter/scale

5-EP-2 & 5-EPSW-1

Visually clean material was observed from surface grade to an approximate depth of 6 feet bgs. Visually discolored soils with a noticeable odor and PID readings up to 130 ppm were identified between 6 and 8 feet bgs. Groundwater was encountered at approximately 6 feet bgs. NAPL was observed on the water table. Meadow mat was encountered at a depth of 8 feet bgs and appeared to continue below the final excavation depth of 12.5 feet bgs. Visual impact (PID = 0.0 ppm) did not appear to extend below this layer.

LT-TSA

Visually clean material was observed from surface grade to an approximate depth of 4 feet bgs. Visually discolored soils with a noticeable odor and PID readings up to 200 ppm were identified between 4 and 8 feet bgs. Groundwater was encountered at approximately 5 feet bgs. NAPL was observed on the water table. Grossly contaminated media was removed from the former tire storage area resulting in an excavation of 40-feet long by 14-feet wide by 8-feet deep. On October 31, 2016, prior to sample collection, visually discolored soils with a noticeable odor and PID readings up to 185 ppm were identified between 4 and 6 feet bgs at the northern wall and the excavation was expanded to the north until visual impact was removed (PID = 0.2 ppm) resulting in a final excavation of 45-feet long by 14-feet wide by 8-feet deep, as directed by URS.

Disposal Details

Excavated contaminated soils were temporarily stockpiled onsite until they could be transported offsite. The stockpile area was constructed with two layers of 10-mil plastic sheeting placed beneath the potentially or known contaminated material to prevent contact with undisturbed soils. A layer of 10-mil plastic sheeting was used to cover the top of the stockpiles. Soil stockpiles were encircled with a silt fence.

Material transport and disposal activities took place between November 21 and 23, 2016. PWGC oversaw and coordinated the load out of materials from the site. Posillico loaded a total of 609.78 tons of grossly contaminated media/metals soils and J&D Trucking, Inc. and Horwith Trucks, Inc. transported and disposed of the materials at Clean Earth of Kearny, North Jersey. Waste manifests, weight tickets and trucking licenses are included in **Appendix O**.

4.5.4 Liquid Waste

Liquids were removed from excavations utilizing vacuum enhanced pump trucks. In addition, liquids generated from decontamination activities were temporarily stored onsite in totes then disposed of offsite.

Material transport and disposal activities took place between October 29, 2016 and December 6, 2016. PWGC oversaw and coordinated the load out of materials from the site. Innovative Recycling Technologies, Inc. transported a total of 2,872-gallon of oily water, a total of 2,809-gallons on non-hazardous decontamination water, and an estimated total of 25 gallons of hazardous decontamination water to Republic Environmental Systems, LLC (Hatfield, PA), for disposal. Waste manifests and trucking licenses are included in **Appendix O**.

4.6 Remedial Performance/Documentation Sampling

Following removal of impacted soils, confirmatory soil samples were collected from each excavation area to confirm the effectiveness of remedial activities. Confirmatory soil samples were collected in accordance with NYSDEC DER-10. The sampling frequency consisted of one bottom sample from each excavation for every 900 square feet of bottom and one sidewall sample for every 30 linear feet of sidewall, with a minimum of four sidewall samples and one bottom sample collected from each excavation. Sidewall samples were collected from each zone of contamination in the event that multiple contamination zones existed within a respective excavation.

4.6.1 Sampling Protocol

Upon reaching the termination of the excavation limits, samples were retrieved from the sidewalls and bottoms of the excavations utilizing a stainless steel hand auger. In the event

the excavation limits did not allow for the safe or feasible collection of soil with a hand auger, the bucket of the excavator was utilized to retrieve soil. The hand auger and/or bucket of the excavator were properly decontaminated prior to and in-between each soil collection location.

Where volatile organic analysis was required, tera-core sampling devices were utilized to collect sample aliquots directly from the hand auger or excavator bucket. Once the volatile organic sample aliquot was collected, a dedicated polyethylene scoop was utilized to collect three scoop volumes from the hand auger or bucket of the excavator and transfer the volumes to a stainless steel bowl. The stainless steel bowl was properly decontaminated prior to and in-between each sample location. The three sample volumes were homogenized in the stainless steel bowl utilizing the polyethylene scoop and then transferred into laboratory supplied glassware, packed in a cooler with ice, and shipped under proper chain-of-custody procedures to TAL, a NYSDOH ELAP certified laboratory, for analysis in accordance with NYSDEC ASP Category B Data Deliverable packages and EDDs, (in EQuIS format).

Confirmatory soil samples were analyzed for the suite of constituents previously identified at each excavation:

- Metals remediation areas were analyzed for arsenic and lead by USEPA Method 6010C;
- PCB remediation areas were analyzed for PCBs by USEPA Method 8082A and arsenic and lead by USEPA Method 6010C; and,
- Grossly contaminated media areas and any areas exceeding PID action levels were analyzed for VOCs by USEPA Method 8260C and SVOCs by USEPA Method 8270D, in addition to arsenic and lead by USEPA Method 6010C.

4.6.2 Analytical Results

Confirmatory end-point analytical results were compared to the RARC. Throughout the course of the remedial action, URS collected split samples at a frequency of 25 percent. It should be noted that URS did not provide ASP Category B Data Deliverables or a Data

Usability Summary Report. The analytical results are mentioned below and included in the analytical summary tables.

Location 5

The remedial excavation of location 5 was performed on October 3, 2016. The remedial excavation covered an area 15-feet wide by 15-feet long centered on location 5 to a depth of 6 feet bgs. As previously discussed, a concrete slab was encountered throughout the entire excavation area. A hole was cored through the center of the slab to collect the bottom sample. Following removal of soils from this area, confirmatory soil samples were collected from the north (5_N_001), south (5_S_001), east (5_E_001), and west (5_W_001) walls of the excavation at a depth interval of 2 to 4 feet, and from the bottom (5_B_001) of the excavation at a depth interval of 6 to 6.5 feet bgs (through the concrete slab). URS collected a split sample from 5_B_001 which was identified as LT-CS-100616-001 and from 5_W_001 which was identified as LT-CS-100416-001. Soil samples were analyzed for total arsenic and lead by USEPA Method 6010C.

Total arsenic and lead were not detected above RARC. Total arsenic ranged from 3.6 ppm (5_N_001) to 10.9 ppm (5_B_001). Total lead ranged from 33.6 ppm (5_B_001) to 88.7 ppm (5_W_001). A summary table and map of end-point sample locations are included as **Table 6** and **Figure 6**, respectively. Analytical data sheets are included as **Appendix F**.

Locations 5-EP-2 and 5-EPSW-1

The remedial excavations of locations 5-EP-2 and 5-EPSW-1 were performed from September 22 through November 5, 2016. At location 5-EP-2, the excavation covered an area 15-feet wide by 15-feet long centered on location 5-EP-2 to a depth of 12.5 feet bgs. At location 5-EPSW-1, the excavation covered an area 15-feet wide by 15-feet long centered on location 5-EPSW-1 to a depth of 12.5 feet bgs. The 5-EPSW-1 excavation was extended 5 to 10 feet further to the south on November 5, 2016. The remedial excavations were performed so that end-point samples represented the interconnected excavation as a whole (see **Figure 7**).

Following removal of soils from these areas, confirmatory soil samples were collected from the north (5-EP-2_N_001), south (5-EP-2_S_001 and 5-EPSW-1_S_001), east (5-EP-

2_E_001 and 5-EPSW-1_E_001), and west (5-EP-2_W_001) walls of the excavation at a depth interval of 10.5 to 12.5 feet, from the south (5-EPSW-1_S_002) wall of the excavation at a depth interval of 5 to 5.5 feet, and from the bottom (5-EP-2_B_001 and 5-EPSW-1_B_001) of the excavation at a depth interval of 12.5 to 13 feet bgs. PWGC collected a duplicate sample at 5-EPSW-1_B_001 which was identified as DUP001. URS collected a split sample from 5_EP-2_W_001 which was identified as LT-CS-092816-002, from 5-EPSW-1_B_001 which was identified as LT-CS-092916-003, and from 5-EPSW-1_S_002 which was identified as LT-CS-110416-001. Soil samples were analyzed for total arsenic and lead by USEPA Method 6010C, VOCs by USEPA Method 8260C, and SVOCS by USEPA Method 8270C.

Low-level concentrations of VOCs and/or SVOCs were detected in the confirmatory soil samples. However, these concentrations are not indicative of grossly contaminated media and/or NAPL.

Total arsenic and lead were not detected above RARC. Total arsenic ranged from an estimated value of 3.1 ppm (DUP001) to 14.4 ppm (5-EP-2_B_001). Total lead ranged from an estimated value of 2.5 ppm (DUP001) to 92.2 ppm (5-EPSW-1_S_001).

Summary tables and a map of end-point sample locations are included as **Tables 7** through **9** and **Figure 7**. Analytical data sheets are included as **Appendix F**.

Location LT-G-019

The remedial excavation of location LT-G-019 was performed on September 22, 2016. The remedial excavation covered an area 5-feet wide by 5-feet long centered on location LT-G-019 to a depth of 4 feet bgs. Following removal of soils from this area, confirmatory soil samples were collected from the north (LT-G-019_N_001), south (LT-G-019_S_001), east (LT-G-019_E_001), and west (LT-G-019_W_001) walls of the excavation at a depth interval of 2 to 4 feet, and from the bottom (LT-G-019_B_001) of the excavation at a depth interval of 4 to 4.5 feet bgs. URS collected a split sample from LT-G-019_W_001 which was identified as LT-CS-092216-001. Soil samples were analyzed for total arsenic and lead by USEPA Method 6010C.

Total arsenic and lead were not detected above RARC. Total arsenic ranged from an estimated 2.5 ppm (LT-G-019_E_001) to 8.1 ppm (LT-G-019_S_001). Total lead ranged from 6.7 ppm (LT-G-019_E_001) to 46.9 ppm (LT-G-019_S_001). A summary table and map of end-point locations are included as **Table 10** and **Figure 8**. Analytical data sheets are included as **Appendix F**.

Location LT-G-022

The remedial excavation of location LT-G-022 was performed on September 21, 2016. The remedial excavation covered an area 5-feet wide by 5-feet long centered on location LT-G-022 to a depth of 2 feet bgs. Following removal of soils from this area, confirmatory soil samples from the north (LT-G-022_N_001), south (LT-G-022_S_001), east (LT-G-022_E_001), and west (LT-G-022_W_001) walls of the excavation at a depth interval of surface grade to 2 feet, and from the bottom (LT-G-022_B_001) of the excavation at a depth interval of 2 to 2.5 feet bgs. PWGC collected a duplicate sample at LT-G-022_S_001 which was identified as DUP002. URS collected a split sample from LT-G-022_N_001 which was identified as LT-CS-092216-002. Soil samples were analyzed for total arsenic and lead by USEPA Method 6010C.

Total arsenic and lead were not detected above RARC. Total arsenic ranged from 5.3 ppm (DUP002) to 11.1 ppm (LT-G-022_N_001). Total lead ranged from 30.5 ppm (LT-G-022_S_001) to 68.2 ppm (LT-G-022_N_001). A summary table and map of end-point sample locations are included as **Table 11** and **Figure 9**. Analytical data sheets are included as **Appendix F**.

Location LT-GI-001

The remedial excavation of location LT-GI-001 was performed on September 21, 2016. The remedial excavation covered an area 5-feet wide by 5-feet long centered on location LT-GI-001 to a depth of 6 feet bgs. Following removal of soils from this area, confirmatory soil samples were collected from the north (LT-GI-001_N_001), south (LT-GI-001_S_001), east (LT-GI-001_E_001), and west (LT-GI-001_W_001) walls of the excavation at a depth interval of 4 to 6 feet, and from the bottom (LT-GI-001_B_001) of the excavation at a depth interval of 6 to 6.5 feet bgs. URS collected a split sample from

LT-GI-001_B_001 which was identified as LT-CS-092116-001. Soil samples were analyzed for total arsenic and lead by USEPA Method 6010C.

Total arsenic and lead were not detected above RARC. Total arsenic ranged from an estimated 2.3 ppm (LT-GI-001_N_001) to 10.7 ppm (LT-GI-001_S_001). Total lead ranged from 9.7 ppm (LT-GI-001_B_001) to 201 ppm (LT-GI-001_S_001). A summary table and map of end-point sample locations are included as **Table 12** and **Figure 10**. Analytical data sheets are included as **Appendix F**.

Location LT-XC-007

The remedial excavation of location LT-XC-007 was performed on September 22, 2016. The remedial excavation covered an area 5-feet wide by 5-feet long centered on location LT-XC-007 to a depth of 2 feet bgs. Following removal of soils from this area, confirmatory soil samples were collected from the north (LT-XC-007_N_001), south (LT-XC-007_S_001), east (LT-XC-007_E_001), and west (LT-XC-007_W_001) walls of the excavation at a depth interval of surface grade to 2 feet bgs, and from the bottom (LT-XC-007_B_001) of the excavation at a depth interval of 2 to 2.5 feet bgs. URS collected a split sample from LT-XC-007_E_001 which was identified as LT-CS-092216-003 and from LT-XC-007_B_001 which was identified as LT-CS-092216-002. Soil samples were analyzed for total arsenic and lead by USEPA Method 6010C and PCBs by USEPA Method 8082A.

Total arsenic and lead were not detected above RARC. Total arsenic ranged from 5.4 ppm (LT-XC-007_W_001) to 11.0 ppm (LT-XC-007_E_001 and LT-XC-007_B_001). Total lead ranged from 16.8 ppm (LT-XC-007_W_001) to 80.8 ppm (LT-XC-007_N_001).

Total PCBs were detected above the RARC value of 10 ppm in three of the five initial confirmatory soil samples locations. The detections above RARC were from the north, east, and bottom sample locations.

On September 26, 2016, D&B informed the NYSDEC of the failure to meet the RARC for PCBs at LT-XC-007. URS requested that the excavation be increased laterally by 5 feet to both the north and east, and by 2 feet in depth, and that endpoint samples should be collected from surface grade to 4 feet on the north and east walls, 2 to 4 feet on the west

and south walls, and from 4 to 4.5 feet at the bottom of the excavation. This conversation was documented in Field Order #011 (**Appendix B**).

The remedial excavation of location LT-XC-007 was expanded on September 27, 2016 as described above to cover a total area of 10-feet wide by 10-feet long and 4 feet bgs across the entire area. Following removal of soils from this area, confirmatory soil samples were collected from the north (LT-XC-007_N_002), south (LT-XC-007_S_002), east (LT-XC-007_E_002), and west (LT-XC-007_W_002) walls, and from the bottom (LT-XC-007_B_002) of the excavation. URS collected a split sample from LT-XC-007_N_002 which was identified as LT-CS-092716-002 and from LT-XC-007_B_002 which was identified as LT-CS-092716-001. Soil samples were analyzed for total arsenic and lead by USEPA Method 6010C and PCBs by USEPA Method 8082A.

Total arsenic and lead were not detected above RARC in the second round of samples. Total arsenic ranged from an approximate value of 2.8 ppm (LT-XC-007_W_002) to 8.4 ppm (LT-XC-007_S_002). Total lead ranged from 6.3 ppm (LT-XC-007_B_002) to 39.0 ppm (LT-XC-007_S_002).

Total PCBs were not detected above the RARC value of 10 ppm in the secondary confirmatory soil samples locations. However, URS provided D&B and PWGC with results that indicated total PCBs were detected at a concentration of 11.000 ppm in their split sample from LT-XC-007_N_002. Based on this result, URS required the continued expansion of the excavation to the north.

On October 3, 2016, the location LT-XC-007 excavation was further expanded 5 feet to the north so that the total excavation area was now 10-feet wide by 15-feet long. Based upon discussion in the field with URS and D&B, a soil sample was collected from the north (LT-XC-007_N_003) wall of the excavation at a depth interval of surface grade to 4 feet bgs. URS collected a split sample from which was identified as LT-CS-100316-001. Soil samples were analyzed for total arsenic and lead by USEPA Method 6010C and PCBs by USEPA Method 8082A.

Total arsenic, lead, and PCBs were not detected above RARC in the third round of samples.

A summary table and map of end-point locations are included as **Table 13** and **Figure 11**. Analytical data sheets are included as **Appendix F**.

Location PA-03

The location PA-03 remedial excavation was completed between September 21 and October 3, 2016. A concrete slab was encountered at a depth of 51 inches bgs. The excavation was expanded to an area of 15 feet by 17 feet and a 5-foot by 5-foot hole was encountered in the concrete slab within the southwest corner of the excavation. As discussed with URS and D&B, the confirmation soil samples were collected from the area where the concrete slab was missing. A soil sample was collected from the south (PA-03-19_S_001) and west (PA-03_W_001) walls of the excavation at a depth interval of 4 to 5.5 feet bgs, from the north (PA-03_N_001) and east (PA-03_E_001) walls of the excavation at a depth of 5 to 5.5 feet bgs, and from the bottom (PA-03_B_001) of the excavation at a depth interval of 5 to 5.5 feet bgs. URS collected a split sample from PA-03_E_001 which was identified as LT-CS-100416-002. Soil samples were analyzed for total arsenic and lead by USEPA Method 6010C.

Total arsenic and lead were not detected above RARC. Total arsenic ranged from 9.8 ppm (PA-03_S_001) to 26.3 ppm (PA-03_E_001). Total lead ranged from 32.3 ppm (PA-03_E_001) to 87.4 ppm (PA-03_N_001).

A summary table and map of end-point sample locations are included as **Table 14** and **Figure 12**. Analytical data sheets are included as **Appendix F**

Location SBFT-19

The remedial excavation of location SBFT-19 was performed on September 29, 2016. The excavation covered an area 5-feet wide by 5-feet long centered on location SBFT-19, with a depth of 5 feet bgs. Following removal of soils from this area, confirmatory soil samples were collected from the north (SBFT-19_N_001), south (SBFT-19_S_001), east (SBFT-19_E_001), and west (SBFT-19_W_001) walls of the excavation at a depth interval of surface grade to 5 feet bgs, and from the bottom (SBFT-19_B_001) of the excavation at a depth interval of 5 to 5.5 feet bgs. PWGC collected a duplicate sample at SBFT-19_S_001 which was identified as DUP003. URS collected a split sample from SBFT-19_B_001

which was identified as LT-CS-092916-001. Soil samples were analyzed for total arsenic and lead by USEPA Method 6010C and PCBs by USEPA Method 8082A.

Total arsenic and lead were not detected above RARC. Total arsenic ranged from 5.1 ppm (SBFT-19_N_001) to 8.8 ppm (SBFT-19_B_001). Total lead ranged from 79.0 ppm (SBFT-19_N_001) to 321 ppm (SBFT-19_B_001).

Total PCBs were not detected above the RARC value of 10 ppm. Total PCBs ranged from less than 0.083 ppm (SBFT-19_B_001) to 2.8 ppm (SBFT-19_W_001).

A summary table and map of end-point sample locations are included as **Table 15** and **Figure 13**. Analytical data sheets are included as **Appendix F**.

Location LT-TSA

The remedial excavation of location LT-TSA was performed between October 29 and 31, 2016. The remedial excavation for location LT-TSA covered an area 14 feet wide by 45 feet long, and extended to a depth of 8 feet bgs (see **Figure 14**).

Following removal of soils from these areas, confirmatory soil samples were collected from the north (LT-TSA_N_001) wall of the excavation at a depth interval of 4 to 6 feet (sample had a PID response of 0.2 ppm), from the south (LT-TSA_S_001) (sample had a PID response of 40.8 ppm), east (LT-TSA_E_001A and LT-TSA_E_001B) (samples had a PID response of 0.0 ppm and 2.8 ppm, respectively), and west (LT-TSA_W_001A and LT-TSA_W_001B) (samples had a PID response of 0.0 ppm and 0.0 ppm, respectively), walls of the excavation at a depth interval of 6 to 8 feet, and from the bottom (LT-TSA_B_001) of the excavation at a depth interval of 8 to 9 feet bgs (sample had a PID response of 0.0 ppm). URS collected split samples from LT-TSA_N_001 which was identified as LT-CS-103116-002, and from LT-TSA_B_001 which was identified as LT-CS-103116-001. Soil samples were analyzed for total arsenic and lead by USEPA Method 6010C, VOCs by USEPA Method 8260C, and SVOCS by USEPA Method 8270C.

Low-level concentrations of VOCs and/or SVOCs were detected in the confirmatory soil samples. However, these concentrations are not indicative of grossly contaminated media and/or NAPL.

Total arsenic and lead were not detected above RARC. Total arsenic ranged from an estimated value of 4.4 ppm (LT-TSA_B_001) to 35.8 ppm (LT-TSA_N_001). Total lead ranged from 8.6 ppm (LT-TSA_W_001B) to 141 ppm (LT-TSA_E_001B).

A summary table and map of end-point sample locations are included as **Tables 16** through **18** and **Figure 14**. Analytical data sheets are included as **Appendix F**.

4.6.3 Quality Assurance/Quality Control

The overall QA/QC objective for the field investigation was to develop and implement procedures that provide data of known and documented quality. QA/QC characteristics for data include precision, accuracy, representativeness, completeness, and comparability. The purpose of the QA/QC activities developed for this site was to verify the integrity of the work performed at the site to assure that the data collected are of the appropriate type and quality needed for the intended use.

The QA/QC program included the preparation and analysis of field QA/QC samples such as field blanks, equipment blanks, field duplicates, and matrix spike/matrix spike duplicates (MS/MSD).

Quality Assurance/Quality Control Samples

To assess the adequacy of sample collection and decontamination procedures performed in the field, QA/QC samples were collected and analyzed throughout the field sampling program. In general, QA/QC samples confirmed that the procedures performed in the field were consistent and acceptable. Reported detections in the equipment blanks did not impact the interpretation of sample data. QA/QC samples collected for laboratory analysis included trip blanks, equipment blanks, field blanks, blind duplicates, matrix spikes, and matrix spike duplicates. The equipment blank samples were collected daily for each equipment type. Equipment blanks were collected by pouring laboratory-supplied deionized water over sampling equipment and collecting the water in the appropriate sample container(s). Blind duplicates and MS/MSD samples were submitted at a minimum of one each per 20 samples.

Type	Frequency
Equipment Blank	One per day per equipment type

Field Blank	One per day
Blind/Field Duplicate	One per 20 samples per matrix
MS/MSD	One per 20 samples per matrix
Trip Blanks	One per sample cooler with VOC samples present

Data Usability Summary

RXRGIP retained the services of LDC to perform validation of data. Full data validation was performed on 100% of the data. Copies of the Data Validation Reports/Data Usability Summary Reports are included as **Appendix P**.

All data were deemed acceptable by the data validator, incorporating data qualifiers as appropriate with the following exceptions:

- The result for hexachlorocyclopentadiene in sample 5-EPSW-1_E_001_10.5-12.5 was rejected (R) by LDC due to severe exceedance in the MS/MSD percent recoveries.

Tables 1 - 21 were updated, as appropriate, based upon the data validator's review.

4.7 Intermediate Survey

Following the completion of the remedial excavations and confirmatory sampling, an intermediate survey was performed to document the extent of excavation and the locations of each end-point soil sample collected. A copy of the intermediate survey is included in **Appendix L**.

