

**U.S. Army Corps of Engineers** 

# Site Inspection Report Staten Island Warehouse FUSRAP Site Staten Island, New York

November 2013 Rev March 2014 Rev September 2017

# Site Inspection Report Staten Island Warehouse FUSRAP Site Staten Island, New York

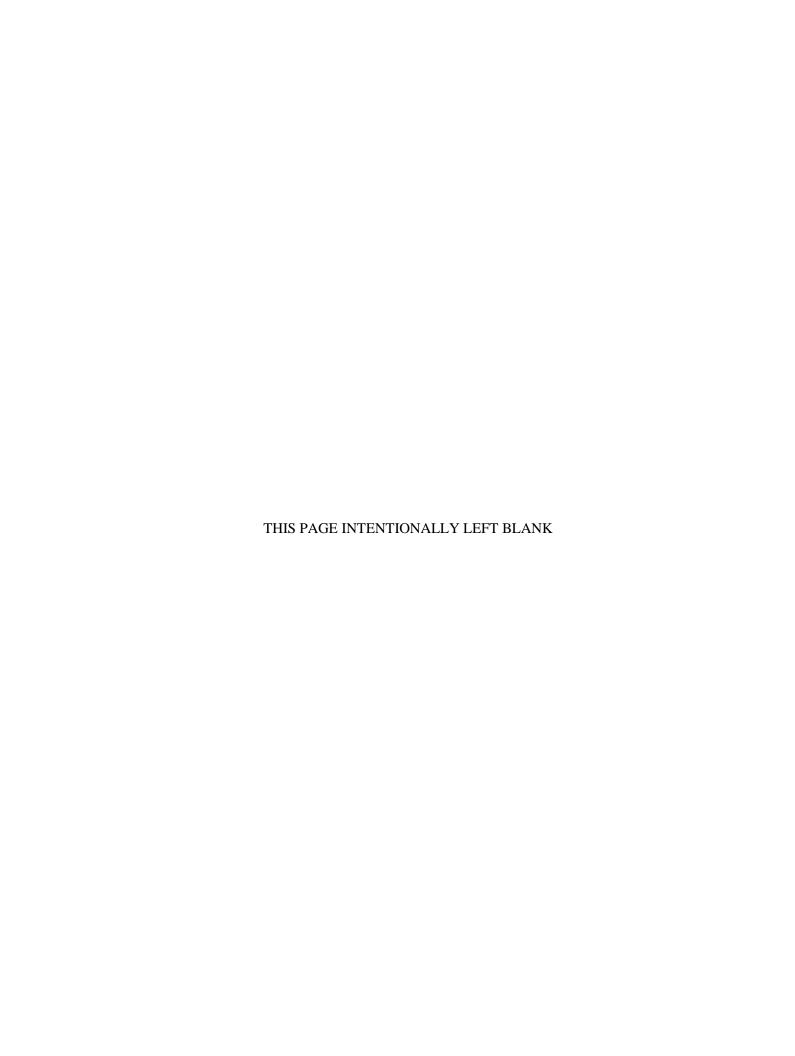
Date Issued - November 2013, March 2014, September 2017

Prepared by GEO Consultants, LLC 325 Kentucky Avenue Kevil, Kentucky 42053

Prepared for
U.S. Army Corps of Engineers – New York District
26 Federal Plaza
New York, New York 10278

U.S. Army Corps of Engineers – Kansas City District 700 Federal Building 601 E. 12<sup>th</sup> Street Kansas City, Missouri 64106-2896

> Prepared Under Contract No. W912DQ-10-D-3012 Delivery Order 0004



#### CONTRACTOR STATEMENT OF INDEPENDENT TECHNICAL REVIEW

GEO Consultants, LLC (GEO) completed the Final Site Inspection (SI) Report for the Site Inspection at the former Staten Island Warehouse FUSRAP Site located in Staten Island, New York. Notice is hereby given that an Independent Technical Review (ITR) has been conducted that is appropriate to the level of risk and complexity inherent in the project. During the ITR, compliance with established policy, principles, and procedures was verified. This included review of procedures to be used to create a product that meets the customer's needs, consistent with law and existing U.S. Army Corps of Engineers (USACE) policy.

Todal Euchana	11/26/13
Todd Buchanan	Date
Project Manager	
	11/26/13
Craig Rightmire, P.G.	Date
ITR Team Member	
Kim Morris Quality Assurance Reviewer	///2(e//) Date

Significant concerns and the explanation of the resolution are as follows:

None.

As noted above, all concerns resulting from the independent technical review of the project have been considered.

11127/13

Larry Copeland, P.E.

Operations Manager, GEO Consultants, LLC



# **CONTENTS**

LIST OF FIGURES	vii
LIST OF TABLES	viii
APPENDICES	viii
ACRONYMS AND ABBREVIATIONS	ix
EXECUTIVE SUMMARY	xi
1. INTRODUCTION	1
2. FORMER STATEN ISLAND WAREHOUSE DESCRIPTION AND HISTORY 2.1 SITE LOCATION AND FEATURES 2.2 SITE OPERATION AND HISTORY 2.3 CURRENT LAND USE	3
3. SETTING	5 5
4. PREVIOUS INVESTIGATIONS	7 7
5. SITE INSPECTION FIELD ACTIVITIES	9 10 10 11 12 13 13 14 14
6. SITE CONTAMINATION, EXPOSURE PATHWAYS, AND TARGETS 6.1 SOIL EXPOSURE PATHWAY 6.1.1 Targets 6.1.2 Radiological Contamination Results 6.1.3 Non-Radiological Contamination Results 6.2 GROUNDWATER EXPOSURE PATHWAY 6.2.1 Targets 6.2.2 Results	17 17 20 22

6.2.2 Results	23
6.3 SURFACE WATER EXPOSURE PATHWAY	23
6.3.1 Targets	23
6.3.2 Results	24
6.4 DATA ASSESSMENT	24
7. CONCLUSIONS AND RECOMMENDATIONS	25
7.1 CONCLUSIONS	25
7.1.1 Evaluation of Uranium Present within the Staten Island Warehouse Site	25
7.1.2 Evaluation of Radium Present within the Staten Island Warehouse Site	26
7.2 RECOMMENDATIONS	26
8. REFERENCES	28

# LIST OF FIGURES

- Figure 1-1. Staten Island Warehouse FUSRAP Site Location Map
- Figure 2-1a. Staten Island Warehouse FUSRAP Site Aerial April 28, 1940
- Figure 2-1b. Staten Island Warehouse FUSRAP Site Aerial April 23, 1961
- Figure 2-1c. Staten Island Warehouse FUSRAP Site Aerial March, 1988
- Figure 2-1d. Site Boundary Changes Over Time Due to Wave Erosion
- Figure 2-2. Beach Location
- Figure 4-1. 1980 ORNL Gamma Survey Results and Soil Sample Locations
- Figure 4-2. 1992 NYSDEC Staten Island Warehouse Gamma Survey Results
- Figure 5-1. Proposed and Executed Gamma Survey Boundaries
- Figure 5-2. Gamma Walkover Survey Results
- Figure 5-3. Subsurface Soil Sample Locations
- Figure 5-4. Surface Soil Sample and Test Pit Locations
- Figure 5-5. Groundwater Sample Locations
- Figure 5-6. Non-Radiological Waste Characterization Sample Locations
- Figure 6-1. Hurricane Irene Storm Surge
- Figure 6-2. Surface Soil Exceedances (Th-232)
- Figure 6-3a. Surface Soil Exceedances (Ra-226)
- Figure 6-3b. 0-5 ft Interval Soil Exceedances (Ra-226)
- Figure 6-3c. 5-8 ft Interval Soil Exceedances (Ra-226)
- Figure 6-4a. Surface Soil Exceedances (U-234)
- Figure 6-4b. 0-5 ft Interval Soil Exceedances (U-234)
- Figure 6-4c. 5-8 ft Interval Soil Exceedances (U-234)
- Figure 6-5. 0-5 ft Interval Soil Exceedances (U-235)
- Figure 6-6a. Surface Soil Exceedances (U-238)
- Figure 6-6b. 0-5 ft Interval Soil Exceedances (U-238)
- Figure 6-6c. 5-8 ft Interval Soil Exceedances (U-238)

# LIST OF TABLES

- Table 4-1. Previous sampling results.
- Table 5-1. Results of radiation subsurface soil samples (alpha and gamma spectroscopy) for the Staten Island Warehouse Site.
- Table 5-2. Downhole gamma scan results (cpm).
- Table 5-3. Results of radiation surface soil samples (alpha and gamma spectroscopy) for the Staten Island Warehouse Site.
- Table 5-4. Water quality parameters for groundwater samples collected from the Staten Island Warehouse Site.
- Table 5-5. Results of radiation groundwater samples for the Staten Island Warehouse Site.
- Table 5-6. Test pit gamma scan results.
- Table 5-7. Tidal Chart for the Staten Island Warehouse Site.
- Table 5-8. Results of metal characterization samples (Methods 6020A and 7471A) for the Staten Island Warehouse Site.
- Table 5-9. Results of SVOC characterization samples (Method 8270C) for the Staten Island Warehouse Site.
- Table 5-10. Results of VOC characterization samples (Method 8260B) for the Staten Island Warehouse Site.
- Table 5-11. Results of pesticide characterization samples (Method 8081A) for the Staten Island Warehouse Site.
- Table 5-12. Results of PCB characterization samples (Method 8082) for the Staten Island Warehouse Site.
- Table 5-13. Results of herbicide characterization samples (Method 8051A) for the Staten Island Warehouse Site.
- Table 6-1. Screening levels and background activities for radionuclides of potential concern in soils for the Staten Island Warehouse site.
- Table 6-2. Results of radiation soil samples (alpha and gamma spectroscopy) taken outside of the Radiologically Contaminated Area for the Staten Island Warehouse Site.
- Table 6-3. Screening levels for radionuclides of potential concern in groundwater for the Staten Island Warehouse site.
- Table 7-1. Evaluation of surface soil samples from the Staten Island Warehouse Site.
- Table 7-2. Evaluation of subsurface soil samples from the Staten Island Warehouse Site.

# **APPENDICES**

- Appendix A. Field Logs, Sampling Forms, Daily Quality Control Report, Summary Reports, and Chain of Custody Forms (electronic only)
- Appendix B. Boring Logs
- Appendix C. Quality Control Summary Reports
- Appendix D. Photograph Logs
- Appendix E. Laboratory Data Packages (electronic only)
- Appendix F. Electronic Data Deliverables (electronic only)
- Appendix G. GIS Data (electronic included in Final version only)
- Appendix H. Radiological Scan Data Sheets

# ACRONYMS AND ABBREVIATIONS

°F degrees Fahrenheit

ac acre

ADM Archer-Daniels Midland Company

AOC area of concern below ground surface

Bi bismuth

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

COC chain of custody counts per minute

DOE U.S. Department of Energy
DTS Dolan Transportation Services Inc.

FOM Field Operations Manager

ft foot/feet

FUSRAP Formerly Utilized Sites Remedial Action Program

GEO GEO Consultants, LLC
GIS Geographic Information System
GPS Global Positioning System
IDW investigation derived waste

K potassium

MARSAME Multi-Agency Radiation Survey and Assessment of Materials and Equipment Manual

MARSSIM Multi-Agency Radiation Survey and Site Investigation Manual

MCL Maximum Contaminant Level MDC Minimal Detectable Concentration MED Manhattan Engineering District

MS matrix spike

MSD matrix spike duplicate mya million years ago

NCP National Oil and Hazardous Substances Pollution Contingency Plan NYSDEC New York State Department of Environmental Conservation

ORNL Oak Ridge National Laboratory PAH polycyclic aromatic hydrocarbon

Pb lead

PCB polychlorinated biphenyl picocuries per liter

PRG Preliminary Remediation Goal

PVC polyvinyl chloride PWP Project Work Plan

QAPP Quality Assurance Project Plan

QC Quality Control

QCSR Quality Control Summary Report

Ra radium

RCRA Resource Conservation and Recovery Act

SI Site Inspection

SIW former Staten Island Warehouse SVOC semi-volatile organic compound

Th thorium U uranium

UPL Upper Prediction Limit
USACE U.S. Army Corps of Engineers

USEPA U.S. Environmental Protection Agency

VOC volatile organic compound



# **EXECUTIVE SUMMARY**

The former Staten Island Warehouse (SIW) is located in Staten Island, New York (Figure 1-1). This report documents a Site Inspection (SI) during which soil and groundwater samples were collected to identify the level of radioactive substances and determine if hazardous radioactive substances have impacted specific targets. The SI consists of a review of existing data from previous investigations and a comparison of the new and existing data against background values and risk-based screening criteria. The SI was performed by GEO Consultants, LLC (GEO) for the U.S. Army Corps of Engineers (USACE) under the Formerly Utilized Sites Remedial Action Program (FUSRAP), in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). In addition, the evaluation follows the guidance and policy outlined in *Environmental Quality-Formerly Utilized Sites Remedial Action Program* (FUSRAP) - Site Designation, Remediation Scope, and Recovering Costs (USACE Engineer Regulation, ER 200-1-4, 30 August 2003) (USACE 2003) and Guidance for Performing Site Inspections Under CERCLA (USEPA 1992).

The SIW was used to store high-grade Belgian Congo uranium ore from 1939 to 1942. Previous investigations conducted at the former Archer-Daniels Midland Company property have determined the presence of residual radiological contamination in soil. The primary objective of this SI is to provide sufficient information to determine the need for a full Remedial Investigation, or other actions in accordance with CERCLA, based on data collected during the SI and previous investigations. The SI activities are outlined in the Revised Scope of Work, dated 21 December 2010 (USACE 2010), and the Project Work Plan [PWP (USACE 2011a)].

Four previous investigations have been performed at the property. A surface gamma survey of the parcel formerly occupied by the warehouse which housed the uranium ore was conducted by Oak Ridge National Laboratory (ORNL) in 1980. This survey yielded background gamma levels and a 20 meter by 40 meter area of elevated gamma radiation in the northwest corner of the property. Also, three soil samples were collected and analyzed for selected radionuclides. Elevated levels of Uranium-238 (U-238) and Radium-226 (Ra-226) were found in a sample collected from a location in the northwest corner. A radiological investigation of the property was conducted in 1992 by the New York State Department of Environmental Conservation (NYSDEC). The area identified previously as yielding elevated gamma radiation was confirmed in this study. Six soil cores were collected from this area from the surface to 18 inches below ground surface (bgs). The cores were sampled and analyzed for radionuclides. Another investigation performed by NYSDEC in 2003 included a preliminary radiological survey on the parcel of land currently occupied by Federal Express, across Richmond Terrace from the SIW Site. A rock pile was the only area found to contain elevated rate counts which were approximately three times the background. In 2008, the U.S. Environmental Protection Agency [USEPA (in cooperation with NYSDEC and the New York City Department of Health)] conducted a surface gamma survey on the vehicle-accessible area of the property. Six surface soil samples were also collected from the previously-identified area of elevated gamma radiation and analyzed for selected radionuclides.

Field work conducted during this SI in July 2011 included setting up work zones and temporary work stations and restroom facilities, removing brush and debris, performing a surface gamma survey, sampling surface and subsurface soil for radionuclides, sampling groundwater for radionuclides, excavating test pits, and sampling subsurface soil for waste characterization (metals, volatile organic compounds, semi-volatile organic compounds, polychlorinated biphenyls, pesticides, herbicides). Downhole gamma logging was performed in each borehole [up to 8 feet (ft) bgs].

Surface and subsurface soil analytical results were compared against screening levels provided in the Quality Assurance Project Plan [QAPP (USACE 2011c)]. The screening levels for each given

were set to the maximum of the USEPA Residential Preliminary Remediation Goals (PRGs) for radionuclides or background activities determined in previous investigations. Groundwater analytical results were compared against USEPA Tap Water PRGs and Maximum Contaminant Levels (MCLs) for Radionuclides.

The SI confirmed the presence of elevated radionuclide activities in the 20 meter by 40 meter area identified in previous investigations. Results from the SI showed that the majority of radiological soil contamination is contained within the upper 5 ft bgs. It was determined that the majority of the soil contamination was found within the elevated gamma radiation area. All of the isotope-specific activity data in unfiltered and filtered groundwater samples are below the USEPA MCLs, which were established as the screening level criteria.

Based on the information initially gathered, the USACE originally found that it could not be determined from a technical perspective, whether residual contamination at the Site is attributable to the Nation's early atomic energy program. Insufficient evidence for federal responsibility for the contamination led to a recommendation for no further action to be taken at the Site under the FUSRAP program. Although it cannot be established with absolute certainty that the contamination is attributable to the Nation's early atomic energy program, additional data gathering and analysis later led the USACE to determine that there is a reasonable potential that the soil contamination at SIW meets the applicable criteria in Engineer Regulation (ER) 200-1-4 for eligibility in the FUSRAP. The basis for this relies heavily on further research by USACE in 2014-2016 concerning the physical transaction of the ore at the Site and the fingerprint of the radionuclide content at SIW (USACE 2016, 2017). A Joint Technical Memorandum regarding the fingerprinting of SIW material was done by the USEPA and NYSDEC and further supports the USACE findings (USEPA 2016). A more detailed analysis such as a Remedial Investigation is recommended to determine the bounds of contamination by further investigating the following.

Although the lateral extent of soils that exceed screening levels for radionuclides has been adequately defined, there remains some uncertainty regarding the vertical extent of radionuclide contamination. Due to recovery problems experienced during direct push soil borings, further vertical investigation may be required as the SIW Site moves through the CERCLA process. There were some operational difficulties associated with coring so that the depth of contamination is not clearly resolved. Although these operational difficulties prevented the team from identifying the exact depth of contamination, the investigation results show that contamination does not exist beyond 5 ft deep.

Beach erosion has occurred along the northern edge of the SIW, suggesting that some radionuclide-contaminated soil may be gradually transported from the Site into the near-shore environment of the Kill Van Kull. It is recommended that sediment samples off-shore of the most contaminated part of the SIW Site be collected and analyzed for the same radionuclides addressed in this investigation to determine if any significant risk exists.

# 1. INTRODUCTION

#### 1.1 PURPOSE AND OBJECTIVES

This report documents a Site Inspection (SI) that was conducted at the former Staten Island Warehouse (SIW), located in Staten Island, New York (Figure 1-1). The SI was performed by GEO Consultants, LLC (GEO) for the U.S. Army Corps of Engineers (USACE) under the Formerly Utilized Sites Remedial Action Program (FUSRAP) in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). In addition, the evaluation follows the guidance and policy outlined in Environmental Quality-Formerly Utilized Sites Remedial Action Program (FUSRAP) - Site Designation, Remediation Scope, and Recovering Costs (USACE Engineer Regulation, ER 200-1-4, 30 August 2003) (USACE 2003).

The SIW Site was a commercial site owned by Archer-Daniels Midland Company (ADM) that was used to store high-grade Belgian Congo uranium ore from 1939 to 1942. The former ADM warehouse property includes areas both north and south of Richmond Terrace. Work done by the USACE under FUSRAP addresses what is referred to as the SIW Site, which is an area of approximately 1.25 acres on the north side of Richmond Terrace, directly below the Bayonne Bridge (Figure 1-1). This 1.25 acre area was identified as the Site through the eligibility determination from DOE, stating that the northwest quadrant of the entire property was eligible for the FUSRAP.

Previous investigations conducted at the property have determined the presence of residual contamination in some areas. The primary objective of this SI is to provide sufficient information to determine the need for a full Remedial Investigation or other actions in accordance with CERCLA, based on data collected during the SI and previous investigations. The SI activities are outlined in the Revised Scope of Work, dated 21 December 2010 (USACE 2010) and the Project Work Plan [PWP (USACE 2011a)].

# 1.2 REPORT ORGANIZATION

The contents and organization of this report are in accordance with U.S. Environmental Protection Agency (USEPA) *Guidance for Conducting Site Inspections Under CERCLA* (USEPA 1992). The format of this report is in general accordance the USEPA guidance.

- Section 1 presents an introduction to the SI, including project purpose and objectives and the organization of this SI report.
- Section 2 describes the geographical location and current features of the SIW Site. The operational and site history, including previous owners and property uses, are also discussed.
- Section 3 focuses on the physical setting of the SIW Site based on the relevant literature and information from the current and previous investigations. The topography, geology, hydrogeology, climate, and demographics of the SIW Site are described.
- Section 4 provides an overview of previous investigations conducted at the property. A brief overview of each investigation, including work performed, results, conclusions, and recommendations, are presented in this section.
- Section 5 presents general information on the project field activities conducted during the SI and the methods used in the current study for data acquisition.

- Section 6 presents the results of the SI. This section discusses soil and groundwater data resulting from the current investigation and the data sets previously developed for the property by others. These data identify the contaminants detected in the media at the property. A discussion of the distribution of these contaminants is also provided and a summary of the investigation and risk screening is presented.
- Section 7 presents a summary and conclusions from the results found during the SI.
- Section 8 is a list of the references used in preparing the SI Report.
- Figures and Tables are located immediately following the text.
- Appendix A contains quality forms completed in the field including field logs, sampling forms, daily quality control reports, summary reports, and chain of custody forms.
- Appendix B contains all boring logs recorded during subsurface soil sampling.
- Appendix C contains the Quality Control Summary Report for Radiological Samples and the Quality Control Summary Report for Characterization Samples.
- Appendix D contains photograph logs of the SIW Site and field work.
- Appendix E provides the laboratory data packages [electronic copy only, found on compact disk (CD) located at the front of document].
- Appendix F is the Electronic Data Deliverables (electronic copy only, found on CD located at the front of document).
- Appendix G is the Geographic Information System (GIS) data (electronic copy only, found on CD located at the front of document).
- Appendix H includes the Radiological Scan Data Sheets

# 2. FORMER STATEN ISLAND WAREHOUSE DESCRIPTION AND HISTORY

#### 2.1 SITE LOCATION AND FEATURES

The SIW Site is located at 2351 Richmond Terrace, Staten Island, Richmond County, New York, 10302 (Figure 1-1). The SI work area consists of approximately 1.25 acres (ac) bounded by the Kill Van Kull tidal strait to the north and west. The SIW Site is located within the vicinity of coordinates 40°38′25′N and 74°08′31″W.

The SIW Site is a manmade structure that was constructed in approximately 1836 and is described as a solid-fill pier retained by timber bulk heads (USACE 1996). It was expanded in about 1890 with similar, or timber, sheet pile bulkheads. The SIW Site is entirely fenced, except along the Kill Van Kull shoreline, and is situated in a commercial and industrial area. The Bayonne Bridge crosses immediately overhead of the SIW Site to the west. The SIW Site is relatively flat and portions are paved.

A photographic analysis of the property for USEPA Region 2 (USEPA 2009a) presents an assessment of a series of aerial photographs taken from 1940 to 2003. It is especially clear in Figures 2-1a through 2-1d that from 1940 to 1978 the northern property boundary was sharp and well-defined, presumably by the back-filled area behind bulkheads or by wharves built on piers over the Kill Van Kull. In fact, the 1947 photograph (and other photographs taken in 1940, 1953, and 1961) illustrates that barges and other types of vessels were docking immediately adjacent to the shore on the northern and western sides of the peninsula. Later photographs (first clearly observed in the 1988 photograph) indicate that the northern shoreline of the constructed peninsula, extending into the Kill van Kull, is no longer as sharply defined as in earlier photographs and appears to be somewhat modified. This is consistent with the apparent elimination of industrial activities at the property that USEPA (2009a) indicates began prior to the 1970 photograph. Deterioration or removal of the bulkheads that established the docking facilities for the property may be associated with changes in the shoreline. The change could also be attributed to the demolition of buildings, piers, wharves, or other structures. However, over the period of several investigations, beach erosion has been observed to be a contributing factor in the modified shoreline.

# 2.2 SITE OPERATION AND HISTORY

The SIW Site was owned by ADM and used by African Metals Corporation to store high-grade Belgian Congo uranium ore from 1939 to 1942. The uranium ore was later purchased free alongside ship by the Manhattan Engineering District (MED) in support of World War II activities. Ores were handled on the portion of the now privately-owned property north of Richmond Terrace. Other portions of the property south of Richmond Terrace and west of the SIW Site were divided and are not a part of the current investigation. The SIW Site has since been owned by multiple non-governmental entities including International Engineering Chemical Company (~1951-1953) and Puritan Petroleum Company (for fuel oil distribution, ~1965, unknown duration) (USACE 2011b). The former structures at the SIW Site, including the warehouse, have been demolished.

The original property owned by ADM was divided into three parcels which have changed ownership numerous times [Oak Ridge National Laboratory (ORNL) 1980]. One parcel is currently owned by the New York Port Authority, another is owned by Federal Express, and the last is owned by Dolan Transportation Services Inc. (DTS). The parcel owned by DTS includes the 20 meter by 40 meter area where radiological contamination was identified by the ORNL in 1980 (USEPA 2008) (Figure 4-1). At the time of the ORNL investigation, the parcel was owned by R.H.S. Realty Corporation (New York, New York). The U.S. Department of Energy (DOE) conducted an eligibility review in 1986 and

determined the Site was not eligible for FUSRAP based on contract language that indicated the government did not take possession of the ore until it was removed from the property.

In 1992, the New York State Department of Environmental Conservation (NYSDEC 1992) also performed surveys on the northwest portion of the property and confirmed the presence of radiological soil contamination in the same area as the ORNL investigation (Figure 4-1; data from this study are presented in Section 4). The area of confirmed contamination is currently fenced off from access from the Richmond Terrace Road. However, no fence is on the water side of the area of contamination. The general area of known contamination is overgrown and is sparsely littered with assorted forms of debris. Another investigation was performed by NYSDEC (2003) on the parcel of land south of Richmond Terrace from the project Site. This parcel, which was once a part of the property but is now occupied by Federal Express, was surveyed for radiological contamination (see Section 4.3).

In February 2008, the USEPA conducted a radiological survey of the property. This survey confirmed results of previous surveys identifying an area of low-level surface radioactive contamination (USEPA 2008) (data presented in Section 4). USEPA requested that DOE review the 1986 eligibility finding. The findings of the USEPA survey and additional contract language reviews indicating the Government took possession of the material free alongside ship (while on the property, prior to being loaded), led DOE to declare the SIW Site eligible for inclusion in the FUSRAP in October 2009. The SIW Site was then referred to USACE for appropriate action.

#### 2.3 CURRENT LAND USE

The SIW Site and adjacent properties on the east and south are zoned for commercial use. The property to the west is owned by the Port Authority as part of the Bayonne Bridge area. The properties located along the east side of John Street are a mix of commercial and residential use. A rocky beach on the Kill Van Kull (Figure 2-2) bounds the northern portion of the property. The portion of the property that contains the SIW Site is currently vacant. A portion of the property to the east of the SIW Site is leased to a privately owned paving contractor company.

# 3. SETTING

#### 3.1 TOPOGRAPHY

The topography of Staten Island ranges from steep hills to flat terrain (Soren 1988). The elevation of the SIW Site ranges from 3 to 9 ft above mean sea level to sea level at the shore. The maximum land-surface altitude in the northeastern part of Staten Island is about 405 ft (Soren 1988). The surface water runoff flows toward the northeast of the Site into the Kill Van Kull. According to Federal Emergency Management Agency (FEMA 2007), most of the SIW Site is in Zone AE [(EL 8) floodway area] while the southern and eastern portions of the SIW Site are in Zone X (other flood areas, that have average flood depths of less than 1 ft or drainage areas less than 1 square mile).

#### 3.2 REGIONAL GEOLOGY

The soil underlying the SIW Site is the Laguardia-Ebbets complex with 0 to 8 percent slopes (USDA 2006). The average Laguardia is anthropogenic fill, which is generally 10 to 35 percent construction debris. The average thickness is 43 centimeters (16.93 inches), consisting of very dark grayish brown coarse sandy loam, brown sandy loam, and dark grayish brown very gravelly sandy loam (Hernandez undated). Beneath the fill is a layer of glaciated materials (Beimoff and Ohan 2003). The layering of these materials creates a thickness of 10 to 20 ft.

During the Paleozoic Era [approximately 540 to 250 million years ago (mya)], an altered remnant of oceanic crust broke from the North American plate; this remnant became the bedrock unit of Staten Island. This bedrock unit is made up of pale green, low-grade metamorphic serpentinite. This serpentinite unit is lens shaped and underlies an area of 22 square miles in the north central portion of Staten Island.

During the Mesozoic Era (approximately 250 to 65 mya), the Newark Basin formed as a result of divergent tectonic stresses. Three sedimentary units deposited within the basin: the Stockton Formation (sandstones and arkoses), the Lockatong Formation (siltstones and shales), and the Passaic Formation (shales, sandstones, conglomerates, and siltstones). During the Jurassic Period, the Palisades Sill, an igneous diabase of feldspar labradorite and pyroxene augite, intruded the layers of sedimentary rocks of the Newark Basin. The Raritan and Magothy Formations were deposited as coastal plain sediments from eroded highland material during the late Mesozoic Era.

During the Cenozoic Era (approximately 65 mya to present), the Wisconsin glacier retreated, leaving a layer of loose, unconsolidated, well-graded glacial till and outwash plain sediment consisting of very dark grayish brown coarse sandy loam, brown sandy loam, and dark grayish brown very gravelly sandy loam (Hernandez undated).

# 3.3 SITE-SPECIFIC GEOLOGY

Soil borings indicated the SIW Site was covered throughout with fill material comprised of a clay, sand, silt, gravel mix with scattered debris. The fill appeared to extend vertically the entire 8 ft below ground surface (bgs) in most borings and often contained debris such as brick and creosote treated wood chunks in the area where a pier/loading dock previously existed (See Figures 2-1a through 2-1d). Other debris recovered included rubber from tires, asphalt, and burn material.

# 3.4 HYDROGEOLOGY

Surficial materials at the SIW Site consist of a combination of artificial fill and native glacial till. This artificial fill was encountered to a depth of at least 5 ft in most soil borings (see boring logs located

in Appendix B). Although either type of material could be coarse enough to make an aquifer, the total thickness is expected to be on the order of only 10 to 20 ft, and the near-shore location of the SIW Site indicates that groundwater extracted from the surficial materials would be non-potable. Flow-direction in these surficial materials is expected to be generally northward (Soren 1988); however, tidal influence is high in this setting, and therefore, flow-direction varies somewhat with the tides.

These unconsolidated surficial materials are underlain by the Palisades Sill. The Jurassic Palisades Sill is a westerly dipping igneous body that intruded between Triassic-age sedimentary units, and is composed of diabase, a dark-colored, coarse-grained intrusive rock with negligible primary permeability. Secondary permeability created by joints and fractures may be present in the unit; however, a vertical hydraulic gradient in this near-shore setting would be expected to be upward in general, although tidal influence may periodically reverse the gradient.

Water levels measured in the field confirm the tidal influence experienced in the groundwater table at the Site. For example, water levels measured over several days and at various times in one of the boreholes (SIW-005, see Figure 5-4, borehole location map presented in Section 5) show a variation in water level from approximately 3.9 ft bgs to 6.2 ft bgs. Other water levels observed in soil cores indicate a water table depth of approximately 3 to 5 ft bgs (see Appendix B).

# 3.5 CLIMATE

According to the Koppen Climate Classification, Staten Island has a humid subtropical climate similar to other areas within the region. The climate is influenced greatly by its close proximity to the Atlantic Ocean. The average annual temperature ranges from a low of 44.6 degrees Fahrenheit (°F) to a high of 62.6 °F. The lowest monthly average temperature occurs in January (23.1 °F), and the highest monthly average temperature occurs in July (85.1 °F). The average annual precipitation is 46.3 inches, with July being the highest month of precipitation (an average of 4.8 inches of rain). The annual snowfall for Staten Island is 29.4 inches, which mostly occurs in the months of January and February (Weatherbase 2011).

# 4. PREVIOUS INVESTIGATIONS

There have been several prior radiological investigations at the property that included surface gamma surveys, as well as a limited number of surface and subsurface soil samples that were analyzed for specific radionuclides. Results from these analyses are detailed in Table 4-1. These previous investigations are briefly summarized below.

#### 4.1 OAK RIDGE NATIONAL LABORATORY (1980)

In 1980, ORNL performed a surface gamma survey of the property. Most of this area yielded background gamma levels. However, a relatively small area in the northwest corner of the property had elevated levels of gamma radiation, as illustrated in Figure 4-1. This region has been described as the 20 meter by 40 meter area of contamination at the property. In addition, three soil samples were collected and analyzed for selected radionuclides. The sample collected from the northwest corner (ST-1, Table 4-1) had elevated levels of Uranium-238 (U-238) and Radium-226 (Ra-226). The results of these analyses are presented in Table 4-1.

# 4.2 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (1992)

In 1992, the NYSDEC conducted further radiologic investigations at the property. A surface gamma survey of a limited part of the property was performed. The survey identified the presence of area of contamination that were at least three times higher than background, including an area that was over 167 times higher than background within the 20 meter by 40 meter region identified by ORNL (1980). A sketch map that identifies the background and elevated regions of the property is presented in Figure 4-2. In addition to the gamma survey, NYSDEC also collected six soil cores from within the 20 meter by 40 meter area covering a depth range from the surface to approximately 18 inches bgs. The cores were subsampled and a variety of radionuclides were analyzed in each sample. The results of these analyses are presented in Table 4-1.