4.8 Materials Reuse and Placement

Throughout the course of the remedial action, site materials that were deemed potentially appropriate for reuse were stockpiled on a double layer of 10-mil plastic sheeting, surrounded in silt fence, fully characterized, and then covered with a single layer of 10-mil plastic sheeting. A total of six stockpiles of potential reuse materials were generated throughout the course of the remedial action. The location of the stockpiles is shown on **Figure 5**. The six stockpiles included the following:

1. Site soils associated with the installation of the SCE on Parcel B

2. Site soils associated with the installation of the SCE on Parcel A
3. Pea gravel associated with remedial activities at locations 5-EP-2 and 5-EPSW-1
4. Site soils associated with remedial activities at locations 5-EP-2, 5-EPSW-1, and LT-TSA.
5. Crushed concrete and visually discolored soils identified during clearing and grubbing activities.
6. Crushed concrete removed from the access road.

4.8.1 Reuse Characterization

Soil and fill that was segregated for potential reuse was sampled in accordance with DER-10, Section 5.4(e)4. In accordance with the approved work plan, samples were analyzed for arsenic and lead. URS requested the samples collected from Stockpiles 3, 4, and 5 also be analyzed for VOCs and SVOCs.

Sampling Protocol

Where required, grab samples were collected for volatile organic analysis utilizing a tera-core sampling device. The grab samples were collected from 6-12 inches into the piles in accordance with DER-10. Following collection of the grab samples, a dedicated plastic scoop was utilized to collect materials from five locations of the stockpile (see **Figure 5** for approximate sample locations). The sample volumes were transferred to stainless steel bowls and homogenized. Once homogenized, samples were transferred to laboratory supplied glassware, packed in a cooler with ice, and shipped under proper chain-of-custody procedures to TAL, a NYSDOH ELAP certified laboratory, for analysis in accordance with NYSDEC ASP Category B Data Deliverables. Sampling equipment decontamination was performed in accordance with the project QAPP. Reuse soil samples were analyzed for arsenic and lead by USEPA Method 6010C, VOCs by USEPA Method 8260C, and SVOCs by USEPA Method 8270D.

Analytical Results

Reuse material analytical results were compared to the RARC. Analytical results were within RARC. A summary table and map of reuse locations are included as **Tables 19** through **21** and **Figure 5**. Analytical data sheets are included as **Appendix F**.

4.8.2 Reuse Request

Requests to reuse the materials were forwarded to the Agencies on October 18, 19, November 3 and 9 and December 5, 2016. The Agencies approved the onsite reuse in emails dated October 28, 30, 31, November 3, 7, 16, 18, and December 6, 2016.

4.8.3 Materials Placement

Prior to the placement of approved reuse material onsite, a highly visible demarcation barrier (orange construction fence) was installed. Materials were placed on top of the orange construction fence to a depth of 2 feet bgs. The reused materials were not utilized as site cover material.

4.8.4 Materials Storage

Following completion of the remedial action at the Li Tungsten Superfund Site, two stockpiles of materials approved for reuse below the two-foot clean cap remain. One stockpile is located on Parcel A (~20 cubic yards) and one stockpile is located on Parcel B (~30 cubic yards). These soils were not able to be utilized during site restoration activities.

On January 13, 2017, PWGC prepared RAWP Memo 3 (**Appendix** G) requesting permission to store the material at the Li Tungsten Superfund Site beyond 60 days. As future construction activities will require fill material, this material could be utilized for this purpose.

4.9 Materials Import and Placement

Materials were imported to the site from offsite sources for temporary use as construction entrance stabilization and as fill material. Materials included 1-1 ½ inch diameter crushed concrete and sand. The material originated from three sites registered with the NYSDEC: Con-Strux, LLC, Inwood Materials Terminal – Glen Cove and 110 Sand Company and from a construction site (North Hills) on Long Island. Con-Strux, LLC and Inwood Materials Terminal – Glen Cove are registered with the NYSDEC as construction and demolition processing facilities (52W138R and 30W24R) and 110 Sand Company is permitted with the NYSDEC as a sand mine (Mine ID# 10001).

4.9.1 Source Screening and Testing

Prior to the import of materials to the site, materials were evaluated to determine suitability. The evaluation included the following:

1. The registered facilities created and maintained designated stockpiles of materials to be imported at their facilities.
2. The construction site excavated materials directly from the areas characterized.
3. PWGC performed an inspection of the stockpiles and excavated materials and verified that it did not contain solid waste and that there were no visual, olfactory, or instrument-based screening evidence of contamination.
4. PWGC collected representative samples from the dedicated stockpiles or in-situ at the source at a frequency specified in Table 5.4(e)10 of DER-10.

Upon completion of the evaluation, a Request to Import/Reuse Fill or Soil form was submitted to the Agencies for review/approval prior to importing. The reports included the following:

1. Summary of number of samples collected and analyzed, tabulated data and comparison to RARCs and Unrestricted Use SCOs;
2. Analytical data sheets and chain-of-custody documentation;
3. Summary of number of tons (number of cubic yards); and,
4. A copy of source/facility NYSDEC permit, if applicable.

The Agencies approved the import of materials in correspondence dated September 15, 16, 23, 27, 2016, and January 12 and 17, 2017. Soil import correspondence is included in **Appendix Q**.

4.9.2 Materials Import

Upon Agency approval, materials were imported to the site from the source facilities. Materials that were not immediately utilized were stockpiled onsite for future use. Stockpile locations were chosen where the imported material would not touch surface soils.

Photographs documenting the import are included in the "Daily Activity Field Reports" (**Appendix D**) and bills of lading for the imported materials are included in **Appendix R**.

A table of all sources of imported backfill with quantities for each source is shown below.

SOURCE	VOLUME (CUBIC YARDS)
CON-STRUX, LLC	144
110 SAND COMPANY	270
INWOOD MATERIALS TERMINAL	768
NORTH HILLS	0*

* As of the date of this report, materials have not been imported to the site from the North Hills site.

4.9.3 Materials Placement

Prior to the placement of materials approved for onsite reuse, including approved overburden soils, a highly visible demarcation barrier (orange construction fence) was installed. Materials were placed on top of the demarcation layer from excavation bottom to a depth of 2 feet bgs. At a depth of 2 feet bgs, a geo-textile liner was installed to demarcate the clean soil cover interval.

Following the installation of the geo-textile liner, an intermediate survey was performed to document the extent of geo-textile liner. A copy of the intermediate survey is included in **Appendix L**.

Following the installation of the geo-textile liner, the excavated areas were backfilled to grade utilizing only soils that meet the cover soil quality standards established in 6 NYCRR 375-6.7(d).

Following the installation of the 2-foot clean soil cover, a final remedial survey was performed to document the post-remedial conditions. A copy of the final survey is included in **Appendix L**.

4.10 Contamination Remaining at the Site

With the completion of the remedial activities discussed in this CCR, known contaminants in excess of RARC have been successfully removed from the site. However, contaminants in excess of Track 1 (unrestricted) Soil Cleanup Objectives (SCOs) remain at the site. Since contaminated soil and groundwater/soil vapor remains beneath the site after

completion of the Remedial Action, Institutional and Engineering Controls are required to protect human health and the environment. These Engineering and Institutional Controls (EC/ICs) will be installed and implemented during full-scale construction and will be documented in the Final Engineering Report. Long-term management of these EC/ICs and residual contamination will be performed under the Site Management Plan (SMP) approved by the Agencies.

5.0 DESCRIPTION OF NON-REMEDIAL ACTIONS PERFORMED

During the course of the remedial activities, pre-construction work was performed simultaneously. As previously discussed this included a geotechnical investigation and test pile program. This section summarizes these activities.

5.1 Geotechnical Scope of Work

On December 06, 2016, a Geotechnical Scope of Work for the Li Tungsten Superfund Site and Gladsky Marine Site was submitted to the NYSDEC and USEPA. The scope of work proposed the installation of three soil borings on Parcel B and two soil borings on Parcel A. Additional soil borings were proposed on the Gladsky Marine Site. Details on these borings will be included in the Periodic Review Report for that site under separate cover. The scope of work was approved by the NYSDEC and USEPA in December 12, and 17, 2016 emails.

The geotechnical scope of work was performed between December 19, 2016 and January 03, 2017. The field activities and soil borings logs are summarized in the "Daily Activity Field Report" included in **Appendix C**.

5.2 Test Pile Program

On December 27, 2016, a Test Pile Scope of Work was submitted to the NYSDEC and USEPA. The scope of work proposed the installation of piles at five locations on Parcel B. The scope of work was approved by the NYSDEC and USEPA in January 03, and 09, 2016 emails.

As of the date of this report, the test pile program has not been performed.

TABLES

Li Tungsten Superfund Site

Table 1
Analytical Summary - VOCs - Surface Soils

Analyte:	CAS Number	NYSDEC RRUSCOs [(A)]	Li Tungsten Superfund Site LT-SS-093016-001 0.5-1' 9/30/2016 460-121185-7		LT-CS-093016-001 0.5-1' 9/30/2016 460-121187-2[(1)]	
Method: 8260C - Volatile Organic Compounds by GC/MS - (mg/kg)						
1,1,1-Trichloroethane	71-55-6	100[a]	0.0010	U	0.00082	U
1,1,2,2-Tetrachloroethane	79-34-5	NS	0.0010	U	-	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	NS	0.0010	U	-	
1,1,2-Trichloroethane	79-00-5	NS	0.0010	U	-	
1,1-Dichloroethane	75-34-3	26	0.0010	U	0.00082	U
1,1-Dichloroethene	75-35-4	100[a]	0.0010	U	0.00082	U
1,2,4-Trichlorobenzene	120-82-1	NS	0.0010	U	-	
1,2,4-Trimethylbenzene	95-63-6	52	0.0010	U	0.00082	U
1,2-Dibromo-3-Chloropropane	96-12-8	NS	0.0010	U	-	
1,2-Dibromoethane	106-93-4	NS	0.0010	U	-	
1,2-Dichlorobenzene	95-50-1	100[a]	0.0010	U	0.00082	U
1,2-Dichloroethane	107-06-2	NS	0.0010	U	0.00082	U
1,2-Dichloropropane	78-87-5	NS	0.0010	U	-	
1,3,5-Trimethylbenzene	108-67-8	52	0.0010	U	0.00082	U
1,3-Dichlorobenzene	541-73-1	49	0.0010	U	0.00082	U
1,4-Dichlorobenzene	106-46-7	13	0.0010	U	0.00082	U
1,4-Dioxane	123-91-1	13	0.020	U	0.016	U
2-Butanone (MEK)	78-93-3	100[a]	0.013		0.024	
2-Hexanone	591-78-6	NS	0.0050	UJ*	-	
4-Methyl-2-pentanone (MIBK)	108-10-1	NS	0.0050	UJ*	-	
Acetone	67-64-1	100[a]	0.061		0.086	
Benzene	71-43-2	4.8	0.0010	U	0.00082	U
Bromodichloromethane	75-27-4	NS	0.0010	U	-	
Bromoform	75-25-2	NS	0.0010	U	-	
Bromomethane	74-83-9	NS	0.0010	U	-	
Carbon disulfide	75-15-0	NS	0.0015		-	
Carbon tetrachloride	56-23-5	2.4	0.0010	U	0.00082	U
Chlorobenzene	108-90-7	100[a]	0.0010	U	0.00082	U
Chloroethane	75-00-3	NS	0.0010	U	-	
Chloroform	67-66-3	49	0.0010	U	0.00082	U
Chloromethane	74-87-3	NS	0.0010	U	-	
cis-1,2-Dichloroethene	156-59-2	100[a]	0.0010	U	0.00082	U
cis-1,3-Dichloropropene	10061-01-5	NS	0.0010	U	-	
Cyclohexane	110-82-7	NS	0.0010	U	-	
Dibromochloromethane	124-48-1	NS	0.0010	U	-	
Dichlorodifluoromethane	75-71-8	NS	0.0010	U	-	
Ethylbenzene	100-41-4	41	0.0010	U	0.00082	U
Isopropylbenzene	98-82-8	NS	0.0010	U	-	
Methyl acetate	79-20-9	NS	0.0050	U	-	
Methyl tert-butyl ether	1634-04-4	100[a]	0.0010	U	0.00082	U
Methylcyclohexane	108-87-2	NS	0.0010	U	-	
Methylene Chloride	75-09-2	100[a]	0.0010	U	0.00051	J
n-Butylbenzene	104-51-8	100[a]	0.0010	U	0.00082	U
N-Propylbenzene	103-65-1	100[a]	0.0010	U	0.00082	U
sec-Butylbenzene	135-98-8	100[a]	0.0010	U	0.00082	U
Styrene	100-42-5	NS	0.0010	U	-	
tert-Butylbenzene	98-06-6	100[a]	0.0010	U	0.00082	U
Tetrachloroethene	127-18-4	19	0.0010	U	0.00082	U
Toluene	108-88-3	100[a]	0.00042	J	0.00029	J
trans-1,2-Dichloroethene	156-60-5	100[a]	0.0010	U	0.00082	U
trans-1,3-Dichloropropene	10061-02-6	NS	0.0010	U	-	
Trichloroethene	79-01-6	21	0.0010	U	0.00082	U
Trichlorofluoromethane	75-69-4	NS	0.0010	U	-	
Vinyl chloride	75-01-4	0.9	0.0010	U	0.00082	U*
Xylenes, Total	1330-20-7	100[a]	0.0020	U	0.0016	U

Notes:

(A) - 6NYCRR Part 375 - Restricted-Residential Use Soil Cleanup Objectives

(a) - The SCOs for residential, restricted-residential and ecological resources were capped at a maximum value of 100 ppm. See TSD section 9.3.

(1) URS Split Sample

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U - Indicates the analyte was analyzed for but not detected.

UJ - The analyte was not detected above the reported sample quantitation limit.

* - LCS or LCSD is outside acceptance limits.

Table 2
Analytical Summary - SVOCs - Surface Soils

Analyte:	CAS Number	NYSDEC RRUSCOs [(A)]	Li Tungsten Superfund Site LT-SS-093016-001 0.5-1' 9/30/2016 460-121185-7		LT-CS-093016-001 0.5-1' 9/30/2016 460-121187-2[(1)]	
Method: 8270D - SemiVolatile Organic Compounds by GC/MS - (mg/kg)						
1,1'-Biphenyl	92-52-4	NS	0.390	U	-	
2,2'-oxybis[1-chloropropane]	108-60-1	NS	0.390	U	-	
2,4,5-Trichlorophenol	95-95-4	NS	0.390	U	-	
2,4,6-Trichlorophenol	88-06-2	NS	0.160	U	-	
2,4-Dichlorophenol	120-83-2	NS	0.160	U	-	
2,4-Dimethylphenol	105-67-9	NS	0.390	U	-	
2,4-Dinitrophenol	51-28-5	NS	0.320	U	-	
2,4-Dinitrotoluene	121-14-2	NS	0.080	U	-	
2,6-Dinitrotoluene	606-20-2	NS	0.080	U	-	
2-Chloronaphthalene	91-58-7	NS	0.390	U	-	
2-Chlorophenol	95-57-8	NS	0.390	U	-	
2-Methylnaphthalene	91-57-6	NS	0.017	J	-	
2-Methylphenol	95-48-7	100[a]	0.390	U	0.390	U
2-Nitroaniline	88-74-4	NS	0.390	U	-	
2-Nitrophenol	88-75-5	NS	0.390	U	-	
3,3'-Dichlorobenzidine	91-94-1	NS	0.160	U*	-	
3-Nitroaniline	99-09-2	NS	0.390	U	-	
4,6-Dinitro-2-methylphenol	534-52-1	NS	0.320	U	-	
4-Bromophenyl phenyl ether	101-55-3	NS	0.390	U	-	
4-Chloro-3-methylphenol	59-50-7	NS	0.390	U	-	
4-Chloroaniline	106-47-8	NS	0.390	U	-	
4-Chlorophenyl phenyl ether	7005-72-3	NS	0.390	U	-	
4-Methylphenol	106-44-5	100[a]	0.390	U	0.390	U
4-Nitroaniline	100-01-6	NS	0.390	U	-	
4-Nitrophenol	100-02-7	NS	0.800	U	-	
Acenaphthene	83-32-9	100[a]	0.023	J	0.036	J
Acenaphthylene	208-96-8	100[a]	0.030	J	0.033	J
Acetophenone	98-86-2	NS	0.390	U	-	
Anthracene	120-12-7	100[a]	0.076	J	0.120	J
Atrazine	1912-24-9	NS	0.160	U	-	
Benzaldehyde	100-52-7	NS	0.390	U	-	
Benzo[a]anthracene	56-55-3	1[f]	0.350		0.500	
Benzo[a]pyrene	50-32-8	1[f]	0.440		0.590	
Benzo[b]fluoranthene	205-99-2	1[f]	0.590		0.790	
Benzo[g,h,i]perylene	191-24-2	100[a]	0.450		0.550	
Benzo[k]fluoranthene	207-08-9	3.9	0.200		0.300	
Bis(2-chloroethoxy)methane	111-91-1	NS	0.390	U	-	
Bis(2-chloroethyl)ether	111-44-4	NS	0.039	U	-	
Bis(2-ethylhexyl) phthalate	117-81-7	NS	0.150	J	-	
Butyl benzyl phthalate	85-68-7	NS	0.025	J	-	
Caprolactam	105-60-2	NS	0.390	U	-	
Carbazole	86-74-8	NS	0.029	J	-	
Chrysene	218-01-9	3.9	0.450		0.650	
Dibenz(a,h)anthracene	53-70-3	0.33[e]	0.110		0.130	
Dibenzofuran	132-64-9	59	0.021	J	0.035	J
Diethyl phthalate	84-66-2	NS	0.390	U	-	
Dimethyl phthalate	131-11-3	NS	0.390	U	-	
Di-n-butyl phthalate	84-74-2	NS	0.390	U	-	
Di-n-octyl phthalate	117-84-0	NS	0.390	U	-	
Fluoranthene	206-44-0	100[a]	0.650		0.980	
Fluorene	86-73-7	100[a]	0.026	J	0.041	J
Hexachlorobenzene	118-74-1	1.2	0.039	U	0.039	U
Hexachlorobutadiene	87-68-3	NS	0.080	U	-	
Hexachlorocyclopentadiene	77-47-4	NS	0.390	U	-	
Hexachloroethane	67-72-1	NS	0.039	U	-	
Indeno[1,2,3-cd]pyrene	193-39-5	0.5[f]	0.530		0.670	
Isophorone	78-59-1	NS	0.160	U	-	
Naphthalene	91-20-3	100[a]	0.026	J	0.045	J
Nitrobenzene	98-95-3	15	0.039	U	-	
N-Nitrosodi-n-propylamine	621-64-7	NS	0.039	U	-	
N-Nitrosodiphenylamine	86-30-6	NS	0.390	U	-	
Pentachlorophenol	87-86-5	6.7	0.320	U	0.310	U
Phenanthrene	85-01-8	100[a]	0.300	J	0.470	
Phenol	108-95-2	100[a]	0.390	U	0.390	U
Pyrene	129-00-0	100[a]	0.560		0.760	

Notes:

(A) - 6NYCRR Part 375 - Restricted-Residential Use Soil Cleanup Objectives

(a) - The SCOs for residential, restricted-residential and ecological resources were capped at a maximum value of 100 ppm. See TSD section 9.3.

(e) - For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.

(f) - For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background

(1) URS Split Sample

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U - Indicates the analyte was analyzed for but not detected.

* - LCS or LCSD is outside acceptance limits.

Li Tungsten Superfund Site

Table 3
Analytical Summary - Metals - Surface Soils

Analyte:	CAS Number	Remedial Action Removal Criteria	Li Tungsten Superfund Site						
			LT-SS-093016-001	LT_RAD_092916_001	LT-CS-092916-002	LT_RAD_092916_002	LT-SS-120116-001	LT-SS-120116-001	LT-SS-120116-002
			0.5-1'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
			9/30/2016	9/29/2016	9/29/2016	9/29/2016	12/1/2016	12/1/2016	12/1/2016
			460-121185-7	460-121090-10	460-121089-2[(1)]	460-121090-11	460-124609-1	460-124614-5[(1)]	460-124609-2
Method: 6010C - Metals (ICP) - (mg/kg)									
Arsenic, Total	7440-38-2	175	15.0	13.3	12.7	29.4	12.0	12.7	5.8
Lead, Total	7439-92-1	660	141	109	89.2	185	84.1	106	24.4

Notes:

(1) URS Split Sample

Highlighted text denotes concentrations exceeding Remedial Action Removal Criteria

Li Tungsten Superfund Site

Table 4
Analytical Summary - Metals/PCBs - Pre SCE Use

Analyte:	CAS Number	Li Tungsten Superfund Site - Parcel A								Li Tungsten Superfund Site - Parcel B			
		LT-091416-001		LT-091416-002		DUP01		LT-091416-001		LT-092016-01		LT-092016-02	
		9/14/2016		9/14/2016		9/14/2016		9/14/2016		9/20/2016		9/20/2016	
		460-120166-1		460-120166-2		460-120166-4[2]		460-120168-1[1]		460-120530-3		460-120530-4	
Method: 6010C - Metals (ICP) - (mg/kg)													
Arsenic, Total	7440-38-2	10		7.6	F1	6.3		5.2		6.1		57.4	
Lead, Total	7439-92-1	69.8		53.9	F1	66.9		33.3		27.0		89.4	
Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - (mg/kg)													
Aroclor 1016	12674-11-2	0.076	U	0.077	U	0.075	U	0.079	U	0.074	U	0.078	U
Aroclor 1221	11104-28-2	0.076	U	0.077	U	0.075	U	0.079	U	0.074	U	0.078	U
Aroclor 1232	11141-16-5	0.076	U	0.077	U	0.075	U	0.079	U	0.074	U	0.078	U
Aroclor 1242	53469-21-9	0.076	U	0.077	U	0.075	U	0.079	U	0.074	U	0.078	U
Aroclor 1248	12672-29-6	0.076	U	0.077	U	0.075	U	0.079	U	0.074	U	0.078	U
Aroclor 1254	11097-69-1	0.970		0.380		0.400		0.730		0.074	U	0.078	U
Aroclor 1260	11096-82-5	0.076	U	0.077	U	0.075	U	0.079	U	0.210		0.190	
Aroclor 1262	37324-23-5	0.076	U	0.077	U	0.075	U	0.079	U	0.074	U	0.078	U
Aroclor 1268	11100-14-4	0.076	U	0.077	U	0.075	U	0.079	U	0.074	U	0.078	U
Total PCBs		0.970		0.380		0.400		0.730		0.210		0.190	

Notes:

(1) URS Split Sample

(2) PWGC Duplicate Sample

F1 - MS and/or MSD Recovery is outside acceptance limits.

U - Indicates the analyte was analyzed for but not detected.

Li Tungsten Superfund Site

Table 5
Analytical Summary - Radium-226 Other Gamma Emmitters - Surface Soil

Analyte:	CAS Number	Remedial Action Removal Criteria	Li Tungsten Superfund Site - Parcel A LTAN-092916-R1 9/29/2016 160-19272-1	
Method: 901.1 - Radium-226 & Other Gamma Emitters (GS) - (pCi/g)				
Actinium-227	14952-40-0	-	-17.3	U
Actinium-228	14331-83-0	-	12,900	
Bismuth-212	14913-49-6	-	10,200	
Bismuth-214	14733-03-0	-	61.8	
Lead-210	14255-04-0	-	-13.6	U
Lead-212	15092-94-1	-	3,550	
Lead-214	15067-28-4	-	40.4	
Potassium-40	13966-00-2	-	162	
Protactinium-231	14331-85-2	-	-53.4	U
Uranium-235	15117-96-1	-	6.89	U
Uranium-238	7440-61-1	-	867	
Thallium-208	14913-50-9	-	3,920	
Thorium-232	7440-29-1	-	12,900	
Thorium-234	15065-10-8	-	867	
Thorium-230 + Thorium-232		≤ 5 + Background*	12,900	
Radium-226	13982-63-3	-	61.8	
Radium-228	15262-20-1	-	12,900	
Radium-226 + Radium-228		≤ 5 + Background*	12,961.8	

Notes:

* - Background is approximately 1 pCi/g for each isotope.

U - Indicates the analyte was analyzed for but not detected.

Li Tungsten Superfund Site

Table 6
Analytical Summary - Metals - Post-Excavation at Location 5

Analyte:	CAS Number	Remedial Action Removal Criteria	Li Tungsten Superfund Site						
			North Sidewall	South Sidewall	East Sidewall	West Sidewall		Bottom	
			5_N_001	5_S_001	5_E_001	5_W_001	LT-CS-100416-001	5_B_001	LT-CS-100616-001
			2-4'	2-4'	2-4'	2-4'	2-4'	6-6.5'	6-6.5'
			10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/6/2016	10/6/2016
			460-121324-1	460-121324-2	460-121324-3	460-121324-4	460-121329-5(1)	460-121523-1	460-121530-1(1)
Method: 6010C - Metals (ICP) - (mg/kg)									
Arsenic, Total	7440-38-2	175	3.6	10.2	7.2	7.2	6.8	10.9	12.6
Lead, Total	7439-92-1	660	38.0	73.1	64.6	88.7	75.0	33.6	35.1

Notes:

(1) URS Split Sample

Highlighted text denotes concentrations exceeding Remedial Action Removal Criteria

Li Tungsten Superfund Site

Table 7

Analytical Summary - VOCs - Post-Excavation at Location 5-EP-2/5-EPSW-1

Analyte:	CAS Number	Li Tungsten Superfund Site																							
		West Sidewall				South Sidewall		North Sidewall		East Sidewall		Bottom		South Sidewalls				East Sidewall		Bottom					
		5-EP-2_W_001		LT-CS-092816-002		5-EP-2_S_001		5-EP-2_N_001		5-EP-2_E_001		5-EP-2_B_001		5-EPSW-1_S_001		5-EPSW-1_S_002		LT-CS-110416-001		5-EPSW-1_E_001		5-EPSW-1_B_001		DUP001		LT-CS-092916-003	
		10.5-12.5'		10.5-12.5'		10.5-12.5'		10.5-12.5'		10.5-12.5'		12.5-13'		10.5-12.5'		5-5.5'		5-5.5'		10.5-12.5'		12.5-13'		12.5-13'		12.5-13'	
		9/28/2016		9/28/2016		9/28/2016		9/28/2016		9/28/2016		9/28/2016		9/29/2016		11/5/2016		11/5/2016		9/29/2016		9/29/2016		9/29/2016		9/29/2016	
		460-121005-1		460-121008-2[1]		460-121005-2		460-121005-3		460-121005-4		460-121090-12		460-121185-1		460-123307-1		460-123312-2[1]		460-121185-2		460-121185-3		460-121185-4[2]		460-121187-1[1]	
1,1,1-Trichloroethane	71-55-6	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
1,1,2,2-Tetrachloroethane	79-34-5	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	-	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2	0.0060	UJ	0.0061	UJ	-	
1,1,2-Trichloroethane	79-00-5	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	-	
1,1-Dichloroethane	75-34-3	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	0.0066	U
1,1-Dichloroethene	75-35-4	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	0.0066	U
1,2,4-Trichlorobenzene	120-82-1	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	-	
1,2,4-Trimethylbenzene	95-63-6	0.0068	UJ	0.0066	U	0.0064	UJ	0.0087	J	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
1,2-Dibromo-3-Chloropropane	96-12-8	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	UJ	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	-	
1,2-Dibromoethane	106-93-4	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	-	
1,2-Dichlorobenzene	95-50-1	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
1,2-Dichloroethane	107-06-2	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	UJ	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	0.0066	U
1,2-Dichloropropane	78-87-5	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	-	
1,3,5-Trimethylbenzene	108-67-8	0.0068	UJ	0.0066	U	0.0064	UJ	0.0018	J	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
1,3-Dichlorobenzene	541-73-1	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
1,4-Dichlorobenzene	106-46-7	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
1,4-Dioxane	123-91-1	0.140	UJ	0.130	U*	0.130	UJ	0.077	UJ	0.160	UJ	0.019	UJ	0.016	U	0.019	U	0.018	U	0.066	UJ	0.120	UJ	0.120	UJ	0.130	U
2-Butanone (MEK)	78-93-3	0.170	J	0.420		0.065	J	0.140	J	0.160	J	0.0059	J	0.0039	UJ	0.0046	U	0.0044	U	0.074	J	0.099	J	0.110	J	0.026	J
2-Hexanone	591-78-6	0.034	UJ	-		0.032	UJ	0.019	UJ	0.041	UJ	0.0048	U*	0.0039	UJ*	0.0046	U	0.0044	U	0.016	UJ * F1	0.030	UJ*	0.031	UJ *	-	
4-Methyl-2-pentanone (MIBK)	108-10-1	0.034	UJ	-		0.032	UJ	0.0190	UJ	0.041	UJ	0.0048	U*	0.0039	UJ*	0.0046	U	0.0044	U	0.016	UJ * F1	0.030	UJ*	0.031	UJ *	-	
Acetone	67-64-1	0.700	J	1.400	*	0.200	J	0.590	J	0.590	J	0.036		0.0039	UJ	0.0046	U	0.0044	U	0.270	J F1	0.580	J	0.700	J	0.110	
Benzene	71-43-2	0.0026	J	0.0055	J	0.0064	UJ	0.0059	J	0.0026	J	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	0.0066	U
Bromodichloromethane	75-27-4	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	-	
Bromoform	75-25-2	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	UJ	0.00088	U	0.0033	UJ	0.0060	UJ	0.0061	UJ	-	
Bromomethane	74-83-9	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	UJ	0.00079	U	0.00093	UJ	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	-	
Carbon disulfide	75-15-0	0.022	J	-		0.0093	J	0.031	J	0.025	J	0.0047		0.00079	U	0.00093	UJ*	0.00088	U	0.0019	J	0.0057	J	0.009	J	-	
Carbon tetrachloride	56-23-5	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
Chlorobenzene	108-90-7	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
Chloroethane	75-00-3	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ	0.0060	UJ	0.0061	UJ	-	
Chloroform	67-66-3	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	0.0066	U
Chloromethane	74-87-3	0.0068	UJ *	-		0.0064	UJ *	0.0038	UJ *	0.0081	UJ *	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ	0.0060	UJ	0.0061	UJ	-	
cis-1,2-Dichloroethene	156-59-2	0.0026	J	0.0021	J	0.0064	UJ	0.0024	J	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	0.0066	U
cis-1,3-Dichloropropene	10061-01-5	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	-	
Cyclohexane	110-82-7	0.0068	UJ	-		0.0064	UJ	0.0052	J	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	-	
Dibromochloromethane	124-48-1	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	UJ	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	-	
Dichlorodifluoromethane	75-71-8	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ	0.0060	UJ	0.0061	UJ	-	
Ethylbenzene	100-41-4	0.0068	UJ	0.0066	U	0.0064	UJ	0.0037	J	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
Isopropylbenzene	98-82-8	0.0068	UJ	-		0.0064	UJ	0.0037	J	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	-	
Methyl acetate	79-20-9	0.034	UJ	-		0.032	UJ	0.0190	UJ	0.041	UJ	0.0048	UJ	0.0039	U	0.0046	U	0.0044	U	0.0033	UJ F1	0.030	UJ	0.031	UJ	-	
Methyl tert-butyl ether	1634-04-4	0.0019	J	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00054	J	0.00079	U	0.00093	U	0.00088	U	0.00092	J F1	0.0019	J	0.0018	J	0.0012	J
Methylcyclohexane	108-87-2	0.0068	UJ	-		0.0064	UJ	0.0030	J	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	-	
Methylene Chloride	75-09-2	0.0068	UJ	0.0023	J	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00083	J	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	0.0066	U
n-Butylbenzene	104-51-8	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	UJ	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
N-Propylbenzene	103-65-1	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
sec-Butylbenzene	135-98-8	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
Styrene	100-42-5	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	-	
tert-Butylbenzene	98-06-6	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
Tetrachloroethene	127-18-4	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
Toluene	108-88-3	0.0040	J	0.0070		0.0064	J	0.0063	UJ	0.0042	J	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0027	J F2 F1	0.0015	J	0.0023	J	0.0066	U
trans-1,2-Dichloroethene	156-60-5	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	0.0066	U
trans-1,3-Dichloropropene	10061-02-6	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	UJ	0.00088	U	0.0033	UJ F1	0.0060	UJ	0.0061	UJ	-	
Trichloroethene	79-01-6	0.0068	UJ	0.0066	U	0.0064	UJ	0.0058	J	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ F2 F1	0.0060	UJ	0.0061	UJ	0.0066	U
Trichlorofluoromethane	75-69-4	0.0068	UJ	-		0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ	0.0060	UJ	0.0061	UJ	-	
Vinyl chloride	75-01-4	0.0068	UJ	0.0066	U	0.0064	UJ	0.0038	UJ	0.0081	UJ	0.00096	U	0.00079	U	0.00093	U	0.00088	U	0.0033	UJ	0.0060	UJ	0.0061	UJ	0.0066	U*
Xylenes, Total	1330-20-7	0.014	UJ	0.002	J	0.013	UJ	0.014	UJ	0.016	UJ	0.0019	U	0.0016	U	0.0019	U	0.0018	U	0.0066	UJ F2 F1	0.0015	J	0.012	UJ	0.013	U

Notes:

(1) URS Split Sample

(2) PWGC Duplicate Sample

F1 - MS and/or MSD Recovery is outside acceptance limits.

F2 - MS/MSD RPD exceeds control limits

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U - Indicates the analyte was analyzed for but not detected.

Li Tungsten Superfund Site

Table 8
Analytical Summary - SVOCs - Post-Excavation at Location 5-EP-2/5-EPSW-1

Analyte:	CAS Number	Li Tungsten Superfund Site																							
		West Sidewall				South Sidewall		North Sidewall		East Sidewall		Bottom		South Sidewalls				East Sidewall				Bottom			
		5-EP-2_W_001		LT-CS-092816-002		5-EP-2_S_001		5-EP-2_N_001		5-EP-2_E_001		5-EP-2_B_001		5-EPSW-1_S_001		5-EPSW-1_S_002		LT-CS-110416-001		5-EPSW-1_E_001		5-EPSW-1_B_001		DUP001		LT-CS-092916-003	
		10.5-12.5'		10.5-12.5'		10.5-12.5'		10.5-12.5'		10.5-12.5'		12.5-13'		10.5-12.5'		5-5.5'		5-5.5'		10.5-12.5'		12.5-13'		12.5-13'		12.5-13'	
		9/28/2016		9/28/2016		9/28/2016		9/28/2016		9/28/2016		9/28/2016		9/29/2016		11/5/2016		11/5/2016		9/29/2016		9/29/2016		9/29/2016		9/29/2016	
		460-121005-1		460-121008-2(1)		460-121005-2		460-121005-3		460-121005-4		460-121090-12		460-121185-1		460-123307-1		460-123312-2(1)		460-121185-2		460-121185-3		460-121185-4(2)		460-121187-1(1)	
Method: 8270D - Semi Volatile Organic Compounds by GC/MS - (mg/kg)																									
1,1'-Biphenyl	92-52-4	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
2,2'-oxybis[1-chloropropane]	108-60-1	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
2,4,5-Trichlorophenol	95-95-4	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	UJ	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
2,4,6-Trichlorophenol	88-06-2	0.690	UJ	-		0.690	UJ	0.470	UJ	0.710	UJ	0.170	U	0.150	U	0.140	U	0.130	U	0.350	UJ F1	0.610	UJ	0.610	UJ	-	
2,4-Dichlorophenol	120-83-2	0.690	UJ F1	-		0.690	UJ	0.470	UJ	0.710	UJ	0.170	U	0.150	U	0.140	U	0.130	U	0.350	UJ F1	0.610	UJ	0.610	UJ	-	
2,4-Dimethylphenol	105-67-9	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
2,4-Dinitrophenol	51-28-5	1.400	UJ F1	-		1.400	UJ	0.930	UJ	1.400	UJ	0.330	UJ F1 *	0.310	U	0.270	U	0.270	U	0.710	UJ F1	1.200	UJ	1.200	UJ	-	
2,4-Dinitrotoluene	121-14-2	0.350	UJ	-		0.350	UJ	0.240	UJ	0.360	UJ	0.084	U	0.078	U	0.069	UJ	0.068	U	0.180	UJ F1	0.310	UJ	0.310	UJ	-	
2,6-Dinitrotoluene	606-20-2	0.350	UJ	-		0.350	UJ	0.240	UJ	0.360	UJ	0.084	U	0.078	U	0.069	UJ	0.068	U	0.180	UJ F1	0.310	UJ	0.310	UJ	-	
2-Chloronaphthalene	91-58-7	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
2-Chlorophenol	95-57-8	1.700	UJ F1	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
2-Methylnaphthalene	91-57-6	1.700	UJ F1	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.0099	J	0.0079	J	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
2-Methylphenol	95-48-7	1.700	UJ F1	1.700	U	1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	1.700	U
2-Nitroaniline	88-74-4	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
2-Nitrophenol	88-75-5	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
3,3'-Dichlorobenzidine	91-94-1	0.690	UJ	-		0.690	UJ	0.470	UJ	0.710	UJ	0.170	U	0.150	U*	0.140	U	0.130	U	0.350	UJ F1 F2 *	0.610	UJ	0.610	UJ	-	
3-Nitroaniline	99-09-2	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
4,6-Dinitro-2-methylphenol	534-52-1	1.400	UJ F1	-		1.400	UJ	0.930	UJ	1.400	UJ	0.330	UJ F1 *	0.310	U	0.270	U	0.270	U	0.710	UJ F1	1.200	UJ	1.200	UJ	-	
4-Bromophenyl phenyl ether	101-55-3	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
4-Chloro-3-methylphenol	59-50-7	1.700	UJ F1	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
4-Chloroaniline	106-47-8	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
4-Chlorophenyl phenyl ether	7005-72-3	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
4-Methylphenol	106-44-5	1.700	UJ F1	1.700	U	1.700	UJ	0.140	J	0.057	J	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	1.700	U
4-Nitroaniline	100-01-6	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
4-Nitrophenol	100-02-7	3.500	UJ	-		3.500	UJ	2.400	UJ	3.600	UJ	0.840	U	0.780	U	0.690	UJ	0.680	U	1.800	UJ F1	3.100	UJ	3.100	UJ	-	
Acenaphthene	83-32-9	1.700	UJ	1.700	U	1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	1.700	U
Acenaphthylene	208-96-8	1.700	UJ	1.700	U	1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	1.700	U
Acetophenone	98-86-2	0.043	J	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
Anthracene	120-12-7	1.700	UJ	1.700	U	1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	1.700	U
Atrazine	1912-24-9	0.690	UJ	-		0.690	UJ	0.470	UJ	0.710	UJ	0.170	U	0.150	U	0.140	U	0.130	U	0.350	UJ F1	0.610	UJ	0.610	UJ	-	
Benzaldehyde	100-52-7	0.230	J	-		0.180	J	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.110	J F1	0.210	J	0.260	J	-	
Benzo[a]anthracene	56-55-3	0.170	UJ	0.170	U	0.170	UJ	0.120	UJ	0.180	UJ	0.042	U	0.038	U	0.030	J	0.033	U	0.088	UJ F1	0.150	UJ	0.150	UJ	0.170	U
Benzo[a]pyrene	50-32-8	0.170	UJ F1	0.170	U	0.170	UJ	0.120	UJ	0.180	UJ	0.042	U	0.014	J	0.052		0.033	U	0.088	UJ F1	0.150	UJ	0.150	UJ	0.170	U
Benzo[b]fluoranthene	205-99-2	0.170	UJ F1	0.170	U	0.170	UJ	0.120	UJ	0.180	UJ	0.042	U	0.018	J	0.039		0.020	J	0.088	UJ F1	0.150	UJ	0.150	UJ	0.170	U
Benzo[g,h,i]perylene	191-24-2	1.700	UJ	1.700	U	1.700	UJ	1.200	UJ	1.800	UJ	0.420	U F1	0.380	U	0.058	J	0.049	J	0.880	UJ	1.500	UJ	1.500	UJ	1.700	U
Benzo[k]fluoranthene	207-08-9	0.170	UJ F1	0.170	U	0.170	UJ	0.12	UJ	0.180	UJ	0.042	U	0.038	U	0.019	J	0.033	U	0.088	UJ F1	0.150	UJ	0.150	UJ	0.170	U
Bis(2-chloroethoxy)methane	111-91-1	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
Bis(2-chloroethyl)ether	111-44-4	0.170	UJ F1	-		0.170	UJ	0.120	UJ	0.180	UJ	0.042	U	0.038	U	0.034	U	0.033	U	0.088	UJ F1	0.150	UJ	0.150	UJ	-	
Bis(2-ethylhexyl) phthalate	117-81-7	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.023	J	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
Butyl benzyl phthalate	85-68-7	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
Caprolactam	105-60-2	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
Carbazole	86-74-8	1.700	UJ F1	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
Chrysene	218-01-9	1.700	UJ	1.700	U	1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.015	J	0.047	J	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	1.700	U
Dibenz(a,h)anthracene	53-70-3	0.170	UJ	0.170	U	0.170	UJ	0.120	UJ	0.180	UJ	0.042	U	0.038	U	0.034	U	0.033	U	0.088	UJ	0.150	UJ	0.150	UJ	0.170	U
Dibenzofuran	132-64-9	1.700	UJ	1.700	U	1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	1.700	U
Diethyl phthalate	84-66-2	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	UJ	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
Dimethyl phthalate	131-11-3	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
Di-n-butyl phthalate	84-74-2	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.030	J	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
Di-n-octyl phthalate	117-84-0	1.700	UJ F1	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
Fluoranthene	206-44-0	1.700	UJ	1.700	U	1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.032	J	0.038	J	0.012	J	0.880	UJ F1	1.500	UJ	1.500	UJ	1.700	U
Fluorene	86-73-7	1.700	UJ	1.700	U	1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	1.700	U
Hexachlorobenzene	118-74-1	0.170	UJ	0.170	U	0.170	UJ	0.120	UJ	0.180	UJ	0.042	U	0.038	U	0.034	U	0.033	U	0.088	UJ F1	0.150	UJ	0.150	UJ	0.170	U
Hexachlorobutadiene	87-68-3	0.350	UJ	-		0.350	UJ	0.240	UJ	0.360	UJ	0.084	U	0.078	U	0.069	U	0.068	U	0.180	UJ F1	0.310	UJ	0.310	UJ	-	
Hexachlorocyclopentadiene	77-47-4	1.700	UJ F1 F2	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U		R	1.500	UJ	1.500	UJ	-	
Hexachloroethane	67-72-1	0.170	UJ F1	-		0.170	UJ	0.12	UJ	0.180	UJ	0.042	U	0.038	U	0.034	U	0.033	U	0.088	UJ F1	0.150	UJ	0.150	UJ	-	
Indeno[1,2,3-cd]pyrene	193-39-5	0.170	UJ	0.170	U	0.170	UJ	0.120	UJ	0.180	UJ	0.042	UJ F1 *	0.038	U	0.034	UJ	0.033	U	0.088	UJ	0.150	UJ	0.150	UJ *	0.170	U*
Isophorone	78-59-1	0.690	UJ	-		0.690	UJ	0.470	UJ	0.710	UJ	0.170	U	0.150	U	0.140	U	0.130	U	0.350	UJ F1	0.610	UJ	0.610	UJ	-	
Naphthalene	91-20-3	1.700	UJ F1	1.700	U	1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.088	UJ F1	1.500	UJ	0.046	J	1.700	U
Nitrobenzene	98-95-3	0.170	UJ	-		0.170	UJ	0.120	UJ	0.180	UJ	0.042	U	0.038	U	0.034	U	0.033	U	0.088	UJ F1	0.150	UJ	0.150	UJ	-	
N-Nitrosodi-n-propylamine	621-64-7	0.170	UJ	-		0.170	UJ	0.120	UJ	0.180	UJ	0.042	U	0.038	U	0.034	U	0.033	U	0.088	UJ F1	0.150	UJ	0.150	UJ	-	
N-Nitrosodiphenylamine	86-30-6	1.700	UJ	-		1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.880	UJ F1	1.500	UJ	1.500	UJ	-	
Pentachlorophenol	87-86-5	1.400	UJ F1	1.400	U*	1.400	UJ	0.930	UJ	1.400	UJ	0.330	UJ F1 *	0.034	J	0.270	U	0.270	U	0.710	UJ F1	1.200	UJ	1.200	UJ	1.300	U
Phenanthrene	85-01-8	0.061	J	0.089	J	1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.018	J	0.330	U	0.088	UJ F1	0.042	J	0.058	J	0.072	J
Phenol	108-95-2	1.700	UJ	1.700	U	1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.380	U	0.340	U	0.330	U	0.088	UJ F1	1.500	UJ	1.500	UJ	1.700	U
Pyrene	129-00-0	1.700	UJ	1.700	U	1.700	UJ	1.200	UJ	1.800	UJ	0.420	U	0.032	J	0.033	J	0.018	J	0.088	UJ F1	1.500	UJ	1.500	UJ	1.700	U

Notes:

(1) URS Split Sample

(2) PWGC Duplicate Sample

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U - Indicates the analyte was analyzed for but not detected.

UJ - The analyte was not detected above the reported sample quantitation limit.

F1 - MS and/or MSD Recovery is outside acceptance limits.

F2 - MS/MSD RPD exceeds control limits

R - Data rejected on the basis of an unacceptable QC analysis.

* - LCS or LCSD is outside acceptance limits.