Three samples from this investigation (072219, 072220, and 072221) showed poor precision. This was due to inadequate sample sizes for proper analysis. The material for these three samples was primarily organic (wood) material rather than soil. Therefore, the quantity of sample for analysis after drying was very small and was not sufficient to completely fill a standard gamma counting geometry.

# 4.3 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (2003)

In 2003, NYSDEC conducted a preliminary radiological survey on the parcel of land currently occupied by Federal Express, across Richmond Terrace from the SIW Site. The purpose of the survey was to assess the potential for radiological contamination. In all areas radiologically surveyed, only one area was found to be above background. This area was described as a rock pile and had count rates approximately three times the background. Based on the fact that the radiation readings were barely three-times background, this was not high-grade uranium ore (NYSDEC 2003).

# 4.4 U.S. ENVIRONMENTAL PROTECTION AGENCY (2008)

In 2008, USEPA, in cooperation with the NYSDEC and New York City Department of Health, conducted a surface gamma survey of the vehicle-accessible area of the property in the paved and unpaved parking areas. Additional gamma surveying took place along part of a fence line in the area, but the details regarding the location of this survey area are unclear. In addition to the gamma survey, six surface soil samples (0 to 6 inches bgs) were collected from the 20 meter by 40 meter area and were analyzed for selected radionuclides (Table 4-1).



# 5. SITE INSPECTION FIELD ACTIVITIES

#### 5.1 INTRODUCTION

Field activities associated with SI work occurred in July 2011 at the SIW and included the following:

- SIW Site preparation
- Surface gamma survey
- Surface soil sample collection
- Subsurface soil sample collection
- Groundwater sample collection
- Test pit excavation
- Collection of Quality Control (QC) samples [field duplicates and matrix spike (MS)/ matrix spike duplicate (MSD) pairs]
- Waste characterization sampling

Prior to beginning field work, the SIW Site was prepared by setting up support zones, exclusion zones, work areas, and temporary facilities, including job trailers and restrooms. The support zone and staging areas were used for vehicle and equipment parking, temporary storage of debris and chipped brush, and for equipment decontamination and waste storage. Additionally, all radiological scanning, water quality parameter, and air monitoring equipment was prepared and calibrated, and initial QC checks were performed on the equipment systems. The SIW Site was then cleared of weeds, limbs, brush, and trash. Following brush and debris removal, the SIW Site was scanned with ground penetrating radar to ensure no electric, gas, sewer, fiber optic, or other utilities were in danger of being hit or severed during drilling and excavating. Buried debris/rubble was not detected by the ground penetrating radar, which was designed primarily for the identification of pipes, cables, and metal.

Following the initial setup and preparation, a gamma walkover survey was performed to identify areas of elevated radiological readings. The surface gamma survey took place within an approximate 1.03 ac survey boundary, as shown in Figure 5-1. This boundary varied from the 1.25 ac boundary specified in the PWP (USACE 2011a), which is also illustrated in Figure 5-1. Differences in the two boundaries were a result of obstacles, including trash, debris, and ditches on the surface, which prevented survey equipment access to those particular areas. Results from the gamma survey indicated an area with elevated radiation levels [>10,000 counts per minute (cpm)] in the northwest corner, as shown on Figure 5-2. These results are consistent with the results of previous studies conducted by ORNL (1980) and NYSDEC (1992).

The subsurface and surface soil and groundwater sample locations are displayed in Figures 5-3, 5-4, and 5-5, respectively. The majority of the test pit excavation activities and soil and groundwater sampling, took place within the preliminary sampling area boundary, shown in Figure 5-1, and were originally detailed in the PWP (USACE 2011a). Some sample locations were shifted outside the preliminary boundary following real-time assessments of on-site conditions and discussions among the project team identified in the PWP (USACE 2011a). A total of 45 primary subsurface soil samples (plus five duplicate and three MS/MSD pair samples) were collected from 26 locations (Figure 5-3). A total of 45 primary surface soil samples (plus five duplicate and three MS/MSD pair samples) were collected from 45 locations (Figure 6-4), including 26 locations that were co-located with subsurface soil sample locations. Another four primary surface soil samples were collected for non-radiological characterization, along

with one duplicate and one MS/MSD sample pair. A total of six filtered and six unfiltered primary groundwater samples (plus one duplicate and one MS/MSD pair sample each) were collected from six locations (Figure 5-5, also co-located with subsurface sample locations). Four test pits were dug in the project area to a depth of 6 ft (Figure 5-3).

#### **5.2 SITE PREPARATION**

Upon arrival at the SIW Site a large portion of the area of concern (AOC), excluding the beach and paved areas, was covered with overgrown brush and weeds. Additionally, the SIW Site was littered with trash and debris such as limbs, used tires, chairs, cans, and bottles. Prior to performing any utilities clearing or project work related to radiological gamma surveys, drilling, or sample collection, the SIW Site was cleared of brush and weeds with the use of grass whips and string trimmers modified with metal blades. All trash and debris encountered in the AOC were placed in piles or moved to locations which would not impede planned project activities. Trash and debris located in inaccessible areas were left in place.

Additional project setup tasks included establishing delineation of work zones, support zones, and staging areas; setup and calibration of equipment; and calibration and initial QC checks of instrumentation and instrument systems. Initial project setup also included installation of temporary facilities including trailers, mobile restrooms, utilities, consumable materials, and other support equipment, including provisions for security and communications.

#### **5.3 SURFACE GAMMA SURVEYS**

Following clearing of brush and debris, the gamma walkover survey was performed consistent with Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM 2000) protocols. These surveys were performed using a Ludlum Measurements Model 44-10 (i.e., 2 inch by 2 inch) thalliumactivated sodium iodide [NaI(Tl)] gamma scintillation detector interconnected to a Ludlum Model 2221 Scaler/Ratemeter and Trimble Global Positioning System (GPS). The survey was performed by walking relatively straight parallel lines in approximately 1 meter spacings over an area while moving the detector in a serpentine motion, 2 to 4 inches above the ground surface. Count rate data from the ratemeter/scaler and position information from the GPS were collected once per second. Count rate and position information was downloaded periodically to a computer for evaluation, which included plotting the data onto a project site map and statistical assessment. Statistical assessment included color coding of count rate information to facilitate identification of those portions of the SIW Site exhibiting count rates that were radiologically elevated relative to the SIW Site background count rates (see Figure 5-2). A count rate for background reporting levels of 10,000 cpm was determined by using the gamma walkover scan data from the east and south of the known elevated radiological area. The mean count rate of these two areas (6,800 cpm) plus the recommended MARSSIM control limits of three standard deviations (2,400 cpm) was used and rounded up to nearest 1000 cpm, based on professional judgment. This approach provided a significantly reduced false positive rate which facilitated the efficient use of limited samples. The color coding facilitated the investigation of areas with elevated count rates. After completion of data processing, the contoured results of the survey were returned to the Field Operations Manager (FOM) and USACE Technical Manager for evaluation. Surface and subsurface soil sample locations were subsequently selected by the Project Team, based in part on the results of the gamma walkover survey.

#### 5.4 RADIOLOGICAL CHARACTERIZATION SAMPLING

Surface and subsurface soil characterization samples were collected according to the methods presented in the PWP (USACE 2011a) and are discussed in the subsections below. Sampling consisted of the following:

- Surface samples were obtained from within the top 2 ft of soils.
- Subsurface soil samples were collected with a direct-push drilling rig using a macro-sampler to a target depth of 8 ft.
- Biased surface and subsurface samples were obtained from locations identified by the gamma survey or placed at locations where the surface gamma walkover survey could not be performed due to obstructions or heavy vegetation.
- Biased samples were collected from the first 2 ft lift of each test pit, identified by elevated count rates observed during gamma logging of the soil pile.
- In addition to the biased samples, systematic samples from surface and subsurface locations were distributed throughout the sampling area, including areas where background surface gamma activities were measured (compare Figures 5-3 and 5-4 to Figure 5-2).
- Soil samples were located using GPS referenced to North American Datum (NAD) 1983, State Plane New York Long Island Zone 3104, U.S. feet.
- Samples were collected, labeled, logged, and shipped to TestAmerica, St. Louis for analysis.
   All soil samples were analyzed for U-234/U-235/U-238, Ra-226, Thorium-232 (Th-232),
   and Potassium-40 (K-40), using gamma and alpha spectroscopy. Waste characterization
   samples were analyzed for Resource Conservation and Recovery Act (RCRA) metals,
   volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides,
   herbicides, and polychlorinated biphenyls (PCBs).
- Filtered and unfiltered groundwater samples were collected with a peristaltic pump and clean, dedicated tubing. These samples were analyzed for gross alpha, gross beta, Ra-226, Ra-228, and U isotopes using drinking water methods.
- QC blind duplicate samples were collected at one sample for every ten primary samples
  collected or portion thereof and MS/MSD pair samples collected at one pair for every 20
  primary samples collected or portion thereof.
- Samples were packaged in laboratory supplied containers and maintained under strict chain of custody (COC) until delivery to the laboratory.

# **5.4.1 Subsurface Soil Sample Collection**

Subsurface soil characterization borings were collected by a direct-push method using a Geoprobe 6610DT series track-mounted drilling rig owned and operated by Enviroprobe Services, Inc, a subcontractor to GEO. Of the 45 primary subsurface soil samples collected from 26 locations, 19 were collected from ten predetermined, systematic locations (SB-001 through SB-010), as shown in Figure 5-3. Of the ten predetermined borehole locations, four of these were moved due to inaccessibility on beach areas and expected high water tables near the shoreline. Sample locations SB-006 and SB-007 shifted south from the original beach locations to the parking lot area (Figures 5-3 and 5-4). Sample location SB-008 shifted east and sample location SB-010 shifted south from the beach to areas near elevated gamma survey readings. The other 26 subsurface samples, also shown in Figure 5-3, were collected from 16 biased sample locations that were chosen based on gamma survey results, gaps in data, and discussions among the project team.

Subsurface soil samples were collected by advancing a 2 inch steel macro-sampler core barrel to a depth of 8 ft, refusal, or interface with groundwater (based on sample moisture content and stiffness). It was the responsibility of the FOM to determine when to terminate coring. The standard target depth of 8 ft was based on the collection of two cores, a 5 ft and a 3 ft interval [originally specified as two 4 ft intervals in the PWP (USACE 2011a)]. Some initial samples were drilled to a depth of 10 ft bgs prior to

the driller being reminded to only drill to 8 ft bgs. The macro-sampler was advanced in two intervals, with intermediate soil samples contained inside 5 ft clear acetate liners that had been inserted into the core barrel prior to boring.

The liners were removed from the core barrel at the sampling locations. The acetate sleeves were sliced open using a core cutter to expose the soils for classification and radiological screening. The sample cores were then described, and any significant conditions, including the presence of groundwater, were noted. Boring logs associated with each of the 26 subsurface boring locations are located in Appendix B. Once the cores were scanned and logged, samples were collected from the cores and excess soil was returned to the hole from which it was extracted. Any surface void space was filled with bentonite chips and hydrated. Excess soil was spread evenly around the borehole location. Samples were then clearly labeled in accordance with the Sample ID Numbering Scheme in Section 5.10.1 and Table A-1 of the PWP (USACE 2011a). The exterior of the liner was scanned and decontaminated (if necessary) with deionized water prior to disposal. All decontamination fluids were poured back in the holes from which the equipment was contaminated. Samples were then shipped to the off-site laboratory to be analyzed for Ra-226; Th-232; K-40, using gamma spectroscopy; and isotopic uranium, using alpha spectroscopy. Results of these analyses are discussed in Section 6 and are located in Table 5-1.

Soil samples were collected from each soil core at depth intervals based on the results of the scan of the core at elevated logged points. In the case of poor recoveries, the majority of the core was collected for sampling. Samples collected from the 0-5 ft intervals of a poorly recovered core were taken from the bottom of the core, working up, so as not to duplicate the material collected for a surface soil sample at that same location. This was also the method used for the collection of samples from cores with poor recovery in the 5-8 ft interval since slough from the upper interval was contained in the top portion of the lower interval cores. The location on each core where the sample was collected is detailed on the boring logs in Appendix B.

Although surface samples for this project were defined as being collected in the 0 to 2 ft depth range, any sample collected from a direct push boring was considered to be a subsurface sample, regardless of depth. Due to the compression of soil during drilling and subsequent poor recoveries, there was uncertainty in the actual depth below ground surface from which samples were obtained. Soil recovered from the 5 to 8 ft sample interval is likely from a shallower depth. Therefore, any radiological contamination found in the second intervals is possibly from a depth shallower than 5 ft. Operational difficulties prevented the team from identifying the exact depth of contamination, however, the investigation results show that contamination does not extend beyond 5 ft deep.

In the event that groundwater was encountered, and the borehole appeared to produce water sufficient for sample collection, the option was exercised at the team's discretion to collect a groundwater sample. A more detailed discussion of groundwater sampling is discussed in Section 5.4.4.

A strong diesel fuel odor was observed in some soil cores collected from the parking lot area and the northwestern tip of the beach. Specifically, the odors were observed in samples SB-003, SB-006, SB-007, SB-010, SB-019, and SB-021 (see Figure 5-3). Portions of these samples appeared to be saturated in free petroleum product (presumably the diesel fuel) at depths ranging from approximately 2.4 ft in SB-021, to approximately 6.4 ft in SB-003. Further detail of the encountered diesel fuel can be found in the boring logs located in Appendix B.

#### 5.4.2 Downhole Gamma Logging

Downhole gamma logging was performed in each borehole to 8 ft bgs, point of refusal, or prior to encountering groundwater. It was specified in the PWP (USACE 2011a) that to reduce the potential for borehole collapse, a section of 2 inch diameter polyvinyl chloride (PVC) casing, capped at one end,

would be inserted into the borehole to allow for downhole scanning. However, it was observed in the field that borehole collapse occurred as the core barrel was being removed from the hole and adding PVC could not prevent this initial collapse. Additionally, the NaI detector would not fit inside the PVC unless the borehole diameter was increased and larger diameter PVC was used for hole stabilization.

Gamma ratemeter counts were collected from each borehole starting at the bottom and working upwards. A 0.5 inch by 1 inch [NaI(Tl)] scintillation detector suspended from a makeshift handle was used to obtain these measurements by advancing the detector up the hole at approximately 0.5 inches per second. In addition, static counts were collected at fixed points within the borehole. Gamma count rates were logged for each borehole and are discussed in Section 6.1.1 and shown in Table 5-2. Downhole gamma scan results were not taken into consideration when determining the location for sample collection for each core. This was due to poor recovery of the sample cores and uncertainty of the actual depths of elevated downhole gamma scan results on the cores. A discussion of the comparison between downhole gamma scans and a scan of the associated soil core is included in Section 6.1.1.

# **5.4.3 Surface Soil Sample Collection**

A total of 45 surface soil locations were sampled for radiological analysis (U-234/U-235/U-238, Ra-226, Th-232, K-40). Surface samples were collected from the top 2 ft of soil using a 3.25 inch stainless steel hand held auger and/or stainless steel trowel. A total of 26 primary surface samples were taken from locations that were co-located with the subsurface sample locations. Another four primary grab surface samples were collected from the test pits; one sample collected from the first 2 ft excavation lift from each of the test pits. Further discussion of test pit excavation is described in Section 5.5. The remaining primary surface samples were collected from 15 biased sample locations that were chosen based on gamma survey results, gaps in data, and discussions among the project team. Surface soil sample locations are shown in Figure 5-4. Results of the laboratory analyses for the surface samples are discussed in Section 6.1.1 and are located in Table 5-3.

For sampling locations on beach areas where a dense layer of cobbles and other stony debris existed, these materials were first removed from the sample location to expose the underlying soil/sediment. For all surface soil sampling locations, visually identifiable non-soil components such as stones, twigs, and foreign objects were manually separated in the field and excluded from the laboratory samples to avoid biasing results low.

Radiological soil samples were not preserved in the field, as there are no preservation requirements for the radiological analyses. Augers and trowels used in sample collection were decontaminated between samples to avoid cross-contamination. Decontamination was performed by following the procedures outlined in Section 5.16 of the PWP (USACE 2011a). All decontamination fluids were poured back in the holes from which the equipment was contaminated.

# **5.4.4 Groundwater Sample Collection**

Through discussions with the project team, contractual options were approved to collect groundwater samples in subsurface borehole locations that produced sufficient amounts of water. Filtered and unfiltered samples were collected from six borehole locations in accordance with GEO's groundwater sampling procedure contained in the PWP (USACE 2011a).

Once borings were advanced to their final depth (maximum 8 ft bgs), 1 inch outside diameter PVC casing coupled to a 5 ft long machined screen were temporarily installed to prevent borehole collapse and facilitate sample collection. The borehole was purged using low flow techniques via a peristaltic pump and clean, dedicated tubing. Field parameters of temperature, specific conductance, dissolved oxygen, pH, salinity, oxidation reduction potential and turbidity were collected and are provided in Table 5-4. Purging

continued until the field parameters stabilized or one full well volume had been evacuated. The samples were analyzed by the off-site laboratory for gross alpha, gross beta, Ra-226, and Ra-228 using drinking water methods. Alpha spectroscopy analysis was used to determine the isotopic concentrations of all three uranium isotopes present in natural uranium. Results of these analyses are discussed in Section 6.2.2 and are located in Table 5-5.

#### 5.5 TEST PIT EXCAVATION

Four test pits were excavated during this SI, two of which were contractual options approved to be exercised. Test pit locations are presented on Figure 5-4 and the results of the gamma scans for each location is presented in Table 5-6. Each test pit was excavated to a maximum depth of 6 ft bgs and up to 10 ft in length, with a nominal width of one to two widths of the excavator bucket. Soils were removed from each test pit in 2 ft lifts. Each lift of excavated soil was spread uniformly on polyethylene sheeting to prevent potential contamination of underlying surface soils. The soil was then scanned and inspected for the presence of contamination (ore). Walls and floors of test pits were also scanned for contamination using the same methods as the gamma survey walkover, discussed in Section 5.3. A photograph log of subsurface conditions was maintained and is included in Appendix D. Upon completion of the test pit characterization, the excavation spoils were placed back in the test trench and compacted using the bucket of the excavator. Groundwater was never encountered in any of the four test pits. This is likely attributed to the fact that excavations were performed around tidal changes, either in receding or low tides (see Table 5-7).

# **5.6 QUALITY CONTROL SAMPLES**

Blind field duplicate samples were collected for surface, subsurface, and groundwater matrices. The duplicates were collected simultaneously, or in immediate succession, with the primary samples collected at that location. The duplicates were recovered from the same sample and in the same manner as the original, split between the appropriate containers, and treated in the same manner during storage, transportation, and analysis. QC blind duplicate samples were collected at one sample for every ten primary samples collected or portion thereof and MS/MSD pair samples collected at one pair for every 20 primary samples collected or portion thereof. Duplicate samples were numbered, logged, and transferred, under GEO COC procedures, to the off-site laboratory for analyses. Comparability of the QC samples with the original primary samples is discussed in detail in the Quality Control Summary Reports (Appendix C).

# 5.7 WASTE CHARACTERIZATION

Four primary surface soil samples were collected and analyzed for waste characterization and health and safety purposes. These samples were collected at surface sample locations that had also been sampled for radiological contamination. Sample locations for waste characterization were chosen by the project team at locations to provide coverage of the SIW Site. One sample was collected in the area with elevated gamma survey readings, one was collected north of this area on the beach, and the other two were collected east and south of the elevated gamma survey area. These locations are detailed in Figure 5-6.

The waste characterization samples were submitted for RCRA metals, SVOCs, VOCs, pesticides, PCBs, and herbicides. Results of these analyses are located in Tables 5-8 through 5-13, respectively. Additional waste generated included scanned personal protective equipment, used acetate sleeves, and decontamination water. Soils and liquids removed from the ground were returned to the location where they were excavated, and thus did not generate waste. All protective clothing and acetate sleeves used during sample collection were scanned to ensure they were not contaminated, and then disposed of in trash receptacles.

Since the contamination known on the SIW Site is suspected of being uranium ore, the chemicals found in that ore may also be present on-site. The uranium ore purchased by the MED had the average non-radiological composition listed below (percentages are rounded) (MED 1942). The percentage for SiO<sub>2</sub> was inadvertently reported in USACE (2011b) as 20.4%.

10.4% SiO <sub>2</sub>	6.3% PbO
0.7% FeO	0.2% CuO
2.1% Al <sub>2</sub> O <sub>3</sub>	$0.2\% P_2O_5$
1.7% CaO	0.1% Co+Ni
2.9% MgO	1.1% Na <sub>2</sub> O <sub>3</sub> [printed as " $No_2O_3$ (?)" in MED 1942]*

\*Note: The reference is likely a typographical error, further emphasized by the "(?)" contained in the original document.

Lead is the only potential RCRA metal found in the ore. It should be noted that although some local disassociation may occur due to environmental factors, it is expected that these chemicals would be colocated with the radioactive contamination. From the analysis discussed in Section 6.1.2, it was observed that highest concentrations of lead were found in the area of elevated radiological activity, as determined by the gamma walkover survey. While the non-radiological chemical results were not screened against remediation or disposal concentration levels, any chemical concentrations, other than lead, considered to be contamination on-site are not likely related to the uranium ore, and therefore, are not considered FUSRAP waste.

# 5.8 INVESTIGATION DERIVED WASTE AND EQUIPMENT SCANS

Minimal investigation derived waste (IDW) was generated during this investigation and mainly comprised of spent personal protective equipment (PPE) including tyveks and nitrile gloves. Soil or liquid IDW was not generated, since excavated test pit soil, as well as discarded soil boring cores, was placed back into their place of origin as backfill. PPE was double bagged and a release survey, allowing for the release of the PPE, was conducted on each bag. The release survey for the bagged PPE was conducted in a similar manner as the release survey for equipment used on-site by collecting readings from the sides, top and bottom of the bags. The bags were properly disposed in waste receptacles.

All personnel, PPE, and equipment were scanned following work within the designated radiation zones to ensure no contamination was carried outside of the zone. Equipment used within the radiation zones underwent release surveys with a Ludlum Model 2929 Alpha/Beta Scaler and a Ludlum Model 2360 Ratemeter. The results of the surveys, included in Appendix H, confirmed no contamination was present on the equipment.

Additionally, air monitoring was performed during field activities that had the potential to generate respirable, contaminated, airborne particulates. These activities included brush clearing, direct-push drilling, surface sample collection, and test pit excavation. Two types of air monitoring surveys were performed which measured gross alpha exposure; they were general area (non-occupational) and breathing zone (occupational) surveys. General area surveys were performed to determine exposure in specified work areas, while breathing zone surveys were performed to determine worker exposure by inhalation. The results of these surveys, included in Appendix H, confirmed no occupational or non-occupational exposure by contaminated airborne particulates.



# 6. SITE CONTAMINATION, EXPOSURE PATHWAYS, AND TARGETS

The objective of this section is to assess the impact of residual radioactivity associated with the storage of high-grade uranium ore from the former Belgian Congo that was stored in steel drums at the SIW from 1939 to 1942.

# **6.1 SOIL EXPOSURE PATHWAY**

# **6.1.1 Targets**

As noted above, the area of the SIW Site known exhibiting elevated radiological contamination is overgrown with thick vegetation and currently is not used by the property owner. Because the SIW Site is secured by a chain link fence and access to the contaminated area is further limited by an additional fence, the most plausible exposure targets include outside SIW Site workers and SIW Site intruders. Furthermore, there is no barrier to prevent local fisherman and intruders from entering the contaminated area by water from the Kill Van Kull strait. The most likely soil exposure routes include external gamma radiation, inhalation of respirable, contaminated, airborne particulates and inadvertent ingestion of contaminated soil.

Bank erosion adjacent to the contaminated region of the SIW Site due to tidal activity, wave action associated with passing ocean-going vessels, storm surges related to meteorologic events such as Hurricane Irene (August 2011) (Figure 6-1), and periodic heavy rainfall events has the potential for transporting contaminated soil into the near-shore area of the Kill Van Kull. Potential uptake of contaminated sediment by bottom-feeding fish and/or shellfish may occur and represent another exposure target. The area of impacted sediment appears to be limited and unlikely to have a significant impact on fish and shellfish populations.

#### **6.1.2 Radiological Contamination Results**

For this SI, both surface and subsurface soil samples were collected and analyzed. Surface samples came from a depth interval of 0 to 2 ft bgs. Subsurface soil samples were selected from two depth ranges in soil cores obtained by a direct push rig: 0 to 5 ft bgs and 5 to 8 ft bgs. Some initial samples were drilled to a depth of 10 ft bgs prior to the driller being reminded to only drill to 8 ft bgs. The soil cores were scanned by a gamma detector in an effort to sub-sample the zone within each core interval to obtain soil samples from intervals with the highest levels of gamma radiation. However, due to incomplete core recovery and other difficulties that commonly were encountered with coring, reliable estimates of subsurface soil sample depths frequently were not possible.

Soil samples were analyzed for Ra-226, Th-232, U-234, U-235, and U-238 (and other associated radionuclides), all of which are isotopes that were present in the stored, unprocessed uranium ores. In addition, the activity of K-40, a long-lived, naturally occurring isotope of potassium, was detected in soil samples. Radionuclide activity data for soil samples collected at the SIW Site are presented in Tables 5-1 (subsurface) and 5-3 (surface).

In nature, all members of the same decay series are in secular equilibrium such that they decay with the same apparent activity. For example, Ra-226 is a part of the U-238 decay chain and its activity can be determined indirectly by analysis of its short-lived daughter bismuth-214 (Bi-214). Likewise, Th-232 activity is commonly determined by direct analysis of its daughter Ac-228. The analytical reports in Appendix E include the results for Bi-214 and Ac-228 and the analytical results for these radionuclides are reported as the concentrations for the parent isotopes Ra-226 and Th-232, respectively.

# 6.1.2.1 Gamma survey

Investigation of the radionuclide content of surface and subsurface soils for the SI began with a comprehensive review of available historical information and gamma radiation walkover surveys to obtain data regarding the relative gamma activity across the SIW Site. The gamma walkover survey specifically provided information each second regarding the gamma count rate in counts per minute and corresponding location data. The data collected was subsequently downloaded and evaluated with the evaluation including color coding to reflect specific ranges of count rates (Figure 5-2). Soil samples were subsequently collected from biased areas that were radiologically elevated, and from systematic or random locations that provided information relative to mean SIW Site conditions.

With regard to the gamma survey results illustrated in Figure 5-2, the blue data points represent background levels of gamma radiation ( $\leq$  10,000 cpm, determined by observation). The white boundary in the figure encloses a region that captures all but a few data points where the measured gamma count rates exceed background levels at the SIW Site (green to red data points), and provides an estimate of the area in which the locations for biased soil samples were focused for the SI. Figures 5-3 and 5-4 show the location of subsurface and surface soil sampling locations, respectively, that are part of the SI investigation. The white boundary defining the zone of elevated gamma radioactivity is included on both figures.

#### **6.1.2.2** Soil screening levels

To evaluate the presence of elevated concentration levels of specific radionuclides in soils, estimates of natural background concentrations of the radioisotopes, from which screening levels can be determined, are required. In the Quality Assurance Project Plan for the SI (USACE 2011c), Worksheet 15 presented soil background information that applies to this investigation. Table 6-1 provides the background data obtained from the ORNL (1980) and NYSDEC (1992) radiological studies at the property, screening levels for the appropriate radionuclides, and the rationale for how the screening levels were determined. The screening levels were set to the higher of either the residential Preliminary Remediation Goal [PRG (USEPA 2010)] or the site-specific background. This screening approach evaluated risks under unrestricted/residential land use, a conservative approach given that the SIW Site is zoned as commercial/industrial.

# 6.1.2.3 Soils in the area of elevated radioactivity

The screening levels in Table 6-1 were used as threshold values to identify those soil samples where the activity for the radionuclides at the SIW Site are elevated with respect to those values. The results are illustrated in several figures where the surface and subsurface soil samples that exceed the screening levels are arranged in a sequence of images representing sample depths of 0 to 2 ft bgs, 0 to 5 ft bgs, and 5 to 8 ft bgs. Figures 6-2 through 6-6 (a, b and c) present the results for Th-232, Ra-226, U-234, U-235, and U-238, respectively. The exceedances are color coded to distinguish samples with the greatest level of exceedance (>5 times the screening level: red) from others (>1 to <5 times the screening level; yellow). Figures 6-3a and 6-3b also contain an orange color coding which symbolizes Ra-226 exceedances of >2.5 times to <5 times the screening level. White indicates a sample that did not exceed the screening level of the radionuclide. The figures for Th-232 (Figure 6-2) and U-235 (Figure 6-5) only include results for surface soil samples (0 to 2 ft bgs) because there were no exceedances of the respective screening levels for these radionuclides for any subsurface samples. K-40 was not included in the detailed assessment of soil contamination because it is a naturally occurring radionuclide and is not expected to have any close association with the uranium ore stored at the property.

Two relevant observations are revealed in these figures. First, with rare exceptions, all areas of radionuclide activities elevated with respect to screening levels for both surface and subsurface soil

samples are within the footprint of surface soil activity illustrated on the gamma walkover survey as being radiologically elevated (Figure 5-2). Secondly, soil concentrations of radiological constituents of potential concern decrease with depth below ground surface, suggesting that significant vertical mixing of soils at the SIW Site has not taken place. These observations suggest only a limited lateral extent of apparent SIW Site contamination believed to be related to the uranium ore stored at the property in the early 1940s. Furthermore, the observations support the conclusion that most of the contamination is generally 5 ft bgs or less. However, it can be seen from the results presented in Figures 6-2 through 6-6 (a, b and c) that some correlation is present between surface and subsurface contamination. As expected, the highest correlation is between subsurface samples and first (0-5 ft) interval subsurface samples. However, four locations (008, 009, 013, and 015) indicated a link between the presence of radionuclide contaminants at the surface and at the lower interval (5-8 ft) subsurface samples.

Since recoveries were generally poor, it is difficult to assess the exact vertical location and extent of radiologically contaminated soil. The downhole gamma scan results (Table 5-2) suggest fluctuations in radiological activity with depth. However data collected from sample locations within the elevated gamma scan boundary clearly indicate the highest counts (up to 19,000 cpm) occurring within the top 1 ft bgs. Rate counts over 3300 cpm below the first 1 ft bgs were observed in only two locations, 013 and 018 and at depths of approximately 6 ft bgs.

# 6.1.2.4 Comparison of results from the current and previous investigations

Section 4 presented a review of the previous investigations conducted at SIW by DOE (ORNL 1980), NYSDEC (1992) and Region 2 of USEPA [in cooperation with NYSDEC and the New York City Department of Health (USEPA 2008)]. In each of these investigations, surface soil samples (ranging in depth from the surface to a maximum depth of 18 inches) were collected from the SIW Site and analyzed for a suite of radionuclides. Most of these samples were obtained from the region of the SIW Site where gamma walkover survey results indicated elevated count rates. These results can be compared to surface soil sample data obtained during the SI (0 to 2 ft bgs) from the SIW Site area with elevated radioactivity. The comparisons are made for Ra-226, Th-232, U-235, and U-238.

The relevant data from previous investigations are presented in Table 4-1. The background samples from the NYSDEC investigation have been excluded (NR-2-92-03-072201 to NR-2-03-072205, NR-9-92-003-0720101 and NR-9-92-003-0710401). Likewise, surface soil data for the SI are found in Table 5-3.

Although there is an overlap of the current SI results with those of the earlier investigations for the radionuclides, in general the SI sample activity concentration results for Ra-226, U-235, and U-238 tend to be in the lower part of data ranges. This is particularly apparent for the NYSDEC (1992) data where three samples have unusually high concentrations for the three radionuclides. As noted in Section 4.2, there was poor analysis precision for these samples due to insufficient sample quantities. Therefore, the reliability of these specific results is uncertain. Nevertheless, even excluding these three sample results, the SI results for Ra-226, U-235, and U-238 are in the lower part of the ranges for surface soil samples from the other investigations. It is apparent that the risk assessment presented in USEPA (2008) only includes the data sets from the previous investigations and is affected by the generally higher activity concentrations for these radionuclides, in comparison to what has been found in the SI.

# **6.1.2.5** Soil background results

Data collected during the SI was used to determine more comprehensive estimates of site-specific radiological background levels. The data used was from areas at the SIW Site where the gamma walkover survey indicated rate counts at or below 10,000 cpm. Data from surface and subsurface soil analyses obtained during the SI for K-40, Ra-226, Th-232, U-234, U-235, and U-238 from areas with background

count rates can potentially provide alternative estimates of background activity for these radionuclides. Revised, site-specific screening levels for the radionuclides based on these results may be used to support any required future SIW Site remediation activities.

Figures 5-3 and 5-4 illustrate all of the locations at the SIW Site where soil samples were collected. The boundary line enclosing the area of elevated gamma count rates from the walkover survey at the SIW Site is included. Locations lying significantly beyond this boundary were selected as lying within the gamma survey background region and are identified in Table 6-2. Data obtained from soil samples collected at these locations are summarized in Table 6-2. These samples represent an alternative set of background sampling locations for the SIW Site that can be used to derive background comparisons. The mean alternative background activities of the radionuclides for the SIW Site (and the ranges of all such values for the radionuclides) closely match the typical average values and ranges for U.S. soils that are included in Table 6-1 (MARSAME, 2009).

The more comprehensive background screening levels for K-40, Ra-226, Th-232, U-234, and U-238, appropriate to SIW Site soils, are computed from background concentrations (assuming a lognormal distribution) using the USEPA ProUCL software (www.epa.gov/esd/tsc/software.htm). This software generates an Upper Prediction Limit (95% UPL) for each radionuclide, as shown in Table 6-2. The 95% UPL can then be used as an alternative background screening level. The data distribution for U-235 includes 29 non-detects out of 30 measurements. Therefore, the alternative background screening level U-235 could not be determined. Table 6-1 also includes soil PRG values for all of the radionuclides.

Surface soil analysis results for U-238 in Figure 6-6a show that samples from two locations on the northern shore of the SIW Site (SS-025 and SS-029) exceed the screening level for the radionuclide. Although these locations lie outside of the region, and have elevated gamma survey results, the magnitude of the exceedances (2.72 pCi/g for SS-025 and 2.14pCi/g for SS-029 compared to 1.96 pCi/g) are not large. However, a reasonable explanation for such exceedances of U-238 at these locations may be associated with the physical transport of contaminated soil from the SIW Site to the beach as a result of erosional processes that could involve tidal wave action, storm surges, or runoff from heavy precipitation events. Erosion along the northwestern boundary of the SIW Site has been documented in USACE (2011b) and is briefly described in Section 6.1.3 of this SI.

Sample SB-007 lies significantly to the east of the region, where most of the soils contaminated with radionuclides are found (Figures 6-3c and 6-6c). However, the deep subsurface sample at this location (5 to 8 ft bgs) contains activity for Ra-226 and U-238, which exceed screening levels.

In summary, the white boundary line shown in Figure 5-2 defines the region of the SIW Site where surface gamma count rates exceed background levels in other parts of the SIW Site. The white line also defines the lateral extent of the area where specific radionuclides commonly associated with uranium ores exceed isotope-specific screening levels. Furthermore, the distribution of elevated activity of radioactivity in subsurface soils also lies within the boundary. Existing contaminant information can be used to assist in the planning of a more detailed analysis such as a CERCLA Remedial Investigation. It is recommended to determine from a technical perspective whether residual contamination at the Site is attributable to the Nation's early atomic energy program.

# **6.1.3 Non-Radiological Contamination Results**

In addition to the sampling program that focuses on defining the distribution of radiological contamination at the SIW Site, surface soil samples from four locations (Figure 5-6) were subjected to chemical characterization for RCRA metals, SVOCs, VOCs, pesticides, PCBs, and herbicides. Three of the samples (SS-041, SS-042, and SS-044) are located along the northern part of the SIW Site, generally in the region adjacent to where ships have docked in the past. It is unknown if any non-radiological

contamination in this region might be associated with shipping activities. In addition, soil samples collected at locations SS-043 and SS-044 come from the area where elevated radiological contamination identified by the gamma survey was found. In general, other than lead, there is no reason to expect any association between non-radiological contamination at the SIW Site and the uranium ore that was stored there during the early 1940s.

The purpose of the non-radiological analyses is to provide preliminary information that might be needed to determine the final disposition of soil if remedial actions will be performed in the future. Most of these chemicals (e.g. organic constituents), if detected, could not have been from use of the SIW Site for uranium ore storage but may be present due to decades of industrial use of the area.

Although the quantity and quality of the chemical characterization data obtained should allow surface soil from the SIW Site to be evaluated against USEPA PRGs for exposure of an outdoor worker or SIW Site intruder, that was not the primary objective of the data. Rather, these chemical data can be compared against Occupational Safety and Health Administration (OSHA) action levels and landfill acceptance criteria for use in planning future remedial action, if required.

The chemical data obtained from surface soils at the four locations are presented in Tables 5-7 through 5-12. The great majority of results for organic constituents (VOCs, SVOCs, PCBs, pesticides, and herbicides) were non-detects and either U or UJ qualified. For example, all herbicides were either U or UJ qualified for all samples; of the pesticides, J qualified results were obtained from soil samples at locations SS-043 and SS-044 for 8 of the 22 analytes. For the PCBs, only Aroclor 1260 was detected in surface soil samples from locations SS-043 and SS-044, whereas all other PCBs for the four locations were either U or UJ qualified. Only detected constituents are shown in Table 5-7 (Refer to Appendix F for complete lab data sets).

Among the VOCs, the benzene, toluene, ethyl benzene, and total xylenes compounds were commonly detected at one or more of the four sampling locations, but only at low concentrations as J qualified analytes. The presence of these constituents is consistent with fuel spills that may have occurred at the industrial site, although a definitive explanation for the presence of such contamination at the SIW Site is unknown. Some other VOC analytes that were detected in some soil samples (e.g. acetone, methylene chloride, and 2-butanone) commonly are found as laboratory contaminants and are not indicative of SIW Site contamination. Most of the remaining VOC analytes were not detected in any sample (UJ qualified).

For the SVOCs, most analytes were not detected in samples from the four locations. However, the 16 polycyclic aromatic hydrocarbons (PAHs) that were included in the soil sample analyses are the most common contaminants that were detected. Every PAH was detected in at least one of the samples and most were found in the entire suite of samples. Detections were a mix of J qualified and valid detections. The PAHs are common compounds found in coal and petroleum-based fuels and are frequently deposited from asphalt pavement and from the atmosphere as products of combustion. Their presence in soils in a heavily industrialized area, and in a highly populated region where diesel and gasoline fuels are burned by vehicles and coal-fired electrical power plants surrounding the New York City region, is understandable. The presence of the asphalt parking lot on the SIW Site, which is approximately 6" thick, may have contributed to their presence. Also, asphalt debris could be a component of the fill material; several subsurface soil cores outside of the parking lot area (009, 022, 023, and 024 – see Appendix B) contained what appeared to be asphalt material. As discussed in Section 5.4.1, the presence of diesel fuel was detected in several subsurface borings. Several SVOC analytes (phthalates) were detected in several soil samples and are considered to be common laboratory contaminants rather than characteristic of SIW Site contamination.

Although there may be many potential sources of metal contamination at the SIW Site, including industrial and other regional activities, the possibility that the uranium ore may have associated non-radiogenic metal constituents cannot be ignored. The uranium ore body in the Belgian Congo was hydrothermal in origin and is known to have a variety of associated metals that were deposited along with the uranium-bearing minerals. For example, an assay of the non-radiogenic constituents in the original ore stored at the property in the early 1940s is provided in Section 5.7. It shows that a significant concentration of lead (6.27% PbO – approximately 58,200 mg/kg of Pb) and lesser amounts of a variety of other metals (e.g. copper, cobalt, and nickel) were present.

All of the metal analytes included in the SI, Arsenic, barium, cadmium, chromium, mercury, lead, selenium, and silver were detected in soil samples from at least two of the four locations. Concentration results for barium, cadmium, chromium, and selenium were all valid detections at all locations. Samples from all locations yielded J qualified concentrations for the analytes, silver, lead, and mercury. Silver was not detected in samples from locations SS-041 and SS-042, but had valid detections in the remaining samples. Most of the observed metal concentrations were low, but lead and arsenic were detected at elevated levels. The high estimated concentrations of lead (as high as nearly 3000 milligrams per kilogram) may possibly be related to the ore stored at the property, but also may be attributed to the extensive former use of leaded gasoline in the region and deposition at the SIW Site from the atmosphere.

Furthermore, the Jewett White Lead Company site, located in Port Richmond, is being addressed by the USEPA. While not adjacent to the SIW Site, investigations of properties around the Jewett White site demonstrated that lead contamination was present but from sources other than the Jewett White site (e.g. leaded gasoline, leaded paint, etc.). Chemical contamination not present in the uranium ore or comingled with the ore is not within the scope of FUSRAP (USACE 2011b).

#### 6.2 GROUNDWATER EXPOSURE PATHWAY

The composition of groundwater underlying the SIW Site has not been considered in any of the previous radiological investigations. During the SI, groundwater samples were collected from six locations (Figure 5-5). The boundary line that encloses the region where gamma survey results exceed background levels also includes most of the groundwater sampling locations. A scenario that is considered in this SI is the possibility that infiltration of precipitation at the SIW Site may result in leaching of radionuclides from contaminated soils and transport to shallow groundwater where mixing occurs.

# **6.2.1 Targets**

As a manmade structure, materials at the SIW Site consist of a combination of native glacial till and artificial fill. This artificial fill was encountered to a depth of at least 5 ft in most boreholes (Appendix B). Although either type of material could be coarse enough to make an aquifer, the total thickness is expected to be on the order of only 10 to 20 ft, and the SIW Site extends into the Kill Van Kull which indicates that groundwater extracted from the construction materials would likely be highly influenced if not representative of adjacent surface water. Groundwater flow is expected to be to the north and influenced by the tides (approximately 4 ft to 5.5 ft daily fluctuation).

Groundwater underlying Staten Island is recharged primarily by precipitation with an annual average total of 46.3 inches. The groundwater originates in the central portions of the island and radiates outward. This groundwater flow in the vicinity of the SIW Site is expected to be to the north. Island fresh water is surrounded on all sides by salt water interfaces (Soren 1988). As mentioned in Section 3.2, the SIW Site is underlain by diabase, which has low permeability and is not considered a viable source of groundwater. Staten Island groundwater has not been used for drinking water since 1970 (Soren 1988). Instead, New York City receives its drinking water from upstate resources via aqueducts and piping.

There is no expectation that shallow groundwater at the SIW Site will result in exposure to outside workers or intruders. Furthermore, groundwater flow discharge to the near-shore environment of the Kill Van Kull on the north and west sides of the SIW Site will undergo rapid dilution by mixing with the surface water. Once groundwater underlying the SIW Site discharges into the Kill Van Kull, it transitions from a groundwater to a surface water exposure pathway with associated targets. Discussion of the surface water component of potential exposure is discussed in Section 6.3

## 6.2.2 Results

The analytical results for the six groundwater sample locations are presented in Table 5-5. The screening levels for the radionuclides are found in Table 6-3. These screening levels are appropriate for drinking water rather than for shallow groundwater at the SIW. Although there is no intention of, or likelihood for, human consumption or exposure in the future, drinking water screening levels were selected for their more conservative values. This groundwater eventually will be discharged into the Kill Van Kull. All of the isotope-specific activity data (unfiltered and filtered samples) in Table 5-5 are below the appropriate screening levels. Furthermore, besides results of gross beta in samples GW-010 and GW-026, there are no significant differences between the unfiltered and filtered results for the isotopes in the samples. This indicates that transport of contaminants adsorbed to particulates is insignificant.

The analytical laboratory reported that the concentration levels of total dissolved solids in the groundwater samples were very high. This is almost certainly caused by the salinity of the adjacent Kill Van Kull and its influence on the near-shore groundwater at the SIW Site. In order to perform analyses for gross alpha and gross beta on the SIW Site groundwater samples, only a very small volume of water could be used for evaporation in preparation for alpha and beta counting. The effect of this factor results in very high values of sample specific detection limits [reported as Minimal Detectable Concentrations (MDCs) in Table 5-5], approximately 50 times higher than what might be normally anticipated. The gross alpha results for both filtered and unfiltered samples are U qualified which means that they were not detected in the sample during analysis. Although some sample detection limits are greater than screening levels, it is expected that gross alpha concentrations are below screening levels. This conclusion is also consistent with the very low concentration levels of specific alpha-emitting radionuclides measured in these samples.

In contrast, the gross beta results for most samples exceed the respective uncertainties and MDCs with magnitudes between approximately 100 and 200 picocuries per liter (pCi/L). This range of concentrations is greater than the 50 pCi/L threshold level for gross beta results that USEPA uses as a trigger for analyzing samples for specific beta emitters. However, this threshold applies to drinking water which has no foreseeable use and is likely significantly mixed with saline water from the Kill Van Kull. Also, due to the amount of solids present in the dried samples, it is reasonable to conclude that a significant portion of gross beta activity is the result of K-40. While the specific activity affected by K-40 cannot be quantified, it is potentially significant in regards to beta counts. In summary, it is reasonable to assume that both the gross alpha and beta results presented in Table 5-5 do not warrant any concern for potential risk to human health and the environment.

#### 6.3 SURFACE WATER EXPOSURE PATHWAY

Surface water does not exist on the SIW Site; however it is bordered along its northern boundary by the Kill Van Kull strait. It is noted in USACE (2011b) that significant erosion occurs along the northwest portion of the SIW Site. This is evident in aerial photographs and was confirmed during USACE site visits. Photos from previous investigations show the known area of contamination to extend to the areas impacted by erosion and/or tidal influences. Wind, river inflow, and tidal influences commonly cause the water current and sediment flows in the Kill Van Kull to switch directions (Chant 2001).

# 6.3.1 Targets

The Kill Van Kull is an interstate water body and is classified by the NYSDEC as Class SD (NYCDEP 2011). The usage of Class SD saline surface waters is fishing so SD waters should be suitable for fish survival. It is also classified by the state of New Jersey as impaired (contamination exceeds New Jersey water quality standards for dioxin, pesticides, PAH, and PCBs) and SE3 [Surface Water Quality Standards N.J.A.C. 7:9B (New Jersey 2011)]. The designated uses of SE3 saline waters of estuaries are: secondary contact recreation; maintenance and migration of fish populations; migration of diadromous fish; maintenance of wildlife; and any other reasonable uses. Many studies of the Kill Van Kull report chemical contamination and a long history of petroleum spills and contamination. The Kill Van Kull is not a source of public drinking water.

#### 6.3.2 Results

In Section 6.2.2, the results of analyses of six groundwater samples obtained during the SI are described. Available compositional evidence indicates that groundwater at these locations has not been impacted by leaching of radionuclides associated with soil contamination at the SIW Site, followed by transport to the water table. This observation also supports the conclusion that there is no evidence that discharge of potentially radionuclide contaminated groundwater to the Kill Van Kull strait occurs.

Based on the data presented in Section 6.1.2, there is evidence of a potential release or threat of release (erosion) into the surface water of radioactive materials. However, it cannot be determined at this time, based on available evidence, if the slightly elevated concentrations of several radionuclides in surface soils on the beach exposed at low tide are indicative of a broader release issue.

#### **6.4 DATA ASSESSMENT**

The analytical data collected during the SI (located in Appendix F) were evaluated for quality, accuracy, precision, comparability, sensitivity, representativeness, and completeness. Field QC samples analyzed include field duplicates (FDs) and MS/MSD sample pairs. Laboratory QC samples include laboratory control samples (LCSs), laboratory control sample duplicates (LCSDs), and method blanks (MB). Results of the field and laboratory QC sample analysis are provided in the project Quality Control Summary Reports (QCSRs) (Appendix C).

A summary of the QC results for the soil and groundwater samples that were collected as part of the SI field activities can be found in the project QCSRs (Appendix C). The results of the laboratory and field QC sample analyses presented in the QCSRs indicate that, overall, the laboratory conducted the field analyses with acceptable accuracy, precision, comparability, sensitivity, representativeness, and completeness for the radionuclides and chemicals of concern.

Validation of all of the analytical data was self-performed; the data validation report can be found in Appendix C. There were no major issues identified by the validation.

# 7. CONCLUSIONS AND RECOMMENDATIONS

#### 7.1 CONCLUSIONS

The results of the July 2011 SI investigation that are discussed in Section 6 provide information about radioactive and non-radioactive constituents in surface and subsurface soils at the SIW Site. In addition, groundwater samples from the SIW Site were analyzed for a range of radioactive species. In general, the results of the investigation yielded the following observations:

- Gamma walkover survey: This survey identified a region within the northwestern quadrant
  of the SIW Site where surface gamma count rates exceeded background levels. This was
  identified as a region where biased sampling of soil took place in the SI. Additional, nonbiased soil sampling also took place in areas where background levels of gamma count rates
  were observed.
- Soils: Surface and subsurface soil samples were collected at the SIW Site and subjected to
  analyses of a suite of radionuclides. Comparison of the analytical results to site-specific
  screening levels identified samples exceeding these levels. They were located almost
  exclusively in the region where gamma survey results also exceeded background levels.
  Furthermore, the frequency of soil sample exceedances decreased with increasing depth
  within this region of the SIW Site.
- Groundwater: Shallow groundwater samples obtained from six locations at the SIW Site were subjected to analysis for a suite of radioactive species. None of these samples exceeded any of the screening levels applicable for the species. Therefore, shallow groundwater underlying the SIW Site is not a concern to human health and the environment.

## 7.1.1 Evaluation of Uranium Present within the Staten Island Warehouse Site.

It is apparent that no MED related materials other than uranium ore (i.e. natural uranium) were stored at the property. In terms of radioactivity contribution, natural uranium is composed of 48.6, 2.2 and 49.2 percent U-238, U-235 and U-234, respectively. (Minteer et al 2007) As such, the U-238 to U-234 radioactivity ratio for natural uranium of 0.98 (i.e., 48.6 divided by 49.6) is expected. Given that both U-235 and U-234 are extracted from natural uranium during the enrichment process, the residual concentrations of these isotopes present in depleted uranium result in activity ratios of U-238 to U-234 and U-238 to U-235 of 10.7 and 62.2, respectively. Comparing these activity ratios from natural uranium and depleted uranium, the ratio of U-238 to U-234 would change by a factor of about 10.9 (from 0.98 to 10.7) while the ratio of U-238 to U-235 would change by a factor of about 2.9 (from 21.7 for natural uranium to about 62.2 for depleted uranium). Although depleted uranium concentrations are subject to some variability, activity concentrations of U-234, U-235, and U-238 are typically on the order of 8.4, 1.45, and 90.14 percent, respectively.

As noted above, concentrations of U-234 and U-238 in natural uranium are similar and are present at over 20 times the U-235 concentration. As such, U-234 and U-238 concentrations are commonly used when evaluating isotopic ratios based on activity concentrations from radiological analysis (e.g., alpha spectrometry) to determine whether individual samples contain natural, depleted or enriched uranium. Additionally, it is notable that, as with SIW soil data, activity concentrations of U-235 are commonly present at levels below applicable lower limits of detection such that the data does not lend itself to detailed statistical analysis.

Calculation of U-238 to U-234 ratios for Staten Island Warehouse surface soil samples collected during July 2011, reflect ratios ranging from  $0.73 \pm 0.19$  to  $1.17 \pm 0.36$  with a mean of 0.99 and a mean value for total propagated uncertainty of 0.20. (See Table 7-1, *Evaluation of Surface Soil Samples from the Staten Island Site.*) Similarly, for subsurface soils U-238 to U-234 ratios ranged from  $0.71 \pm 0.20$  to  $1.18 \pm 0.33$  with a mean of 0.98 and a mean value of the uncertainty of 0.21. (See Table 7-2, *Evaluation of Subsurface Soil Samples from the Staten Island Site.*) Based on this data, it is reasonable to conclude that uranium present at the SIW Site is within the range expected for natural uranium.

In 2016 the USACE completed a comparison of the upper bound of NORM concentrations versus those found in soil at the SIW. The only known radioactive material use at the Site was from handling Belgian Congo Uranium ore. The comparison evaluated other potential sources of NORM. The comparison concluded that the SIW soil contamination levels are most similar to other USACE project soil contamination from sites that handled U-ore (USACE 2016).

#### 7.1.2 Evaluation of Radium Present within the Staten Island Warehouse Site.

Given the absence of significant contaminant migration as a result of differences in solubility, Ra-226, being a member of the naturally occurring U-238 decay series, decays with the same apparent activity concentration as the uranium parent. Comparison of U-238 and Ra-226 activity concentrations in surface soils reflects U-238 to Ra-226 ratios ranging from  $0.26 \pm 0.04$  to  $2.99 \pm 0.72$  with a mean value of 0.85 and a mean value of uncertainty of 0.19. Similarly, the U-238 to Ra-226 activity concentrations in subsurface soils ranged from  $0.47 \pm 0.14$  to  $7.2 \pm 2.11$  with a mean value of 1.13 and a mean value of uncertainty of 0.28. (Given that the upper bound ratio of 7.2 may be representative of an outlier, it is notable that the next higher ratio for subsurface soils is  $2.55 \pm 0.75$ .) Ra-226 activity concentrations commonly are more variable than those of U-238 based on lack of homogeneity resulting from specific activity differences and from significant differences in solubility. The mean ratios of U-238 to Ra-226 are 0.85 and 1.13 in surface and subsurface soils, respectively, thus the overall ratio is within the range that would be expected for uranium ore. Nonetheless, given the range of ratios encountered, one cannot conclude with certainty that the activity present on the SIW Site is solely the result of MED ore materials stored on the property.

## 7.2 RECOMMENDATIONS

Based on the information initially gathered, the USACE originally found that it could not be determined from a technical perspective, whether residual contamination at the Site is attributable to the Nation's early atomic energy program. Insufficient evidence for federal responsibility for the contamination led to a recommendation for no further action to be taken at the Site under the FUSRAP program. Although it cannot be established with absolute certainty that the contamination is attributable to the Nation's early atomic energy program, additional data gathering and analysis later led the USACE to determine that there is a reasonable potential that the soil contamination at SIW meets the applicable criteria in Engineer Regulation (ER) 200-1-4 for eligibility in the FUSRAP. The basis for this relies heavily on further research by USACE in 2014-2016 concerning the physical transaction of the ore at the Site and the fingerprint of the radionuclide content at SIW (USACE 2016, 2017). A Joint Technical Memorandum regarding the fingerprinting of SIW material was done by the USEPA and NYSDEC and further supports the USACE findings (USEPA 2016). A more detailed analysis such as a Remedial Investigation is recommended to determine the bounds of contamination by further investigating the following.

First, although the lateral extent of soils that exceed screening levels for radionuclides has been adequately defined, there remains some uncertainty regarding the vertical extent of radionuclide contamination. Due to recovery problems experienced during direct push soil borings, further vertical investigation may be required as the SIW Site moves through the CERCLA process. There were some operational difficulties associated with coring, so that the depth of contamination was not clearly resolved.

Although these operational difficulties prevented the team from identifying the exact depth of contamination, the investigation results show that contamination does not extend beyond 5 ft deep.

Secondly, beach erosion has occurred along the northern edge of the SIW Site, suggesting that some radionuclide-contaminated soil may be gradually transported from the SIW Site into the near-shore environment of the Kill Van Kull. It is recommended that sediment samples off-shore of the most contaminated part of the SIW Site be collected and analyzed for the same radionuclides addressed in this investigation to determine if any significant risk exists.

## 8. REFERENCES

- Beda 2000. *The Quarternary Geology of Newark Bay and Kill Van Kull Channel, New York and New Jersey*. Beda, et. al. estimated date 2000.
- Beimoff, Dr. Alan I. and Ohan, Prof. Anderson A. "The Geology of Staten Island." Revised December 22, 2003. On-line April 21, 2011. http://www.library.csi.cuny.edu/dept/as/geo/sigeo.htm
- Chant 2001. Chant, Robert et al. *Circulating and Mixing in a Complex Estuarine Environment: Effects on the Transport and Fate of Suspended Matter*. Institute of Marine and Coastal Sciences, Rutgers University. 2001.
- FEMA (Federal Emergency Management Agency) Flood Insurance Rate Map 3604970169F Updated September 5, 2007. http://www.msc.fema.gov/webapp/wcs/stores/servlet/CategoryDisplay On-line. Visited March 17, 2011.
- Hernandez, L.A. CPSSc, CPSC. "16 New York City Soil Survey Program" Undated. http://clic.cses.vt.edu/icomanth/16-NYC\_Survey\_Data.pdf On-line. Visited March 23, 2011.
- MARSAME (2009). Multi-Agency Radiation Survey and Assessment of Materials and Equipment Danual (MARSAME). Department of Defense, Department of Energy, U.S. Environmental Protection Agency, Nuclear Regulatory Commission, NUREG-1575, Supp. 1, EPA 402-R-09-001, DOE/HS-0004. Jan. 2009.
- MARSSIM (2000). Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). Department of Defense, Department of Energy, U.S. Environmental Protection Agency, Nuclear Regulatory Commission, NUREG-1575, EPA 402-R-09-016, Rev. 1, DOE/HS-0624, Rev. 1. Aug. 2000.
- MED (Manhattan Engineer Depot) 1942 Report Summary, Trip made September 15 to New York by Capt. J.R. Ruhoff, Corps of Engineers, September 17, 1942.
- New Jersey (2011). *Surface Water Quality Standards N.J.A.C.* 7:9B. Amended April 4, 2011. http://www.nj.gov/dep/rules/rules/njac7\_9b.pdf
- NYCDEP (New York City Department of Environmental Protection) 2011. Website, New York City, NY, NYC Department of Environmental Protection, 2011, citing NYSDEC Standards for Fresh and Saline Waters Found Within New York City.
- NYSDEC (New York State Department of Environmental Conservation) 1992. *Richmond Terrace Field Survey Report*. July 1992.
- NYSDEC (New York State Department of Environmental Conservation) 2003. Site Visit Report Richmond Terrace Site, Staten Island, New York. 29 July 2003.
- ORNL (Oak Ridge National Laboratory) 1980. Preliminary Radiological Survey Report of the Former Staten Island Warehouse Site (Archer-Daniels Midland Company) at Port Richmond, New York. October 1980.
- Soren 1988. Soren, Julian "Geologic and geohydrologic reconnaissance of Staten Island, New York." 1988. Accessed on-line August 2011. http://www.bookprep.com/read/mdp.39015037732479

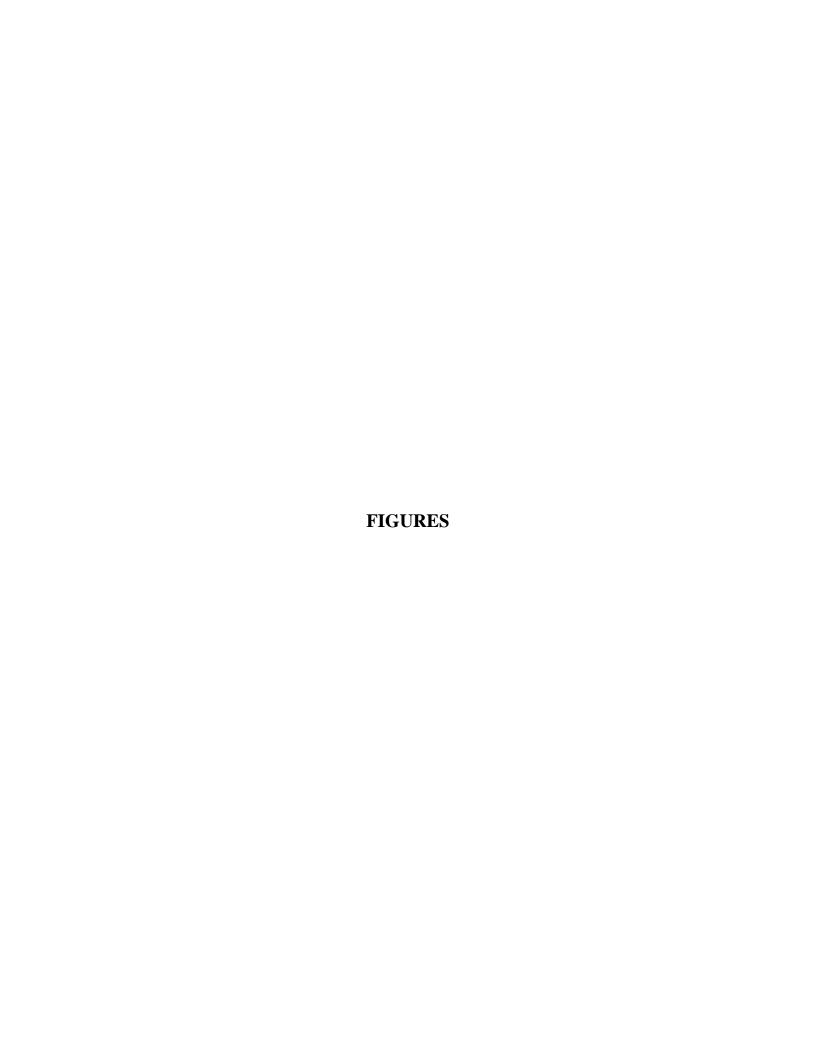
- USACE (U.S. Army Corps of Engineers) 1996. Raber, Michael S., Thomas R. Flagg and Gerald Weinstein. *Reconnaissance Cultural Resource Investigations Kill Van Kull, New York Reach, Richmond County, New York, New York Harbor Collection and Removal of Drift Project*, US Army Corps of Engineers, New York District. Prepared for the US Army Corps of Engineers, New York District.
- USACE (U.S. Army Corps of Engineers) 1997. Kill Van Kull Newark Bay Channels Phase II Deepening Project Final Environmental Assessment. USACE, NY District. December 1997.
- USACE (U.S. Army Corps of Engineers) 2000. Memorandum for Record, Subject; Review of Compliance with the Testing Requirements of 40 CFR 227.6 and 227.27, and Site Designation Provisions of 40 CFR 228.15 for the Kill Van Kull Federal Navigation Construction Project: Contract Area 5, Reach 2, New York. USACE. 23 March 2000.
- USACE (U.S. Army Corps of Engineers) 2003, Environmental Quality-Formerly Utilized Sites Remedial Action Program (FUSRAP) Site Designation, Remediation Scope, and Recovering Costs, Engineer Regulation. ER 200-1-4. August 2003.
- USACE (U.S. Army Corps of Engineers) 2010. Scope of Work, Staten Island Warehouse FUSRAP Site, Staten Island, Port Richmond, New York. December 2010.
- USACE (U.S. Army Corps of Engineers) 2011a. Project Work Plan, Site Inspection Staten Island Warehouse FUSRAP Site, Staten, Island, Port Richmond, New York. March 2011.
- USACE (U.S. Army Corps of Engineers) 2011b. *Preliminary Assessment Staten Island Warehouse Formerly Utilized Sites Remedial Action Program (FUSRAP) Site*. Richmond Terrace, New York. Sept. 2011. Prepared by US Army Engineer District, NY and US Army Engineer District, KC.
- USACE (U.S. Army Corps of Engineers) 2011c. Quality Assurance Project Plan, Site Inspection Staten Island Warehouse FUSRAP Site, Staten, Island, Port Richmond, New York. March 2011.
- USACE (U.S. Army Corps of Engineers) 2016. Memorandum for Record, NWK, CENWK-ED-ES, 16 November 2016, subject: Comparison of Commonly Naturally Occurring Radioactive Material (NORM) materials to SIW Contamination. November 2016.
- USACE (U.S. Army Corps of Engineers) 2017. Memorandum, NAN, CENAN-PP-E, 21 February 2017, subject: Re-evaluation with Technical Support for Inclusion of the Staten Island Warehouse (SIW), Staten Island, New York, in the Formerly Utilized sites Remedial Action Program (FUSRAP). February 2017.
- USDA (U.S. Department of Agriculture) Natural Resources Conservation Service, "New York City Reconnaissance Soil Survey." Updated April 7, 2006 and accessed online on March 23, 2011 at <a href="http://www.nycswcd.net/files/RSS\_postermap\_200dpi.pdf">http://www.nycswcd.net/files/RSS\_postermap\_200dpi.pdf</a>.
- USEPA (U.S. Environmental Protection Agency) 1992. *Guidance for Performing Site Inspections Under CERCLA*. September 1992.
- USEPA (U.S. Environmental Protection Agency) 2008. *Human Health Risk and Dose Assessment from Radioactivity at Richmond Terrace Site*. EPA Region 2, New York. July 2, 2008.

- USEPA (U.S. Environmental Protection Agency) 2009a. Mika, George J. and Hickerson, Glen M. *Aerial Photographic Analysis Richmond Terrace Site Staten Island, New York*. EPA Region 2, New York. March 2009.
- USEPA (U.S. Environmental Protection Agency) 2009b. Ferriola, Michael, Eric Daly, and Jim Daloia. *Removal Site Evaluation for the Richmond Terrace Site, Staten Island, Richmond County, New York.* 26 February 2009.
- USEPA (United States Environmental Protection Agency) 2010. Preliminary Remediation Goals (PRGs) for Radionuclides. Available online at: http://epa-prgs.ornl.gov/radionuclides/download.shtml
- USEPA (United States Environmental Protection Agency) 2016. Joint Technical Memorandum with New York State Department of Environmental Conservation regarding fingerprinting the source of contamination at the SIW. December 2016.