Table 9
Analytical Summary - Metals - Post-Excavation at Location 5-EP-2/5-EPSW-1

| Analyte: | CAS Number | Remedial Action Removal Criteria | Li Tungsten Superfund Site | | |

Li Tungsten Superfund Site

Table 10
Analytical Summary - Metals - Post-Excavation at Location LT-G-019

Analyte:	CAS Number	Remedial Action Removal Criteria	Li Tungsten Superfund Site											
			North Sidewall		South Sidewall	East Sidewall		West Sidewall					Bottom
			LT-G-019_N_001		LT-G-019_S_001	LT-G-019_E_001		LT-G-019_W_001		LT-CS-092216-001			LT-G-019_B_001
			2-4'		2-4'	2-4'		2-4'		2-4'			4-4.5'
			9/22/2016		9/22/2016	9/22/2016		9/22/2016		9/22/2016			9/22/2016
			460-120684-1		460-120684-2	460-120684-3		460-120684-4		460-120686-1 (1)			460-120684-5
Method: 6010C - Metals (ICP) - (mg/kg)													
Arsenic, Total	7440-38-2	175	2.6	J	8.1	2.5	J	4.0		5.0			4.4
Lead, Total	7439-92-1	660	27.4		46.9	6.7		23.7		31.3			29.8

Notes:

(1) URS Split Sample

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Highlighted text denotes concentrations exceeding Remedial Action Removal Criteria

Li Tungsten Superfund Site

Table 11
Analytical Summary - Metals - Post-Excavation at Location LT-G-022

Analyte:	CAS Number	Remedial Action Removal Criteria	Li Tungsten Superfund Site						
			North Sidewall		South Sidewall		East Sidewall	West Sidewall	Bottom
			LT-G-022_N_001	LT-CS-092116-002	LT-G-022_S_001	DUP002	LT-G-022_E_001	LT-G-022_W_001	LT-G-022_B_001
			0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	2-2.5'
			9/21/2016	9/21/2016	9/21/2016	9/21/2016	9/21/2016	9/21/2016	9/21/2016
			460-120625-1	460121639-2(1)	460-120625-2	460-120625-15(2)	460-120625-3	460-120625-4	460-120625-5
Method: 6010C - Metals (ICP) - (mg/kg)									
Arsenic, Total	7440-38-2	175	11.1	2.5	6.1	5.3	6.4	6.0	7.5
Lead, Total	7439-92-1	660	68.2	18.6	30.5	35.3	65.6	34.5	62.2

Notes:

(1) URS Split Sample

(2) PWGC Duplicate Sample

Highlighted text denotes concentrations exceeding Remedial Action Removal Criteria

Li Tungsten Superfund Site

Table 12
Analytical Summary - Metals - Post-Excavation at Location LT-GI-001

Analyte:	CAS Number	Remedial Action Removal Criteria	Li Tungsten Superfund Site					
			North Sidewall	South Sidewall	East Sidewall	West Sidewall	Bottom	
			LT-GI-001_N_001	LT-GI-001_S_001	LT-GI-001_E_001	LT-GI-001_W_001	LT-GI-001_B_001	LT-CS-092116-001
			4-6'	4-6'	4-6'	4-6'	6-6.5'	6-6.5'
			9/21/2016	9/21/2016	9/21/2016	9/21/2016	9/21/2016	9/21/2016
			460-120625-6	460-120625-7	460-120625-8	460-120625-9	460-120625-10	460-120639-1[(1)]
Method: 6010C - Metals (ICP) - (mg/kg)								
Arsenic, Total	7440-38-2	175	2.3 J	10.7	5.2	8.9	3.9 U	0.48 J
Lead, Total	7439-92-1	660	33.5	201	62.3	88.4	9.7	3.1

Notes:

(1) URS Split Sample

U - Indicates the analyte was analyzed for but not detected.

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Highlighted text denotes concentrations exceeding Remedial Action Removal Criteria

Li Tungsten Superfund Site

Table 13
Analytical Summary - Metals/PCBs - Post-Excavation at Location LT-XC-007

Analyte:	CAS Number	Remedial Action Removal Criteria	Li Tungsten Superfund Site																
			North Sidewalls					South Sidewalls		East Sidewalls			West Sidewalls		Bottoms			
			LT-XC-007_N_001	LT-XC-007_N_002	LT-CS-092716-002	LT-XC-007_N_003	LT-CS-100316-001	LT-XC-007_S_001	LT-XC-007_S_002	LT-XC-007_E_001	LT-CS-092216-003	LT-XC-007_E_002	LT-XC-007_W_001	LT-XC-007_W_002	LT-XC-007_B_001	LT-CS-092216-002	LT-XC-007_B_002	LT-CS-092716-001
			0-2'	0-4'	0-4'	0-4'	0-4'	0-2'	2-4'	0-2'	0-2'	0-4'	0-2'	2-4'	2-2.5'	2-2.5'	4-4.5'	4-4.5'
			9/22/2016	9/27/2016	9/27/2016	10/3/2016	10/3/2016	9/22/2016	9/27/2016	9/22/2016	9/22/2016	9/27/2016	9/22/2016	9/27/2016	9/22/2016	9/22/2016	9/27/2016	9/27/2016
			460-120684-6	460-120940-1	460-120942-2[1]	460-121271-1	460-121272-8[1]	460-120684-7	460-120940-2	460-120684-8	460-120686-3[1]	460-120940-3	460-120684-9	460-120940-4	460-120684-10	460-120686-2[1]	460-120940-5	460-120942-1[1]
Method: 6010C - Metals (ICP) - (mg/kg)																			
Arsenic, Total	7440-38-2	175	9.9	3.4	4	7.5	8.2	6.6	8.4	11.0	6.4	5.4	5.4	2.8 J	11.0	15.4	3.2	3.0 J
Lead, Total	7439-92-1	660	80.8	13.2	14.7	24.6	23.8	19.9	39.0	34.1	25.9	24.3	16.8	7.2	68.6	80.1	6.3	7.2
Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - (mg/kg)																			
Aroclor 1016	12674-11-2	NS	1.400 U	0.360 U	1.500 U	0.074 U F1	0.073 U	0.360 U	0.074 U	1.400 U	0.710 U	0.700 U	0.740 U	0.077 U	3.600 U	7.200 U	0.079 U	0.079 U
Aroclor 1221	11104-28-2	NS	1.400 U	0.360 U	1.500 U	0.074 U	0.073 U	0.360 U	0.074 U	1.400 U	0.710 U	0.700 U	0.740 U	0.077 U	3.600 U	7.200 U	0.079 U	0.079 U
Aroclor 1232	11141-16-5	NS	1.400 U	0.360 U	1.500 U	0.074 U	0.073 U	0.360 U	0.074 U	1.400 U	0.710 U	0.700 U	0.740 U	0.077 U	3.600 U	7.200 U	0.079 U	0.079 U
Aroclor 1242	53469-21-9	NS	1.400 U	0.360 U	1.500 U	0.074 U	0.073 U	0.360 U	0.074 U	1.400 U	0.710 U	0.700 U	0.740 U	0.077 U	3.600 U	7.200 U	0.079 U	0.079 U
Aroclor 1248	12672-29-6	NS	15.000	5.300	11.000	0.710	1.200	6.400	0.750	13.000	7.8	8.700	9.000	0.410	41.000	62.000	0.079 U	0.079 U
Aroclor 1254	11097-69-1	NS	1.400 U	0.360 U	1.500 U	0.074 U	0.073 U	0.360 U	0.074 U	1.400 U	0.710 U	0.700 U	0.740 U	0.077 U	3.600 U	7.200 U	0.079 U	0.079 U
Aroclor 1260	11096-82-5	NS	1.400 U	0.360 U	1.500 U	0.074 U	0.073 U	0.360 U	0.074 U	1.400 U	0.710 U	0.700 U	0.740 U	0.077 U	3.600 U	7.200 U	0.079 U	0.079 U
Aroclor 1262	37324-23-5	NS	1.400 U	0.360 U	1.500 U	0.074 U	0.073 U	0.360 U	0.074 U	1.400 U	0.710 U	0.700 U	0.740 U	0.077 U	3.600 U	7.200 U	0.079 U	0.079 U
Aroclor 1268	11100-14-4	NS	1.400 U	0.360 U	1.500 U	0.074 U	0.073 U	0.360 U	0.074 U	1.400 U	0.710 U	0.700 U	0.740 U	0.077 U	3.600 U	7.200 U	0.079 U	0.079 U
Total PCBs		10	15.000	5.300	11.000	0.710	1.200	6.4	0.750	13.000	7.8	8.700	9.000	0.410	41.000	62.000	ND	ND

Notes:

(1) URS Split Sample

ND - Non-Detect

NS - No Standard

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U - Indicates the analyte was analyzed for but not detected.

Highlighted text denotes concentrations exceeding Remedial Action Removal Criteria

Li Tungsten Superfund Site

Table 14
Analytical Summary - Metals - Post-Excavation at Location PA-03

Analyte:	CAS Number	Remedial Action Removal Criteria	Li Tungsten Superfund Site					
			North Sidewall	South Sidewall	East Sidewall		West Sidewall	Bottom
			PA-03_N_001	PA-03_S_001	PA-03_E_001	LT-CS-100416-002	PA-03_W_001	PA-03_B_001
			5-5.5'	4-5.5'	5-5.5'	5-5.5'	4-5.5'	5-5.5'
			10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/4/2016
			460-121324-5	460-121324-6	460-121324-7	460-121329-6[(1)]	460-121324-8	460-121324-9
Method: 6010C - Metals (ICP) - (mg/kg)								
Arsenic, Total	7440-38-2	175	17.7	9.8	26.3	34.8	24.1	17.6
Lead, Total	7439-92-1	660	87.4	48.3	32.3	31.5	32.4	57.1

Notes:

(1) URS Split Sample

Highlighted text denotes concentrations exceeding Remedial Action Removal Criteria

Li Tungsten Superfund Site

Table 15
Analytical Summary - Metals/PCBs - Post-Excavation at Location SBFT-19

Analyte:	CAS Number	Remedial Action Removal Criteria	Li Tungsten Superfund Site													
			North Sidewall		South Sidewall				East Sidewall		West Sidewall		Bottom			
			SBFT-19_N_001		SBFT-19_S_001		DUP003		SBFT-19_E_001		SBFT-19_W_001		SBFT-19_B_001		LT-CS-092916-001	
			0-5'		0-5'		0-5'		0-5'		0-5'		5-5.5'		5-5.5'	
			9/29/2016		9/29/2016		9/29/2016		9/29/2016		9/29/2016		9/29/2016		9/29/2016	
			460-121090-1		460-121090-2		460-121090-6(2)		460-121090-3		460-121090-4		460-121090-5		460-121089-1	
Method: 6010C - Metals (ICP) - (mg/kg)																
Arsenic, Total	7440-38-2	175	5.1		8.1		7.3		5.7		8.7		8.8		5.4	
Lead, Total	7439-92-1	660	79.0		265		209		157		175		321		231	
Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - (mg/kg)																
Aroclor 1016	12674-11-2	NS	0.070	U	0.074	U	0.150	U	0.071	U	0.370	U	0.083	U	0.083	U
Aroclor 1221	11104-28-2	NS	0.070	U	0.074	U	0.150	U	0.071	U	0.370	U	0.083	U	0.083	U
Aroclor 1232	11141-16-5	NS	0.070	U	0.074	U	0.150	U	0.071	U	0.370	U	0.083	U	0.083	U
Aroclor 1242	53469-21-9	NS	0.070	U	0.074	U	0.150	U	0.071	U	0.370	U	0.083	U	0.083	U
Aroclor 1248	12672-29-6	NS	0.980		1.500		1.800		0.690		2.800		0.083	U	0.083	U
Aroclor 1254	11097-69-1	NS	0.070	U	0.074	U	0.150	U	0.071	U	0.370	U	0.083	U	0.083	U
Aroclor 1260	11096-82-5	NS	0.070	U	0.074	U	0.150	U	0.071	U	0.370	U	0.083	U	0.083	U
Aroclor 1262	37324-23-5	NS	0.070	U	0.074	U	0.150	U	0.071	U	0.370	U	0.083	U	0.083	U
Aroclor 1268	11100-14-4	NS	0.070	U	0.074	U	0.150	U	0.071	U	0.370	U	0.083	U	0.083	U
Total PCBs		10	0.980		1.500		1.800		0.690		2.800		ND		ND	

Notes:

(1) URS Split Sample

(2) PWGC Duplicate Sample

ND - Non-Detect

NS - No Standard

U - Indicates the analyte was analyzed for but not detected.

Highlighted text denotes concentrations exceeding Remedial Action Removal Criteria

Table 16
Analytical Summary - VOCs - Post-Excavation at Location LT-TSA

		Li Tungsten Superfund Site																	
		West Sidewalls				South Sidewall		North Sidewall				East Sidewalls				Bottom			
	CAS Number	LT-TSA_W_001A		LT-TSA_W_001B		LT-TSA_S_001		LT-TSA_N_001		LT-CS-103116-002		LT-TSA_E_001A		LT-TSA_E_001B		LT-TSA_B_001		LT-CS-103116-001	
		6-8'		6-8'		6-8'		4-6'		4-6'		6-8'		6-8'		8-9'		8-9'	
		10/31/2016		10/31/2016		10/31/2016		10/31/2016		10/31/2016		10/31/2016		10/31/2016		10/31/2016		10/31/2016	
		460-122987-4		460-122987-5		460-122987-3		460-122987-2		460-122986-2[1]		460-122987-6		460-122987-7		460-122987-1		460-122986-1[1]	
Method: 8260C - Volatile Organic Compounds by GC/MS - (mg/kg)																			
1,1,1-Trichloroethane	71-55-6	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,1,2,2-Tetrachloroethane	79-34-5	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,1,2-Trichloroethane	79-00-5	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,1-Dichloroethane	75-34-3	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,1-Dichloroethene	75-35-4	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,2,4-Trichlorobenzene	120-82-1	0.0013	U	0.0013	U	0.0011	U	0.00034	J	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,2,4-Trimethylbenzene	95-63-6	0.0013	U	0.440		0.00069	J	0.00056	J	0.00062		0.0012		0.0022	U	0.0013	U	0.0031	U
1,2-Dibromo-3-Chloropropane	96-12-8	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,2-Dibromoethane	106-93-4	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,2-Dichlorobenzene	95-50-1	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,2-Dichloroethane	107-06-2	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,2-Dichloropropane	78-87-5	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,3,5-Trimethylbenzene	108-67-8	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,3-Dichlorobenzene	541-73-1	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,4-Dichlorobenzene	106-46-7	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
1,4-Dioxane	123-91-1	0.026	U	0.025	U	0.022	U	0.021	U	0.014	U	0.020	U	0.044	U	0.026	U	0.062	U*
2-Butanone (MEK)	78-93-3	0.038		0.030		0.020		0.016		0.014		0.019		0.098		0.0088		0.0340	
2-Hexanone	591-78-6	0.0066	U	0.0063	U	0.0055	U	0.0052	U	0.0036	U	0.0050	U	0.011	U	0.0066	U	0.016	U
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0066	U	0.0063	U	0.0055	U	0.0052	U	0.0036	U	0.0050	U	0.011	U	0.0066	U	0.016	U
Acetone	67-64-1	0.190		0.170		0.092		0.087		0.069		0.100		0.450		0.039		0.200	
Benzene	71-43-2	0.0013	U	0.00045	J	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Bromodichloromethane	75-27-4	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Bromoform	75-25-2	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Bromomethane	74-83-9	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Carbon disulfide	75-15-0	0.00057	UJ*	0.00058	UJ*	0.0040	UJ*	0.00050	UJ*	0.00082		0.00099	UJ*	0.0070	UJ*	0.0018	UJ*	0.081	
Carbon tetrachloride	56-23-5	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Chlorobenzene	108-90-7	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Chloroethane	75-00-3	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Chloroform	67-66-3	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Chloromethane	74-87-3	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
cis-1,2-Dichloroethene	156-59-2	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
cis-1,3-Dichloropropene	10061-01-5	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Cyclohexane	110-82-7	0.0013	U	0.023		0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Dibromochloromethane	124-48-1	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Dichlorodifluoromethane	75-71-8	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Ethylbenzene	100-41-4	0.0013	U	0.0013	U	0.00035	J	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Isopropylbenzene	98-82-8	0.0013	U	0.040		0.0027		0.00029	J	0.00038	J	0.00063	J	0.00053	J	0.0013	U	0.0031	U
Methyl acetate	79-20-9	0.0066	U	0.0063	U	0.0055	U	0.0016	J	0.0036	U*	0.0050	U	0.011	U	0.0066	U	0.016	U*
Methyl tert-butyl ether	1634-04-4	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Methylcyclohexane	108-87-2	0.0013	U	0.150		0.0011	U	0.0010	U	0.00062	J	0.0013		0.0052		0.0013	U	0.0031	U
Methylene Chloride	75-09-2	0.0013	U	0.0013		0.0011	U	0.0010	U	0.00071	U	0.0019		0.0022	U	0.0013	U	0.0031	U
n-Butylbenzene	104-51-8	0.0013	U	0.080		0.0011	U	0.00022	J	0.00018	J	0.0014		0.0022	U	0.0013	U	0.0031	U
N-Propylbenzene	103-65-1	0.0013	U	0.100		0.0024		0.00026	J	0.00038	J	0.0011		0.0022	U	0.0013	U	0.0031	U
sec-Butylbenzene	135-98-8	0.0013	U	0.062		0.020		0.00031	J	0.00029	J	0.0011		0.0021	J	0.0013	U	0.0031	U
Styrene	100-42-5	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
tert-Butylbenzene	98-06-6	0.0013	U	0.021		0.0050		0.0010	U	0.00071	U	0.00099	U	0.00075	J	0.0013	U	0.0031	U
Tetrachloroethene	127-18-4	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Toluene	108-88-3	0.0015		0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0012	J
trans-1,2-Dichloroethene	156-60-5	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
trans-1,3-Dichloropropene	10061-02-6	0.0013	UJ	0.0013	UJ	0.0011	UJ	0.0010	UJ	0.00071	U	0.00099	UJ	0.0022	UJ	0.0013	UJ	0.0031	U
Trichloroethene	79-01-6	0.0013	UJ	0.0013	UJ	0.0011	UJ	0.0010	UJ	0.00071	U	0.00099	UJ	0.0022	UJ	0.0013	UJ	0.0031	U
Trichlorofluoromethane	75-69-4	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Vinyl chloride	75-01-4	0.0013	U	0.0013	U	0.0011	U	0.0010	U	0.00071	U	0.00099	U	0.0022	U	0.0013	U	0.0031	U
Xylenes, Total	1330-20-7	0.0011	J	0.032		0.00092	J	0.00029	J	0.0014	U	0.00057	J	0.00077	J	0.0026	U	0.0062	U

Notes:
(1) URS Split Sample
UJ - The analyte was not detected above the reported sample quantitation limit.
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U - Indicates the analyte was analyzed for but not detected.
* - LCS or LCSD is outside acceptance limits.

Table 17
Analytical Summary - SVOCs - Post-Excavation at Location LT-TSA

Analyte:	Li Tungsten Superfund Site															
	West Sidewalls				South Sidewall		North Sidewall				East Sidewalls				Bottom	
	LT-TSA_W_001A		LT-TSA_W_001B		LT-TSA_S_001		LT-TSA_N_001		LT-CS-103116-002		LT-TSA_E_001A		LT-TSA_E_001B		LT-TSA_B_001		LT-CS-103116-001	
	6-8'		6-8'		6-8'		4-6'		4-6'		6-8'		6-8'		8-9'		8-9'	
	10/31/2016		10/31/2016		10/31/2016		10/31/2016		10/31/2016		10/31/2016		10/31/2016		10/31/2016		10/31/2016	
	460-122987-4		460-122987-5		460-122987-3		460-122987-2		460-122986-2(1)		460-122987-6		460-122987-7		460-122987-1		460-122986-1(1)	
Method: 8270D - SemiVolatile Organic Compounds by GC/MS - (mg/kg)																		
1,1'-Biphenyl	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.057	J	0.470	U	1.100	U
2,2'-oxybis[1-chloropropane]	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
2,4,5-Trichlorophenol	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
2,4,6-Trichlorophenol	0.160	UJ	0.160	UJ	0.160	U	0.145	UJ	0.150	U	0.150	UJ	0.240	UJ	0.190	UJ	0.460	U
2,4-Dichlorophenol	0.160	U	0.160	U	0.160	UJ	0.150	U	0.150	U	0.150	U	0.240	U	0.190	U	0.460	U
2,4-Dimethylphenol	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
2,4-Dinitrophenol	0.310	U	0.310	U	0.320	U	0.290	U	0.300	U	0.290	U	0.480	U	0.370	U	0.920	U
2,4-Dinitrotoluene	0.079	U	0.079	U	0.081	U	0.074	U	0.075	U	0.074	U	0.120	U	0.094	U	0.230	U
2,6-Dinitrotoluene	0.079	U	0.079	U	0.081	U	0.074	U	0.075	U	0.074	U	0.120	U	0.094	U	0.230	U
2-Chloronaphthalene	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
2-Chlorophenol	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
2-Methylnaphthalene	0.390	U	0.210	J	0.019	J	0.370	U	0.370	U	0.140	J	0.075	J	0.470	U	1.100	U
2-Methylphenol	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
2-Nitroaniline	0.390	UJ	0.390	UJ	0.400	UJ	0.370	UJ	0.370	U	0.360	UJ	0.600	UJ	0.470	UJ	1.100	U
2-Nitrophenol	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
3,3'-Dichlorobenzidine	0.160	U	0.160	U	0.160	U	0.150	U	0.150	U	0.150	U	0.240	U	0.190	U	0.460	U
3-Nitroaniline	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
4,6-Dinitro-2-methylphenol	0.310	U	0.310	U	0.320	U	0.290	U	0.300	U	0.290	U	0.480	U	0.370	U	0.920	U
4-Bromophenyl phenyl ether	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
4-Chloro-3-methylphenol	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
4-Chloroaniline	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
4-Chlorophenyl phenyl ether	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
4-Methylphenol	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.190	J	0.470	U	1.100	U
4-Nitroaniline	0.390	UJ	0.390	UJ	0.400	UJ	0.370	UJ	0.370	U	0.360	UJ	0.600	UJ	0.470	UJ	1.100	U
4-Nitrophenol	0.790	UJ	0.790	UJ	0.810	UJ	0.740	UJ	0.750	U	0.740	UJ	1.200	UJ	0.940	UJ	2.300	U
Acenaphthene	0.390	U	0.390	U	0.100	J	0.370	U	0.370	U	0.033	J	0.200	J	0.470	U	1.100	U
Acenaphthylene	0.390	U	0.150	J	0.400	U	0.370	U	0.370	U	0.039	J	0.069	J	0.470	U	1.100	U
Acetophenone	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
Anthracene	0.390	U	0.390	U	0.110	J	0.370	U	0.370	U	0.360	U	0.290	J	0.470	U	1.100	U
Atrazine	0.160	U	0.160	U	0.160	U	0.150	U	0.150	U	0.150	U	0.240	U	0.190	U	0.460	U
Benzaldehyde	0.035	J	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
Benzo[a]anthracene	0.039	U	0.039	U	0.130		0.037	U	0.037	U	0.360		0.670		0.047	U	0.110	U
Benzo[a]pyrene	0.048		0.039	U	0.130		0.037	U	0.037	U	0.370		0.630		0.047	U	0.110	U
Benzo[b]fluoranthene	0.068		0.058		0.099		0.037	U	0.037	U	0.410		0.710		0.047	U	0.110	U
Benzo[g,h,i]perylene	0.054	J	0.110	J	0.130	J	0.370	U	0.370	U	0.390		0.510	J	0.470	U	1.100	U
Benzo[k]fluoranthene	0.027	J	0.039	U	0.049		0.037	U	0.037	U	0.170		0.250		0.047	U	0.110	U
Bis(2-chloroethoxy)methane	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
Bis(2-chloroethyl)ether	0.039	U	0.039	U	0.040	U	0.037	U	0.037	U	0.036	U	0.060	U	0.047	U	0.110	U
Bis(2-ethylhexyl) phthalate	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
Butyl benzyl phthalate	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
Caprolactam	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
Carbazole	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.025	J	0.100	J	0.470	U	1.100	U
Chrysene	0.071	J	0.220	J	0.200	J	0.370	U	0.370	U	0.440		0.710		0.023	J	0.046	J
Dibenz(a,h)anthracene	0.039	U	0.039	U	0.040	U	0.037	U	0.037	U	0.130		0.180		0.047	U	0.110	U
Dibenzofuran	0.390	U	0.390	U	0.088	J	0.370	U	0.370	U	0.360	U	0.200	J	0.470	U	1.100	U
Diethyl phthalate	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
Dimethyl phthalate	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
Di-n-butyl phthalate	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
Di-n-octyl phthalate	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
Fluoranthene	0.083	J	0.140	J	0.180	J	0.370	U	0.370	U	0.500		1.400		0.033	J	0.060	J
Fluorene	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.250	J	0.470	U	1.100	U
Hexachlorobenzene	0.039	U	0.039	U	0.040	U	0.037	U	0.037	U	0.036	U	0.060	U	0.047	U	0.110	U
Hexachlorobutadiene	0.079	U	0.079	U	0.081	U	0.074	U	0.075	U	0.074	U	0.120	U	0.094	U	0.230	U
Hexachlorocyclopentadiene	0.390	UJ	0.390	UJ	0.400	UJ	0.370	UJ	0.370	U	0.360	UJ	0.600	UJ	0.470	UJ	1.100	U
Hexachloroethane	0.039	U	0.039	U	0.040	U	0.037	U	0.037	U	0.036	U	0.060	U	0.047	U	0.110	U
Indeno[1,2,3-cd]pyrene	0.068	J	0.039	UJ	0.130	J	0.037	UJ	0.037	U	0.430	J	0.630		0.047	UJ	0.110	U
Isophorone	0.068	J	0.590		0.160	U	0.150	U	0.046	J	0.045	J	0.044	J	0.190	U	0.140	J
Naphthalene	0.017	J	0.390	U	0.013	J	0.370	U	0.370	U	0.100	J	0.170	J	0.470	U	1.100	U
Nitrobenzene	0.039	U	0.039	U	0.040	U	0.037	U	0.037	U	0.036	U	0.060	U	0.047	U	0.110	U
N-Nitrosodi-n-propylamine	0.039	U	0.039	U	0.040	U	0.037	U	0.037	U	0.036	U	0.060	U	0.047	U	0.110	U
N-Nitrosodiphenylamine	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
Pentachlorophenol	0.310	U	0.310	U	0.320	U	0.290	U	0.300	U	0.290	U	0.480	U	0.370	U	0.920	U
Phenanthrene	0.038	J	0.740		0.068	J	0.370	U	0.370	U	0.120	J	0.970		0.027	J	0.053	J
Phenol	0.390	U	0.390	U	0.400	U	0.370	U	0.370	U	0.360	U	0.600	U	0.470	U	1.100	U
Pyrene	0.087	J	0.290	J	0.260	J	0.370	U	0.370	U	0.610		1.400		0.033	J	0.070	J

Notes:

(1) URS Split Sample

UJ - The analyte was not detected above the reported sample quantitation limit.

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U - Indicates the analyte was analyzed for but not detected.

* - LCS or LCSD is outside acceptance limits.

Li Tungsten Superfund Site

Table 18
Analytical Summary - Metals - Post-Excavation at Location LT-TSA

Analyte:	CAS Number	Remedial Action Removal Criteria	Li Tungsten Superfund Site								
			West Sidewalls		South Sidewall	North Sidewall		East Sidewalls		Bottom	
			LT-TSA_W_001A	LT-TSA_W_001B	LT-TSA_S_001	LT-TSA_N_001	LT-CS-103116-002	LT-TSA_E_001A	LT-TSA_E_001B	LT-TSA_B_001	LT-CS-103116-001
			6-8'	6-8'	6-8'	4-6'	4-6'	6-8'	6-8'	8-9'	8-9'
			10/31/2016	10/31/2016	10/31/2016	10/31/2016	10/31/2016	10/31/2016	10/31/2016	10/31/2016	10/31/2016
			460-122987-4	460-122987-5	460-122987-3	460-122987-2	460-122986-2(1)	460-122987-6	460-122987-7	460-122987-1	460-122986-1(1)
Method: 6010C - Metals (ICP) - (mg/kg)											
Arsenic	7440-38-2	175	5.2	4.8	33.6	35.8	30.6	15.2	24.9	4.4	4.2 J
Lead	7439-92-1	660	49.5	8.6	48.2	35.8	33.3	47.3	141	9.1	8.9

Notes:

(1) URS Split Sample

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Highlighted text denotes concentrations exceeding Remedial Action Removal Criteria

Table 19
Analytical Summary - VOCs - Materials Reuse

Analyte:	Li Tungsten Superfund Site															
	RCA				Overburden Soils										Pea Gravel	
	LT-REUSE-101216-002		LI-RU-101216-001		LT-REUSE-103116_001		LT-REUSE-103116_002		LT-REUSE-110416_001		LT-REUSE-110416_002		LT-REUSE-110416_003		LT-REUSE-101216-001	
	10/12/2016		10/12/2016		10/31/2016		10/31/2016		11/4/2016		11/4/2016		11/4/2016		10/12/2016	
	460-121873-2		460-121878-2[1]		460-122987-8		460-122987-9		460-123309-2		460-123309-3		460-123309-4		460-121873-1	
Method: 8260C - Volatile Organic Compounds by GC/MS - (mg/kg)																
1,1,1-Trichloroethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,1,2,2-Tetrachloroethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,1,2-Trichloroethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,1-Dichloroethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,1-Dichloroethene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,2,4-Trichlorobenzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,2,4-Trimethylbenzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,2-Dibromo-3-Chloropropane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,2-Dibromoethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,2-Dichlorobenzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,2-Dichloroethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,2-Dichloropropane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,3,5-Trimethylbenzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,3-Dichlorobenzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,4-Dichlorobenzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
1,4-Dioxane	0.041	U	0.023	U	0.025	U	0.026	U	0.022	U	0.022	U	0.022	U	0.028	U
2-Butanone (MEK)	0.010	U	0.0058	U	0.0063	U	0.0064	U	0.0056	U	0.0054	U	0.0054	U	0.0071	U
2-Hexanone	0.010	U	0.0058	U*	0.0063	U	0.0064	U	0.0056	U	0.0054	U	0.0054	U	0.0071	U
4-Methyl-2-pentanone (MIBK)	0.010	U	0.0058	U*	0.0063	U	0.0064	U	0.0056	U	0.0054	U	0.0054	U	0.0071	U
Acetone	0.088		0.018		0.023		0.0064	U	0.0056	U	0.0054	U	0.0054	U	0.011	
Benzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Bromodichloromethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Bromoform	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Bromomethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Carbon disulfide	0.0021	U	0.0012	U	0.0013	UJ*	0.0013	UJ*	0.0011	U *	0.0011	U *	0.0011	U *	0.0014	U
Carbon tetrachloride	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Chlorobenzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Chloroethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Chloroform	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.00026	J	0.0014	U
Chloromethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
cis-1,2-Dichloroethene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
cis-1,3-Dichloropropene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Cyclohexane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Dibromochloromethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Dichlorodifluoromethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Ethylbenzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Isopropylbenzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Methyl acetate	0.010	U	0.0058	U	0.0063	U	0.0064	U	0.0056	U	0.0054	U	0.0054	U	0.0071	U
Methyl tert-butyl ether	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Methylcyclohexane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Methylene Chloride	0.011		0.0035		0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
n-Butylbenzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
N-Propylbenzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
sec-Butylbenzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Styrene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
tert-Butylbenzene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Tetrachloroethene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Toluene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.00025	J	0.00040	J	0.00032	J	0.0014	U
trans-1,2-Dichloroethene	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
trans-1,3-Dichloropropene	0.0021	U	0.0012	U	0.0013	UJ	0.0013	UJ	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Trichloroethene	0.0021	U	0.0012	U	0.0013	UJ	0.0013	UJ	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Trichlorofluoromethane	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Vinyl chloride	0.0021	U	0.0012	U	0.0013	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0014	U
Xylenes, Total	0.0041	U	0.0023	U	0.0025	U	0.0026	U	0.0022	U	0.0022	U	0.0022	U	0.0028	U

Notes:

(1) URS Split Sample

UJ - The analyte was not detected above the reported sample quantitation limit.

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U - Indicates the analyte was analyzed for but not detected.

* - LCS or LCSD is outside acceptance limits.

Table 20
Analytical Summary - SVOCs - Materials Reuse

Analyte:	Li Tungsten Superfund Site											
	RCA				Overburden Soils						Pea Gravel	
	LT-REUSE-101216-002		LI-RU-101216-001		LT-REUSE-103116_001		LT-REUSE-103116_002		LT-REUSE-110416_004		LT-REUSE-101216-001	
	10/12/2016		10/12/2016		10/31/2016		10/31/2016		11/4/2016		10/12/2016	
	460-121873-2		460-121878-2[(1)]		460-122987-8		460-122987-9		460-123309-1		460-121873-1	
Method: 8270D - SemiVolatile Organic Compounds by GC/MS - (mg/kg)												
1,1'-Biphenyl	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
2,2'-oxybis[1-chloropropane]	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
2,4,5-Trichlorophenol	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
2,4,6-Trichlorophenol	0.270	U	0.270	U	0.140	UJ	0.150	UJ	0.140	U	0.140	U
2,4-Dichlorophenol	0.270	U	0.270	U	0.140	U	0.150	U	0.140	U	0.140	U
2,4-Dimethylphenol	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
2,4-Dinitrophenol	0.550	U	0.540	U	0.280	U	0.290	U	0.280	U	0.270	U
2,4-Dinitrotoluene	0.140	U	0.140	U	0.069	U	0.073	U	0.070	U	0.068	U
2,6-Dinitrotoluene	0.140	U	0.140	U	0.069	U	0.073	U	0.070	U	0.068	U
2-Chloronaphthalene	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
2-Chlorophenol	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
2-Methylnaphthalene	0.020	J	0.670	U	0.340	U	0.031	J	0.024	J	0.340	U
2-Methylphenol	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
2-Nitroaniline	0.680	U	0.670	U	0.340	UJ	0.360	UJ	0.340	U	0.340	U
2-Nitrophenol	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
3,3'-Dichlorobenzidine	0.270	U	0.270	U	0.140	U	0.150	U	0.140	U	0.140	U
3-Nitroaniline	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
4,6-Dinitro-2-methylphenol	0.550	U	0.540	U	0.280	U	0.290	U	0.280	U	0.340	U
4-Bromophenyl phenyl ether	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
4-Chloro-3-methylphenol	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
4-Chloroaniline	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
4-Chlorophenyl phenyl ether	0.680	U*	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U*
4-Methylphenol	0.680	U	0.670	U	0.340	UJ	0.011	J	0.340	U	0.340	U
4-Nitroaniline	0.680	U	0.670	U	0.340	UJ	0.360	UJ	0.340	U	0.340	U
4-Nitrophenol	1.400	U	1.400	U	0.690	U	0.730	UJ	0.700	U	0.680	U
Acenaphthene	0.031	J*	0.039	J	0.340	U	0.066	J	0.030	J	0.340	U*
Acenaphthylene	0.039	J	0.025	J	0.340	U	0.360	U	0.018	J	0.340	U
Acetophenone	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
Anthracene	0.096	J	0.097	J	0.340	U	0.130	J	0.060	J	0.340	U
Atrazine	0.270	U	0.270	U	0.140	U	0.150	U	0.140	U	0.140	U
Benzaldehyde	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
Benzo[a]anthracene	0.590		0.480		0.034	U	0.450		0.190		0.035	
Benzo[a]pyrene	0.600		0.440		0.034		0.510		0.220		0.032	J
Benzo[b]fluoranthene	0.830		0.640		0.045		0.610		0.260		0.044	
Benzo[g,h,i]perylene	0.660	J	0.410	J	0.043	J	0.510		0.190	J	0.051	J
Benzo[k]fluoranthene	0.310		0.250		0.034	U	0.240		0.100		0.022	J
Bis(2-chloroethoxy)methane	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
Bis(2-chloroethyl)ether	0.068	U	0.067	U	0.034	U	0.036	U	0.034	U	0.034	U
Bis(2-ethylhexyl) phthalate	0.056	J	0.075	J	0.340	U	0.360	U	0.094	J	0.025	J
Butyl benzyl phthalate	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
Caprolactam	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
Carbazole	0.027	J	0.031	J	0.340	U	0.063	J	0.022	J	0.340	U
Chrysene	0.740		0.530	J	0.034	J	0.490		0.200	J	0.036	J
Dibenz(a,h)anthracene	0.160		0.082		0.034	U	0.160		0.034	U	0.034	U
Dibenzofuran	0.022	J	0.020	J	0.340	U	0.063	J	0.020	J	0.340	U
Diethyl phthalate	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
Dimethyl phthalate	0.680	U*	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U*
Di-n-butyl phthalate	0.680	U	0.670	U	0.340	U	0.360	U	0.120	J	0.340	U
Di-n-octyl phthalate	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
Fluoranthene	0.980		0.920		0.042	J	0.800		0.330	J	0.042	J
Fluorene	0.023	J	0.030	J	0.340	U	0.056	J	0.029	J	0.340	U
Hexachlorobenzene	0.068	U	0.067	U	0.034	U	0.036	U	0.034	U	0.034	U
Hexachlorobutadiene	0.140	U	0.140	U	0.069	U	0.073	U	0.070	U	0.068	U
Hexachlorocyclopentadiene	0.680	U	0.670	U	0.340	UJ	0.360	UJ	0.340	U	0.340	U
Hexachloroethane	0.068	U	0.067	U	0.034	U	0.036	U	0.034	U	0.034	U
Indeno[1,2,3-cd]pyrene	0.690		0.430		0.043		0.550	UJ	0.240		0.040	
Isophorone	0.120	J	0.270	U	0.065	J	0.880		0.140	U	0.140	U
Naphthalene	0.027	J	0.017	J	0.340	U	0.038	J	0.030	J	0.340	U
Nitrobenzene	0.068	U	0.067	U	0.034	U	0.036	U	0.034	U	0.034	U
N-Nitrosodi-n-propylamine	0.068	U	0.067	U	0.034	U	0.036	U	0.034	U	0.034	U
N-Nitrosodiphenylamine	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
Pentachlorophenol	0.550	U	0.540	U	0.280	U	0.290	U	0.280	U	0.270	U
Phenanthrene	0.390	J	0.390	J	0.021	J	0.480		0.160	J	0.021	J
Phenol	0.680	U	0.670	U	0.340	U	0.360	U	0.340	U	0.340	U
Pyrene	1.200		0.860		0.037	J	0.590		0.250	J	0.052	J

Notes:

(1) URS Split Sample

UJ - The analyte was not detected above the reported sample quantitation limit.

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U - Indicates the analyte was analyzed for but not detected.

* - LCS or LCSD is outside acceptance limits.

Li Tungsten Superfund Site

Table 21
Analytical Summary - Metals - Materials Reuse

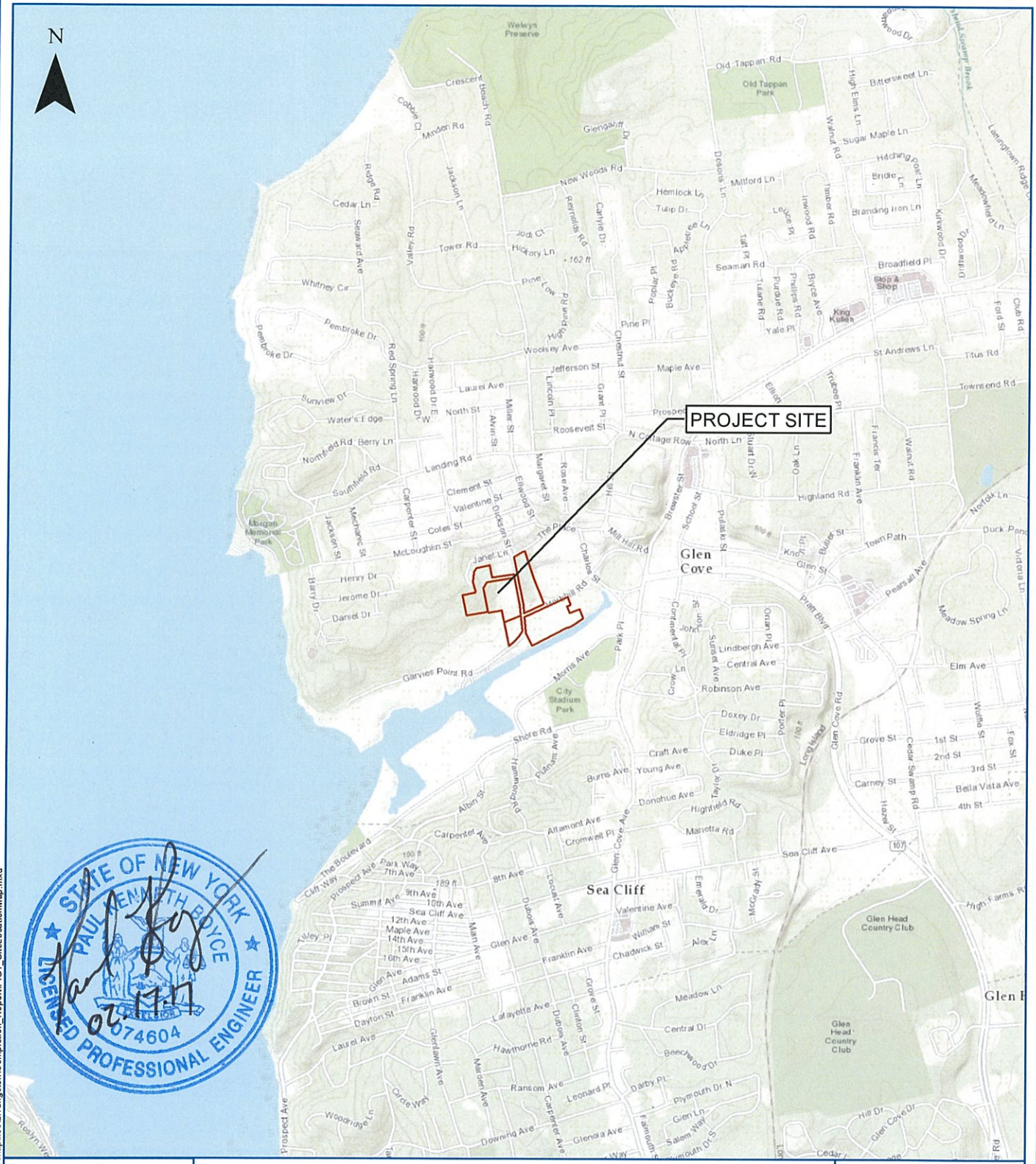
Analyte:	CAS Number	Remedial Action Removal Criteria	Li Tungsten Superfund Site									
			Decon Pad		RCA		RCA Road Material	Overburden Soils			Decon Pad	Pea Gravel
			LT-PAD-A-REUSE	LT-RA-100416-003	LT-REUSE-101216-002	LI-RU-101216-001	LT-REUSE-120116	LT-REUSE-103116_001	LT-REUSE-103116_002	LT-REUSE-110416_004	LT-PAD-B-REUSE	LT-REUSE-101216-001
			10/4/2016	10/4/2016	10/12/2016	10/12/2016	12/1/2016	10/31/2016	10/31/2016	11/4/2016	9/28/2016	10/12/2016
			460-121324-10	460-121329-7[1]	460-121873-2	460-121878-2[1]	460-124609-3	460-122987-8	460-122987-9	460-123309-1	460-121005-9	460-121873-1
Method: 6010C - Metals (ICP) - (mg/kg)												
Arsenic, Total	7440-38-2	175	19.6	19.2	5.4	6.5	3.5	5.4	16.8	8.3	8.7	4.9
Lead, Total	7439-92-1	660	75.3	101	43.4	47.4	18.1	31.4	61.8	32.5	18.3	24.4

Notes:

(1) URS Split Sample

Highlighted text denotes concentrations exceeding Remedial Action Removal Criteria

FIGURES



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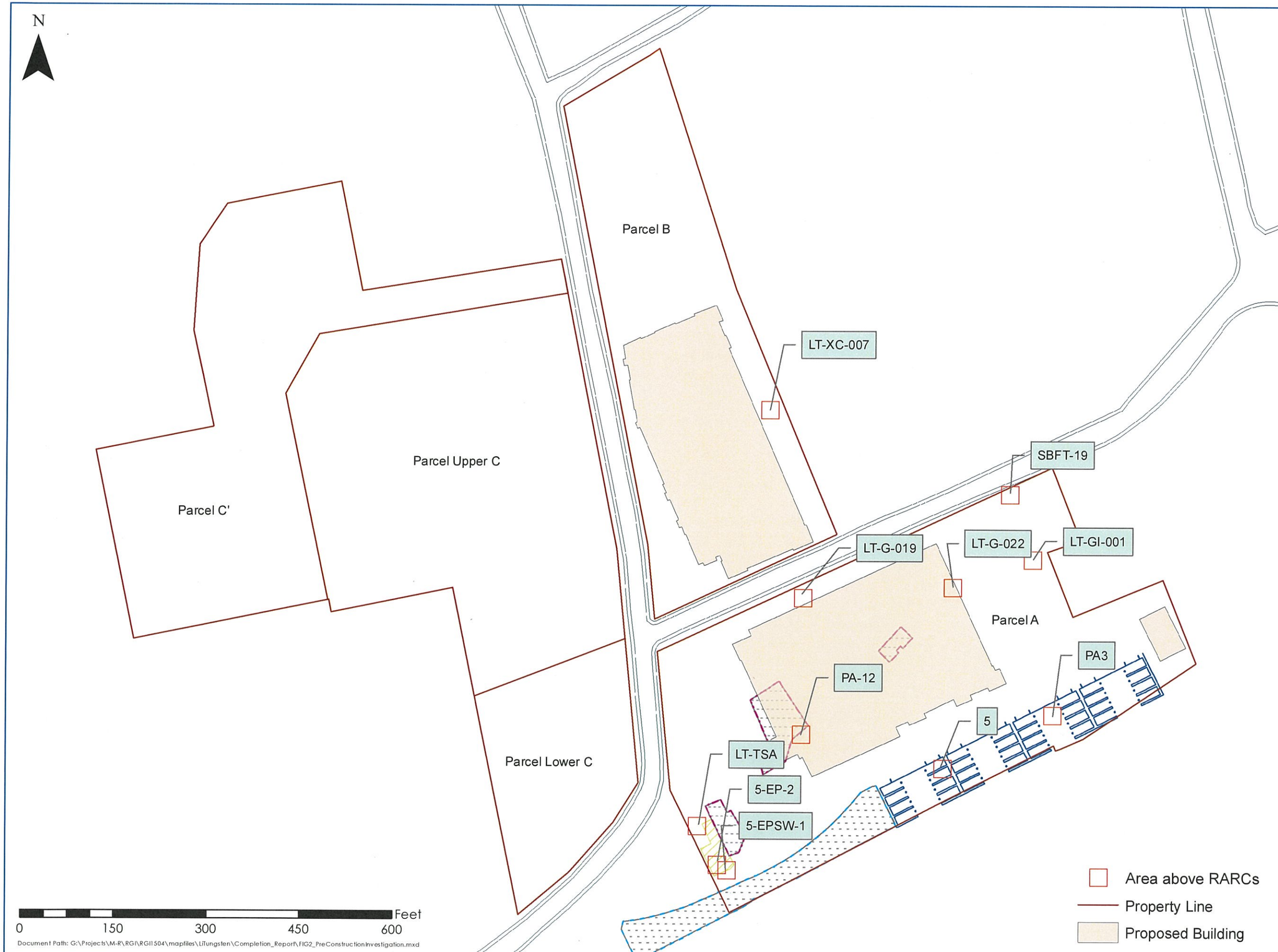
SITE LOCATION MAP