Weatherbase. Accessed online March 17, 2011 at:

http://www.weatherbase.com/weather/weather.php3?s=128503&refer=&cityname=Staten-Island-New-York-United-States-of-America







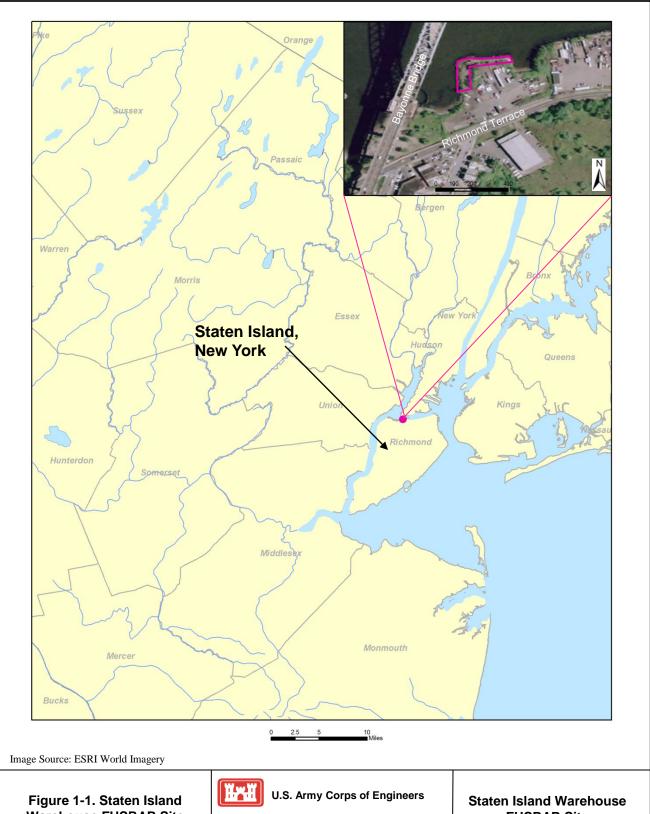


Figure 1-1. Staten Island Warehouse FUSRAP Site Location Map



GEO Consultants, LLC A Geological Engineering and Environmental Services Company Kevil, Kentucky



Image Source: USEPA 2009a

Figure 2-1a. Staten Island Warehouse FUSRAP Site Aerial April 28, 1940



U.S. Army Corps of Engineers



GEO Consultants, LLC A Geological Engineering and Environmental Services Company Kevil, Kentucky

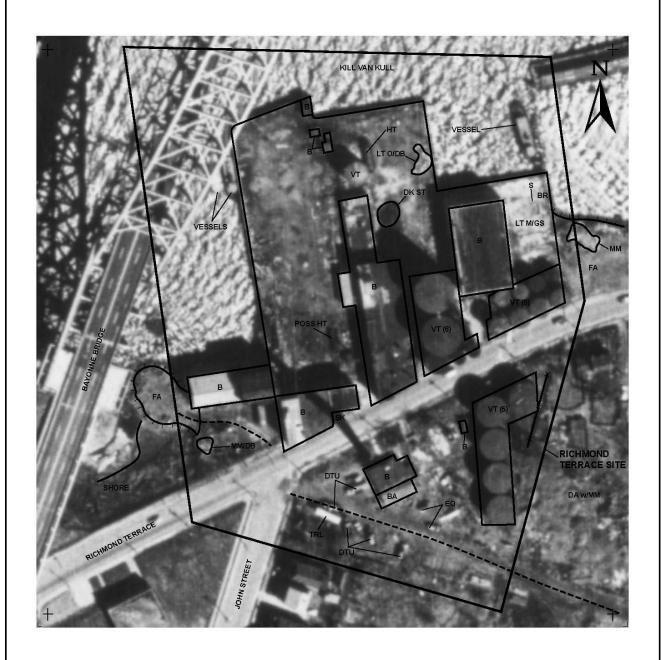


Image Source: USEPA 2009a

Figure 2-1b. Staten Island Warehouse FUSRAP Site Aerial April 23, 1961



### U.S. Army Corps of Engineers





Image Source: USEPA 2009a

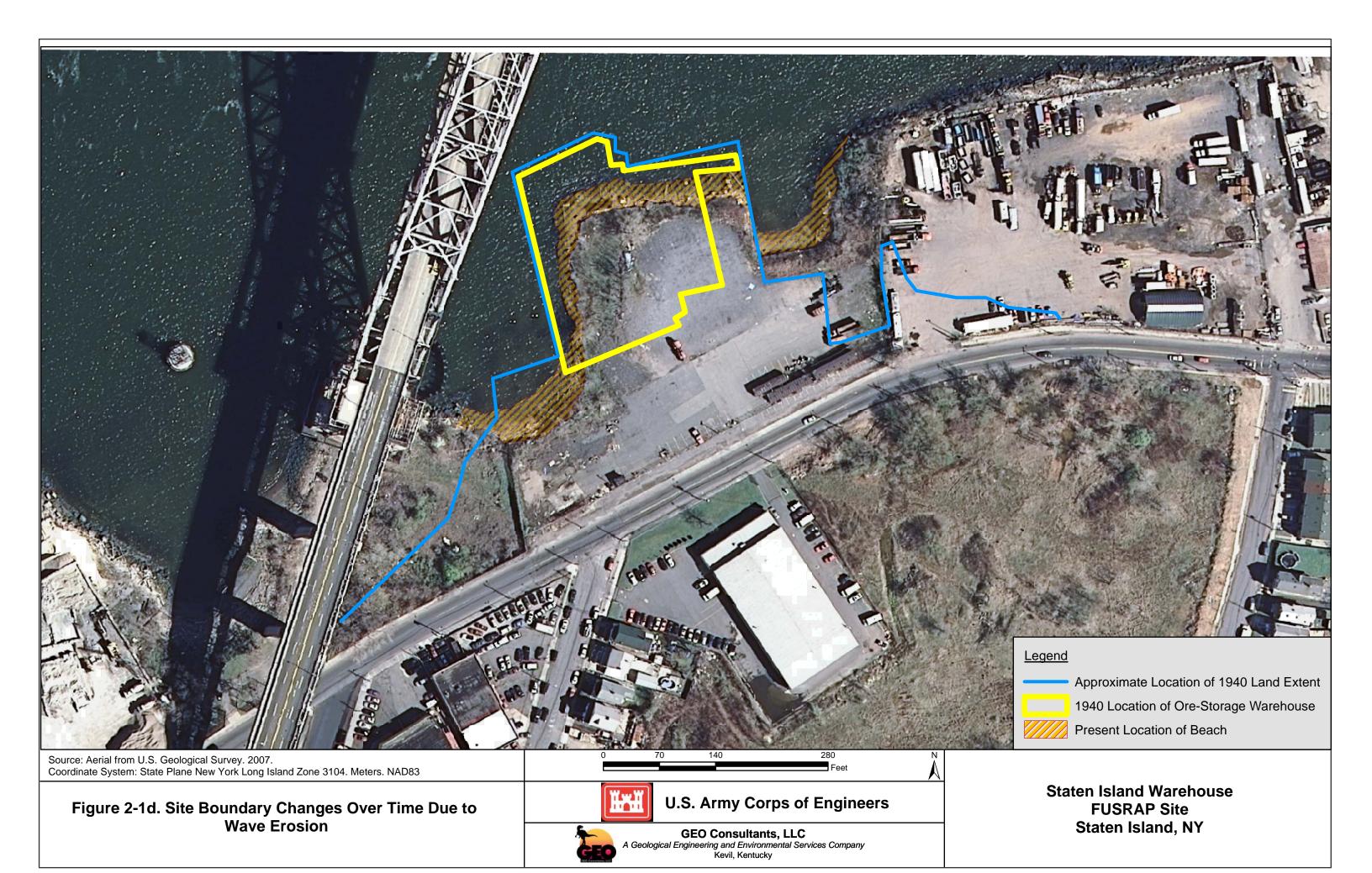
Figure 2-1c. Staten Island Warehouse FUSRAP Site Aerial March, 1988

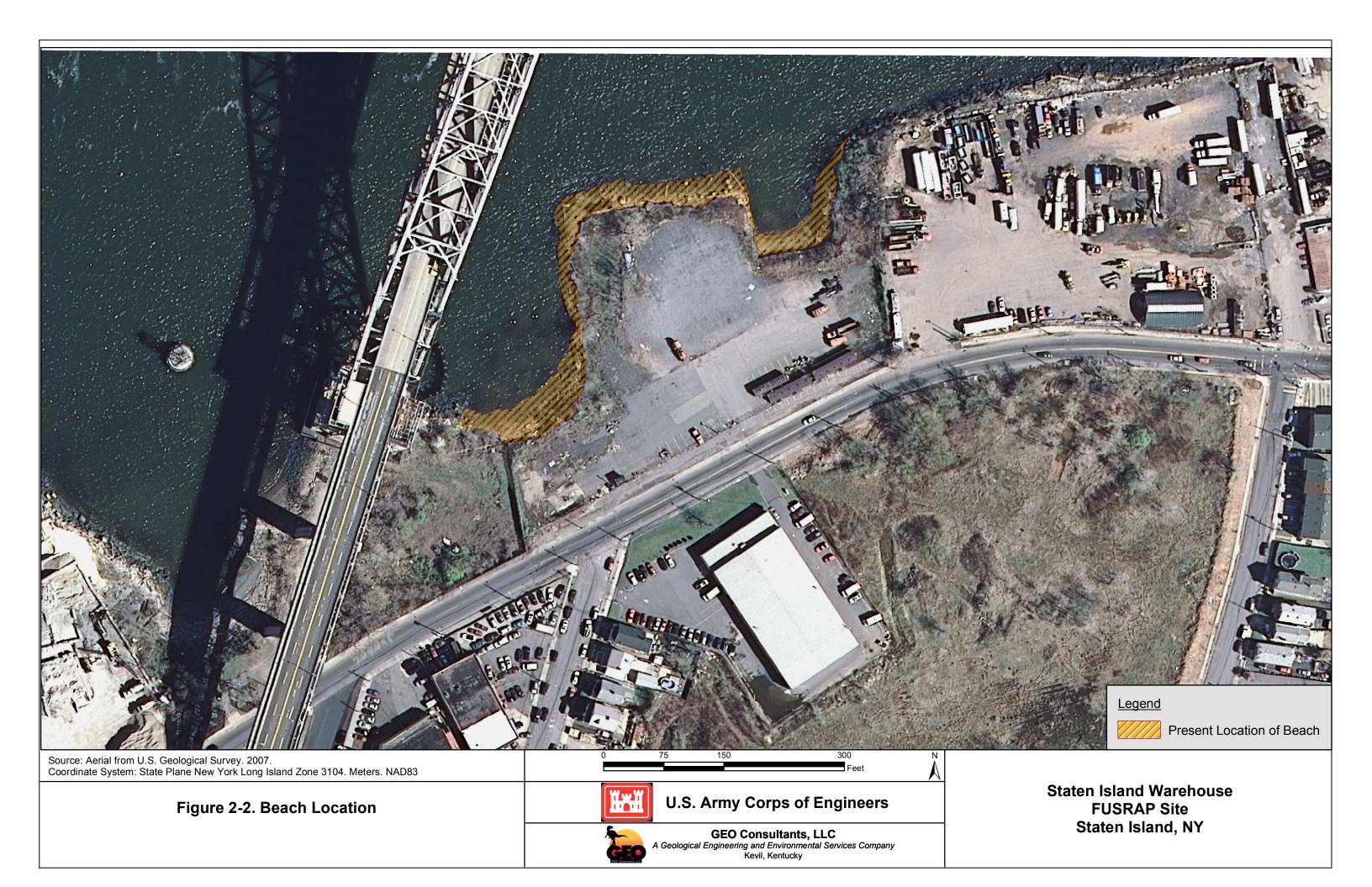


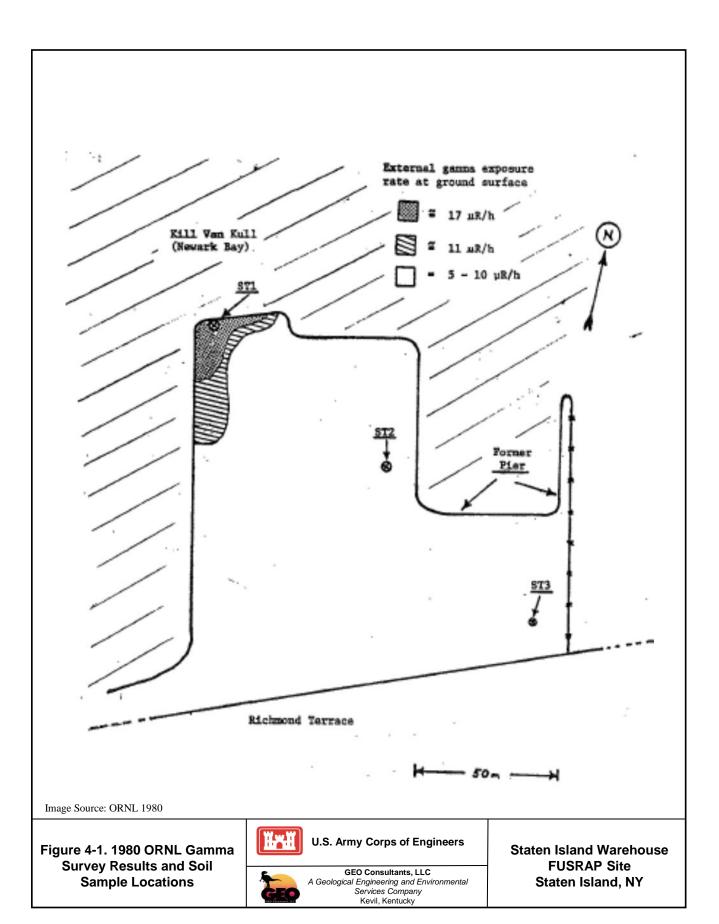
U.S. Army Corps of Engineers

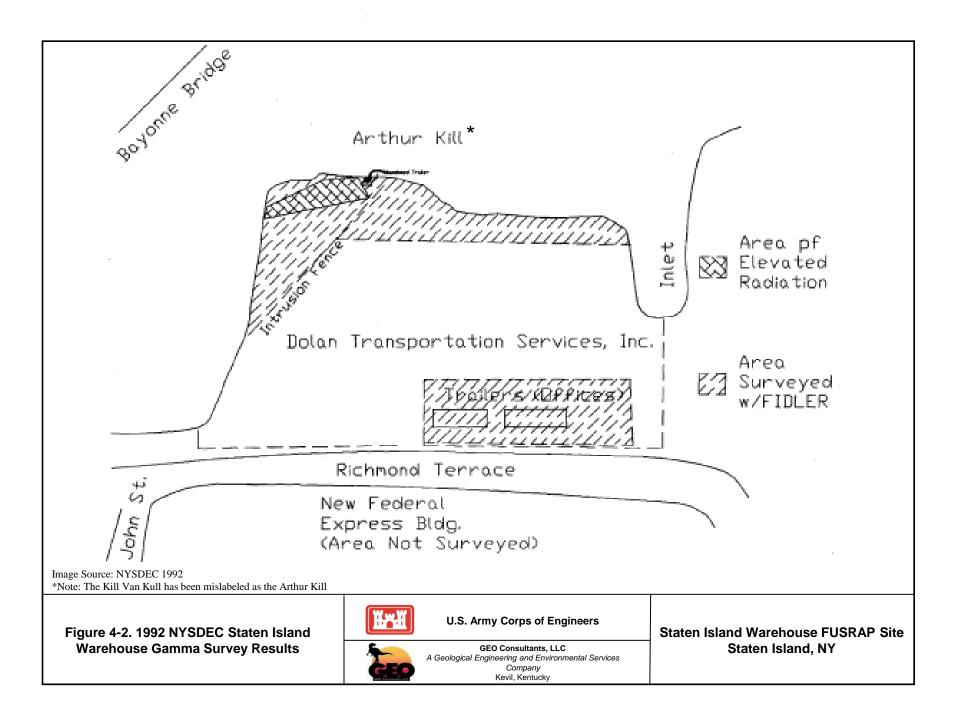


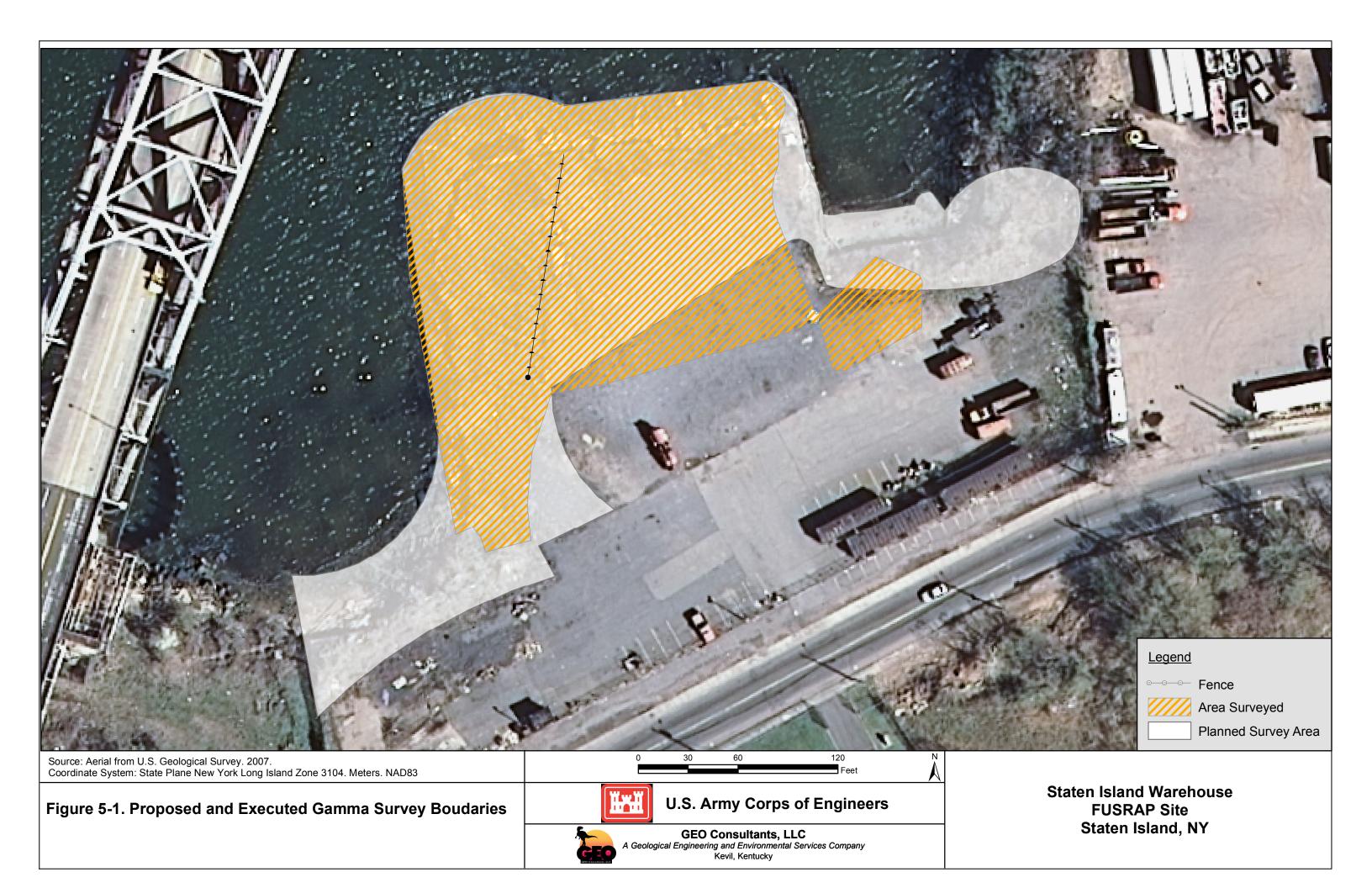
GEO Consultants, LLC A Geological Engineering and Environmental Services Company Kevil, Kentucky