63 HERB HILL RD
GLEN COVE, NY

0 ¼ ½ ¾ 1 Miles

Project:	RGI1504
Date:	12/1/2016
Designed by:	DE
Drawn by:	TS
Approved by:	DE
Figure No:	1

Document Path: G:\Projects\M-R\RGI\RGI1504\mapfiles\LiTungsten\Completion_Report\FIG1_SiteLocationMap.mxd



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DRAWING PREPARED FOR:

RXR GLEN-ISLE PARTNERS, LLC.
625 RXR PLAZA
UNIONDALE, NEW YORK

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

Project:	RGI1504	Designed by:	BB
Date:	1/17/2017	Drawn by:	TS
Scale:	AS SHOWN	Approved by:	DE

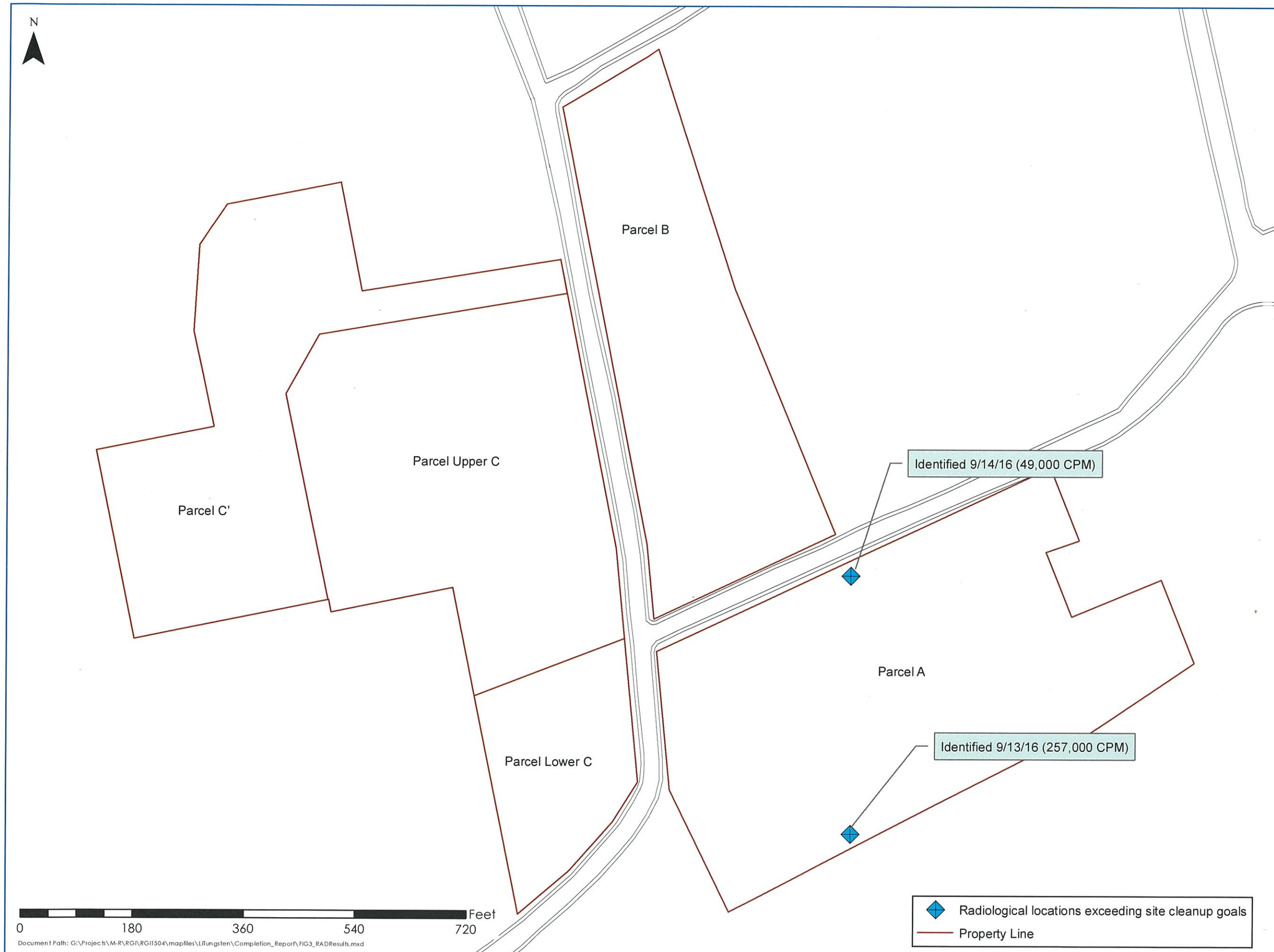
Pre-Construction Investigation

Areas above RARCs

63 HERB HILL RD
GLEN COVE, NY

FIGURE NO:

2



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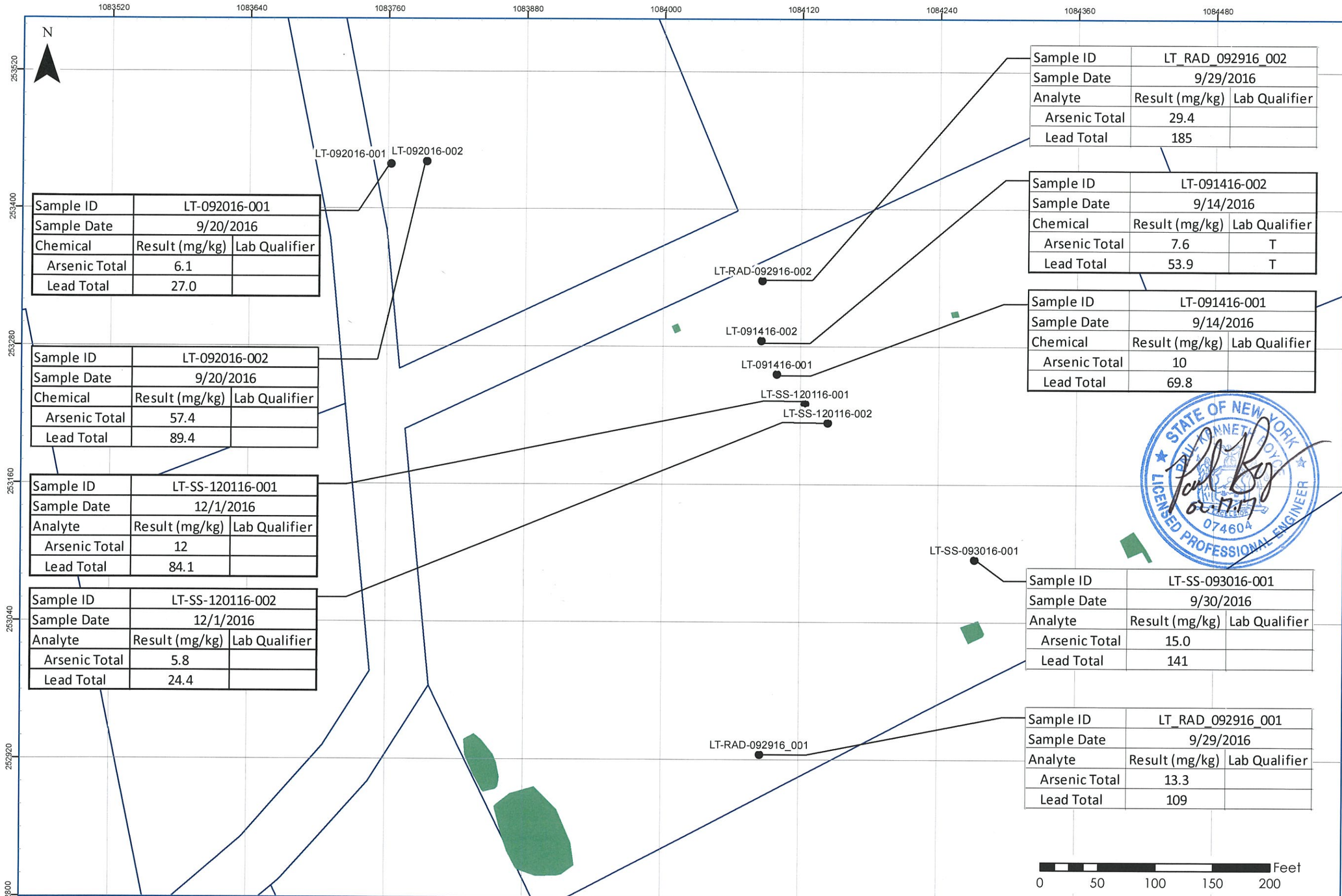
Date:	1/17/2017	Drawn by:	JCG
Scale:	AS SHOWN	Approved by:	DE

RADIOLOGICAL RESULTS
LI TUNGSTEN SITE

63 HERB HILL RD
GLEN COVE, NY

FIGURE NO:

3



Sample ID	LT-092016-001	
Sample Date	9/20/2016	
Chemical	Result (mg/kg)	Lab Qualifier
Arsenic Total	6.1	
Lead Total	27.0	

Sample ID	LT-092016-002	
Sample Date	9/20/2016	
Chemical	Result (mg/kg)	Lab Qualifier
Arsenic Total	57.4	
Lead Total	89.4	

Sample ID	LT-SS-120116-001	
Sample Date	12/1/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	12	
Lead Total	84.1	

Sample ID	LT-SS-120116-002	
Sample Date	12/1/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	5.8	
Lead Total	24.4	

Sample ID	LT_RAD_092916_002	
Sample Date	9/29/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	29.4	
Lead Total	185	

Sample ID	LT-091416-002	
Sample Date	9/14/2016	
Chemical	Result (mg/kg)	Lab Qualifier
Arsenic Total	7.6	T
Lead Total	53.9	T

Sample ID	LT-091416-001	
Sample Date	9/14/2016	
Chemical	Result (mg/kg)	Lab Qualifier
Arsenic Total	10	
Lead Total	69.8	

Sample ID	LT-SS-093016-001	
Sample Date	9/30/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	15.0	
Lead Total	141	

Sample ID	LT_RAD_092916_001	
Sample Date	9/29/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	13.3	
Lead Total	109	

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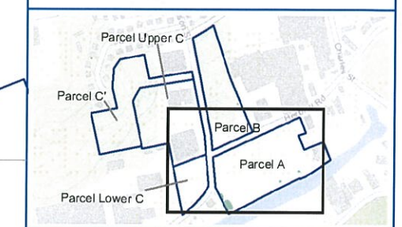

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Date:	1/17/2017	Drawn by:	TS
Scale:	AS SHOWN	Approved by:	DE

Surface Soil Sample Locations

63 HERB HILL RD
GLEN COVE, NY

- Surface Soil Sample
- Excavation
- Site Boundaries

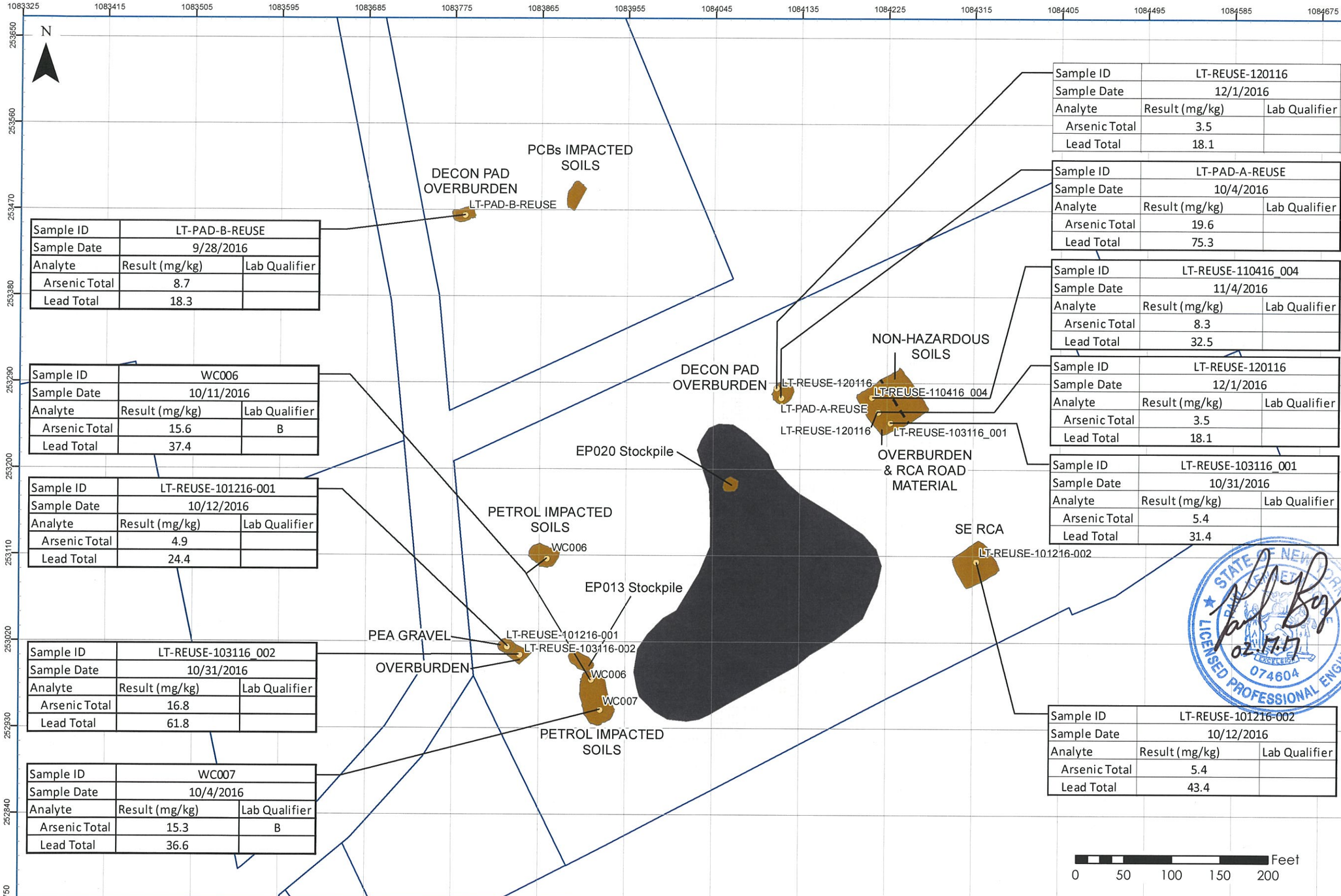
SURFACE SOIL SAMPLE PLAN
120' x 120' Grid

RARC (mg/kg)
- Arsenic: 175
- Lead: 660
- PCBs Total: 10

Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 984,250.0000
False Northing: 0.0000
Central Meridian: -74.0000
Standard Parallel 1: 40.6667
Standard Parallel 2: 41.0333
Latitude Of Origin: 40.1667
Units: Foot US

FIGURE NO: 4

Document Path: G:\Projects\M-R\RGI\RGI1504\mapfiles\LiTungsten\Completion_Report\FIG4_SurfaceSoil_SampleLocations.mxd



Sample ID	LT-PAD-B-REUSE	
Sample Date	9/28/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	8.7	
Lead Total	18.3	

Sample ID	WC006	
Sample Date	10/11/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	15.6	B
Lead Total	37.4	

Sample ID	LT-REUSE-101216-001	
Sample Date	10/12/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	4.9	
Lead Total	24.4	

Sample ID	LT-REUSE-103116_002	
Sample Date	10/31/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	16.8	
Lead Total	61.8	

Sample ID	WC007	
Sample Date	10/4/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	15.3	B
Lead Total	36.6	

Sample ID	LT-REUSE-120116	
Sample Date	12/1/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	3.5	
Lead Total	18.1	

Sample ID	LT-PAD-A-REUSE	
Sample Date	10/4/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	19.6	
Lead Total	75.3	

Sample ID	LT-REUSE-110416_004	
Sample Date	11/4/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	8.3	
Lead Total	32.5	

Sample ID	LT-REUSE-120116	
Sample Date	12/1/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	3.5	
Lead Total	18.1	

Sample ID	LT-REUSE-103116_001	
Sample Date	10/31/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	5.4	
Lead Total	31.4	

Sample ID	LT-REUSE-101216-002	
Sample Date	10/12/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	5.4	
Lead Total	43.4	

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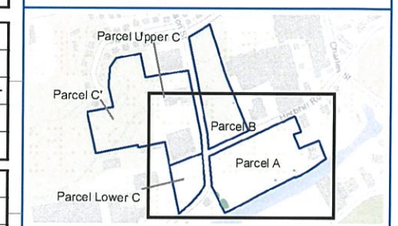

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Project:	RGI1504	Designed by:	BB
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STOCKPILE CHARACTERIZATION PLAN

63 HERB HILL RD
GLEN COVE, NY

Stockpile Sample Location
Dredge Spoil
Stockpile
Excavation
Site Boundaries

Operable Units
OU1
OU2
OU3

B - Analyte found in associated blank, as well as in the sample

STOCKPILE CHARACTERIZATION PLAN
90' x 90' Grid

Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 984,250.0000
False Northing: 0.0000
Central Meridian: -74.0000
Standard Parallel 1: 40.6667
Standard Parallel 2: 41.0333
Latitude Of Origin: 40.1667
Units: Foot US

FIGURE NO:
5

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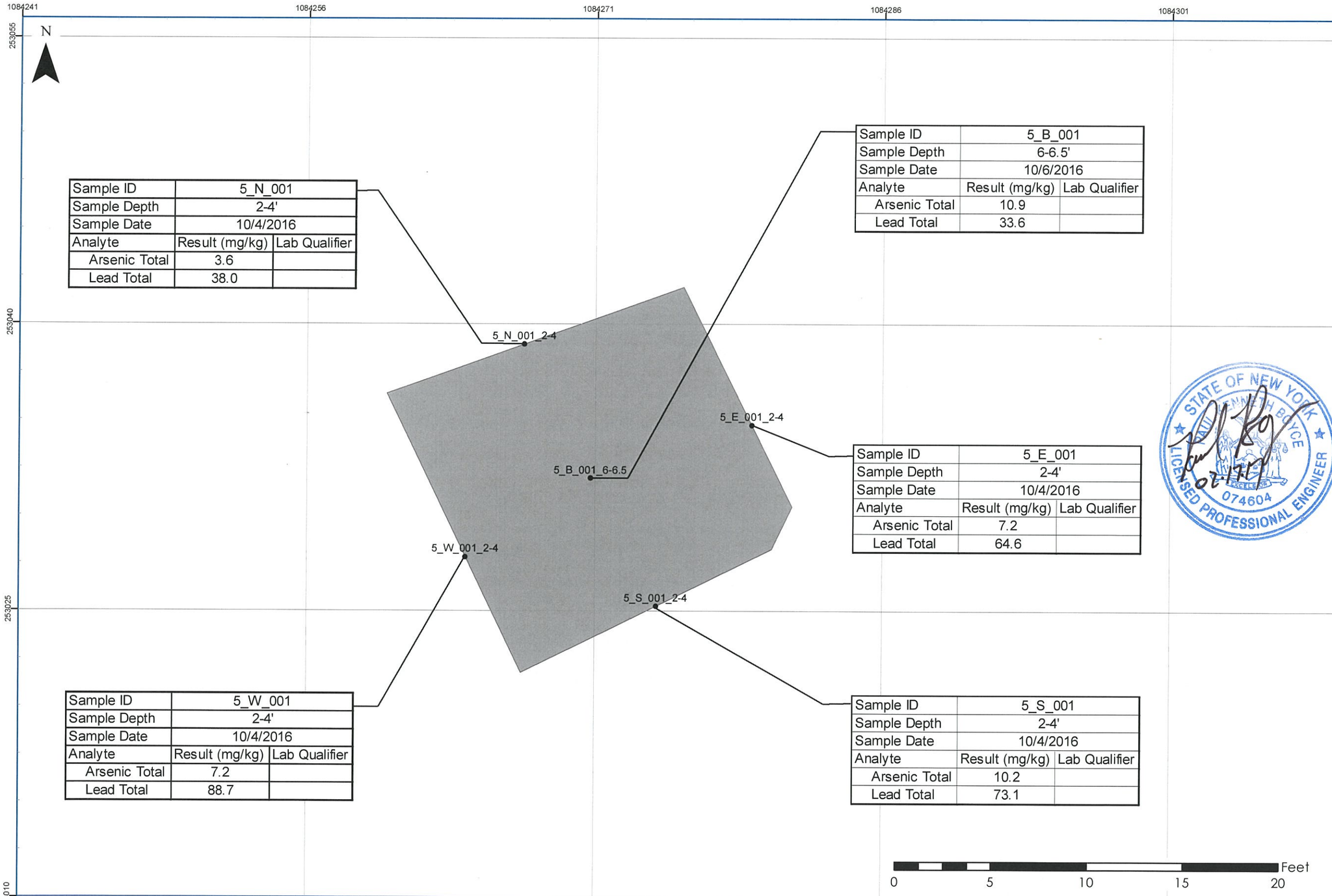

Sample ID	5_N_001	
Sample Depth	2-4'	
Sample Date	10/4/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	3.6	
Lead Total	38.0	

Sample ID	5_B_001	
Sample Depth	6-6.5'	
Sample Date	10/6/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	10.9	
Lead Total	33.6	

Sample ID	5_E_001	
Sample Depth	2-4'	
Sample Date	10/4/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	7.2	
Lead Total	64.6	

Sample ID	5_W_001	
Sample Depth	2-4'	
Sample Date	10/4/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	7.2	
Lead Total	88.7	

Sample ID	5_S_001	
Sample Depth	2-4'	
Sample Date	10/4/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	10.2	
Lead Total	73.1	

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- Endpoint Sample Location (_0-2: *Depth Interval - feet below land surface*)

Excavation Extents
feet below land surface
6

Location 5 DETAIL - ENDPOINT SAMPLE LOCATIONS
15' x 15' Grid

RARC (mg/kg)
- Arsenic: 175
- Lead: 660
- PCBs Total: 10

Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 984,250.0000
False Northing: 0.0000
Central Meridian: -74.0000
Standard Parallel 1: 40.6667
Standard Parallel 2: 41.0333
Latitude Of Origin: 40.1667
Units: Foot US

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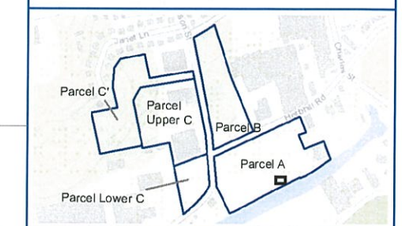

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Date:	1/17/2017	Drawn by:	TS
Scale:	AS SHOWN	Approved by:	DE

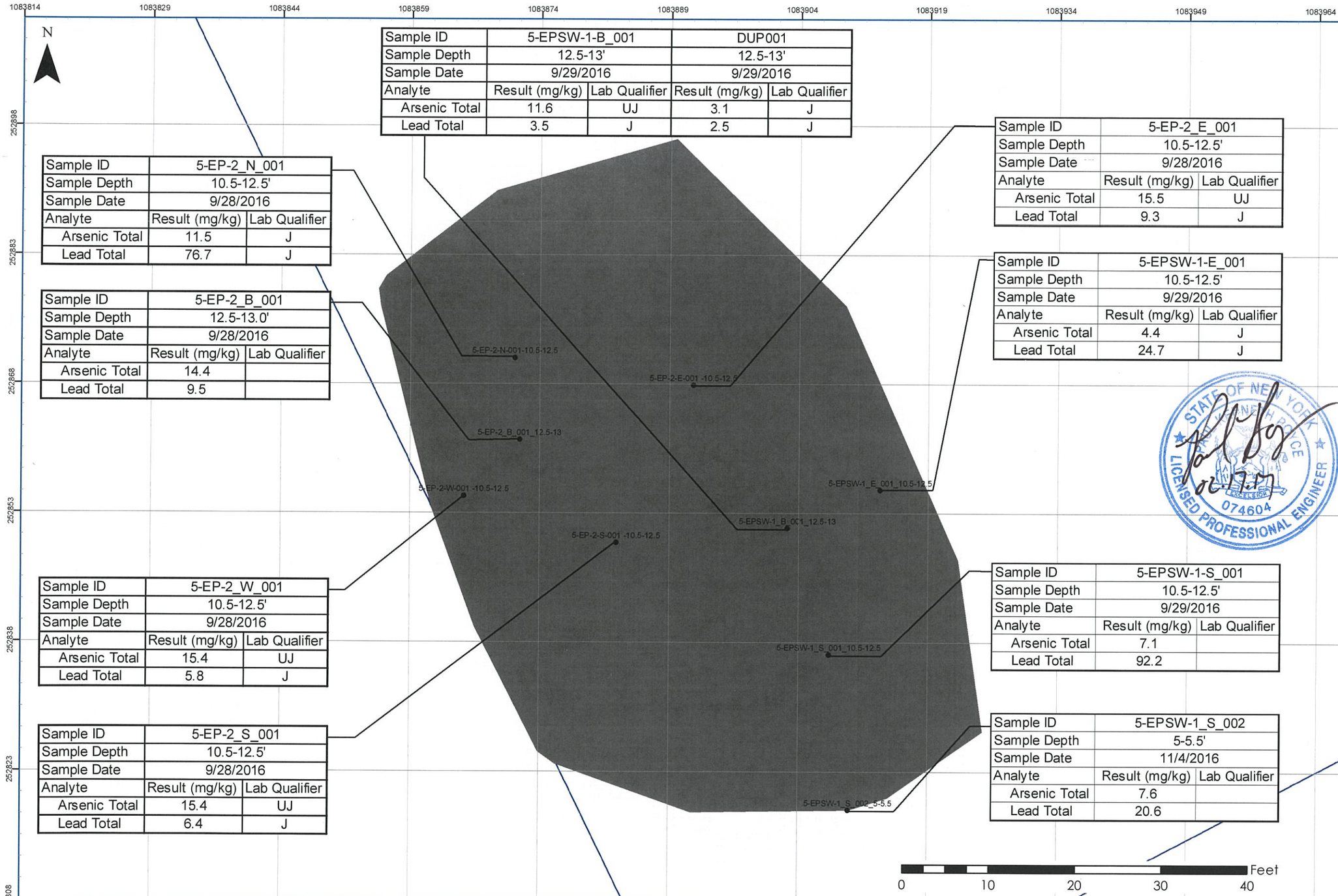
EXCAVATION EXTENTS

LOCATION 5

63 HERB HILL RD
GLEN COVE, NY

FIGURE NO:
6

Document Path: G:\Projects\M-R\RGI\RGI1504\mapfiles\Lifungsten\Spiders\FIG6_LT_Results_5_11x17_161121_v2.mxd



Sample ID	5-EPSW-1-B_001		DUP001	
Sample Depth	12.5-13'		12.5-13'	
Sample Date	9/29/2016		9/29/2016	
Analyte	Result (mg/kg)	Lab Qualifier	Result (mg/kg)	Lab Qualifier
Arsenic Total	11.6	UJ	3.1	J
Lead Total	3.5	J	2.5	J

Sample ID	5-EP-2_N_001	
Sample Depth	10.5-12.5'	
Sample Date	9/28/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	11.5	J
Lead Total	76.7	J

Sample ID	5-EP-2_B_001	
Sample Depth	12.5-13.0'	
Sample Date	9/28/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	14.4	
Lead Total	9.5	

Sample ID	5-EP-2_W_001	
Sample Depth	10.5-12.5'	
Sample Date	9/28/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	15.4	UJ
Lead Total	5.8	J

Sample ID	5-EP-2_S_001	
Sample Depth	10.5-12.5'	
Sample Date	9/28/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	15.4	UJ
Lead Total	6.4	J

Sample ID	5-EP-2_E_001	
Sample Depth	10.5-12.5'	
Sample Date	9/28/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	15.5	UJ
Lead Total	9.3	J

Sample ID	5-EPSW-1-E_001	
Sample Depth	10.5-12.5'	
Sample Date	9/29/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	4.4	J
Lead Total	24.7	J

Sample ID	5-EPSW-1-S_001	
Sample Depth	10.5-12.5'	
Sample Date	9/29/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	7.1	
Lead Total	92.2	

Sample ID	5-EPSW-1_S_002	
Sample Depth	5-5.5'	
Sample Date	11/4/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	7.6	
Lead Total	20.6	

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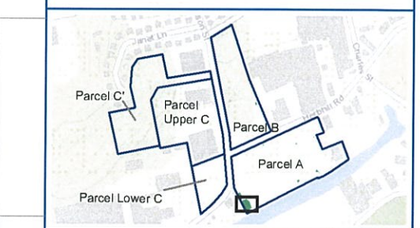

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Project:	RGI1504	Designed by:	BB
Date:	1/17/2017	Drawn by:	TS
Scale:	AS SHOWN	Approved by:	DE

EXCAVATION EXTENTS

LOCATION
5-EP-2 / 5-EPSW-1
63 HERB HILL RD
GLEN COVE, NY

- Endpoint Sample Location (_02: Depth interval - feet below land surface)

Excavation Extents
feet below land surface
12

J - estimated
UJ - estimated below the reporting limit

LOCATION 5-EP-2 / 5-EPSW-1 DETAIL
- ENDPOINT SAMPLE LOCATIONS
15' x 15' Grid

RARC (mg/kg)
- Arsenic: 175
- Lead: 660
- PCBs Total: 10

Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 984,250.0000
False Northing: 0.0000
Central Meridian: -74.0000
Standard Parallel 1: 40.6667
Standard Parallel 2: 41.0333
Latitude Of Origin: 40.1667
Units: Foot US

FIGURE NO:
7

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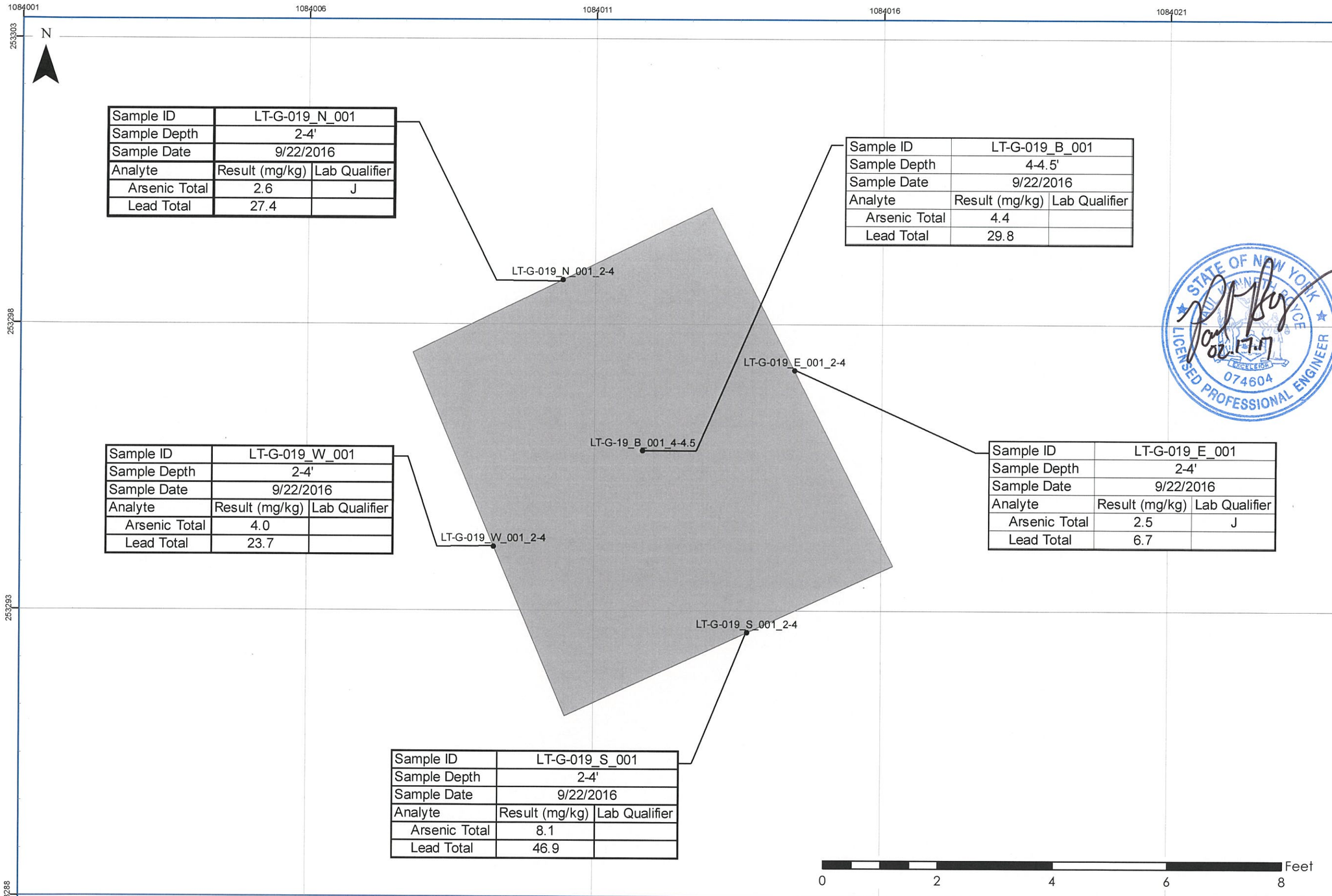

Sample ID	LT-G-019_N_001	
Sample Depth	2-4'	
Sample Date	9/22/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	2.6	J
Lead Total	27.4	

Sample ID	LT-G-019_B_001	
Sample Depth	4-4.5'	
Sample Date	9/22/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	4.4	
Lead Total	29.8	

Sample ID	LT-G-019_W_001	
Sample Depth	2-4'	
Sample Date	9/22/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	4.0	
Lead Total	23.7	

Sample ID	LT-G-019_E_001	
Sample Depth	2-4'	
Sample Date	9/22/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	2.5	J
Lead Total	6.7	

Sample ID	LT-G-019_S_001	
Sample Depth	2-4'	
Sample Date	9/22/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	8.1	
Lead Total	46.9	

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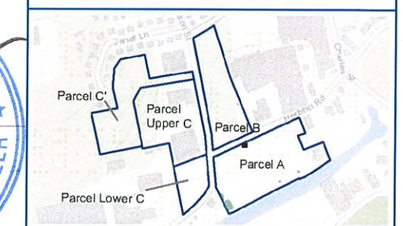

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EXCAVATION EXTENTS

LOCATION LT-G-019

63 HERB HILL RD
GLEN COVE, NY

• Endpoint Sample Location *(_0-2: Depth Interval - feet below land surface)*

Excavation Extents J - estimated

feet below land surface

4

LOCATION LT-G-019 DETAIL - ENDPOINT SAMPLE LOCATIONS
5' x 5' Grid

RARC (mg/kg)
- Arsenic: 175
- Lead: 660
- PCBs Total: 10

Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 984,250.0000
False Northing: 0.0000
Central Meridian: -74.0000
Standard Parallel 1: 40.6667
Standard Parallel 2: 41.0333
Latitude Of Origin: 40.1667
Units: Foot US

FIGURE NO:
8

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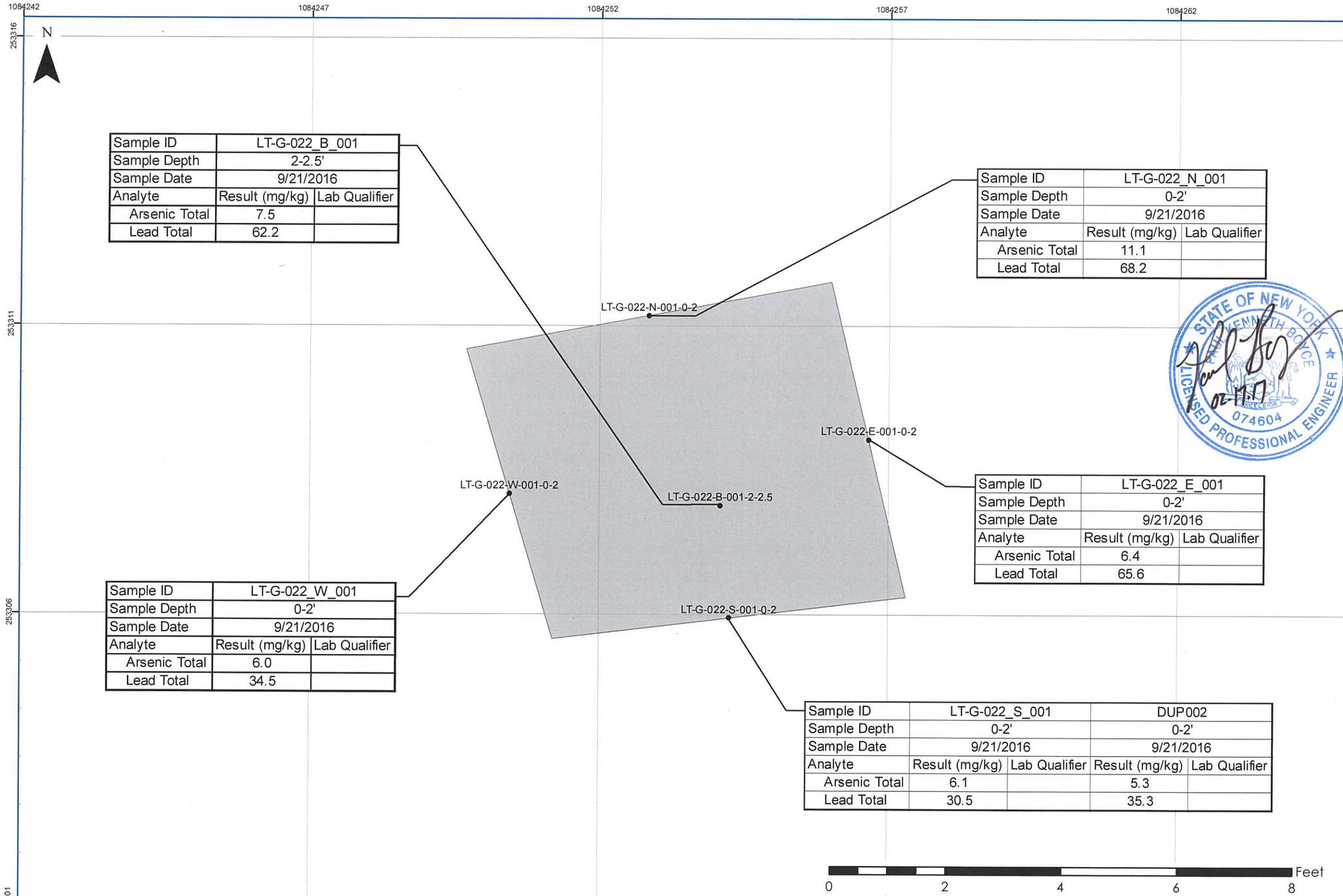

Sample ID	LT-G-022_B_001	
Sample Depth	2-2.5'	
Sample Date	9/21/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	7.5	
Lead Total	62.2	

Sample ID	LT-G-022_N_001	
Sample Depth	0-2'	
Sample Date	9/21/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	11.1	
Lead Total	68.2	

Sample ID	LT-G-022_E_001	
Sample Depth	0-2'	
Sample Date	9/21/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	6.4	
Lead Total	65.6	

Sample ID	LT-G-022_W_001	
Sample Depth	0-2'	
Sample Date	9/21/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	6.0	
Lead Total	34.5	

Sample ID	LT-G-022_S_001		DUP002	
Sample Depth	0-2'		0-2'	
Sample Date	9/21/2016		9/21/2016	
Analyte	Result (mg/kg)	Lab Qualifier	Result (mg/kg)	Lab Qualifier
Arsenic Total	6.1		5.3	
Lead Total	30.5		35.3	

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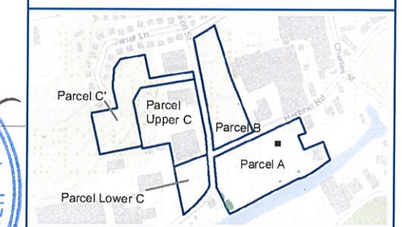

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625 RXR PLAZA
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Project:	RGI1504	Designed by:	BB
Date:	1/17/2017	Drawn by:	TS
Scale:	AS SHOWN	Approved by:	DE

EXCAVATION EXTENTS

LOCATION LT-G-022

63 HERB HILL RD
GLEN COVE, NY

- Endpoint Sample Location *(_0-2: Depth Interval - feet below land surface)*

Excavation Extents
feet below land surface
2

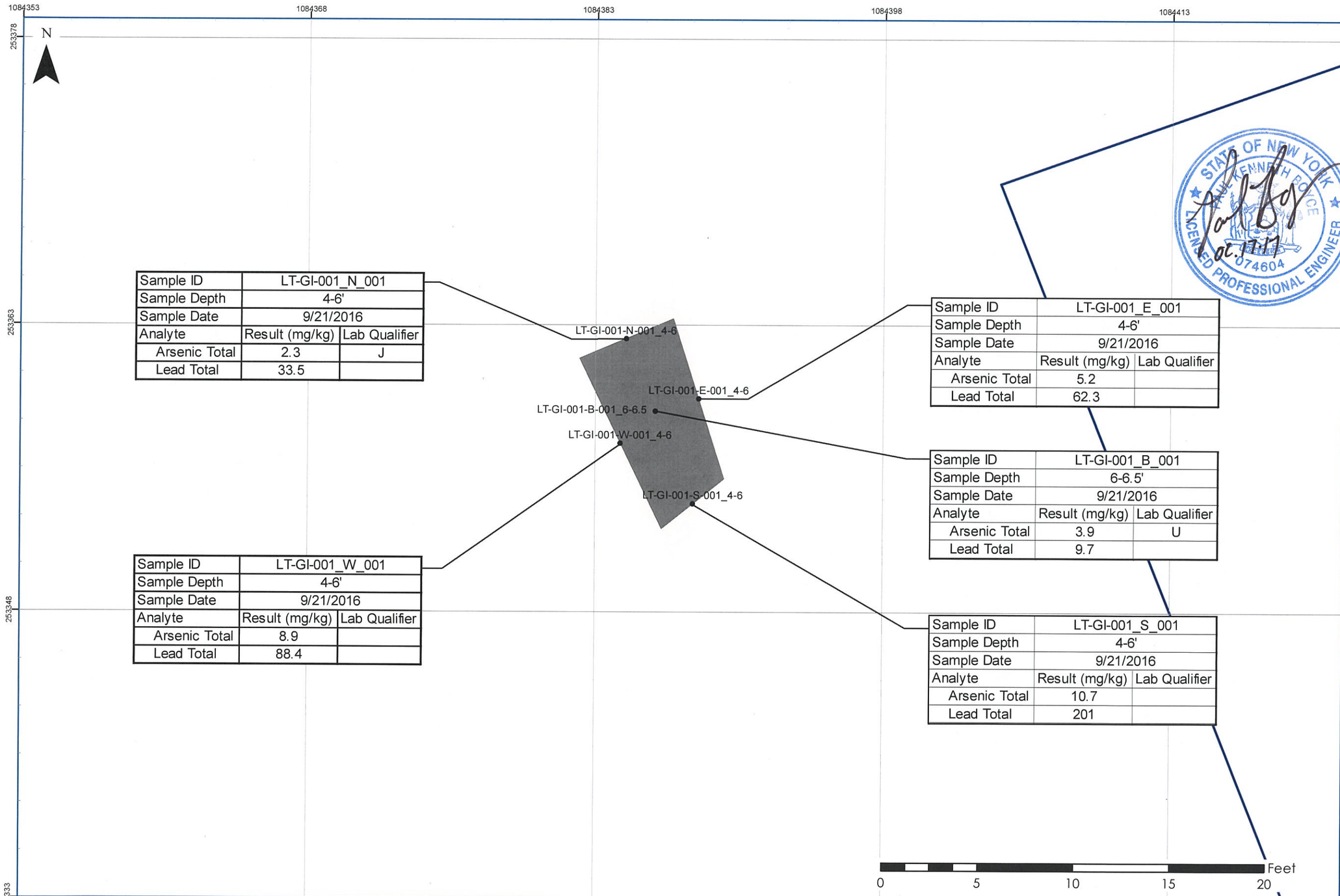
LOCATION LT-G-022 DETAIL - ENDPOINT SAMPLE LOCATIONS
5' x 5' Grid

RARC (mg/kg)
- Arsenic: 175
- Lead: 660
- PCBs Total: 10

Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 984,250.0000
False Northing: 0.0000
Central Meridian: -74.0000
Standard Parallel 1: 40.6667
Standard Parallel 2: 41.0333
Latitude Of Origin: 40.1667
Units: Foot US

FIGURE NO:
9

Document Path: G:\Projects\M-R\RGI\RGI1504\mapfiles\Lifungsten\Spiders\FIG9_LT_Results_G-022_11x17_161121_v2.mxd



Sample ID	LT-GI-001_N_001	
Sample Depth	4-6'	
Sample Date	9/21/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	2.3	J
Lead Total	33.5	

Sample ID	LT-GI-001_E_001	
Sample Depth	4-6'	
Sample Date	9/21/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	5.2	
Lead Total	62.3	

Sample ID	LT-GI-001_B_001	
Sample Depth	6-6.5'	
Sample Date	9/21/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	3.9	U
Lead Total	9.7	

Sample ID	LT-GI-001_W_001	
Sample Depth	4-6'	
Sample Date	9/21/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	8.9	
Lead Total	88.4	

Sample ID	LT-GI-001_S_001	
Sample Depth	4-6'	
Sample Date	9/21/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	10.7	
Lead Total	201	

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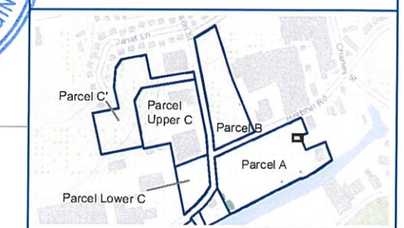

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EXCAVATION EXTENTS

LOCATION LT-GI-001

63 HERB HILL RD
GLEN COVE, NY

- Endpoint Sample Location *(_0-2: Depth Interval - feet below land surface)*

Excavation Extents
feet below land surface
6

U - non-detect
J - estimated

LOCATION LT-GI-001 DETAIL - PERIMETER ENDPOINT SAMPLE LOCATIONS
15' x 15' Grid

RARC (mg/kg)
- Arsenic: 175
- Lead: 660
- PCBs Total: 10

Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 984,250.0000
False Northing: 0.0000
Central Meridian: -74.0000
Standard Parallel 1: 40.6667
Standard Parallel 2: 41.0333
Latitude Of Origin: 40.1667
Units: Foot US