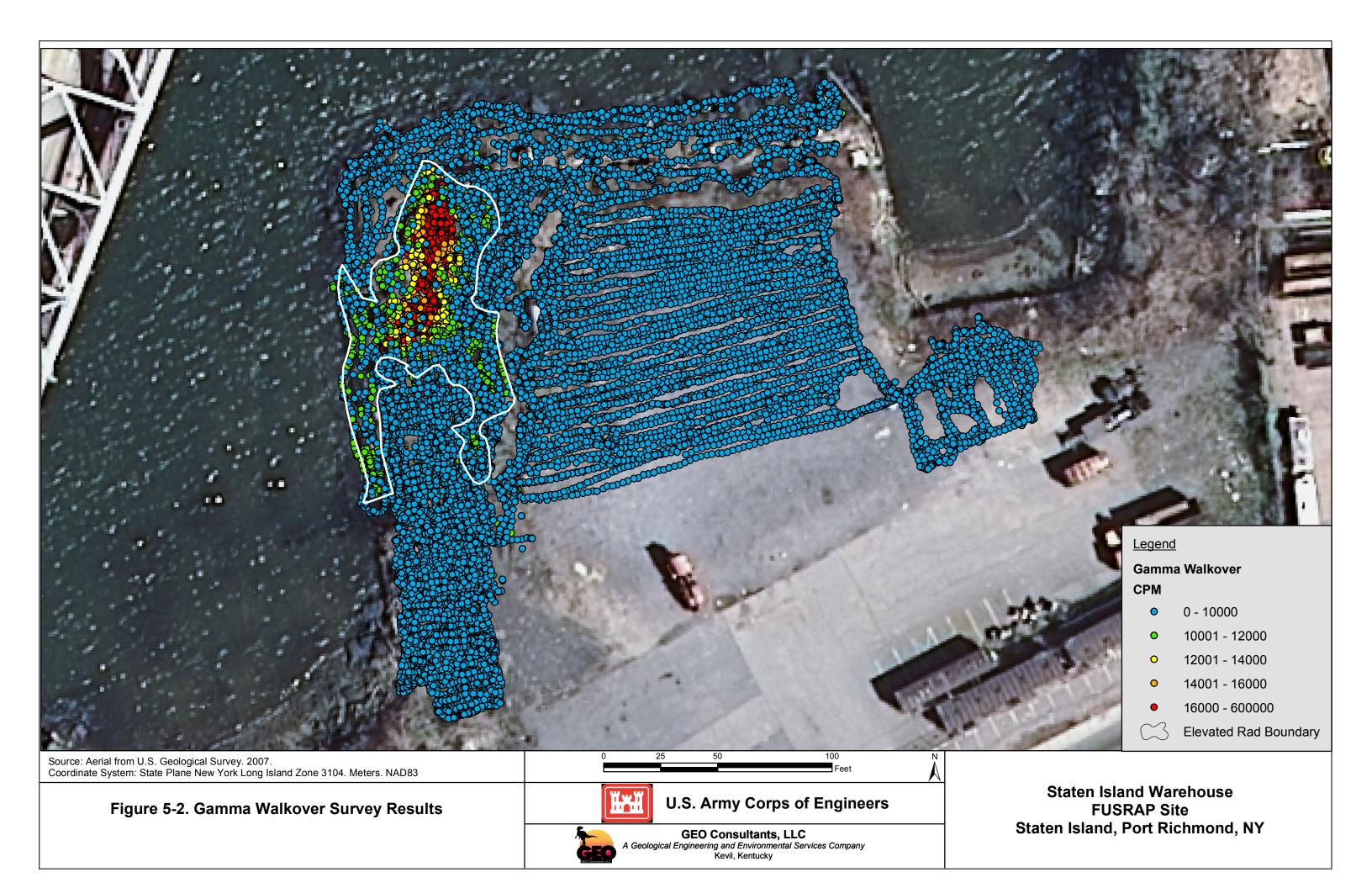




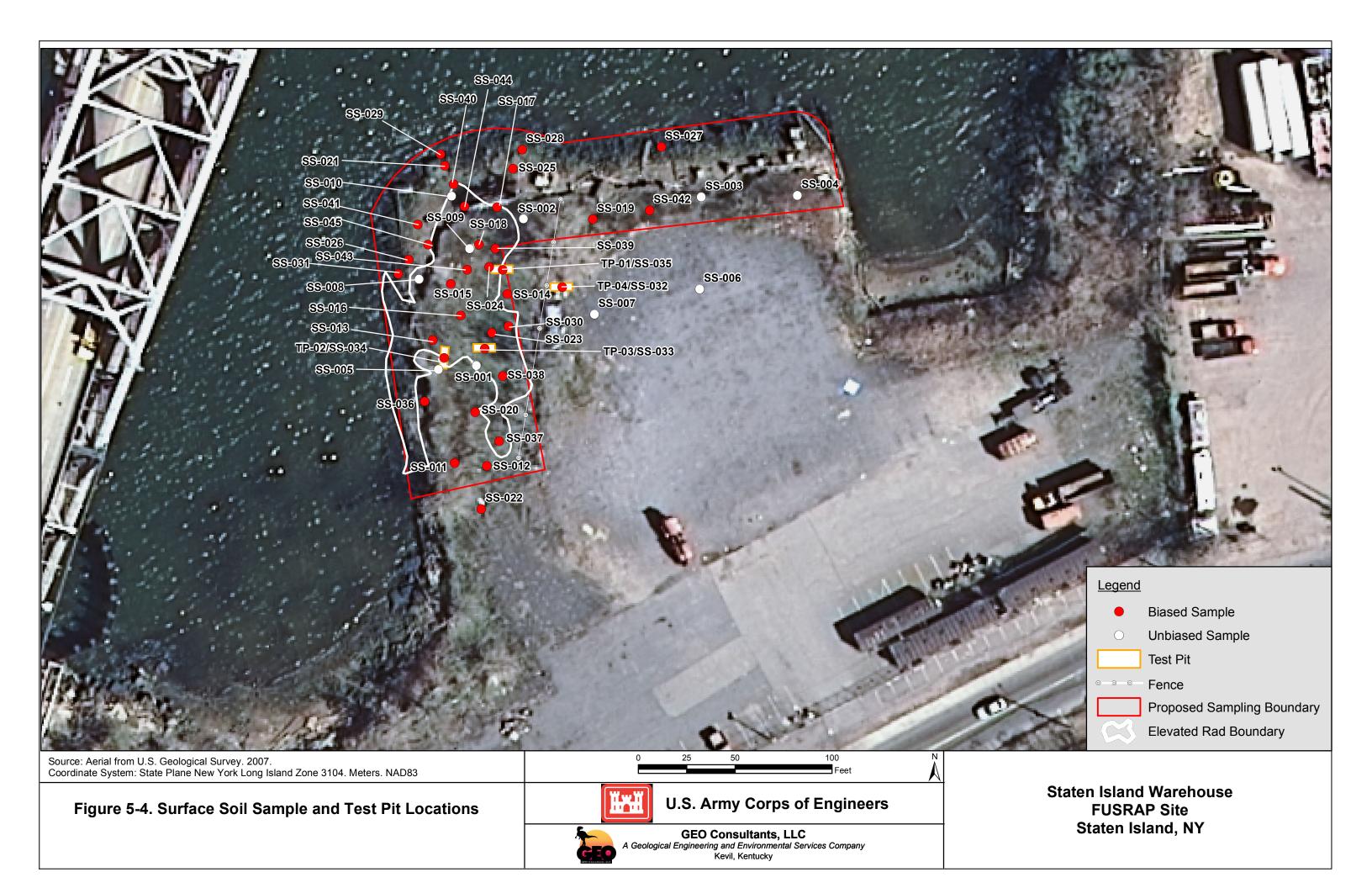






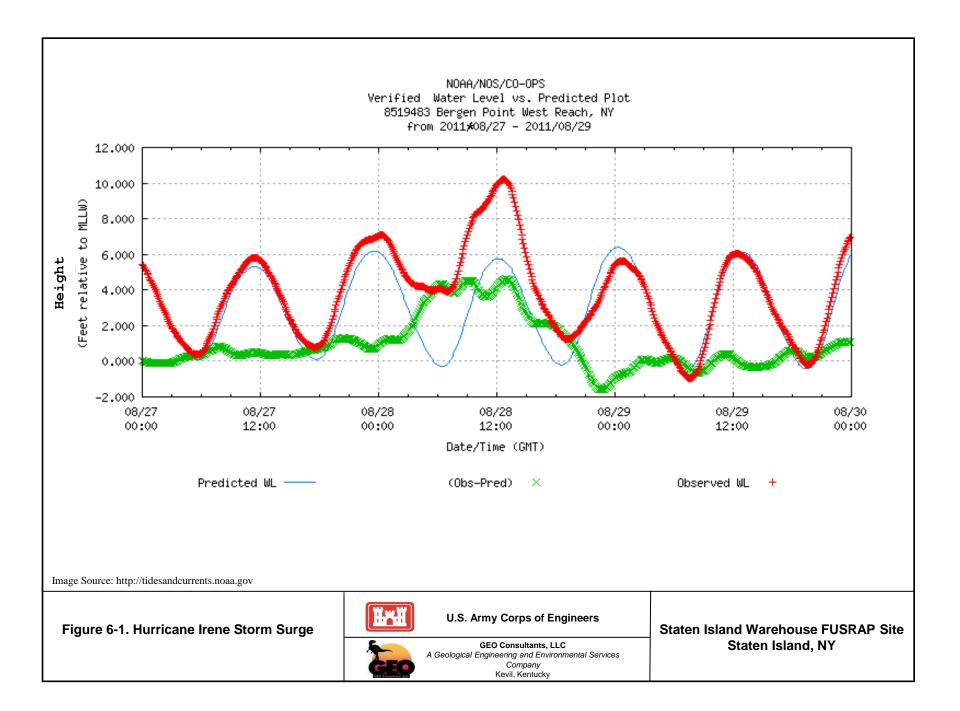




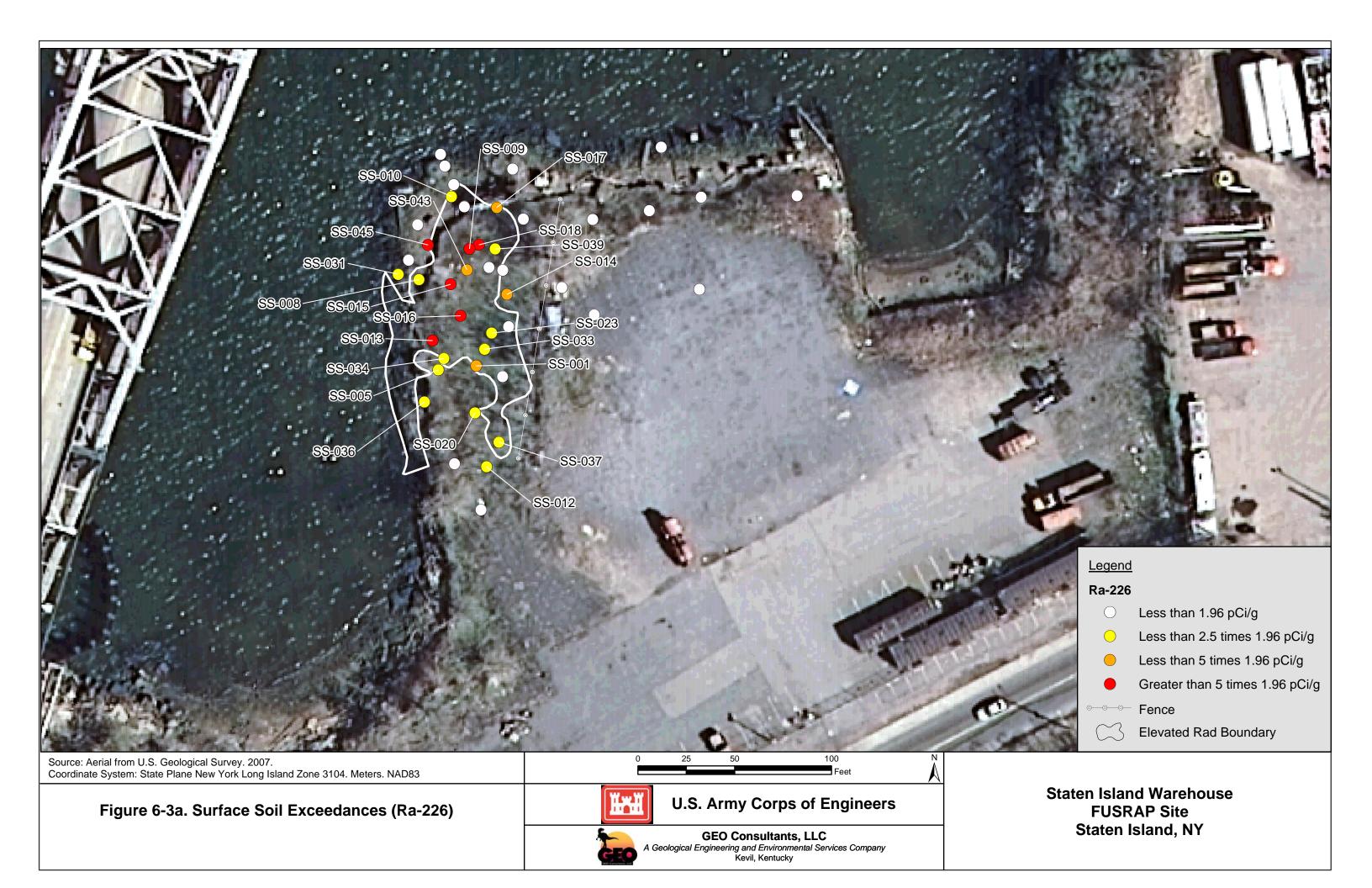


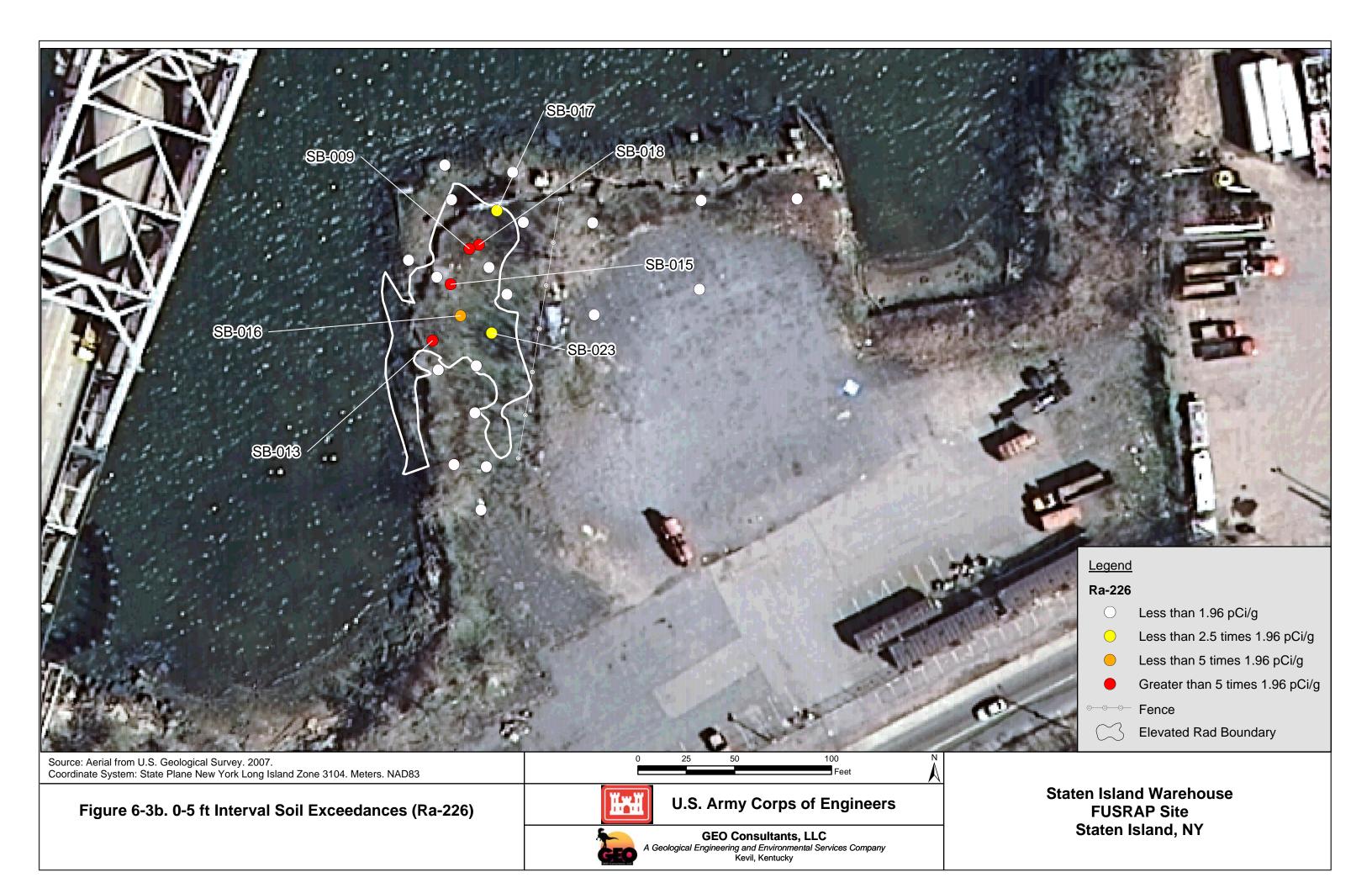




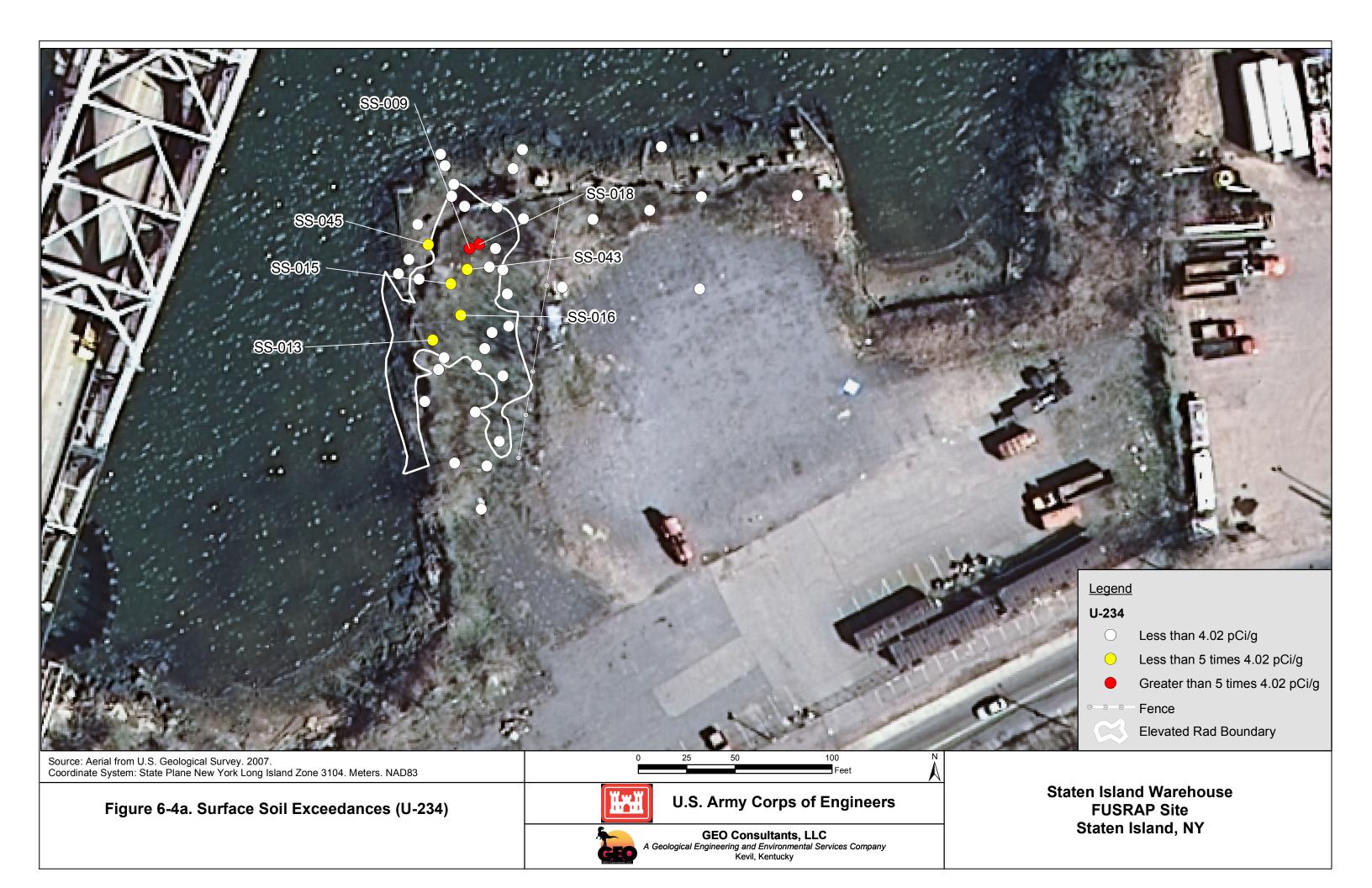


















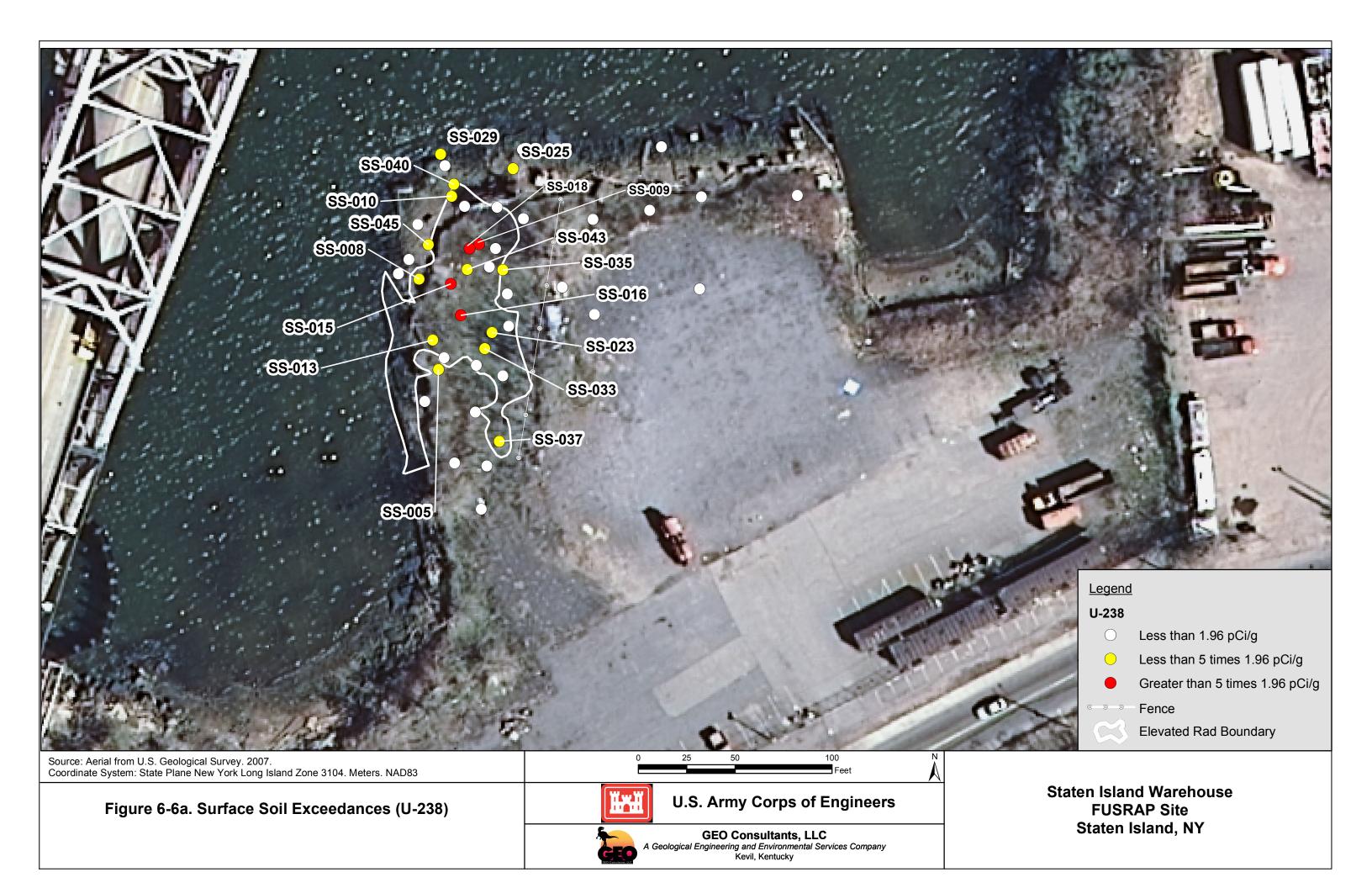










Table 4-1. Previous sampling results.

				4-1. Previous sa	ampli				_						_		
		Parameter	Co-60 10198-40-0	Cs-137 10045-97-3			K-40 066-0			Pb-21 192-9		1	Pb-21 067-2			Ra-22 982-6	
		CAS# Units	pCi/g	pCi/g	,		pCi/s			pCi/s			υ07-2 pCi/ε	-		pCi/s	
Sample ID	Sample Depth (inches bgs)	Sample Date	Result	Result			Resul	,		Resu	,		Resul	,		Resu	
Oak Ridge National La	\ 8/	'															
ST1	13-16	7/10/1980	NA	NA			NA			NA			NA		590	±	1.2
NYSDEC Samples																	
NR-2-92-003-072201	0-3	7/14/1992	< 0.1	< 0.	.2	6.2	±	1.2	0.29	±	0.16	0.81	±	0.27	0.53	±	0.21
NR-2-92-003-072202	3-6	7/14/1992	< 0.11	< 0.	.24	9.9	±	2.6	0.7	±	0.19	0.87	±	0.23	0.9	±	0.36
NR-2-92-003-072203	6-10.5	7/14/1992	< 0.1	< 0.	.18	9	±	2.1	1.05	±	0.15	0.98	±	0.19	0.87	±	0.24
NR-2-92-003-072204	10.5-14	7/14/1992	< 0.22	< 0.	.34	6.8	±	3.7	1.05	±	0.31	1.48	±	0.38	1.06	±	0.47
NR-2-92-003-072205	14-18-E	7/14/1992	< 0.18	< 0.	.26	9.9	±	3.3	2.58	±	0.27	2.51	±	0.33	1.95	±	0.4
NR-2-92-003-072206	0-2	7/14/1992	< 0.49	< 0.	.56	9.7	±	6.3	1.7	±	0.58	114.6	±	2.2	95.3	±	2.2
NR-2-92-003-072207	2-4	7/14/1992	< 0.34	< 0.	.54	7.5	±	6.2	2.6	±	0.51	18.7	±	1	16	±	1.2
NR-2-92-003-072208	4-6	7/14/1992	< 0.87	< 1.	.8		<	26	2	±	1.1	18.7	±	1.9	16.3	±	2.5
NR-2-92-003-072209	6-10	7/14/1992	< 0.22	< 0.	.39	7.9	±	4.6	1.32	±	0.29	2.03	±	0.47	2.07	±	0.52
NR-2-92-003-072210	10-14	7/14/1992	< 0.12	< 0.	.22	10.7	±	2.7	1.17	±	0.19	1.2	±	0.21	0.99	±	0.24
NR-2-92-003-072211	14-16.5	7/14/1992	< 0.14	< 0.	.25	9.5	±	3.1	1.61	±	0.23	1.24	±	0.38	1.53	±	0.35
NR-2-92-003-072212	0-3	7/14/1992	< 0.28	< 0.	.65	5.6	±	5.2	1.89	±	0.47	53.6	±	1.2	44.4	±	1.2
NR-2-92-003-072213	2-4	7/14/1992	< 1.1	< 0.	.94		<	14	6.9	±	1.5	453.1	±	4.8	383.1	±	4.8
NR-2-92-003-072214	4-6	7/14/1992	< 0.43	< 0.	.43	10.2	±	7.7	1.88	±	0.59	62.8	±	1.8	51.7	±	1.7
NR-2-92-003-072215	6-11	7/14/1992	< 0.11	< 0.	.12	14.5	±	2	1.27	±	0.15	1.38	±	0.19	1.06	±	0.21
NR-2-92-003-072216	11-14	7/14/1992	< 0.11	< 0.	.13	10.1	±	2.2	1.48	±	0.17	1.4	±	0.25	1.01	±	0.31
NR-2-92-003-072217	14-17	7/14/1992	< 0.16	< 0.	.18	8.4	±	3.1	1.21	±	0.29	1.48	±	0.29	1.15	±	0.31
NR-2-92-003-072218	0-2	7/14/1992	< 0.83	< 0.	.68	17	±	11		<	1.7	534.4	±	3.8	455.9	±	3.9
NR-2-92-003-072219	2-4	7/14/1992	< 37	< 29	9		<	406		<	70	48350	±	167	38840	±	160
NR-2-92-003-072220	4-6	7/14/1992	< 18	< 19	9		<	349		<	22	2629	±	76	2212	±	77
NR-2-92-003-072221	6-8	7/14/1992	< 22	< 22	2		<	349		<	27	5308	±	102	4109	±	101
NR-2-92-003-072222	8-12	7/14/1992	< 0.19	< 0.	.2	8.2	±	3.6	1.59	±	0.27	31.6	±	0.74	26.69	±	0.79
NR-2-92-003-072223	12-17.5	7/14/1992	< 0.13	< 0.	.15	10.4	±	2.2	2.41	±	0.2	3.34	±	0.31	2.89	±	0.39
NR-2-92-003-072224	0-6	7/14/1992	< 0.62	< 0.	.53	15.3	±	9.3	2.98	±	0.76	280.8	±	2.9	237.8	±	3
NR-2-92-003-072225	6-12	7/14/1992	< 0.14	< 0.	.14	7.9	±	2.6	1.84	±	0.19	5.2	±	0.35	4.36	±	0.4
NR-2-92-003-072226	12-16.5	7/14/1992	< 0.13	< 0.	.14	8.4	±	2.5	2.14	±	0.19	3.05	±	0.28	2.41	±	0.39
NR-2-92-003-072227	0-4	7/14/1992	< 0.26	< 0.	.22	14.6	±	4.1	1.6	±	0.4	291.1	±	1.5	254.9	±	1.5
NR-9-92-003-072101	2	7/14/1992	< 0.054	0.2 ± 0.	.078	22.1	±	1.3	1.237	±	0.09	1.06	±	0.11	1.02	±	0.12
NR-9-92-003-071401	2	7/14/1992	< 0.043	0.33 ± 0.	.077	9.8	±	1.1	1.178	±	0.088	1.06	±	0.13	0.93	±	0.11
USEPA, NYSDEC, and	d NYDOH Samples																
885056	0-6	2/20/2008	NA	NA			NA			NA			NA		15.46	±	0.5
885057	0-6	2/20/2008	NA	NA			NA			NA			NA		3.84	±	0.2
885058	0-6	2/20/2008	NA	NA			NA			NA			NA		17.26	±	0.6
885059	0-6	2/20/2008	NA	NA			NA			NA			NA		90.27	±	2.8
885060	0-6	2/20/2008	NA	NA			NA			NA			NA		1102	±	33
885061	0-6	2/20/2008	NA	NA			NA			NA			NA		6.088	±	0.3
885062	0-6	2/20/2008	NA	NA			NA			NA			NA		1.333	±	0.1

bgs: below ground surface; Co: cobalt; Cs: cesium; ID: identification, K: potassium; NA: not applicable, NYSDEC: New York State Department of Environmental Conservation; NYDOH: New York Department of Health; pCi/g: picocuries per gram; Pb: lead; Ra: radium; USEPA: U.S. Environmental Protection Agency

Table 4-1. Previous sampling results (continued).

				Ta	ble 4-1.				esults (c	ontin	ued).								
		Parameter		h-22		l	h-23			Γ1-20			J <b>-23</b> 8			U-23			ı-113
		CAS#		274-8			40-2			13-5			40-61		1	117-9			66-06-8
		Units		pCi/s	3		pCi/s	g		pCi/g	3	] ]	pCi/g	3		pCi/	g	p	Ci/g
Sample ID	Sample Depth	Sample	]	Resul	lt	I	Resul	lt	] ]	Resul	t	F	Resul	t	]	Resu	lt	Re	esult
	(inches bgs)	Date																	
Oak Ridge National Lab		<b>=</b> (4.0 (4.0 0.0		NT A			NT A			NT A				10.0		NT A			NT A
ST1	13-16	7/10/1980		NA			NA			NA		660	±	19.8		NA			NA
NYSDEC Samples																			
NR-2-92-003-072201	0-3	7/14/1992		<	0.56		<	0.4		<	0.52	-	<	1.7		NA			NA
NR-2-92-003-072202	3-6	7/14/1992	0.74	±	0.49	0.65	±	0.57	0.68	±	0.46	-	<	1.9		NA			NA
NR-2-92-003-072203	6-10.5	7/14/1992	1.2	±	0.41	0.73	±	0.5	1.11	±	0.38		<	1.6		NA			NA
NR-2-92-003-072204	10.5-14	7/14/1992	1.58	±	0.67	1.23	±	0.99	1.46	±	0.62		<	2.8		NA			NA
NR-2-92-003-072205	14-18-E	7/14/1992	2.6	±	0.56	2.13	±	0.85	2.41	±	0.52	3	±	2.6		NA			NA
NR-2-92-003-072206	0-2	7/14/1992	2	±	1.3	1.8	±	1.7	1.8	±	1.2	121	±	13	9.65	±	0.72		NA
NR-2-92-003-072207	2-4	7/14/1992	1.9	±	1.3	3.8	±	2.1	1.7	±	1.2	31.6	±	7.8	1.96	±	0.41		NA
NR-2-92-003-072208	4-6	7/14/1992		<	4.5		<	4		<	4.2	32	±	16	2.3	±	1		NA
NR-2-92-003-072209	6-10	7/14/1992	1.08	±	0.75		<	0.98	1	±	0.7	17.7	±	3.5		NA			NA
NR-2-92-003-072210	10-14	7/14/1992	1.72	±	0.48	1.33	±	0.56	1.6	±	0.44	4.4	±	2.4		NA		]	NA
NR-2-92-003-072211	14-16.5	7/14/1992	1.56	±	0.69	1.72	±	0.8	1.45	±	0.64	4.7	±	2.7		NA		]	NA
NR-2-92-003-072212	0-3	7/14/1992		<	1.4	3.1	±	1.2		<	1.3	28.5	±	5.6	3.09	±	0.37		NA
NR-2-92-003-072213	2-4	7/14/1992	4.7	±	2.7		<	4.1	4.3	±	2.5	191.4	±	2.8	19.3	±	1.6	]	NA
NR-2-92-003-072214	4-6	7/14/1992	1.5	±	1.1		<	39	1.4	±	1	34.5	±	7.9	3.54	±	0.59	1	NA
NR-2-92-003-072215	6-11	7/14/1992	1.52	±	0.39	1.32	±	0.51	1.41	±	0.36	15.6	±	2.5		NA		]	NA
NR-2-92-003-072216	11-14	7/14/1992	1.42	±	0.41	1.46	±	0.52	1.31	±	0.38	7.1	±	2.2	ĺ	NA		]	NA
NR-2-92-003-072217	14-17	7/14/1992	1.63	±	0.51	1.49	±	0.73	1.51	±	0.47	8.6	±	3.1		NA		]	NA
NR-2-92-003-072218	0-2	7/14/1992		<	1.9		<	3.1		<	1.7	412	±	23	25.5	±	1.2	5	± 1.3
NR-2-92-003-072219	2-4	7/14/1992		<	76		<	131		<	70	49190	±	973	2983	±	53	]	NA
NR-2-92-003-072220	4-6	7/14/1992		<	45		<	76		<	42	9984	±	563	616	±	32	]	NA
NR-2-92-003-072221	6-8	7/14/1992		<	56		<	86		<	52	27860	±	1021	1342	±	45	]	NA
NR-2-92-003-072222	8-12	7/14/1992	1.05	±	0.56	1.67	±	0.78	0.97	±	0.52	83.4	±	5.8	5.05	±	0.31	]	NA
NR-2-92-003-072223	12-17.5	7/14/1992	2.43	±	0.43	2.41	±	0.78	2.25	±	0.4	21.2	±	3.2	1.17	±	0.15	1	NA
NR-2-92-003-072224	0-6	7/14/1992		<	1.5		<	2.4		<	1.4	345	±	17	22.64	±	0.97	]	NA
NR-2-92-003-072225	6-12	7/14/1992	1.76	±	0.47	2.22	±	0.66	1.63	±	0.44	20.9	±	2.8	1.49	±	0.17	]	NA
NR-2-92-003-072226	12-16.5	7/14/1992	2.16	±	0.57	2.3	±	0.57	2	±	0.52	7.7	±	2.7		NA		]	NA
NR-2-92-003-072227	0-4	7/14/1992	1.88	±	0.72	2.4	±	1	1.74	±	0.67	182	±	11	12.66	±	0.53	]	NA
NR-9-92-003-072101	2	7/14/1992	1.16	±	0.19	1.51	±	0.33	1.07	±	0.18		<	1.2		NA		]	NA
NR-9-92-003-071401	2	7/14/1992	1.1	±	0.21	1.12	±	0.25	1.02	±	0.2		<	1.1		NA		]	NA
USEPA, NYSDEC, and	NYDOH Samples																		
885056	0-6	2/20/2008		NA		0.77	±	0.1		NA		14.04	±	2.9	1.37	±	0.34	]	NA
885057	0-6	2/20/2008		NA		0.39	±	0.1		NA		2.63	±	1.48	0.33	±	0.16	]	NA
885058	0-6	2/20/2008		NA		0.65	±	0.1		NA		8.37	±	2.83	0.92	±	0.35	]	NA
885059	0-6	2/20/2008		NA		0.83	±	0.2		NA		116.4	±	8.91	9.45	±	0.89		NA
885060	0-6	2/20/2008		NA				0.7		NA		1187	±	45.1	89.17		3.92		NA
885061	0-6	2/20/2008		NA		1	±	0.1		NA		3.4	±	1.97	0.6	±	0.21		NA
885062	0-6	2/20/2008		NA		0.73	±	0.1		NA		<b>†</b>		1.03	0.0		0.12		NA
	ID. : 1		T \$7		. D		· E		1.1.C		N 13 71	DOIL N			<del></del>		-14b		<del> </del>

bgs: below ground surface; ID: identification, NYSDEC: New York State Department of Environmental Conservation; NYDOH: New York Department of Health; pCi/g: picocuries per gram; Sn: tin; Th: thallium; U: uranium; USEPA: U.S. Environmental Protection Agency

Table 5-1. Results of radiation subsurface soil samples (alpha and gamma spectroscopy ) for the Staten Island Warehouse Site.

		Tab		ılts of r	adiation	subsurface soi	l sampl	es (alpha	and gamma s	pectros			and V	Varehouse Si	ite.				
	Analyte	1	K-40			Ra-226			Th-232		τ	U <b>-234</b>			U-235			U- 238	
	CAS#	1	13966-00-2			13982-63-3			7440-29-1		139	966-29-5		15	117-96-1			7440-61-1	
	Units		pCi/g			pCi/g			pCi/g		] ]	pCi/g			pCi/g			pCi/g	
	<b>Screening Level</b>		None			1.96			3.07			4.02			3.95			1.96	
Source of	Screening Level		None		USEP	A 2008 Backgi	ound	R	esidential PRO	ř	Reside	ential PRG		Resid	dential PRG	r r	USEPA	2008 Backg	round
Sample ID	Sample Date	Result (	Qual 2σ			Qual 2 σ	MDC	Result	~		Result Qua		MDC	Result Qua	al 2σ	MDC	Result (	Qual 2σ	MDC
SIW-SB-001P-0.0-5.0	7/12/2011	6.8	2			0.31	0.14	1.71	0.38	0.21	1.73	0.23	0.02	0.079		0.015	1.6	0.22	0.01
SIW-SB-001P-5.0-10.0	7/12/2011	9.8	1.6	0.5	0.74	0.19	0.16	1.09	0.31	0.2	1.7	0.26	0.02	0.079	0.052	0.037	1.89	0.27	0.02
SIW-SB-002P-0.0-5.0	7/12/2011	7.4	1.4	. 1	0.86		0.18	0.91	0.23	0.14	0.66	0.12	0.02	0.033	0.025		0.66	0.11	
SIW-SB-003P-0.0-5.0	7/12/2011	14.9	2.1	1	1.07	0.22	0.17	1.3	0.28	0.18	0.65	0.12	0.03	0.027 U		0.035	0.66	0.12	0.04
SIW-SB-003P-5.0-8.0	7/12/2011	9.2	2.2			0.21	0.11	1.07	0.25	0.26	0.64	0.12	0.02	0.019 U	0.02	0.023	0.456	0.094	0.024
SIW-SB-004P-0.0-5.0	7/12/2011	10.4	1.6	0.5	1.22	0.21	0.16	0.65	0.22	0.25	0.71	0.12	0.03	0.026	0.023	0.014	0.64	0.12	0.02
SIW-SB-DUP-001*	7/12/2011	7.7	1.7			0.25	0.18	0.54	0.29	0.4	0.78	0.13	0.01	0.046	0.03	0.022	0.79	0.13	
SIW-SB-004P-5.0-10.0	7/12/2011	11.2	1.7			0.18	0.14	1.24	0.24	0.24	0.55	0.1	0.01	0.02	0.02	0.013	0.64	0.11	
SIW-SB-005P-0.0-5.0	7/13/2011	12.5	1.8			0.27		1.58	0.3		2.73	0.32	0.02	0.166		0.016	2.67	0.32	
SIW-SB-005P-5.0-8.0	7/13/2011	15.4	2.8					1.78	0.36			0.27	0.03	0.123	0.078		1.42	0.27	
SIW-SB-DUP-002*	7/13/2011	17.4	2.5			0.29		1.68	0.41	0.45		0.19	0.02	0.074		0.014	1.26	0.18	
SIW-SB-006P-0.0-5.0	7/13/2011	10.8	1.7			0.16		0.54	0.19	0.27	0.67	0.12	0.02	0.028	0.024		0.65	0.12	
SIW-SB-006P-5.0-8.0	7/13/2011	11.1	1.6			0.16		0.74	0.2	0.09			0.022	0.022	0.021		0.431	0.088	
SIW-SB-007P-0.0-5.0	7/13/2011	10.3	1.7					0.65	0.23	0.35		0.13	0.02	0.063		0.022	0.87	0.14	
SIW-SB-007P-5.0-8.0	7/13/2011	11	1.8		2.8			1.17	0.33	0.29		0.42	0.01	0.152	0.058		3.59	0.39	
SIW-SB-008P-0.0-5.0	7/14/2011	12	2.1		1.57	0.29	0.2	1.47	0.32	0.3	1.24	0.19	0.02	0.053	0.035		0.92	0.15	
SIW-SB-008P-5.0-8.0	7/14/2011	12.3	2		2.04	0.31	0.19	2.81	0.41	0.14	2.06	0.25	0.02	0.124	0.052		1.82	0.23	
SIW-SB-009P-0.0-5.0	7/14/2011	15.3	3.6				0.5	2.82	0.72	1.1	40.7	4.3	0.3	4.5	1.6			4.3	
SIW-SB-009P-5.0-8.0	7/14/2011	14.6	2.4			0.34		1.26	0.29	0.26		0.45	0.01	0.7	0.5			0.45	
SIW-SB-010P-0.0-5.0	7/15/2011	11.5	2.7			0.42		1.03	0.41	0.45		0.2	0.02	0.083	0.042		1.28	0.18	
SIW-SB-DUP-005*	7/15/2011	11.5	2.6			0.35		1.27	0.39	0.23	1.75	0.22	0.03	0.076		0.014	1.84	0.23	
SIW-SB-010P-5.0-8.0	7/15/2011	11.6	1.9					1.19	0.21	0.12		0.13	0.01	0.056		0.015	0.66	0.12	
SIW-SB-011P-0.0-5.0	7/13/2011	15.8	2.9			0.34		1.72	0.4	0.47	0.9	0.14	0.01	0.019 U	0.021			0.15	
SIW-SB-011P-5.0-8.0	7/13/2011	17.8	2.6			0.27	0.22	1.73	0.32	0.3		0.13	0.02	0.037		0.014	0.65	0.12	
SIW-SB-012P-0.0-5.0	7/13/2011	15	2.2			0.24		1.44	0.34	0.26		0.13	0.03	0.064		0.014	0.86	0.14	
SIW-SB-012P-5.0-8.0	7/13/2011	17.3	2.4			0.2		1.57	0.33			0.15	0.01	0.037	0.031		0.82	0.14	
SIW-SB-013P-0.0-5.0	7/14/2011	4.5 U				5.9		1.2		1.6		3.4	0.05	4.6	2.3	2.8		3.3	
SIW-SB-013P-5.0-8.0	7/14/2011 7/13/2011	15.7	2.3		3.7	0.44		2.91	0.42			0.68	0.03	0.35	0.1	0.04	6.15	0.63	
SIW-SB-014P-0.0-5.0		1.57	0.28		0.102	0.024		0.068	0.028	0.06		0.13	0.02	0.067	0.037		0.73	0.13	
SIW-SB-014P-5.0-8.0	7/13/2011	23.3			1.02 <b>54.4</b>	0.24 3.5	0.2	1.22	0.27	1.1	1.91 <b>65.4</b>	0.25	0.04	0.131 <b>4.2</b>	0.059	1.9	1.88 <b>63</b>	6.2	
SIW-SB-015P-0.0-5.0 SIW-SB-016P-0.0-5.0	7/14/2011 7/14/2011	13.9	3.5 2.2					1.55 2.11	0.63 0.46		9.68	0.93	0.2	0.48	0.12	0.04		0.92	
SIW-SB-016P-5.0-8.0	7/14/2011	13.9	2.3			0.73	0.20	1.27	0.46			0.93	0.02			0.04		0.92	
SIW-SB-010F-0.0-5.0	7/14/2011	13.7	2.3			0.31		1.29	0.30			0.23	0.03			0.020		0.24	
SIW-SB-0171-0.0-5.0	7/14/2011	16.2	2.6			1.8		2.6	0.28			3.1	0.05	2.9	1.4			3.1	
SIW-SB-DUP-003*	7/14/2011	15.5	2.2			1.5		2.91	0.64	0.54		2.2	0.06		0.76			2.2	
SIW-SB-019P-0.0-5.0	7/13/2011	6.7	1.6					0.13		0.34			0.028			0.021	0.473	0.094	
SIW-SB-019P-5.0-8.0	7/13/2011	8	1.4					0.49	0.16		0.246	0.061			0.0084			0.064	
SIW-SB-020P-0.0-5.0	7/14/2011	14.1	2		1.41	0.24		1.52	0.29		1.98	0.26	0.03			0.027		0.26	
SIW-SB-020P-5.0-8.0	7/14/2011	13	1.9			0.18		0.97	0.23			0.17	0.03			0.028		0.16	
SIW-SB-021P-0.0-5.0	7/15/2011	14.9	2.2			0.28		1.47	0.27	0.19		0.17	0.02	0.069		0.014	1.15	0.17	
SIW-SB-021P-5.0-8.0	7/15/2011	9.8	1.8			0.18		0.61	0.25		0.92	0.14	0.02	0.031		0.021	0.96	0.14	
SIW-SB-022P-0.0-5.0	7/14/2011	16.4	2.4			0.25		1.63	0.34	0.14	0.78	0.16	0.03	0.034 U		0.041	0.92	0.18	
SIW-SB-022P-5.0-8.0	7/14/2011	19.6	2.5			0.26		1.5	0.35			0.14	0.03	0.012 U	0.02			0.14	
SIW-SB-023P-0.0-5.0	7/15/2011	12.1	2.2					2.67	0.41	0.29		0.3	0.02	0.134		0.015		0.31	
SIW-SB-023P-5.0-8.0	7/15/2011	9	1.9					0.59	0.22			0.18	0.02	0.048		0.022		0.17	
SIW-SB-024P-0.0-5.0	7/15/2011	11.4	2			0.28		1.9	0.32			0.21	0.01	0.069		0.012		0.21	
SIW-SB-DUP-004*	7/15/2011	12.2	2		1.63	0.28		1.68	0.37	0.26		0.24	0.02	0.062		0.024	1.89	0.24	
SIW-SB-025P-0.0-5.0	7/15/2011	10.6	2			0.23		1.51	0.32			0.16	0.01	0.038		0.013	1.03	0.15	
SIW-SB-026P-0.0-5.0	7/15/2011	14.5	2.3			0.37		2.36				0.24	0.02			0.015		0.23	
VALUE	Value exceeds the	he Screenii			_	APP (USACE 2	2011b)				•			-					

VALUE Value exceeds the Screening Level as outlined in the QAPP (USACE 2011b)

2σ: total uncertainty; CAS: Chemical Abstract Service; ID: identification, MDC: Minimum Detectable Concentration; pCi/g: picocuries per gram; PRG: Preliminary Remediation Goal, Qual: Data Qualifer; UPL: Upper Prediction Limit; USEPA: U.S. Environmental Protection Agency; U: not detected at the assocated level; \*The DUP is a field duplicate of the preceding sample

Table 5-2. Downhole gamma scan results (cpm).

Depth (ft bgs)	001	002	003*	004	005**	006	007*	008	009	010**	011*	012	013*	014	015	016	017	018	019*	020	021**	022*	023*	024	025**	026**
1	2000	1400	-	1000	1158	491	-	2700	6100	-	1231	2168	10000	1530	7000	2700	1900	19000	800	1700	-	1600	2500	2800	-	-
2	3000	1700	-	1200	2586	943	-	1700	3300	-	2123	2431	2600	1600	1500	1700	1800	5000	950 (1.5 ft)	1500	-	3000	3300	1900	-	-
3	2000	500	-	1100	1718	1136	-	1400	1300	-	2716	1930	2000	1169	1300	2300	820	2000	-	1900	-	3500	1500	1400	-	-
4	2000	500	-	1200	2100	1744	-	1629	1100	-	2522	1560	2700	750	900	1100	550	1300	-	1500	-	1500	754	900	-	-
5	-	600	-	1300	-	1112	-	2500	2600	-	-	1460	4200	1250	1500	800	-	2000	-	1700	-	-	500	1100 (4.5 ft)	-	-
6	-	-	-	1400	-	1021	-	2000	800	-	-	-	5600	850	-	-	-	4500 (5.5 ft)	-	-	-	-	-	-	-	-
7	-	-	-	1600	-	904 (6.5 ft)	-	2100	1500	-	-	-	-	900	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

<sup>\*</sup>Hole collapsed; \*\*Encountered groundwater; --: no data; cpm: counts per minute; ft bgs: foot/feet below ground surface

		Table 5	5-3. Result	ts of rac	liation su	rface soil san	nples (a	lpha and g	gamma spec	trosco	py ) for the S	Staten Island Wa	rehouse Site	2.			
	Analyte		K-40			Ra-226		,	Th-232		1	U <b>-234</b>		U-235	1	U- 238	
	CAS#	13	3966-00-2			13982-63-3		74	440-29-1		139	966-29-5	1	5117-96-1	74	40-61-1	
	Units		pCi/g			pCi/g			pCi/g		]	pCi/g		pCi/g		pCi/g	
	<b>Screening Level</b>		None			1.96			3.07			4.02		3.95		1.96	
Source of	f Screening Level		None		USEPA	2008 Backgr	ound	Resid	dential PRG	j	Resido	ential PRG	Res	idential PRG	USEPA 20	008 Backgr	ound
Sample ID	Sample Date	Result (	Qual 2σ	MDC	Result	Qual 2 σ	MDC	Result Q	ual 2σ	MDC	Result Qua	al 2 σ MDC	Result Q	ual 2 σ MDC	Result Qu	al 2σ	MDC
SIW-SS-001P-0.0-2.0	7/16/2011	12.3	2.1	0.7	5.72	0.61	0.3	1.94	0.42	0.15	1.78	0.22 0.02	0.111	0.045 0.012	1.94	0.23	0.009
SIW-SS-002P-0.0-2.0	7/16/2011	14.5	2.1	1.1	1.74	0.33	0.25	1.77	0.35	0.12	1.23	0.17 0.02	0.062	0.036 0.026	1.37	0.19	0.02
SIW-SS-003P-0.0-2.0	7/15/2011	10.2	1.5	0.7	0.38	0.1	0.1	0.69	0.17	0.15	0.287	0.072 0.018	0.005 U	0.01 0.014	0.283	0.073	0.032
SIW-SS-004P-0.0-2.0	7/15/2011	9.5	2	1	0.72	0.19	0.14	0.56	0.2	0.35	0.65	0.11 0.03	0.024 U	0.023 0.027	0.475	0.094	0.024
SIW-SS-005P-0.0-2.0	7/16/2011	6.9	1.5	0.7	2.81	0.38	0.22	1.26	0.32	0.13	3.16	0.35 0.02	0.133	0.053 0.014	2.88	0.33	0.02
SIW-SS-006P-0.0-2.0	7/15/2011	6.9	1.2	0.8	0.23	0.11	0.12	0.45	0.14	0.13	0.233	0.062 0.017	0.005 U	0.014 0.029	0.233	0.063	0.024
SIW-SS-007P-0.0-2.0	7/15/2011	9.2	1.4	0.7	0.38	0.12	0.12	0.49	0.14	0.08	0.361	0.085 0.031	0.008 U	0.015 0.028	0.314	0.078	0.029
SIW-SS-008P-0.0-2.0	7/16/2011	5.5	1.1	0.8	2.96	0.37	0.21	3.32	0.38	0.22	1.77	0.24 0.04	0.092	0.047 0.016	2.04	0.26	0.01
SIW-SS-009P-0.0-2.0	7/16/2011	17.1	4.4	3.2	36.3	2.6	0.6	2.01	0.8	1.2	33.9	3 0.05	2.9	1.2 1.7	33.4	3	0.06
SIW-SS-010P-0.0-2.0	7/15/2011	9	1.5	0.5	2.88	0.36	0.21	1.38	0.34	0.32	2.68	0.3 0.03	0.162	0.058 0.022	2.8	0.31	0.03
SIW-SS-011P-0.0-2.0	7/16/2011	10.4	1.7	1.1	1.27	0.25	0.19	0.64	0.22	0.3	1.13	0.16 0.03	0.093	0.043 0.021	0.96	0.15	0.01
SIW-SS-012P-0.0-2.0	7/16/2011	12.5	2.5	1.2	3.29	0.48	0.26	2.13	0.44	0.2	1.91	0.24 0.03	0.152	0.056 0.022	1.88	0.23	0.02
SIW-SS-013P-0.0-2.0	7/16/2011	11.5	2.7	1.9	19.1	1.4	0.4	1.82	0.52	0.53	9.11	0.87 0.02	0.54	0.12 0.03	9.48	0.9	0.02
SIW-SS-014P-0.0-2.0	7/16/2011	11.4	2	1.3	5.28	0.52	0.24	1.66	0.39	0.37	1.75	0.22 0.03	0.068	0.039 0.027	1.58	0.21	0.02
SIW-SS-015P-0.0-2.0	7/16/2011	15.8	2.9	1.2	19.5	1.6	0.4	2.36	0.7	0.79	10.3	0.97 0.02	0.53	0.12 0.03	10.1	0.96	0.02
SIW-SS-016P-0.0-2.0	7/16/2011	13.5	3.7	2.9	42	2.8	0.5	2.82	0.82	0.77	11.9	1.1 0.03	0.69	0.15 0.02	11.5	1.1	0.01
SIW-SS-DUP-002*	7/16/2011	11.4	2.5	2.1	33.2	2.2	0.5	2.82	0.68	0.64	11.8	1.1 0.04	0.56	0.13 0.03	11.8	1.1	0.04
SIW-SS-017P-0.0-2.0	7/16/2011	12.2	1.9	1.1	6.97	0.66	0.29	1.49	0.34	0.33	1.78	0.23 0.02	0.054	0.034 0.023	1.82	0.23	0.01
SIW-SS-018P-0.0-2.0	7/16/2011	13.7	3.2	2.5	35.2	2.3	0.5	2.29	0.84	0.78	58.4	5.8 0.2	3	1.3 1.6	56.6	5.6	0.2
SIW-SS-DUP-004*	7/16/2011	17.7	3.7	2.6	36.5	2.5	0.6	3.37	0.73	0.8	38	3.4 0.05	2.7	1.3 1.7	31.2	7.2	8.1
SIW-SS-019P-0.0-2.0	7/15/2011	4.3	1.3	1.1	0.47	0.13	0.09	0.19 U	0.19	0.33	0.277	0.069 0.017	0.014	0.016 0.013	0.291	0.071	0.017
SIW-SS-020P-0.0-2.0	7/16/2011	6.9	1.6	1.4	2.46	0.34	0.19	1.19	0.3	0.19	1.65	0.21 0.02	0.06	0.035 0.022	1.72	0.22	0.02
SIW-SS-021P-0.0-2.0	7/15/2011	12.1	2	1.2	1.49	0.3	0.24	2.01	0.37	0.22	1.73	0.24 0.04	0.082	0.048 0.04	1.7	0.23	0.04
SIW-SS-DUP-001*	7/15/2011	11	1.9	0.7	1.82	0.29	0.17	1.46	0.32	0.13	1.85	0.26 0.03	0.078	0.05 0.045	1.9	0.26	0.04
SIW-SS-022P-0.0-2.0	7/16/2011	10.1	1.5	0.7	0.49	0.12	0.11	0.4	0.15	0.31	0.328	0.075 0.021	0.0034	0.0093 0.021	0.331	0.075	0.021
SIW-SS-023P-0.0-2.0	7/16/2011	11.8	2.3	1.1	3.77	0.5	0.23	2.2	0.48	0.4	2.19	0.27 0.03	0.097	0.046 0.015	2.21	0.27	0.02
SIW-SS-024P-0.0-2.0	7/16/2011	12.6	1.8		1.75	0.26	0.16	1.18	0.24	0.24	1.87	0.24 0.01	0.088	0.043 0.014	1.79	0.23	
SIW-SS-DUP-003*	7/16/2011	13.1	2.3	1	1.49	0.27	0.15	1.02	0.29	0.26	1.69	0.22 0.03	0.058	0.035 0.014	1.72	0.22	0.01
SIW-SS-025P-0.0-2.0	7/16/2011	7	1.3	1	0.91	0.19	0.19	0.76	0.21	0.22	2.85	0.33 0.02	0.42	0.34 0.41	2.72	0.32	0.01
SIW-SS-026P-0.0-2.0	7/15/2011	10.5	1.9	1.1	1.86	0.33	0.24	2.26	0.37	0.4	1.72	0.22 0.02	0.089	0.043 0.013	1.58	0.21	0.01
SIW-SS-027P-0.0-2.0	7/15/2011	18.4	2.2	0.5	1.03	0.2	0.15	1.79	0.29	0.16	0.84	0.14 0.03	0.046	0.035 0.037	0.85	0.14	0.04
SIW-SS-028P-0.0-2.0	7/15/2011	9.4	1.6	1	1.52	0.24	0.16	1.37	0.24	0.17	1.78	0.22 0.02	0.09	0.043 0.022	1.64	0.21	0.02
SIW-SS-029P-0.0-2.0	7/16/2011	7.5	1.3	0.8	1.37	0.22	0.16	0.87	0.22	0.21	2.19	0.27 0.03	0.103	0.048 0.015	2.14	0.26	0.02
SIW-SS-030P-0.0-2.0	7/16/2011	12.9	1.9	0.6	1.64	0.28	0.19	1.53	0.35	0.18	1.64	0.22 0.01	0.11	0.051 0.016	1.6	0.22	0.02
SIW-SS-031P-0.0-2.0	7/16/2011	14.7	2.3	1.3	2.19	0.35	0.24	1.71	0.33	0.23	0.81	0.14 0.02	0.037	0.028 0.014	0.75	0.13	0.01
SIW-SS-032P-0.0-2.0 (TP-04	) 7/16/2011	10.6	1.6	0.7	0.57	0.13	0.11	0.73	0.17	0.15	0.5	0.1 0.01	0.021	0.021 0.014	0.412	0.091	0.011
SIW-SS-033P-0.0-2.0 (TP-03	) 7/16/2011	13.6	2.5	1.1	2.2	0.37	0.2	1.97	0.41	0.38	1.94	0.25 0.03	0.104	0.05 0.016	2.25	0.28	0.01
SIW-SS-034P-0.0-2.0 (TP-02	) 7/16/2011	8.5	1.7	1.1	2.32	0.33	0.19	1.82	0.3	0.19	1.9	0.24 0.01	0.075	0.039 0.013	1.72	0.22	
SIW-SS-035P-0.0-2.0 (TP-01	) 7/16/2011	7.2	1.5	1.1	1.93	0.3	0.19	0.69	0.22	0.12	2.09	0.26 0.01	0.084	0.045 0.026	2.12	0.27	0.02
SIW-SS-036P-0.0-2.0	7/17/2011	9.9	1.9	1.2	2.21	0.32	0.2	2.41	0.38	0.27	1.71	0.23 0.02	0.092	0.047 0.016	1.67	0.23	0.01
SIW-SS-037P-0.0-2.0	7/17/2011	12.3	2	1	2.66	0.39	0.27	3.12	0.52	0.3	3.22	0.36 0.03	0.148	0.059 0.025	3.38	0.37	0.01
SIW-SS-038P-0.0-2.0	7/17/2011	14.3	2.7	1.2	1.89	0.35	0.19	1.66	0.38	0.21	0.94	0.15 0.03	0.038	0.028 0.023	1.04	0.16	0.02
SIW-SS-039P-0.0-2.0	7/17/2011	11.3	1.9	0.6	2.59	0.35	0.21	1	0.28	0.38	1.45	0.19 0.02	0.08	0.04 0.022	1.37	0.19	0.02
SIW-SS-040P-0.0-2.0	7/17/2011	12.3	2		1.65	0.32	0.26	1.53	0.27	0.21	1.91	0.24 0.03		0.049 0.029	1.98	0.25	
SIW-SS-DUP-005*	7/17/2011	11.3	1.8	1.1	1.49	0.26	0.19	1.37	0.29	0.22	1.66	0.22 0.03	0.094	0.046 0.024	1.44	0.2	
SIW-SS-041P-0.0-2.0	7/17/2011	16.1	2.8		1.39	0.29	0.18	1.37	0.3	0.19	0.77	0.17 0.04	0.007 U	0.02 0.045	0.9	0.19	0.04
SIW-SS-042P-0.0-2.0	7/17/2011	6.1	1.1	0.4	0.33	0.12	0.13	0.28	0.14	0.17	0.254	0.07 0.025	0.016	0.019 0.014	0.278	0.073	0.012
SIW-SS-043P-0.0-2.0	7/17/2011	11.7	1.9	1.1	6.18	0.6	0.25	1.45	0.29	0.12	7.19	0.71 0.02	0.93	0.6 0.78	7.17	0.71	0.01
SIW-SS-044P-0.0-2.0	7/17/2011	5.5	1.2		1.77	0.27	0.17	0.22 U	0.12	0.36	1.26	0.18 0.03	0.078	0.042 0.024	1.28	0.18	0.02
SIW-SS-045P-0.0-2.0	7/17/2011	6.8	2.2	2.4	15.8	1.3	0.3	2.08	0.76	0.63	8.13	0.78 0.02	1.13	0.79 1.1	7.78	0.75	0.02
VALUE	Value exceeds t	he Screenin	ng Level as	outline	d in the $\overline{O}$	APP (USACE	$\frac{1}{2011}$	)					·				· ·

Value exceeds the Screening Level as outlined in the QAPP (USACE 2011b)

2σ: total uncertainty; CAS: Chemical Abstract Service; ID: identification, MDC: Minimum Detectable Concentration; pCi/g: picocuries per gram; PRG: Preliminary Remediation Goal, Qual: Data Qualifer; UPL: Upper Prediction Limit; USEPA: U.S. Environmental Protection Agency, U: not detected at the assocated level; \*The DUP is a field duplicate of the preceding sample

Table 5-4. Water quality parameters for groundwater samples collected from the Staten Island Warehouse Site.

Samp	ple ID	Temperat	ure (°C)	Specific Cor (mS/c		Dissolved (mg/	• 0	pH (S	.U.)	ORP (	mV)	Turbidity	(NTU)	Salinity	(PSS)
Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
SIW-GW-005UFP	SIW-GW-005FP	22.89	21.84	33.3	33.9	3.17	3.59	6.31	6.25	50.1	50.3	56.0	50.0	20.84	21.23
SIW-GW-009UFP	SIW-GW-009FP	24.2	24.36	35.1	32.8	3.36	3.74	6.57	6.56	45.8	45.2	54.7	49.5	22.06	20.45
SIW-GW-010UFP	SIW-GW-010FP	22.84	24.62	34.6	34.4	4.39	3.93	6.18	6.24	48.2	47.4	57.6	55.3	21.66	21.67
SIW-GW-016UFP	SIW-GW-016FP	24.15	24.58	34.6	34.7	3.85	4.36	6.46	6.31	46.4	47.0	68.7	62.7	21.78	21.74
SIW-GW-023UFP	SIW-GW-023FP	22.46	22.42	34.8	35.1	4.71	4.04	6.55	6.66	43.9	46.6	75.8	52.3	21.79	21.99
SIW-GW-026UFP	SIW-GW-026FP	24.52	24.18	35.6	35.2	6.06	5.73	7.31	7.32	49.1	48.6	54.5	50.8	22.41	20.66

mg/L: milligrams/liter; ms/cm: milliSiemens per centimeter; mV: millivolts, NTU: Nephlometric Turbidity Unit, PSS: Practical Salinity Scale; S.U.: Standard Unit; °C: degrees Celsius

Table 5-5. Results of radiation groundwater samples for the Staten Island Warehouse Site.

	Analyte Gross Alpha Gross Beta  CAS# 12587-46-1 12587-47-2 Units pCi/L														and warenous	e site.									
		Analyte	:		Gross	s Alpha					Gross	Beta				R	a-226					Ra	-228		
		CAS#	:		1258	7-46-1					12587	-47-2				139	32-63-3					1526	2-20-1		
		Units			p(	Ci/L					рСi	i/L				p	Ci/L					p(	Ci/L		
		Screening Level				15					50	0					5						5		
Sam	Sample ID Unfiltered Filtered  Infiltered Filtered CollectedDate Result Qual 2 \sigma MDC Result Qual 2 \sigma					tered		Unfilte	red		Filte	red		Unfil	tered		Filtered		Unfil	tered		Filte	ered		
Unfiltered	filtered CollectedDate			Ι 2 σ	MDC	Result Qual	Ι 2 σ	MDC	Result Qual	2 σ Ι	MDC	<b>Result Qual</b>	2 σ	MDC	Result Qual	2 σ MD	C Result	Qual 2 σ	MDC	Result Qual	2 σ	MDC	<b>Result Qual</b>	2 σ	MDC
SIW-GW-010UFP	SIW-GW-010FP	7/17/2011	-10 U	120	230	-14 U	99.9	200	221	75	93	137	73	110	1.91	0.35 0.2	2.16	0.37	0.19	0.5	0.24	0.34	0.51	0.27	0.39
SIW-GW-016UFP	SIW-GW-016FP	7/17/2011	2 U	100	200	-35 U	52	130	181	81	110	158	59	80	0.73	0.23 0.1	9 0.91	0.23	0.17	0.31 U	0.33	0.53	0.32 U	0.23	0.36
SIW-GW-023UFP	SIW-GW-023FP	7/17/2011	8 U	69	140	24 U	84	150	109	54	79	140	49	60	0.27	0.14 0.1	0.35	0.16	0.18	0.25 U	0.27	0.43	0.13 U	0.27	0.46
SIW-GW-026UFP	SIW-GW-026FP	7/17/2011	-14 U	71	150	7 U	84	170	161	60	81	52 U	72	120	0.29	0.14 0.1	-0.03	J 0.11	0.21	0.02 U	0.25	0.44	0.16 U	0.25	0.42
SIW-GW-005UFP	SIW-GW-005FP	7/17/2011	29 U	93	170	30 U	100	190	89 U	62	94	66 U	46	71	0.74	0.21 0.1	7 0.52	0.19	0.2	0.07 U	0.26	0.45	0.46	0.27	0.4
SIW-GW-UFDUP*	SIW-GW-FDUP*	7/17/2011	2 U	62	130	64 U	82	130	171	61	80	114	58	84	0.29	0.16 0.2	0.61	0.2	0.18	0.47	0.3	0.45	0.38 U	0.29	0.45
SIW-GW-009UFP	SIW-GW-009FP	7/17/2011	-17 U	78	160	32 U	88	160	96	47	67	102	47	65	1.25	0.28 0.2	0.85	0.25	0.2	0.31 U	0.22	0.33	0.52	0.29	0.43

VALUE Value exceeds the Screening Level as outlined in the QAPP (USACE 2011b)

See http://water-epa.gov/drink/contaminants/index.cfm#Radionuclides for gross alpha and beta MCLs.

Table 5-5. Results of radiation groundwater samples for the Staten Island Warehouse Site (continued).

		Analyte			U-	-234					U-235	5/236					U-2	38		
		CAS#			1396	6-29-5					15117	-96-1					7440-	61-1		
		Units			p(	Ci/L					<b>pC</b> i	i/L					<b>pC</b> i	i/L		
		Screening Level			18'	7000					64	.8					10	.1		
Samp	ple ID		Unfilte	ered		Filte	red		Unfilt	ered		Filter	ed		Unf	iltered		Filt	ered	
Unfiltered	Filtered	CollectedDate	Result Qual	2 σ	MDC	Result Qual	2 σ	MDC	Result Qual	2 σ	MDC	Result Qual	2 σ	MDC	Result Qua	ıl 2σ	MDC	Result Qual	2 σ	MDC
SIW-GW-010UFP	SIW-GW-010FP	7/17/2011	0.98	0.2	0.07	0.78	0.2	0.06	0.055 U	0.1	0.065	0.055	0.1	0.037	0.73	0.18	0.05	0.62	0.17	0.03
SIW-GW-016UFP	SIW-GW-016FP	7/17/2011	0.51	0.1	0.05	0.59	0.15	0.02	0.045	0	0.03	0.066	0.1	0.03	0.57	0.15	0.04	0.61	0.16	0.02
SIW-GW-023UFP	SIW-GW-023FP	7/17/2011	0.95	0.2	0.05	0.91	0.21	0.07	0.052	0	0.05	0.013 U	0	0.034	0.67	0.16	0.05	0.85	0.2	0.05
SIW-GW-026UFP	SIW-GW-026FP	7/17/2011	0.84	0.2	0.04	0.76	0.18	0.07	0.01 U	0	0.028	0.012 U	0	0.075	0.65	0.16	0.02	0.75	0.18	0.08
SIW-GW-005UFP	SIW-GW-005FP	7/17/2011	1.5	0.3	0.03	0.96	0.2	0.04	0.05	0.1	0.034	0.053	0	0.029	1.5	0.28	0.05	0.83	0.18	0.02
SIW-GW-UFDUP*	SIW-GW-FDUP*	7/17/2011	1.08	0.2	0.03	1	0.22	0.04	0.045 U	0	0.054	0.037	0	0.033	1.05	0.22	0.03	0.91	0.2	0.03
SIW-GW-009UFP	SIW-GW-009FP	7/17/2011	2.15	0.3	0.05	1.78	0.29	0.02	0.085	0.1	0.029	0.095	0.1	0.029	1.93	0.3	0.05	1.61	0.27	0.02

VALUE Value exceeds the Screening Level as outlined in the QAPP (USACE 2011b)

2σ: total uncertainty; CAS: Chemical Abstract Service; ID: identification, mrem/yr: millirems per year, MDC: Minimum Detectable Concentration; pCi/L: picocuries per liter; Qual: Data Qualifer; UPL: Upper Prediction Limit; USEPA: U.S. Environmental Protection Agency U: not detected at the associated level; \*The DUP is a field duplicate of the preceding sample

 $An \ activity \ concentration \ of \ >\! 50 \ pCi/L \ of ten \ is \ used \ as \ an \ indication \ of \ when \ specific \ beta-emitting \ isotopes \ should \ be \ analyzed.$ 

 $See \ http://water-epa.gov/drink/contaminants/index.cfm\#Radionuclides \ for \ gross \ alpha \ and \ beta \ MCLs.$ 

<sup>2</sup>σ: total uncertainty; CAS: Chemical Abstract Service; ID: identification, mrem/yr: millirems per year, MDC: Minimum Detectable Concentration; pCi/L: picocuries per liter; Qual: Data Qualifer; UPL: Upper Prediction Limit; USEPA: U.S. Environmental Protection Agency J: Estimated value; R: rejected data point; U: not detected at the associated level; UJ: not detected and associated value is estimated

Table 5-6. Test pit gamma scan results.

Note: See Figure 5-3 for test pit location.

Identification Number/Date Scanned	Total Depth (ft bgs)	Analytical Group	Gamma Scan Results	Survey Instrument
		Gamma	Background: ~10,000	2221 with 44-10
TP-01/07-16-2011	6	Survey	Pile: 1300	2221 with 44-62
		Survey	Pit walls: ~600	2221 with 44-62
			Background: ~10,000	2221 with 44-10
TP-02/07-16-2011	6	Gamma	Surface: 8000-9000 cpm [1]	2221 with 44-10
11-02/07-10-2011	Ü	Survey	Pile: 23,000 (~2ft)	2221 with 44-10
			Pit walls: ~600	2221 with 44-62
		Gamma	Background: ~10,000	2221 with 44-10
TP-03/07-16-2011	6	Survey	Pile: ~10,000	2221 with 44-10
		Survey	Pit walls: ~600	2221 with 44-62
		Gamma	Background: ~10,000	2221 with 44-10
TP-04/07-16-2011	6		Pile: ~10,000	2221 with 44-10
		Survey	Pit walls: <600	2221 with 44-62

bgs: below ground surface; cpm: counts per minute; ft: feet/foot

<sup>[1]</sup> Surface scan results were collected as additional data for TP-02

Table 5-7. Tidal Chart for the Staten Island Warehouse Site.

Date	High/Low	Tide Time	Height (ft)
07/11/11	High	5:11 AM	4.8
	Low	11:50 AM	0.2
	High	5:51 PM	6.0
07/12/11	Low	12:41 AM	0.1
	High	6:18 AM	4.9
	Low	12:46 PM	0.1
	High	6:51 PM	6.1
07/13/11	Low	1:36 AM	-0.1
	High	7:19 AM	5.0
	Low	1:40 PM	0.1
	High	7:45 PM	6.2
07/14/11	Low	2:28 AM	-0.2
	High	8:12 AM	5.2
	Low	2:33 PM	0.1
	High	8:33 PM	6.2
07/15/11	Low	3:18 AM	-0.3
	High	9:01 AM	5.3
	Low	3:24 PM	0.2
	High	9:18 PM	6.2
07/16/11	Low	4:03 AM	-0.3
	High	9:48 AM	5.3
	Low	4:10 PM	0.2
	High	10:02 PM	6.0
07/17/11	Low	4:44 AM	-0.2
	High	10:34 AM	5.2
	Low	4:53 PM	0.4
	High	10:45 PM	5.7

http://www.saltwatertides.com/cgi-local/newyork.cgi

Table 5-8. Results of metal characterization samples (Methods 6020A and 7471A) for the Staten Island Warehouse Site.

	Analyte	Arsenic	:	Barium		Cadmiur	m	Chromiu	m	Lead		Mercur	y	Seleniur	n	Silver	
	CAS#	7440-38-	2	7440-39-	3	7440-43-	.9	7440-47-	3	7439-92-	1	7439-97-	6	7782-49-	2	7440-22-	-4
	Units	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Location ID	Collected Date	Result Qual	MDL	Result Qual	MDL	Result Qual	MDL	Result Qual	MDL	Result Qual	MDL	Result Qual	MDL	Result Qual	MDL	Result Qual	MDL
SIW-SS-041PC-0.0-2.0	7/17/2011	5 J	0.23	48 =	0.065	0.058 =	0.018	19 =	0.51	202 J	0.11	0.036 J	0.013	1.8 =	0.18	0.043 U	0.016
SIW-SS-042PC-0.0-2.0	7/17/2011	2.9 J	0.21	39.3 =	0.059	0.16 =	0.017	21.6 =	0.46	30.4 J	0.1	0.048 J	0.012	0.95 =	0.16	0.076 U	0.014
SIW-SS-043PC-0.0-2.0	7/17/2011	29 J	0.22	963 =	0.062	4.4 =	0.017	76.4 =	0.49	2960 J	0.55	3.1 J	0.12	2.1 =	0.17	0.72 =	0.015
SIW-SS-044PC-0.0-2.0	7/17/2011	31.7 J	0.22	400 =	0.062	3.3 =	0.017	137 =	0.49	2590 J	0.54	0.28 J	0.012	0.83 =	0.17	0.58 =	0.015
SIW-SS-CDUP-001*	7/17/2011	27.1 J	0.22	601 =	0.062	2.8 =	0.017	119 =	0.49	2140 J	0.54	0.29 J	0.012	0.9 =	0.17	0.53 =	0.015

CAS: Chemical Abstract Service; ID: identification, MDL: Method Detection Limit, mg/kg: milligrams per kilogram

=: Detection confirmed by validator; J: Detection confirmed by validator, but estimated value; U: not detected at the assocated level; \*The DUP is a field duplicate of the preceding sample

Table 5-9. Results of SVOC characterization samples (Method 8270C) for the Staten Island Warehouse Site.

	Analyte	2-Methylnaphtl	nalene	Acenaphther	ie	Acenaphthyle	ne	Anthracen	ie	Benzo(a)anthra	acene	Benzo(a)pyr	ene
	CAS#	91-57-6		83-32-9		208-96-8		120-12-7		56-55-3		50-32-8	
	Units	μg/kg		μg/kg		μg/kg		μg/kg		μg/kg		μg/kg	
<b>Location ID</b>	Collected Date	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ
SIW-SS-041PC-0.0-2.0	7/17/2011	380 U	380	380 U	380	150 J	380	160 J	380	260 J	380	400 =	380
SIW-SS-042PC-0.0-2.0	7/17/2011	110 J	340	130 J	340	350 =	340	830 =	340	1800 =	340	1200 =	340
SIW-SS-043PC-0.0-2.0	7/17/2011	51 J	360	360 U	360	650 =	360	610 =	360	1000 =	360	1300 =	360
SIW-SS-044PC-0.0-2.0	7/17/2011	170 J	360	360 U	360	1800 =	360	7700 J	1800	3000 =	360	4300 =	360
SIW-SS-CDUP-001*	7/17/2011	130 J	360	360 U	360	1300 =	360	36000 J	3600	1900 =	360	3000 =	360

CAS: Chemical Abstract Service; ID: identification, LOQ: Limit of Quantification, SVOC: semi-volatile organic compound, µg/kg: micrograms per kilogram

Table 5-9. Results of SVOC characterization samples (Method 8270C) for the Staten Island Warehouse Site (continued).

	Analyte	Benzo(b)fluorar	nthene	Benzo(g,h,i)per	ylene	Benzo(k)fluora	nthene	bis(2-Ethylhexyl) p	ohthalate	Butyl benzyl pht	halate	Carbazolo	è
	CAS#	205-99-2		191-24-2		207-08-9		117-81-7		85-68-7		86-74-8	
	Units	μg/kg		μg/kg		μg/kg		μg/kg		μg/kg		μg/kg	
<b>Location ID</b>	Collected Date	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ
SIW-SS-041PC-0.0-2.0	7/17/2011	540 J	380	230 Ј	380	180 J	380	380 U	380	380 U	380	380 U	380
SIW-SS-042PC-0.0-2.0	7/17/2011	1900 J	340	690 J	340	720 =	340	340 U	340	340 U	340	330 J	340
SIW-SS-043PC-0.0-2.0	7/17/2011	2000 J	360	1400 J	360	720 =	360	390 =	360	66 J	360	160 J	360
SIW-SS-044PC-0.0-2.0	7/17/2011	6100 J	360	7200 J	360	2100 =	360	130 J	360	360 U	360	3800 =	360
SIW-SS-CDUP-001*	7/17/2011	4000 J	360	4600 J	360	1400 =	360	94 J	360	360 U	360	13000 J	3600

CAS: Chemical Abstract Service; ID: identification, LOQ: Limit of Quantification, SVOC: semi-volatile organic compound, µg/kg: micrograms per kilogram

Table 5-9. Results of SVOC characterization samples (Method 8270C) for the Staten Island Warehouse Site (continued).