FIGURE NO:
10

Document Path: G:\Projects\M-R\RGI\RGI1504\mapfiles\Lifungsten\Spiders\FIG10_LT_Results_GI-001_11x17_161121.mxd

1083928 1083943 1083958 1083973

253620 253605 253590

N

Sample ID	LT-XC-007_N_002	
Sample Depth	0-4'	
Sample Date	9/27/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	3.4	
Lead Total	13.2	
PCBs Total	5.300	

Sample ID	LT-CS-092716-002	
Sample Depth	0-4'	
Sample Date	9/27/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	4.0	
Lead Total	14.7	
PCBs Total	11.000	

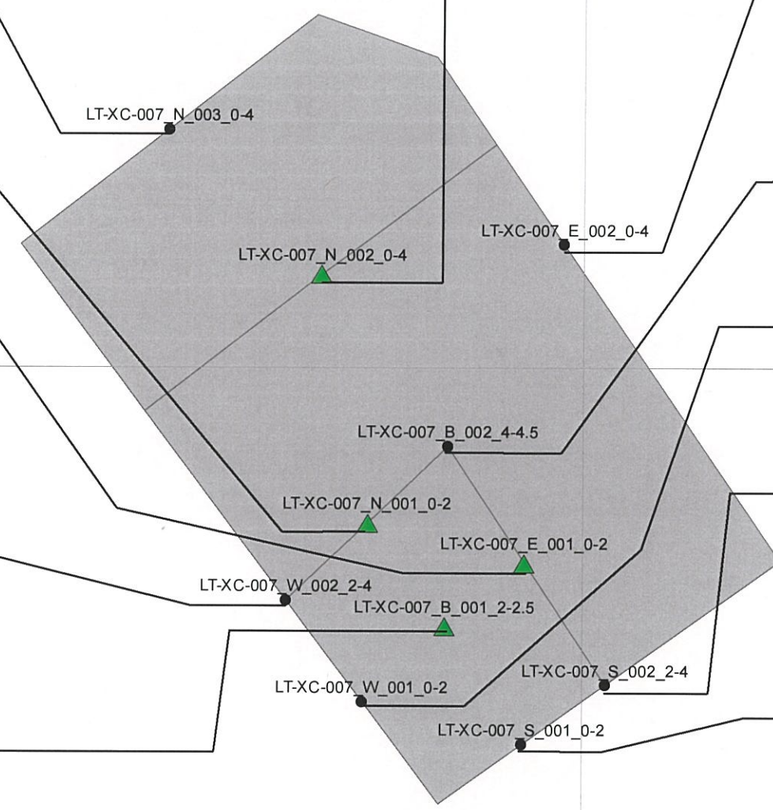
Sample ID	LT-XC-007_N_003	
Sample Depth	0-4'	
Sample Date	10/3/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	7.5	
Lead Total	24.6	
PCBs Total	0.710	

Sample ID	LT-XC-007_N_001	
Sample Depth	0-2'	
Sample Date	9/22/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	9.9	
Lead Total	80.8	
PCBs Total	15.000	

Sample ID	LT-XC-007_E_001	
Sample Depth	0-2'	
Sample Date	9/22/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	11.0	
Lead Total	34.1	
PCBs Total	13.000	

Sample ID	LT-XC-007_W_002	
Sample Depth	2-4'	
Sample Date	9/27/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	2.8	J
Lead Total	7.2	
PCBs Total	0.410	

Sample ID	LT-XC-007_B_001	
Sample Depth	2-2.5'	
Sample Date	9/22/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	11.0	
Lead Total	68.6	
PCBs Total	41.000	



Sample ID	LT-XC-007_E_002	
Sample Depth	0-4'	
Sample Date	9/27/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	5.4	
Lead Total	24.3	
PCBs Total	8.700	

Sample ID	LT-XC-007_B_002	
Sample Depth	4-4.5'	
Sample Date	9/27/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	3.2	
Lead Total	6.3	
PCBs Total	ND	

Sample ID	LT-XC-007_W_001	
Sample Depth	0-2'	
Sample Date	9/22/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	5.4	
Lead Total	16.8	
PCBs Total	9.000	

Sample ID	LT-XC-007_S_002	
Sample Depth	2-4'	
Sample Date	9/27/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	8.4	
Lead Total	39.0	
PCBs Total	0.750	

Sample ID	LT-XC-007_S_001	
Sample Depth	0-2'	
Sample Date	9/22/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	6.6	
Lead Total	19.9	
PCBs Total	6.400	

0 5 10 15 20 Feet

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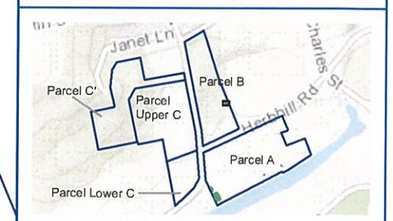

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Date:	2/17/2017	Drawn by:	TS
Scale:	AS SHOWN	Approved by:	DE

EXCAVATION EXTENTS

LOCATION LT-XC-007

63 HERB HILL RD
GLEN COVE, NY

Endpoint Sample Location *(_0-2: Depth Interval - feet below land surface)*

▲ Intermediate sample location

● Final confirmation sample location

Excavation Extents

feet below land surface

4

U - non-detect
J - estimated
ND - not detected

Exceeds Remedial Action Removal Criteria

LOCATION LT-XC-007 DETAIL - ENDPOINT SAMPLE LOCATIONS
15' x 15' Grid

RARC (mg/kg)
- Arsenic: 175
- Lead: 660
- PCBs Total: 10

Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 984,250.0000
False Northing: 0.0000
Central Meridian: -74.0000
Standard Parallel 1: 40.6667
Standard Parallel 2: 41.0333
Latitude Of Origin: 40.1667
Units: Foot US

FIGURE NO:

11

Document Path: G:\Projects\M-R\RGI\RGI1504\mapfiles\LiTungsten\Excavations\FIG11_LT_Results_XC-007_11x17_170216.mxd

1084383 1084398 1084413 1084428

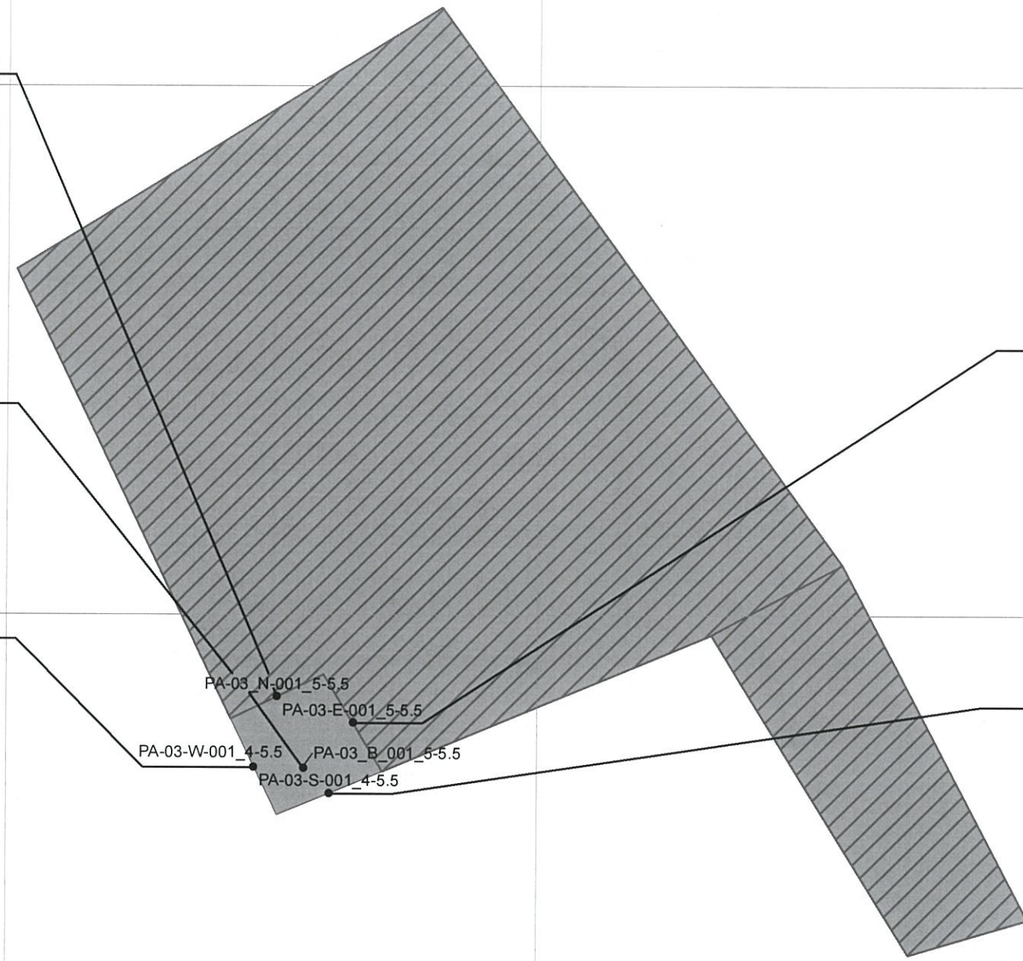
253118 253103 253088

N

Sample ID	PA-03_N_001	
Sample Depth	5-5.5'	
Sample Date	10/4/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	17.7	
Lead Total	87.4	

Sample ID	PA-03_B_001	
Sample Depth	5-5.5'	
Sample Date	10/4/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	17.6	
Lead Total	57.1	

Sample ID	PA-03_W_001	
Sample Depth	4-5.5'	
Sample Date	10/4/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	24.1	
Lead Total	32.4	



Sample ID	PA-03_E_001	
Sample Depth	5-5.5'	
Sample Date	10/4/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	26.3	
Lead Total	32.3	

Sample ID	PA-03_S_001	
Sample Depth	4-5.5'	
Sample Date	10/4/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	9.8	
Lead Total	48.3	

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074604
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0 5 10 15 20 Feet

- Endpoint Sample Location *(_0-2: Depth Interval - feet below land surface)*

Excavation Extents

feet below land surface

5 5 (excavated to determine extent of concrete block)

LOCATION PA-03 DETAIL - PERIMETER ENDPOINT SAMPLE LOCATIONS

15' x 15' Grid

RARC (mg/kg)
- Arsenic: 175
- Lead: 660
- PCBs Total: 10

Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 984,250.0000
False Northing: 0.0000
Central Meridian: -74.0000
Standard Parallel 1: 40.6667
Standard Parallel 2: 41.0333
Latitude Of Origin: 40.1667
Units: Foot US

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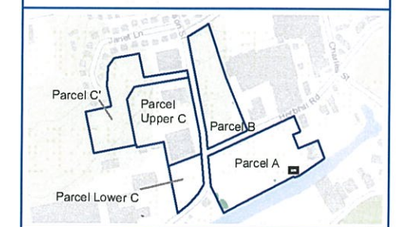

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625 RXR PLAZA
UNIONDALE, NEW YORK

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Date:	2/16/2017	Drawn by:	TS
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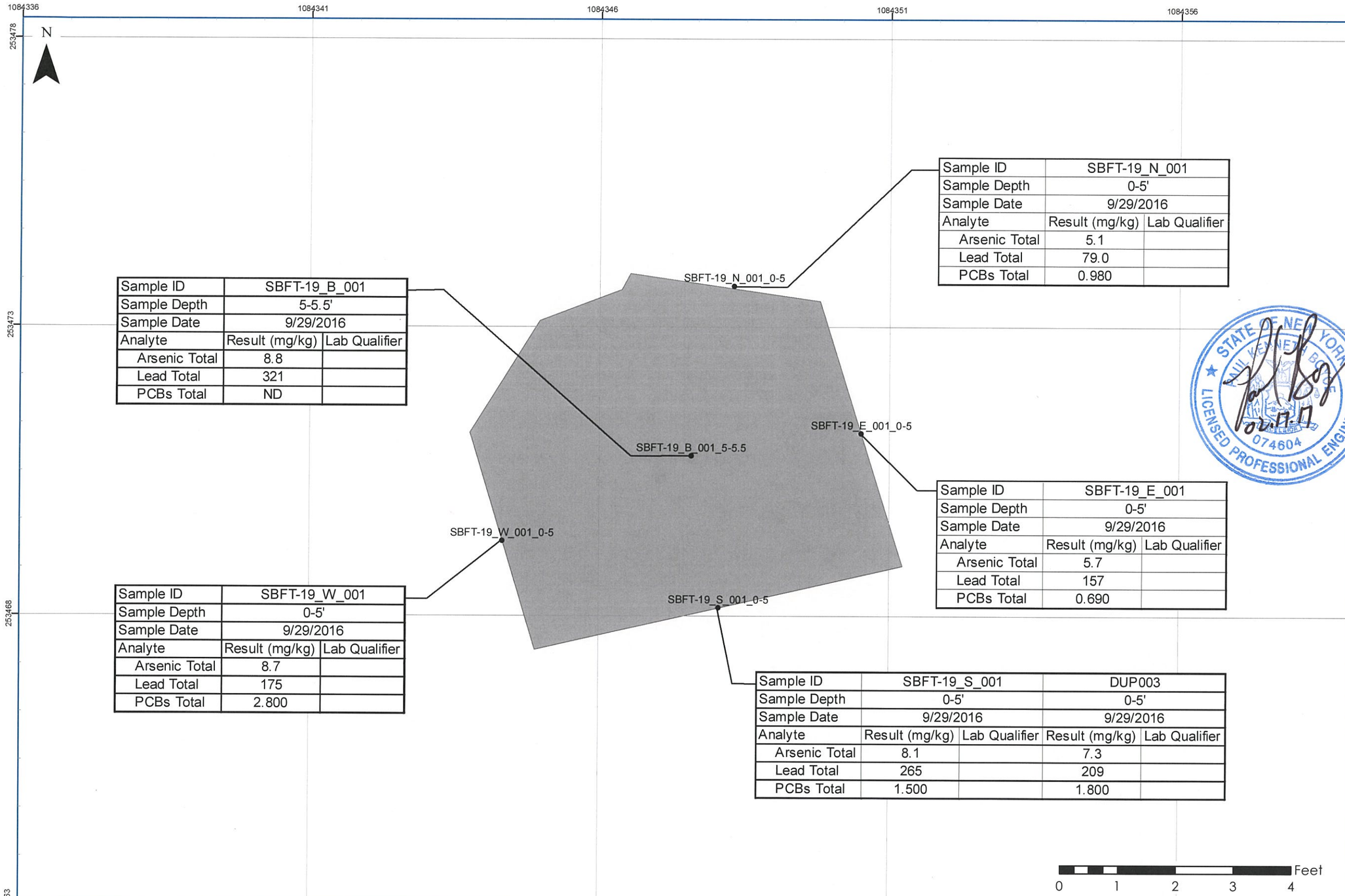
EXCAVATION EXTENTS

LOCATION PA-03

63 HERB HILL RD
GLEN COVE, NY

FIGURE NO: 12

Document Path: G:\Projects\M-R\RGI\RGI1504\mapfiles\LiTungsten\Spiders\FIG12_LT_Results_PA-03_11x17_161121.mxd



Sample ID	SBFT-19_N_001	
Sample Depth	0-5'	
Sample Date	9/29/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	5.1	
Lead Total	79.0	
PCBs Total	0.980	

Sample ID	SBFT-19_B_001	
Sample Depth	5-5.5'	
Sample Date	9/29/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	8.8	
Lead Total	321	
PCBs Total	ND	

Sample ID	SBFT-19_E_001	
Sample Depth	0-5'	
Sample Date	9/29/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	5.7	
Lead Total	157	
PCBs Total	0.690	

Sample ID	SBFT-19_W_001	
Sample Depth	0-5'	
Sample Date	9/29/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	8.7	
Lead Total	175	
PCBs Total	2.800	

Sample ID	SBFT-19_S_001		DUP003	
Sample Depth	0-5'		0-5'	
Sample Date	9/29/2016		9/29/2016	
Analyte	Result (mg/kg)	Lab Qualifier	Result (mg/kg)	Lab Qualifier
Arsenic Total	8.1		7.3	
Lead Total	265		209	
PCBs Total	1.500		1.800	

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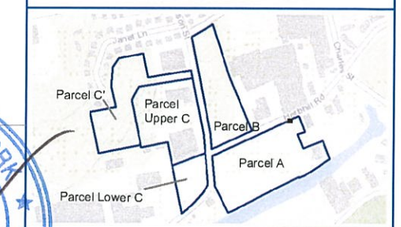

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EXCAVATION EXTENTS

LOCATION SBFT-19

63 HERB HILL RD
GLEN COVE, NY

- Endpoint Sample Location *(_0-2: Depth Interval - feet below land surface)*

Excavation Extents
feet below land surface
5

ND - not detected

LOCATION SBFT-19 DETAIL - ENDPOINT SAMPLE LOCATIONS
5' x 5' Grid

RARC (mg/kg)
- Arsenic: 175
- Lead: 660
- PCBs Total: 10

Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 984,250.0000
False Northing: 0.0000
Central Meridian: -74.0000
Standard Parallel 1: 40.6667
Standard Parallel 2: 41.0333
Latitude Of Origin: 40.1667
Units: Foot US

FIGURE NO:
13

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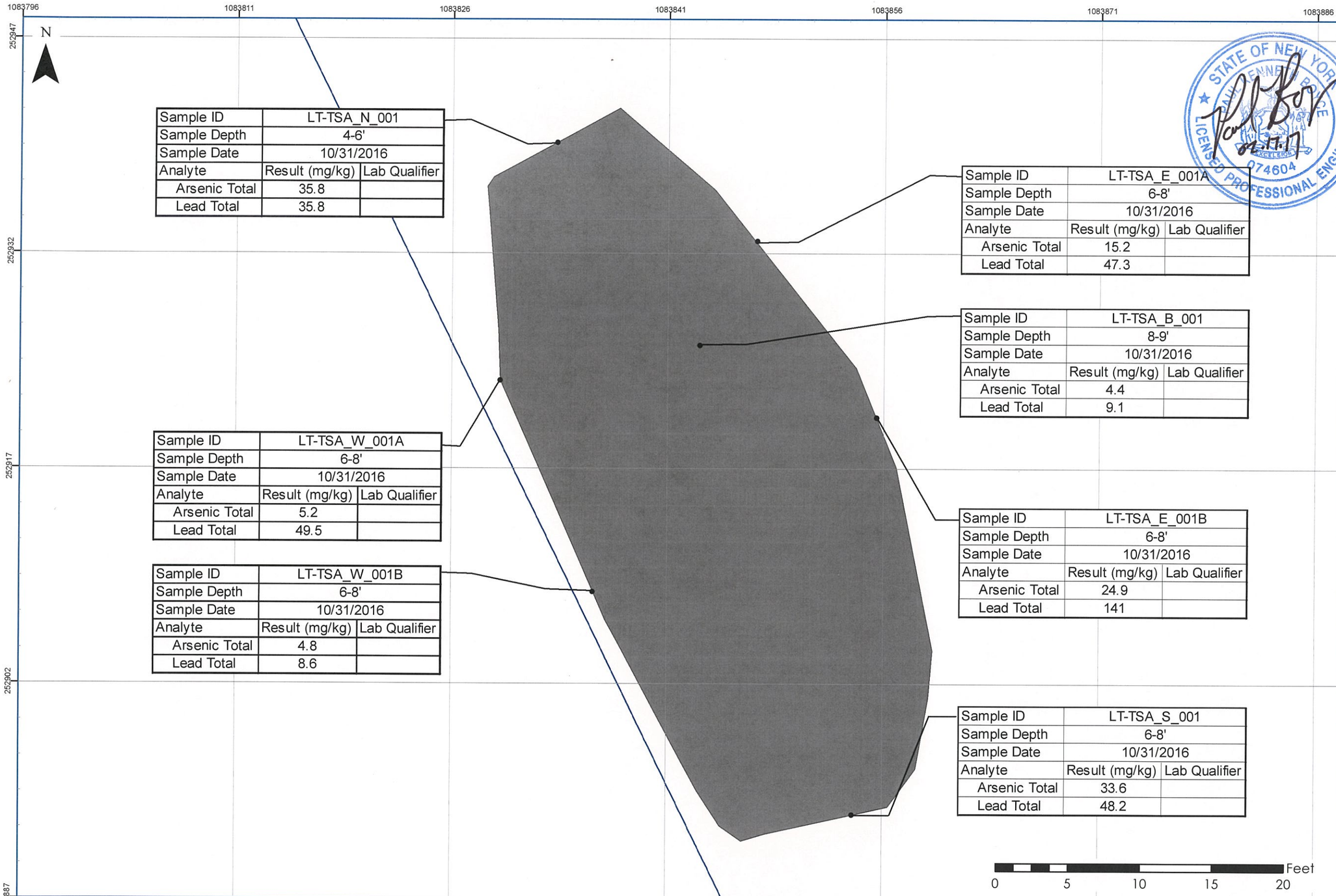

Sample ID	LT-TSA_N_001	
Sample Depth	4-6'	
Sample Date	10/31/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	35.8	
Lead Total	35.8	

Sample ID	LT-TSA_E_001A	
Sample Depth	6-8'	
Sample Date	10/31/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	15.2	
Lead Total	47.3	

Sample ID	LT-TSA_B_001	
Sample Depth	8-9'	
Sample Date	10/31/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	4.4	
Lead Total	9.1	

Sample ID	LT-TSA_W_001A	
Sample Depth	6-8'	
Sample Date	10/31/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	5.2	
Lead Total	49.5	

Sample ID	LT-TSA_E_001B	
Sample Depth	6-8'	
Sample Date	10/31/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	24.9	
Lead Total	141	

Sample ID	LT-TSA_W_001B	
Sample Depth	6-8'	
Sample Date	10/31/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	4.8	
Lead Total	8.6	

Sample ID	LT-TSA_S_001	
Sample Depth	6-8'	
Sample Date	10/31/2016	
Analyte	Result (mg/kg)	Lab Qualifier
Arsenic Total	33.6	
Lead Total	48.2	

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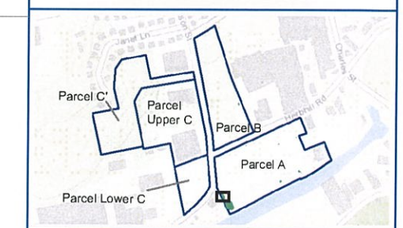

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EXCAVATION EXTENTS

LOCATION LT-TSA

63 HERB HILL RD
GLEN COVE, NY

- Endpoint Sample Location *(_0-2: Depth Interval - feet below land surface)*

Excavation Extents
feet below land surface
8

LOCATION LT-TSA DETAIL - ENDPOINT SAMPLE LOCATIONS
15' x 15' Grid

RARC (mg/kg)
- Arsenic: 175
- Lead: 660
- PCBs Total: 10

Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 984,250.0000
False Northing: 0.0000
Central Meridian: -74.0000
Standard Parallel 1: 40.6667
Standard Parallel 2: 41.0333
Latitude Of Origin: 40.1667
Units: Foot US

FIGURE NO:
14

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