	Analyte	Chrysene		Dibenz(a,h)anthr	acene	Dibenzofur	ran	Di-n-octyl phth	alate	Fluoranthe	ne	Fluorene	:
	CAS#	218-01-9		53-70-3		132-64-9	)	117-84-0		206-44-0		86-73-7	
	Units	μg/kg		μg/kg		μg/kg		μg/kg		μg/kg		μg/kg	
<b>Location ID</b>	Collected Date	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ
SIW-SS-041PC-0.0-2.0	7/17/2011	310 J	380	380 U	380	380 U	380	380 U	380	300 J	380	380 U	380
SIW-SS-042PC-0.0-2.0	7/17/2011	1800 =	340	230 J	340	290 Ј	340	340 U	340	4600 J	340	490 =	340
SIW-SS-043PC-0.0-2.0	7/17/2011	1200 =	360	270 J	360	360 U	360	130 J	360	1600 J	360	69 J	360
SIW-SS-044PC-0.0-2.0	7/17/2011	4900 =	360	360 U	360	360 =	360	360 U	360	6200 J	360	480 =	360
SIW-SS-CDUP-001*	7/17/2011	4600 =	360	920 =	360	290 J	360	360 U	360	2800 J	360	540 =	360

CAS: Chemical Abstract Service; ID: identification, LOQ: Limit of Quantification, SVOC: semi-volatile organic compound, µg/kg: micrograms per kilogram

Table 5-9. Results of SVOC characterization samples (Method 8270C) for the Staten Island Warehouse Site (continued).

		1 a	Die 5-9. Kesu	ns of SVOC characti	erization san	npies (Method 82700	c) for the Sta	ten island warenou	se site (contin	iueu).	
	Analyte	Hexachlorocyclop	entadiene	Indeno(1,2,3-cd)	pyrene	Naphthale	ne	Phenanthr	ene	Pyrene	
	CAS#	77-47-4		193-39-5		91-20-3		85-01-8		129-00-0	
	Units	μg/kg		μg/kg		μg/kg		μg/kg		μg/kg	
<b>Location ID</b>	Collected Date	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ
SIW-SS-041PC-0.0-2.0	7/17/2011	1800 UJ	1800	250 J	380	380 U	380	97 J	380	200 J	380
SIW-SS-042PC-0.0-2.0	7/17/2011	1700 UJ	1700	790 =	340	99 J	340	3600 =	340	3200 =	340
SIW-SS-043PC-0.0-2.0	7/17/2011	1700 UJ	1700	1100 =	360	56 J	360	580 =	360	1300 =	360
SIW-SS-044PC-0.0-2.0	7/17/2011	1700 U	1700	5300 =	360	230 J	360	4100 =	360	4500 =	360
SIW-SS-CDUP-001*	7/17/2011	1700 UJ	1700	3200 =	360	210 J	360	2600 =	360	2700 =	360

CAS: Chemical Abstract Service; ID: identification, LOQ: Limit of Quantification, SVOC: semi-volatile organic compound, µg/kg: micrograms per kilogram

<sup>=:</sup> Detection confirmed by validator; J: Detection confirmed by validator, but estimated value; U: not detected at the associated value is estimated; \*The DUP is a field duplicate of the preceding sample

<sup>=:</sup> Detection confirmed by validator; J: Detection confirmed by validator; J: Detection confirmed by validator, but estimated value; U: not detected at the associated value is estimated; \*The DUP is a field duplicate of the preceding sample

<sup>=:</sup> Detection confirmed by validator; J: Detection confirmed by validator; J: Detection confirmed by validator; but estimated value; U: not detected at the associated value is estimated; \*The DUP is a field duplicate of the preceding sample

<sup>=:</sup> Detection confirmed by validator; J: Detection confirmed by validator; J: Detection confirmed by validator, but estimated value; U: not detected at the associated value is estimated; \*The DUP is a field duplicate of the preceding sample

Table 5-10. Results of VOC characterization samples (Method 8260B) for the Staten Island Warehouse Site.

		Tuble c	10.100	nts or voc characte	i ization i	sumpres (internou ozo	02) 101 (	THE STUTE I	Blana Warenouse	DICC.					
	Analyte	1,3-Dichlorob	enzene	1,4-Dichloroben	zene	2-Butanone			Acetone		Benzene		E	thylbenzen	ıe
	CAS#	541-73-1	l	106-46-7		78-93-3			67-64-1		71-43-2			100-41-4	
	Units	μg/kg		μg/kg		μg/kg			μg/kg		μg/kg			μg/kg	
<b>Location ID</b>	<b>Collected Date</b>	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result	Qual LOC	) Resul	t Qual	LOQ	Result	Qual	LOQ
SIW-SS-041PC-0.0-2.0	7/17/2011	5.7 UJ	5.7	5.7 UJ	5.7	10 J	23	27	J 2	3	5.7 UJ	5.7	5.	7 UJ	5.7
SIW-SS-042PC-0.0-2.0	7/17/2011	5.2 UJ	5.2	5.2 UJ	5.2	21 UJ	21	21	UJ 2	1	5.2 UJ	5.2	0.6	1 J	5.2
SIW-SS-043PC-0.0-2.0	7/17/2011	0.95 J	5.5	0.94 J	5.5	22 UJ	22	14	J 2	2	5.5 UJ	5.5	5.	5 UJ	5.5
SIW-SS-044PC-0.0-2.0	7/17/2011	5.4 UJ	5.4	5.4 UJ	5.4	22 UJ	22	7.3	J 2	2	0.39 J	5.4	0.4	8 J	5.4
SIW-SS-CDUP-001*	7/17/2011	5.4 UJ	5.4	5.4 UJ	5.4	22 UJ	22	22	UJ 2	2	5.4 UJ	5.4	5.	4 UJ	5.4

CAS: Chemical Abstract Service; ID: identification, LOQ: Limit of Quantification, VOC: volatile organic compound, µg/kg: micrograms per kilogram

Table 5-10. Results of VOC characterization samples (Method 8260B) for the Staten Island Warehouse Site (continued).

	Analyte CAS# Units	75-09-2	oride	Styrene 100-42-5 µg/kg		Tetrachloroeth 127-18-4	ene	Toluene 108-88-3		Xylenes (tota 1330-20-7	1)
Location ID	Collected Date	μg/kg Result Oual	LOO	Result Oual	LOO	μg/kg Result Oual	LOO	μg/kg Result Qual	LOO	μg/kg Result Oual	LOQ
SIW-SS-041PC-0.0-2.0	7/17/2011	5.7 UJ	5.7	5.7 UJ	5.7	5.7 UJ	5.7	5.7 UJ	5.7	11 UJ	11
SIW-SS-042PC-0.0-2.0	7/17/2011	1.5 J	5.2	5.2 UJ	5.2	5.2 UJ	5.2	0.86 J	5.2	2.3 J	10
SIW-SS-043PC-0.0-2.0	7/17/2011	1.1 J	5.5	5.5 UJ	5.5	0.58 J	5.5	5.5 UJ	5.5	1.2 J	11
SIW-SS-044PC-0.0-2.0	7/17/2011	0.92 J	5.4	0.58 J	5.4	1.5 J	5.4	1.3 J	5.4	0.99 J	11
SIW-SS-CDUP-001*	7/17/2011	5.4 UJ	5.4	5.4 UJ	5.4	0.94 J	5.4	5.4 UJ	5.4	1.1 J	11

CAS: Chemical Abstract Service; ID: identification, LOQ: Limit of Quantification, VOC: volatile organic compound, µg/kg: micrograms per kilogram

<sup>=:</sup> Detection confirmed by validator; J: Detection confirmed by validator, but estimated value; U: not detected at the assocated level; UJ: not detected and associated value is estimated;

<sup>\*</sup>The DUP is a field duplicate of the preceding sample

<sup>=:</sup> Detection confirmed by validator; J: Detection confirmed by validator, but estimated value; U: not detected at the associated level; UJ: not detected and associated value is estimated;

<sup>\*</sup>The DUP is a field duplicate of the preceding sample

Table 5-11. Results of pesticide characterization samples (Method 8081A) for the Staten Island Warehouse Site.

							_	`		ine Staten Islan					~	~	2. •	
	Analyte	4,4'-DDD		4,4'-DDI	£	4,4'-DD	ľ	Aldrin		alpha-BH	C	alpha-Chlor	dane	beta-BH	C	Chlorda	ne (tech	mical)
	CAS#	72-54-8		72-55-9		50-29-3		309-00-2	2	319-84-6	5	5103-71-	9	319-85-7	7	5	7-74-9	
	Units	μg/kg		μg/kg		μg/kg		μg/kg		μg/kg		μg/kg		μg/kg			μg/kg	
<b>Location ID</b>	Collected Date	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result	Qual	LOQ						
SIW-SS-041PC-0.0-2.0	7/17/2011	1.6 UJ	1.6	1.6 UJ	1.6	1.6 UJ	1.6	1.6 UJ	1.6	16	5 UJ	16						
SIW-SS-042PC-0.0-2.0	7/17/2011	0.86 UJ	0.86	0.86 UJ	0.86	0.86 UJ	0.86	0.86 UJ	0.86	8.8	3 UJ	8.8						
SIW-SS-043PC-0.0-2.0	7/17/2011	0.91 UJ	0.91	0.91 UJ	0.91	5 J	1.9	0.91 UJ	0.91	110	) J	19						
SIW-SS-044PC-0.0-2.0	7/17/2011	0.9 UJ	0.9	0.9 UJ	0.9	6.3 J	1.8	0.9 UJ	0.9	0.9 UJ	0.9	0.9 UJ	0.9	0.9 UJ	0.9	9.2	2 UJ	9.2
SIW-SS-CDUP-001*	7/17/2011	0.9 UJ	0.9	0.9 UJ	0.9	4.7 J	1.8	0.9 UJ	0.9	0.9 UJ	0.9	0.9 UJ	0.9	0.9 UJ	0.9	9.2	2 UJ	9.2

CAS: Chemical Abstract Service; ID: identification, LOQ: Limit of Quantification, VOC: volatile organic compound, µg/kg: micrograms per kilogram

Table 5-11. Results of pesticide characterization samples (Method 8081A) for the Staten Island Warehouse Site (continued).

		1 able 5-11	. Kesuit	s of pesticide ci	iaracie	rızatıdı sanıpı	es (Met	iliou ovotA) toi	the St	aten Island wa	renous	e Site (Continue	:u).					
	Analyte	delta-BHC		Dieldrin	1	Endosulfa	n I	Endosulfa	n II	Endosulfan s	ulfate	Endrin		Endrin alde	hyde	Endr	rin keto	ne
	CAS#	319-86-8		60-57-1		959-98-8	3	33213-65	-9	1031-07-	8	72-20-8	;	7421-93-	4	534	194-70-5	5
	Units	μg/kg		μg/kg		μg/kg		μg/kg		μg/kg		μg/kg		μg/kg		,	μg/kg	
<b>Location ID</b>	<b>Collected Date</b>	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result	Qual	LOQ
SIW-SS-041PC-0.0-2.0	7/17/2011	1.6 UJ	1.6	1.6 UJ	1.6	1.6 UJ	1.6	1.6 UJ	1.6	1.6 UJ	1.6	1.6 UJ	1.6	1.6 UJ	1.6	1.6	UJ	1.6
SIW-SS-042PC-0.0-2.0	7/17/2011	0.86 UJ	0.86	0.86 UJ	0.86	0.86 UJ	0.86	0.86 UJ	0.86	0.86 UJ	0.86	0.86 UJ	0.86	0.86 UJ	0.86	0.86	UJ	0.86
SIW-SS-043PC-0.0-2.0	7/17/2011	0.91 UJ	0.91	0.91 UJ	0.91	0.91 UJ	0.91	0.91 UJ	0.91	0.91 UJ	0.91	0.91 UJ	0.91	3.6 J	1.9	0.91	UJ	0.91
SIW-SS-044PC-0.0-2.0	7/17/2011	0.9 UJ	0.9	0.9 UJ	0.9	0.74 J	1.8	0.9 UJ	0.9	0.9 UJ	0.9	0.9 UJ	0.9	9.8 J	1.8	0.9	UJ	0.9
SIW-SS-CDUP-001*	7/17/2011	0.9 UJ	0.9	2.5 J	1.8	0.9 UJ	0.9	0.9 UJ	0.9	0.9 UJ	0.9	0.9 UJ	0.9	14 J	1.8	0.9	UJ	0.9

CAS: Chemical Abstract Service; ID: identification, LOQ: Limit of Quantification, VOC: volatile organic compound, µg/kg: micrograms per kilogram

Table 5-11. Results of pesticide characterization samples (Method 8081A) for the Staten Island Warehouse Site (continued).

	Analyte CAS#	- (	ndane)	gamma-Chlor 5103-74-		Heptachlo 76-44-8		Heptachlor ep 1024-57-3		Methoxych 72-43-5		Toxaphe 8001-35-	
	Units	μg/kg		μg/kg		μg/kg		μg/kg		μg/kg		μg/kg	
<b>Location ID</b>	<b>Collected Date</b>	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ	Result Qual	LOQ
SIW-SS-041PC-0.0-2.0	7/17/2011	1.6 UJ	1.6	1.6 UJ	1.6	1.6 UJ	1.6	1.6 UJ	1.6	1.6 UJ	1.6	62 UJ	62
SIW-SS-042PC-0.0-2.0	7/17/2011	0.86 UJ	0.86	0.86 UJ	0.86	1.8 UJ	1.8	0.86 UJ	0.86	0.86 UJ	0.86	35 UJ	35
SIW-SS-043PC-0.0-2.0	7/17/2011	0.91 UJ	0.91	6.2 J	1.9	0.91 UJ	0.91	0.91 UJ	0.91	0.91 UJ	0.91	37 UJ	37
SIW-SS-044PC-0.0-2.0	7/17/2011	0.9 UJ	0.9	0.9 UJ	0.9	4.6 J	1.8	0.9 UJ	0.9	0.9 UJ	0.9	36 UJ	36
SIW-SS-CDUP-001*	7/17/2011	0.9 UJ	0.9	0.9 UJ	0.9	4 J	1.8	0.9 UJ	0.9	0.9 UJ	0.9	36 UJ	36

CAS: Chemical Abstract Service; ID: identification, LOQ: Limit of Quantification, VOC: volatile organic compound, µg/kg: micrograms per kilogram

<sup>=:</sup> Detection confirmed by validator; J: Detection confirmed by validator, but estimated value; U: not detected at the associated level; UJ: not detected and associated value is estimated;

<sup>\*</sup>The DUP is a field duplicate of the preceding sample

<sup>=:</sup> Detection confirmed by validator; J: Detection confirmed by validator, but estimated value; U: not detected at the associated level; UJ: not detected and associated value is estimated;

<sup>\*</sup>The DUP is a field duplicate of the preceding sample

<sup>=:</sup> Detection confirmed by validator; J: Detection confirmed by validator, but estimated value; U: not detected at the associated level; UJ: not detected and associated value is estimated;

<sup>\*</sup>The DUP is a field duplicate of the preceding sample

Table 5-12. Results of PCB characterization samples (Method 8082) for the Staten Island Warehouse Site.

	Analyte	Aroclor 10	016	Aroclor 12	221	Aroclor 12	232	Aroclor 12	42	Aroclor 12	248	Aroclor 12	254	Aroclor 12	260
	CAS#	12674-11	-2	11104-28	-2	11141-16	-5	53469-21	.9	12672-29-	-6	11097-69	.1	11096-82-	-5
	Units	μg/kg													
Location ID	Collected Date	Result Qual	LOQ												
SIW-SS-041PC-0.0-2.0	7/17/2011	15 U	15	15 UJ	15										
SIW-SS-042PC-0.0-2.0	7/17/2011	8.3 U	8.3	8.3 UJ	8.3										
SIW-SS-043PC-0.0-2.0	7/17/2011	8.7 U	8.7	450 J	36										
SIW-SS-044PC-0.0-2.0	7/17/2011	11 U	11	69 J	47										
SIW-SS-CDUP-001*	7/17/2011	8.7 U	8.7	37 J	36										

CAS: Chemical Abstract Service; ID: identification, LOQ: Limit of Quantification, PCB: polychlorinated biphenyl, μg/kg: micrograms per kilogram

<sup>=:</sup> Detection confirmed by validator; J: Detection confirmed by validator, but estimated value; U: not detected at the associated level; UJ: not detected and associated value is estimated; \*The DUP is a field duplicate of the preceding sample

Table 5-13. Results of herbicide characterization samples (Method 8051A) for the Staten Island Warehouse Site.

	Analyte CAS#	2,4,5-T 93-76-5		2,4,5-TP (Sil 93-72-1	lvex)	2,4-D 94-75-7		2,4-DB 94-82-6	
	Units	μg/kg		μg/kg		μg/kg		μg/kg	
<b>Location ID</b>	Collected Date	<b>Result Qual</b>	LOQ	Result Qual	LOQ	<b>Result Qual</b>	LOQ	<b>Result Qual</b>	LOQ
SIW-SS-041PC-0.0-2.0	7/17/2011	7.6 UJ	7.6	7.6 UJ	7.6	76 UJ	76	76 UJ	76
SIW-SS-042PC-0.0-2.0	7/17/2011	4.1 U	4.1	4.1 UJ	4.1	41 UJ	41	41 UJ	41
SIW-SS-043PC-0.0-2.0	7/17/2011	6.8 U	6.8	6.8 UJ	6.8	68 UJ	68	68 UJ	68
SIW-SS-044PC-0.0-2.0	7/17/2011	7.2 U	7.2	7.2 UJ	7.2	72 UJ	72	72 UJ	72
SIW-SS-CDUP-001*	7/17/2011	5.3 U	5.3	5.3 UJ	5.3	53 UJ	53	53 UJ	53

CAS: Chemical Abstract Service; ID: identification, LOQ: Limit of Quantification, µg/kg: micrograms per kilogram

J: Detection confirmed by validator, but estimated value; U: not detected at the assocated level; UJ: not detected and associated value is estimated; \*The DUP is a field duplicate of the preceding sample

Table 6-1. Screening levels and background activities for radionuclides of potential concern in soils for the Staten Island Warehouse site.

Radionuclide	Outdoor Worker PRG [1] (pCi/g)	Residential PRG [1] (pCi/g)	U.S. Soil Average Concentration (Ranges) [2] (pCi/g)	Mean Values (Ranges) for Background Soils at Staten Island Site [3] (pCi/g)	Screening Level [4] (pCi/g)
K-40	0.295	0.116	10 (2.7 - 18.9)	10.92 (4.3 - 19.6)	None
Th-232	18.9	3.07	0.95 (0.11 - 3.51)	1 (0.28 - 1.79)	3.07
Ra-226	0.0248	0.0121	1.08 (0.22 - 4.32)	1 (0.23 - 2.8)	1.96
U-234	32.3	4.02	NA	0.947 (0.233 - 3.93)	4.02
U-235	34.3	3.95	NA	0.42 (0.42 - 0.42)	3.95
U-238	1.65	0.696	0.95 (0.11 - 3.78)	0.977 (0.233 - 3.59)	1.96

<sup>[1]</sup> From U.S. Environmental Protection Agency (USEPA) Preliminary Remediation Goal (PRG) tables found at: <a href="http://epa-prgs.ornl.gov/radionuclides/download.html">http://epa-prgs.ornl.gov/radionuclides/download.html</a>, PRGs that include the influence of daughter products are used in the table.

<sup>[2]</sup> Typical U.S. soil averages and ranges are from Multi-Agency (2009)

<sup>[3]</sup> Mean background values were determined from sampling locations from this investigation within the region with background levels of gamma radiation obtained in the walkover survey plus the site background data from USEPA(2008). Mean values were calculated from the datasets using ProUCL 4.1.00.

<sup>[4]</sup> Screening levels were determined by using the higher of either the Residential PRG or the mean plus two standard deviation Background levels

NA: Not available, pCi/L: picocuries per liter

Table 6-2. Results of radiation soil samples (alpha and gamma spectroscopy ) taken outside of the Radiologically Contaminated Area for the Staten Island Warehouse Site.

Second		•					a spectrosco	opy) ta	ken outsid	le of the Ra	diologi	cally Co	ntaminated A	rea for	the Staten	Island War	ehouse	Site.		
Seminary   Personal Process			Po	tassium 40	1	R	adium (226)		Th	orium 232			Uranium 234		U	ranium 235		Į	Jranium 2	38
Semple New Personal P		CAS#	1	3966-00-2		1	13982-63-3		7	7440-29-1			13966-29-5		1	15117-96-1			7440-61-1	
Second		Units		pCi/g			pCi/g			pCi/g			pCi/g			pCi/g			pCi/g	
SNW-SS-0194-0.02	Sample ID	Sample Date	Result	Qual 2 σ	MDC	Result (	Qual 2 σ	MDC	Result Q	Qual 2σ	MDC	Result	Qual 2 σ	MDC	Result (	Qual 2 σ	MDC	Result	Qual 2 σ	MDC
SIN SESSION FOLD 19 1751 11600 9.5 2 1 0.7 0.9 10.1 0.5 0.2 0.1 0.1 0.5 0.2 0.1 0.3 0.0 0.0 0.1 0.1 0.1 0.1 0.1 0.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Surface Soil																			
SWYSS-010P-00-20 7,1511 16mm 69 1.2 08 0.25 0.11 0.12 0.45 0.14 0.01 0.23 0.23 0.002 0.017 0.17 0.17 0.25 0.23 0.003 0.003 0.005 0.015 0.0	SIW-SS-003P-0.0-2.0	7/15/11 18:nn	10.2	1.5	0.7	0.38	0.1	0.1	0.69	0.17	0.15	0.287	0.072	0.018	0.11 U	U 0.2	0.31	0.283	0.0	73 0.032
SNY SS OTT FOLLO	SIW-SS-004P-0.0-2.0	7/15/11 16:nn	9.5	2	1	0.72	0.19	0.14	0.56	0.2	0.35	0.65	0.11	0.03	0.09 T	U 0.13	0.51	0.475	0.0	94 0.024
SWESS-11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	SIW-SS-006P-0.0-2.0	7/15/11 16:nn	6.9	1.2	0.8	0.23	0.11	0.12	0.45	0.14	0.13	0.233	0.062	0.017	0.17 U	U 0.17	0.25	0.233	0.0	63 0.024
SINY-SS-0191-002-0 7/1511   Items	SIW-SS-007P-0.0-2.0	7/15/11 18:nn	9.2	1.4	0.7	0.38	0.12	0.12	0.49	0.14	0.08	0.361	0.085	0.031	0.11 U	J 0.14	0.41	0.314	0.0	78 0.029
SINKS-SQUE-PO-20 7/5511 Ideam 121 2 12 149 0.3 024 021 0.37 022 015 0.65 0.25 0.65 0.7 0.22 0.01 SINKS-SQUE-PO-20 7/5511 Ideam 10.1 1.5 0.7 0.49 0.10 1.01 0.10 0.2 0.11 0.02 0.13 0.38 0.00 0.10 U 0.25 0.63 0.7 0.23 0.05 0.05 0.00 0.00 0.00 0.00 0.00 0.0	SIW-SS-011P-0.0-2.0	7/16/11 8:nn	10.4	1.7	1.1	1.27	0.25	0.19	0.64	0.22	0.3	1.13	0.16	0.03	0.18 U	J 0.33	0.59	0.96	0.	15 0.01
SINY-SED-19-01 71/511 Cam	SIW-SS-019P-0.0-2.0	7/15/11 18:nn	4.3	1.3	1.1	0.47	0.13	0.09	0.19 U	0.19	0.33	0.277	0.069	0.017	-0.02 U	U 0.47	0.29	0.291	0.0	71 0.017
SINVS-SQ-129-0.02 71/61   Sam   10.1   1.5   0.7   0.49   0.12   0.11   0.4   0.15   0.31   0.328   0.075   0.021   0.05   0.19   0.34   0.31   0.075   0.021   0.015	SIW-SS-021P-0.0-2.0	7/15/11 16:nn	12.1	2	1.2	1.49	0.3	0.24	2.01	0.37	0.22	1.73	0.24	0.04	0.38 U	U 0.35	0.63	1.7	0.	23 0.04
\$\frac{\frac	SIW-SS-DUP-001	7/15/11 0:nn	11	1.9	0.7	1.82	0.29	0.17	1.46	0.32	0.13	1.85	0.26	0.03	0.14 U	U 0.28	0.52	1.9	0.	26 0.04
SINY-SEQ-074-02-00 7/15-11 16mm	SIW-SS-022P-0.0-2.0	7/16/11 8:nn	10.1	1.5	0.7	0.49	0.12	0.11	0.4	0.15	0.31	0.328	0.075	0.021	0.05 U	U 0.19	0.34	0.331	0.0	75 0.021
\$\frac{\frac	SIW-SS-025P-0.0-2.0	7/16/11 16:nn			1	0.91			0.76	0.21	0.22			0.02	0.42	0.34	0.41			
SWS-SQR-90-02	SIW-SS-027P-0.0-2.0	7/15/11 16:nn	18.4	2.2	0.5	1.03	0.2	0.15	1.79	0.29	0.16	0.84	0.14	0.03	0.24 U	J 0.31	0.58	0.85	0.	14 0.04
SINN-S6-02P-0-20 7/16-11 florm	SIW-SS-028P-0.0-2.0	7/15/11 16:nn	9.4	1.6	1	1.52	0.24	0.16	1.37	0.24	0.17	1.78	0.22	0.02	0.09 T	U 0.22	0.58	1.64	0.	21 0.02
SINN-SE-001-2-02 7/17/1   10am   6.	SIW-SS-029P-0.0-2.0				0.8					0.22						U 0.28			0.	
Simbargon   Solidar   So	SIW-SS-042P-0.0-2.0																			
SINV.SB.003P-0.0-5.0 7/12/2011																				
SINV-SB-003P-5.0-8.0 7/12/2011		7/12/2011	14.9	2.1	1	1.07	0.22	0.17	1.3	0.28	0.18	0.65	0.12	0.03	0.43 I	U 0.36	0.44	0.66	0.	12 0.04
SINN-SB-00HP-0.0-50 7/12/2011	·				1.6															
SINN-SB-DIP-001 7/12/2011 7.7 1.7 0.9 1.06 0.25 0.18 0.25 0.18 0.24 0.24 0.24 0.25 0.15 0.10 0.1 0.15 U 0.3 0.51 0.79 0.13 0.01 SINN-SB-00P-6.0-6.00 7/12/2011 11.2 1.7 0.9 0.93 0.18 0.14 1.24 0.24 0.24 0.24 0.25 0.1 0.01 0.008 U 1.3 0.5 0.64 0.11 0.00 SINN-SB-00P-6.0-6.50 7/13/2011 10.8 1.7 0.5 0.72 0.16 0.13 0.54 0.29 0.05 0.65 0.12 0.01 0.05 SINN-SB-00P-6.0-8.0 7/13/2011 11.1 1.6 0.8 0.7 0.9 0.96 0.17 0.11 0.50 0.25 0.25 0.35 0.82 0.13 0.02 0.00 U 0.29 0.5 0.65 0.12 0.01 0.05 SINN-SB-00P-6.0-8.0 7/13/2011 11.1 1.8 1.1 2.8 0.36 0.2 1.17 0.33 0.29 3.9 0.82 0.13 0.02 0.11 U 0.27 0.47 0.43 0.89 0.02 0.00 SINN-SB-00P-6.0-8.0 7/13/2011 11.1 1.8 1.1 2.8 0.36 0.2 1.17 0.33 0.29 3.9 0.42 0.01 0.2 U 0.47 0.49 0.43 0.89 0.02 0.00 SINN-SB-00P-6.0-8.0 7/13/2011 15.8 2.9 1.2 1.79 0.34 0.19 1.72 0.34 0.27 0.39 0.42 0.01 0.2 U 0.47 0.73 1 0.15 0.00 SINN-SB-00P-6.0-8.0 7/13/2011 17.8 2.6 1.3 1.29 0.37 0.49 1.9 1.72 0.34 0.47 0.9 0.14 0.01 0.2 U 0.47 0.49 0.66 0.12 0.15 0.15 0.00 SINN-SB-00P-6.0-8.0 7/13/2011 17.8 2.6 1.3 1.29 0.47 0.49 0.14 0.14 0.14 0.14 0.14 0.14 0.14 0.14																				
SINV-SB-004P-50-10.0 7/12/2011																				
SIW-SB-006P-0.0-5.0 7/13/2011																				
SIW-SB-006P-50-80 7/13/2011																				
SIW-SB-007P-0.0-5.0 7/13/2011 10.3 1.7 0.9 0.96 0.17 0.11 0.65 0.23 0.35 0.82 0.13 0.02 0.17 U 0.33 0.52 0.87 0.14 0.02 SIW-SB-007P-5.0-8.0 7/13/2011 11.8 1.1 1.8 1.2 2.8 0.36 0.2 1.17 0.33 0.29 3.35 0.42 0.01 0.2 U 0.32 0.71 3.59 0.39 0.01 SIW-SB-01P-0.0-5.0 7/13/2011 15.8 2.9 1.2 1.79 0.34 0.19 1.72 0.4 0.47 0.7 0.9 0.14 0.01 0.2 U 0.32 0.71 3.59 0.39 0.01 SIW-SB-01P-0.0-5.0 7/13/2011 15.8 2.9 1.2 1.79 0.34 0.15 0.15 0.14 0.13 U 0.14 0.32 0.75 0.13 0.02 0.27 U 0.47 0.69 0.65 0.12 0.01 0.32 0.01 0.20 0.03 0.01 0.02 U 0.32 0.14 0.09 0.01 0.2 U 0.32 0.14 0.09 0.01 0.2 U 0.32 0.14 0.05 0.15 0.14 0.00 0.02 0.12 0.14 0.03 0.2 U 0.47 0.69 0.65 0.12 0.01 0.32 0.01 0.02 0.01 0.03 0.01 0.02 0.10 0.01 0.02 0.01 0.03 0.01 0.02 0.01 0.03 0.01 0.02 0.01 0.03 0.01 0.02 0.01 0.03 0.01 0.02 0.01 0.03 0.01 0.02 0.01 0.03 0.01 0.02 0.01 0.03 0.01 0.02 0.01 0.03 0.01 0.02 0.01 0.03 0.01 0.02 0.01 0.03 0.01 0.02 0.01 0.03 0.01 0.02 0.01 0.03 0.01 0.02 0.01 0.03	·																			
SIW-SB-07P-5.0-8.0 7/13/2011 11 1.8 1.1 2.8 0.36 0.2 1.17 0.33 0.29 3.93 0.42 0.01 0.2 U 0.32 0.71 3.59 0.39 0.01 SIW-SB-01IP-0.0-5.0 7/13/2011 15.8 2.9 1.2 1.79 0.34 0.19 1.72 0.4 0.47 0.9 0.14 0.01 0.21 U 0.47 0.69 0.65 0.12 0.01 SIW-SB-01IP-5.0-8.0 7/13/2011 17.8 2.6 1.3 1.29 0.27 0.22 1.73 0.32 0.3 0.75 0.13 0.02 0.27 U 0.47 0.69 0.65 0.12 0.01 SIW-SB-01IP-5.0-8.0 7/13/2011 8 1.4 0.6 0.26 0.12 0.15 0.14 0.13 U 0.14 0.34 0.47 0.09 0.028 0.12 U 0.17 0.33 0.473 0.044 0.05 SIW-SB-01IP-5.0-8.0 7/13/2011 14.9 2.2 1.1 1.5 0.28 0.2 1.4 0.49 0.16 0.1 0.46 0.06 0.02 0.11 U 0.24 0.34 0.273 0.044 0.00 SIW-SB-01IP-5.0-8.0 7/15/2011 14.9 2.2 1.1 1.5 0.28 0.2 1.47 0.27 0.19 1.15 0.17 0.01 SIW-SB-02IP-5.0-8.0 7/15/2011 14.9 2.2 1.1 1.5 0.28 0.2 1.47 0.27 0.19 1.15 0.17 0.02 0.26 U 0.36 0.61 1.15 0.17 0.01 SIW-SB-02IP-5.0-8.0 7/15/2011 16.6 2.4 0.7 1.15 0.25 0.21 1.63 0.34 0.14 0.78 0.16 0.03 0.26 U 0.45 0.72 0.92 0.18 0.02 SIW-SB-02IP-5.0-8.0 7/14/2011 19.6 2.5 1.1 1.25 0.26 0.2 1.5 0.35 0.29 0.67 0.14 0.03 0.26 U 0.45 0.72 0.92 0.18 0.02 SIW-SB-02IP-5.0-8.0 7/14/2011 19.6 2.5 1.1 1.25 0.26 0.2 1.5 0.35 0.29 0.67 0.14 0.03 0.26 U 0.45 0.72 0.92 0.18 0.03 SIW-SB-02IP-5.0-8.0 7/14/2011 19.6 2 1.5 0.09 0.23 0.18 1.5 0.35 0.29 0.67 0.14 0.03 0.26 U 0.45 0.72 0.92 0.18 0.03 0.14 0.03 0.14 0.03 0.26 U 0.45 0.72 0.92 0.18 0.03 0.14 0.03 0.14 0.03 0.26 U 0.45 0.72 0.92 0.18 0.03 0.14 0.03 0.14 0.03 0.18 U 0.18 0.18 0.18 0.18 0.18 0.18 0.18 0.18																				
SIW-SB-01IP-0.0-5.0 7/13/2011 15.8 2.9 1.2 1.79 0.34 0.19 1.72 0.4 0.47 0.9 0.14 0.01 0.21 U 0.47 0.73 1 0.15 0.02 0.01 SIW-SB-01IP-5.0-8.0 7/13/2011 6.7 1.6 1.3 0.46 0.15 0.14 0.13 U 0.14 0.33 0.47 0.99 0.028 0.12 U 0.17 0.33 0.47 0.09 0.028 SIW-SB-01P-5.0-8.0 7/13/2011 1.5 0.40 0.26 0.15 0.15 0.14 0.13 U 0.14 0.34 0.447 0.09 0.028 0.12 U 0.11 0.33 0.473 0.094 0.032 SIW-SB-01P-5.0-8.0 7/13/2011 1.49 2.2 1.1 1.5 0.28 0.28 0.12 0.19 0.19 0.15 0.17 0.024 0.060 0.060 0.022 0.11 U 0.24 0.34 0.273 0.064 0.099 SIW-SB-01P-5.0-8.0 7/15/2011 1.49 2.2 1.1 1.5 0.28 0.28 0.14 0.25 0.14 0.32 0.14 0.32 0.14 0.32 0.14 0.02 0.14 0.02 0.11 U 0.24 0.34 0.273 0.064 0.099 SIW-SB-02IP-0.0-5.0 7/15/2011 1.64 2.4 0.7 1.15 0.25 0.21 1.63 0.34 0.14 0.78 0.16 0.03 0.26 U 0.36 0.61 1.15 0.17 0.01 SIW-SB-02IP-5.0-8.0 7/14/2011 1.64 2.4 0.7 1.15 0.25 0.21 1.63 0.34 0.14 0.78 0.16 0.03 0.26 U 0.45 0.72 0.99 0.18 0.02 SIW-SB-02IP-0.0-5.0 7/14/2011 1.66 2.5 1.1 1.25 0.25 0.21 1.63 0.34 0.14 0.78 0.16 0.03 0.26 U 0.45 0.72 0.99 0.18 0.02 SIW-SB-02IP-0.0-5.0 7/14/2011 1.06 0.2 1.5 0.35 0.29 0.15 0.35 0.29 0.67 0.14 0.03 0.26 U 0.45 0.73 0.13 0.02 U 0.45 0.73 0.14 0.03 SIW-SB-02IP-0.0-5.0 7/14/2011 1.06 0.2 1.5 0.05 0.25 0.21 1.03 0.34 0.14 0.08 0.16 0.01 0.18 U 0.18 0.03 0.26 U 0.45 0.73 0.14 0.03 SIW-SB-02IP-0.0-5.0 7/14/2011 1.06 0.2 1.5 0.05 0.25 0.21 0.02 0.15 0.03 0.29 U 0.45 0.06 0.10 0.18 U 0.18 0.03 0.26 U 0.45 0.73 0.14 0.03 SIW-SB-02IP-0.0-5.0 7/14/2011 1.06 0.2 1.5 0.05 0.25 0.24 0.15 0.25 0.24 0.15 0.25 0.24 0.15 0.25 0.24 0.25 0.24 0.25 0.24 0.25 0.24 0.25 0.24 0.25 0.24 0.25 0.24 0.25 0.24 0.25 0.24 0.25 0.24 0.25 0.24 0.25 0.24 0.25 0.24 0.25 0.24 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25																				
SIW-SB-01PF-50-8.0 7/13/2011   17.8   2.6   1.3   1.29   0.27   0.22   1.73   0.32   0.3   0.75   0.13   0.02   0.27   0.47   0.69   0.65   0.12   0.01   SIW-SB-01PP-00-5.0 7/13/2011   8   1.4   0.6   0.26   0.12   0.15   0.49   0.16   0.1   0.246   0.061   0.022   0.11   0.024   0.34   0.273   0.094   0.005   SIW-SB-01PP-0.0-5.0 7/15/2011   14.9   2.2   1.1   1.5   0.28   0.2   1.4   0.27   0.19   1.15   0.17   0.02   0.26   0.20   0.15   0.19   0.15   0.19   0.15   SIW-SB-02P-0.0-5.0 7/15/2011   14.9   2.2   1.1   1.5   0.28   0.2   1.4   0.27   0.19   1.15   0.17   0.02   0.26   0.20   0.20   0.20   0.6   0.15   0.19   SIW-SB-02P-0.0-5.0 7/14/2011   16.4   2.4   0.7   1.15   0.25   0.21   0.25   0.21   0.35   0.29   0.67   0.14   0.02   0.20   0																				
SINUSB-019P-0.0-5.0																				
SIW-SB-019P-5.0-8.0 7/13/2011																				
SRW-SB-02IP-0.0-5.0 7/15/2011 14.9 2.2 1.1 1.5 0.28 0.2 1.47 0.27 0.19 1.15 0.17 0.02 0.20 U 0.36 0.61 1.15 0.17 0.01   9.8 1.8 1.3 0.71 0.18 0.16 0.61 0.25 0.41 0.92 0.14 0.02 0.21 U 0.2 0.49 0.66 0.14 0.02   SRW-SB-02IP-50-8.0 7/14/2011 16.4 2.4 0.7 1.15 0.25 0.21 1.63 0.34 0.14 0.78 0.16 0.03 0.26 U 0.45 0.72 0.92 0.18 0.02   SRW-SB-022P-50-8.0 7/14/2011 19.6 2.5 1.1 1.25 0.26 0.2 1.5 0.35 0.34 0.14 0.78 0.16 0.03 0.26 U 0.45 0.72 0.79 0.18 0.02   SRW-SB-022P-50-8.0 7/14/2011 19.6 2.5 1.1 1.25 0.26 0.2 1.5 0.35 0.29 0.67 0.14 0.03 0.28 U 0.38 0.72 0.73 0.14 0.03   SRW-SB-02SP-0.5-0 7/15/2011 10.6 2 1.5 1.09 0.23 0.18 1.51 0.32 0.14 1.08 0.16 0.01 0.18 U 0.18 0.18 0.72 0.73 0.14 0.03   SRW-SB-02SP-0.5-0 7/15/2011 10.6 2 1.5 1.09 0.23 0.18 1.51 0.32 0.14 1.08 0.16 0.01 0.18 U 0.18 0.74 0.74 0.74 0.74    Previous Data (USEPA 2008, USEPA 2009)  ST 2 7/10/1980 1.2																				
SIW-SB-02IP-5.0-8.0 7/15/2011 9.8 1.8 1.3 0.71 0.18 0.16 0.61 0.25 0.41 0.92 0.14 0.02 0.21 U 0.2 0.49 0.96 0.14 0.02 SIW-SB-02P-0.0-5.0 7/14/2011 16.4 2.4 0.7 1.15 0.25 0.21 1.63 0.34 0.14 0.78 0.16 0.03 0.26 U 0.45 0.72 0.92 0.18 0.02 SIW-SB-022P-0.0-5.0 7/14/2011 19.6 2.5 1.1 1.25 0.26 0.2 1.5 0.35 0.29 0.67 0.14 0.03 0.28 U 0.45 0.72 0.73 0.14 0.02 SIW-SB-022P-0.0-5.0 7/15/2011 10.6 2 1.5 1.09 0.23 0.18 1.51 0.32 0.14 1.08 0.16 0.01 0.18 U 0.18 0.63 1.03 0.15 0.01 0.01 0.01 0.01 0.01 0.01 0.01																				
SIW-SB-022P-0.0-5.0 7/14/2011 16.4 2.4 0.7 1.15 0.25 0.21 1.63 0.34 0.14 0.78 0.16 0.03 0.26 U 0.45 0.72 0.92 0.18 0.02 SIW-SB-022P-5.0-8.0 7/14/2011 19.6 2.5 1.1 1.25 0.26 0.2 1.5 0.35 0.29 0.67 0.14 0.03 0.28 U 0.38 0.72 0.73 0.14 0.03 SIW-SB-025P-0.0-5.0 7/15/2011 10.6 2 1.5 1.09 0.23 0.18 1.51 0.32 0.14 1.08 0.16 0.01 0.18 U 0.18 0.63 1.03 0.15 0.01 Previous Data (USEPA 2008, USEPA 2009)  ST 2 7/10/1980 1.2																				
SIW-SB-022P-5.0-8.0 7/14/2011 19.6 2.5 1.1 1.25 0.26 0.2 1.5 0.35 0.29 0.67 0.14 0.03 0.28 U 0.38 0.72 0.73 0.14 0.03																				
SIW-SB-025P-0.0-5.0																				
Previous Data (USEPA 2008, USEPA 2009)   ST 2																				
ST 2			10.0		1.5	1.07	0.23	0.10	1.51	0.52	0.14	1.00	0.10	0.01	0.10	0.10	0.03	1.03	0.	15 0.01
ST 3		•				1.2									NI/A			1.1		
NR-2-92-003-072201 7/14/1992 0.53 UU 1.7 U NR-2-92-003-072202 7/14/1992 0.9 UU 1.9 U NR-2-92-003-072203 7/14/1992 0.87 UU 1.6 U NR-2-92-003-072204 7/14/1992 1.06 N/A 2.8 U NR-2-92-003-072205 7/14/1992 1.95 N/A 3 885062 2/1/2008 1.333 N/A 3 885062 2/1/2008 1.333 0.12 U 1.03 U Minimum 4.3 0.23 0.28 0.28 0.233 0.42 0.233 Mean 10.92 1 1 1 0.947 0.42 0.977 Maximum 19.6 2.8 1.79 3.93 0.42 3.59 Distribution Lognormal Lognormal Lognormal Lognormal Sy5% UPL 1.8.81 2.294 2.993 2.524 N/A Lognormal P5% UPL 1.8.81 2.294 1.79 2.524 ND 2.462 Previous Investigation Background NA 1.96 2.25 NA ND (<0.1) 1.96																				
NR-2-92-003-072202 7/14/1992 0.87 U 1.9 U 1.9 U 1.6 U NR-2-92-003-072203 7/14/1992 0.87 U 1.6 U 1.6 U NR-2-92-003-072204 7/14/1992 1.06 N/A 2.8 U NR-2-92-003-072205 7/14/1992 1.95 N/A 3 885062 2/1/2008 1.333 N/A 3 0.23 0.28 0.233 0.42 0.233																T			T	
NR-2-92-003-072203 7/14/1992 0.87 U 1.6 U NR-2-92-003-072204 7/14/1992 1.06 N/A 2.8 U NR-2-92-003-072205 7/14/1992 1.95 N/A 3 885062 2/1/2008 1.333 0.12 U 1.03 U  Minimum 4.3 0.23 0.28 0.233 0.42 0.233  Mean 10.92 1 1 1 0.947 0.42 0.977  Maximum 19.6 2.8 1.79 3.93 0.42 3.59  Distribution Lognormal Lognormal Lognormal Lognormal Lognormal N/A Lognormal 95% UPL 18.81 2.294 2.993 2.524 N/A 2.462  Current Investigation Background NA 1.96 2.25 NA ND (<0.1) 1.96												-				_				
NR-2-92-003-072204 7/14/1992 1.06 N/A 2.8 U NR-2-92-003-072205 7/14/1992 1.95 N/A 3 885062 2/1/2008 1.333 0.12 U 1.03 U  Minimum 4.3 0.23 0.28 0.233 0.42 0.233  Mean 10.92 1 1 1 0.947 0.42 0.977  Maximum 19.6 2.8 1.79 3.93 0.42 3.59  Distribution Lognormal Lognormal Lognormal Lognormal N/A Lognormal N/A Lognormal S95% UPL 18.81 2.294 2.993 2.524 N/A 2.462  Current Investigation Background NA 1.96 2.25 NA ND (<0.1) 1.96												-								
NR-2-92-003-072205         7/14/1992          1.95           N/A         3           885062         2/1/2008          1.333           0.12 U         1.03 U           Minimum         4.3         0.23         0.28         0.233         0.42         0.233           Mean         10.92         1         1         0.947         0.42         0.977           Maximum         19.6         2.8         1.79         3.93         0.42         3.59           Distribution         Lognormal         Lognormal         Lognormal         N/A         Lognormal           95% UPL         18.81         2.294         2.993         2.524         N/A         N/A         2.462           Current Investigation Background         NA         1.96         2.25         NA         ND (<0.1)																J				
No.																			U	
Minimum         4.3         0.23         0.28         0.233         0.42         0.233           Mean         10.92         1         1         0.947         0.42         0.977           Maximum         19.6         2.8         1.79         3.93         0.42         3.59           Distribution         Lognormal         Lognormal         Lognormal         N/A         Lognormal           95% UPL         18.81         2.294         2.993         2.524         N/A         2.462           Current Investigation Background         NA         1.96         2.25         NA         ND (<0.1)         1.96																T.				
Mean         10.92         1         1         0.947         0.42         0.977           Maximum         19.6         2.8         1.79         3.93         0.42         3.59           Distribution         Lognormal         Lognormal         Lognormal         N/A         Lognormal           95% UPL         18.81         2.294         2.993         2.524         N/A         2.462           Current Investigation Background         18.81         2.294         1.79         2.524         ND         2.462           Previous Investigation Background         NA         1.96         2.25         NA         ND (<0.1)	883002			1.2		1.555	0.22			0.28					0.12 (			1.03		
Maximum         19.6         2.8         1.79         3.93         0.42         3.59           Distribution         Lognormal         Lognormal         Lognormal         Lognormal         N/A         Lognormal           95% UPL         18.81         2.294         2.993         2.524         N/A         2.462           Current Investigation Background         18.81         2.294         1.79         2.524         ND         2.462           Previous Investigation Background         NA         1.96         2.25         NA         ND (<0.1)         1.96							0.25			0.28					-					
Distribution         Lognormal         Lognormal         Lognormal         N/A         Lognormal           95% UPL         18.81         2.294         2.993         2.524         N/A         2.462           Current Investigation Background         18.81         2.294         1.79         2.524         ND         2.462           Previous Investigation Background         NA         1.96         2.25         NA         ND (<0.1)						2.0			1 70					-						
95% UPL         18.81         2.294         2.993         2.524         N/A         2.462           Current Investigation Background         18.81         2.294         1.79         2.524         ND         2.462           Previous Investigation Background         NA         1.96         2.25         NA         ND (<0.1)         1.96								-						-			-		1	
Current Investigation Background         18.81         2.294         1.79         2.524         ND         2.462           Previous Investigation Background         NA         1.96         2.25         NA         ND (<0.1)         1.96						1			L L						-			-		<u>i</u>
Previous Investigation Background         NA         1.96         2.25         NA         ND (<0.1)         1.96	~	95% UPL 18.81																-		
																		-		
			<u> </u>				1.96	~	<u> </u>							. ,				

<sup>2</sup>σ: total uncertainty; CAS: Chemical Abstract Service; ID: identification, MDC: Minimum Detectable Concentration; pCi/g: picocuries per gram; Qual: Data Qualifer; UPL: Upper Prediction Limit; USEPA: U.S. Environmental Protection Agency

J: Estimated value; R: rejected data point; U: not detected at the assocated level; UJ: not detected and associated value is estimated

Table 6-3. Screening levels for radionuclides of potential concern in groundwater for the Staten Island Warehouse site.

Radionuclide	Tap Water PRG [1] (pCi/L)	MCL [1] (pCi/L)	Screening Level [2] (pCi/L)
Gross Alpha	NA	15	15
Gross Beta	NA	50	50
Ra-226	9.14E-04	5	5
Ra-228	0.0509	5	5
U-234	0.748	1.87E+05	1.87E+05
U-235	0.76	64.8	64.8
U-238	0.827	10.1	10.1

MCL: Maximum Contaminant Level, mrem/yr: millirems per year, NA: Not Applicable, PRG: Preliminary Remediation Goal

[1] From USEPA PRG tables found at http://epa-prgs.ornl.gov/radionuclides/download.html Resident soil-to-groundwater PRG supporting table

[2] Screening levels are based on the MCL values.

Tble 7-1. Evaluation of Surface Soil Samples from the Staten Island Warehouse Site.

	T	Ra-226		11.	U-234	iluation of	Surrace Son	U-2		aten Islanu	Warehouse	U- 238					
		Na-220			0-234			0-2	233			0- 230		U-238/U-234		U-238/Ra-226	
Sample ID	Result	2 σ	MDC	Result	2 σ	MDC	Result	Qual	2 σ	MDC	Result	2 σ	MDC	Ratio	2σ	Ratio	2σ
SIW-SS-001P-0.0-2.0	5.72	0.61	0.3	1.78	0.22	0.02	0.45	U	0.59	1	1.94	0.23	0.009	1.09	0.19	0.34	0.05
SIW-SS-002P-0.0-2.0	1.74	0.33	0.25	1.23	0.17	0.02	0.35	U	0.43	0.69	1.37	0.19	0.02	1.11	0.22	0.79	0.18
SIW-SS-003P-0.0-2.0	0.38	0.1	0.1	0.287	0.072	0.018	0.11	U	0.2	0.31	0.283	0.073	0.032	0.99	0.35	0.74	0.27
SIW-SS-004P-0.0-2.0	0.72	0.19	0.14	0.65	0.11	0.03	0.09	U	0.13	0.51	0.475	0.094	0.024	0.73	0.19	0.66	0.22
SIW-SS-005P-0.0-2.0	2.81	0.38	0.22	3.16	0.35	0.02	0.3	U	0.41	0.68	2.88	0.33	0.02	0.91	0.15	1.02	0.18
SIW-SS-006P-0.0-2.0	0.23	0.11	0.12	0.233	0.062	0.017	0.17	U	0.17	0.25	0.233	0.063	0.024	1.00	0.38	1.01	0.56
SIW-SS-007P-0.0-2.0	0.38	0.12	0.12	0.361	0.085	0.031	0.11	U	0.14	0.41	0.314	0.078	0.029	0.87	0.30	0.83	0.33
SIW-SS-008P-0.0-2.0	2.96	0.37	0.21	1.77	0.24	0.04	0.48	U	0.46	0.6	2.04	0.26	0.01	1.15	0.21	0.69	0.12
SIW-SS-009P-0.0-2.0	36.3	2.6	0.6	33.9	3	0.05	2.9		1.2	1.7	33.4	3	0.06	0.99	0.12	0.92	0.11
SIW-SS-010P-0.0-2.0	2.88	0.36	0.21	2.68	0.3	0.03	0.2	U	0.49	0.75	2.8	0.31	0.03	1.04	0.16	0.97	0.16
SIW-SS-011P-0.0-2.0	1.27	0.25	0.19	1.13	0.16	0.03	0.18	U	0.33	0.59	0.96	0.15	0.01	0.85	0.18	0.76	0.19
SIW-SS-012P-0.0-2.0	3.29	0.48	0.26	1.91	0.24	0.03	0.4	U	0.42	0.69	1.88	0.23	0.02	0.98	0.17	0.57	0.11
SIW-SS-013P-0.0-2.0	19.1	1.4	0.4	9.11	0.87	0.02	1.09	U	0.92	1.7	9.48	0.9	0.02	1.04	0.14	0.50	0.06
SIW-SS-014P-0.0-2.0	5.28	0.52	0.24	1.75	0.22	0.03	-0.008	U	0.044	0.7	1.58	0.21	0.02	0.90	0.17	0.30	0.05
SIW-SS-015P-0.0-2.0	19.5	1.6	0.4	10.3	0.22	0.03	0.77	U	0.96	1.6	10.1	0.96	0.02	0.98	0.17	0.52	0.07
SIW-SS-016P-0.0-2.0	42	2.8	0.5	11.9	1.1	0.03	1.2	U	1.5	2.3	11.5	1.1	0.01	0.97	0.13	0.27	0.03
SIW-SS-DUP-002*	33.2	2.2	0.5	11.8	1.1	0.04	1.1	U	1.1	1.9	11.8	1.1	0.04	1.00	0.13	0.36	0.04
SIW-SS-017P-0.0-2.0	6.97	0.66	0.29	1.78	0.23	0.04	0.44	U	0.56	0.94	1.82	0.23	0.04	1.02	0.13	0.26	0.04
SIW-SS-018P-0.0-2.0	35.2	2.3	0.29	58.4	5.8	0.02	3	- 0	1.3	1.6	56.6	5.6	0.01	0.97	0.14	1.61	0.19
SIW-SS-DUP-004*	36.5	2.5	0.5	38.4	3.4	0.2	2.7		1.3	1.7	31.2	7.2	8.1	0.97	0.14	0.85	0.19
SIW-SS-019P-0.0-2.0	0.47	0.13	0.09	0.277	0.069	0.03	-0.02	U	0.47	0.29	0.291	0.071	0.017	1.05	0.20	0.62	0.21
SIW-SS-020P-0.0-2.0							-	U								+	
SIW-SS-0201-0.0-2.0	2.46	0.34	0.19	1.65	0.21	0.02	0.21		0.34	0.58	1.72	0.22	0.02	1.04	0.19	0.70	0.13
SIW-SS-021P-0.0-2.0 SIW-SS-DUP-001*	1.49	0.3	0.24	1.73	0.24	0.04	0.38	U	0.35	0.63	1.7	0.23	0.04	0.98	0.19	1.14	0.28
	1.82	0.29	0.17	1.85	0.26	0.03	0.14	U	0.28	0.52	1.9	0.26	0.04	1.03	0.20	1.04	0.22
SIW-SS-022P-0.0-2.0	0.49	0.12	0.11	0.328	0.075	0.021	0.05	U	0.19	0.34	0.331	0.075	0.021	1.01	0.32	0.68	0.23
SIW-SS-023P-0.0-2.0	3.77	0.5	0.23	2.19	0.27	0.03	0.34	U	0.4	0.75	2.21	0.27	0.02	1.01	0.18	0.59	0.11
SIW-SS-024P-0.0-2.0	1.75	0.26	0.16	1.87	0.24	0.01	0.09	U	0.22	0.49	1.79	0.23	0.02	0.96	0.17	1.02	0.20
SIW-SS-DUP-003*	1.49	0.27	0.15	1.69	0.22	0.03	0.017	U	0.083	0.55	1.72	0.22	0.01	1.02	0.19	1.15	0.26
SIW-SS-025P-0.0-2.0	0.91	0.19	0.19	2.85	0.33	0.02	0.42		0.34	0.41	2.72	0.32	0.01	0.95	0.16	2.99	0.72
SIW-SS-026P-0.0-2.0	1.86	0.33	0.24	1.72	0.22	0.02	0.31	U	0.42	0.82	1.58	0.21	0.01	0.92	0.17	0.85	0.19
SIW-SS-027P-0.0-2.0	1.03	0.2	0.15	0.84	0.14	0.03	0.24	U	0.31	0.58	0.85	0.14	0.04	1.01	0.24	0.83	0.21
SIW-SS-028P-0.0-2.0	1.52	0.24	0.16	1.78	0.22	0.02	0.09	U	0.22	0.58	1.64	0.21	0.02	0.92	0.16	1.08	0.22
SIW-SS-029P-0.0-2.0	1.37	0.22	0.16	2.19	0.27	0.03	0.19	U	0.28	0.48	2.14	0.26	0.02	0.98	0.17	1.56	0.31
SIW-SS-030P-0.0-2.0	1.64	0.28	0.19	1.64	0.22	0.01	0.07	U	0.41	0.62	1.6	0.22	0.02	0.98	0.19	0.98	0.21
SIW-SS-031P-0.0-2.0	2.19	0.35	0.24	0.81	0.14	0.02	0.37	U	0.48	0.8	0.75	0.13	0.01	0.93	0.23	0.34	0.08
SIW-SS-032P-0.0-2.0	0.57	0.13	0.11	0.5	0.1	0.01	0.07	U	0.22	0.38	0.412	0.091	0.011	0.82	0.25	0.72	0.23
SIW-SS-033P-0.0-2.0	2.2	0.37	0.2	1.94	0.25	0.03	0.015	U	0.069	0.79	2.25	0.28	0.01	1.16	0.21	1.02	0.21
SIW-SS-034P-0.0-2.0	2.32	0.33	0.19	1.9	0.24	0.01	0.15	U	0.35	0.79	1.72	0.22	0.02	0.91	0.16	0.74	0.14
SIW-SS-035P-0.0-2.0	1.93	0.3	0.19	2.09	0.26	0.01	0.24	U	0.31	0.56	2.12	0.27	0.02	1.01	0.18	1.10	0.22
SIW-SS-036P-0.0-2.0	2.21	0.32	0.2	1.71	0.23	0.02	0.13	U	0.37	0.68	1.67	0.23	0.01	0.98	0.19	0.76	0.15
SIW-SS-037P-0.0-2.0	2.66	0.39	0.27	3.22	0.36	0.03	0.02	U	0.47	0.82	3.38	0.37	0.01	1.05	0.16	1.27	0.23
SIW-SS-038P-0.0-2.0	1.89	0.35	0.19	0.94	0.15	0.03	-0.04	U	4.1	0.6	1.04	0.16	0.02	1.11	0.25	0.55	0.13
SIW-SS-039P-0.0-2.0	2.59	0.35	0.21	1.45	0.19	0.02	0.2	U	0.42	0.71	1.37	0.19	0.02	0.94	0.18	0.53	0.10
SIW-SS-040P-0.0-2.0	1.65	0.32	0.26	1.91	0.24	0.03	0.31	U	0.39	0.62	1.98	0.25	0.02	1.04	0.18	1.20	0.28
SIW-SS-DUP-005*	1.49	0.26	0.19	1.66	0.22	0.03	0.24	U	0.35	0.66	1.44	0.2	0.04	0.87	0.17	0.97	0.22
SIW-SS-041P-0.0-2.0	1.39	0.29	0.18	0.77	0.17	0.04	0.23	U	0.43	0.6	0.9	0.19	0.04	1.17	0.36	0.65	0.19
SIW-SS-042P-0.0-2.0	0.33	0.12	0.13	0.254	0.07	0.025	0.04	U	0.12	0.3	0.278	0.073	0.012	1.09	0.42	0.84	0.38
SIW-SS-043P-0.0-2.0	6.18	0.6	0.25	7.19	0.71	0.02	0.93		0.6	0.78	7.17	0.71	0.01	1.00	0.14	1.16	0.16
SIW-SS-044P-0.0-2.0	1.77	0.27	0.17	1.26	0.18	0.03	0.3	U	0.23	0.45	1.28	0.18	0.02	1.02	0.20	0.72	0.15
SIW-SS-045P-0.0-2.0	15.8	1.3	0.3	8.13	0.78	0.02	1.13		0.79	1.1	7.78	0.75	0.02	0.96	0.13	0.49	0.06
	6.51			5.01							4.81			0.99	0.20	0.85	0.19

2σ: total propagated uncertainty; MDC: Minimum Detectable Concentration; pCi/g: picocuries per gram; \*The DUP is a field duplicate of the preceding sample

Table 7-2. Evaluation of Subsurface Soil Samples from the Staten Island Warehouse Site.

Table 7-2. Evaluation of Subsurface Soil Samples from the Staten Island Warehouse Site.  Ra-226 U-234 U-235 U-238																	
G I II	D 14	Ra-226	MDG	D 14	U-234	MDG	D 1/			MDG	D 1/	U- 238	MDG	TI 220/TI 224		TI 220/D 224	
Sample ID	Result	2 σ	MDC	Result	2 σ	MDC	Result	Qual	2 σ	MDC	Result	2 σ	MDC	U-238/U-234 Ratio	2σ	U-238/Ra-226 Ratio	2σ
SIW-SB-001P-0.0-5.0	1.76	0.31	0.14	1.73	0.23	0.02	0.11	U	0.38	0.67	1.6	0.22	0.01	0.92	0.18	0.91	0.20
SIW-SB-001P-5.0-10.0	0.74	0.19	0.14	1.73	0.23	0.02	0.11	U	0.38	0.67	1.89	0.22	0.01	1.11	0.18	2.55	0.20
SIW-SB-002P-0.0-5.0	0.74	0.19	0.18	0.66	0.20	0.02	0.11	U	0.29	0.3	0.66	0.27	0.02	1.00	0.25	0.77	0.73
SIW-SB-002F-0.0-5.0	1.07	0.21	0.18	0.65	0.12	0.02	0.11	U	0.27	0.46	0.66	0.11	0.01	1.00	0.25	0.62	0.23
SIW-SB-003P-5.0-8.0	0.97	0.22	0.17	0.63	0.12	0.03	0.43	U	0.38	0.44	0.456	0.12	0.024	0.71	0.20	0.62	0.17
SIW-SB-0031-3.0-8.0	1.22	0.21	0.11	0.04	0.12	0.02	0.11	U	0.28	0.48	0.436	0.094	0.024	0.71	0.20	0.52	0.14
SIW-SB-DUP-001*		0.21		0.71	0.12			U			0.64	0.12	0.02	-	0.23	0.32	
SIW-SB-004P-5.0-10.0	1.06	0.23	0.18			0.01	0.15	U	1.3	0.51	1		0.01	1.01	0.24		0.21
SIW-SB-005P-0.0-5.0	0.93		0.14	0.55	0.1	0.01	-0.08				0.64	0.11		1.16		0.69	0.18
SIW-SB-005P-5.0-8.0	1.8	0.27	0.16	2.73	0.32	0.02	0.12	U	0.35	0.66	2.67	0.32	0.01	0.98	0.16	1.48	0.28
SIW-SB-003P-3.0-8.0 SIW-SB-DUP-002*	1.58	0.3	0.14	1.42	0.27	0.03	0.15	U	0.41	0.69	1.42	0.27	0.03	1.00	0.27	0.90	0.24
	1.7	0.29	0.21	1.38	0.19	0.02	-0.03	U	1.3	0.8	1.26	0.18	0.01	0.91	0.18	0.74	0.16
SIW-SB-006P-0.0-5.0	0.72	0.16	0.13	0.67	0.12	0.02	0.06	U	0.29	0.5	0.65	0.12	0.01	0.97	0.25	0.90	0.26
SIW-SB-006P-5.0-8.0	0.7	0.16	0.14	0.48	0.094	0.022	0.11	U	0.27	0.47	0.431	0.088	0.02	0.90	0.25	0.62	0.19
SIW-SB-007P-0.0-5.0	0.96	0.17	0.11	0.82	0.13	0.02	0.17	U	0.33	0.52	0.87	0.14	0.02	1.06	0.24	0.91	0.22
SIW-SB-007P-5.0-8.0	2.8	0.36	0.2	3.93	0.42	0.01	0.2	U	0.32	0.71	3.59	0.39	0.01	0.91	0.14	1.28	0.22
SIW-SB-008P-0.0-5.0	1.57	0.29	0.2	1.24	0.19	0.02	0.06	U	0.39	0.68	0.92	0.15	0.01	0.74	0.17	0.59	0.14
SIW-SB-008P-5.0-8.0	2.04	0.31	0.19	2.06	0.25	0.02	0.38	U	0.41	0.68	1.82	0.23	0.02	0.88	0.15	0.89	0.18
SIW-SB-009P-0.0-5.0	47.6	3.1	0.5	40.7	4.3	0.3	4.5		1.6	1.9	40.9	4.3	0.2	1.00	0.15	0.86	0.11
SIW-SB-009P-5.0-8.0	2.13	0.34	0.23	4.08	0.45	0.01	0.7		0.5	0.63	3.99	0.45	0.01	0.98	0.15	1.87	0.37
SIW-SB-010P-0.0-5.0	1.77	0.42	0.32	1.53	0.2	0.02	0.11	U	0.42	0.76	1.28	0.18	0.01	0.84	0.16	0.72	0.20
SIW-SB-DUP-005*	1.72	0.35	0.22	1.75	0.22	0.03	0.16	U	0.32	0.75	1.84	0.23	0.02	1.05	0.19	1.07	0.26
SIW-SB-010P-5.0-8.0	0.6	0.17	0.17	0.73	0.13	0.01	0.05	U	0.13	0.54	0.66	0.12	0.02	0.90	0.23	1.10	0.37
SIW-SB-011P-0.0-5.0	1.79	0.34	0.19	0.9	0.14	0.01	0.21	U	0.47	0.73	1	0.15	0.02	1.11	0.24	0.56	0.14
SIW-SB-011P-5.0-8.0	1.29	0.27	0.22	0.75	0.13	0.02	0.27	U	0.47	0.69	0.65	0.12	0.01	0.87	0.22	0.50	0.14
SIW-SB-012P-0.0-5.0	1.22	0.24	0.19	0.75	0.13	0.03	0.24	U	0.33	0.62	0.86	0.14	0.01	1.15	0.27	0.70	0.18
SIW-SB-012P-5.0-8.0	0.97	0.2	0.17	0.83	0.15	0.01	0.016	U	0.081	0.52	0.82	0.14	0.01	0.99	0.25	0.85	0.23
SIW-SB-013P-0.0-5.0	95.8	5.9	0.7	37.3	3.4	0.05	4.6		2.3	2.8	36.6	3.3	0.03	0.98	0.13	0.38	0.04
SIW-SB-013P-5.0-8.0	3.7	0.44	0.24	6.77	0.68	0.03	0.35	U	0.67	0.94	6.15	0.63	0.03	0.91	0.13	1.66	0.26
SIW-SB-014P-0.0-5.0	0.102	0.024	0.017	0.74	0.13	0.02	0.021	U	0.023	0.038	0.73	0.13	0.03	0.99	0.25	7.16	2.11
SIW-SB-014P-5.0-8.0	1.02	0.24	0.2	1.91	0.25	0.04	0.21	U	0.39	0.67	1.88	0.25	0.03	0.98	0.18	1.84	0.50
SIW-SB-015P-0.0-5.0	54.4	3.5	0.6	65.4	6.4	0.2	4.2		1.3	1.9	63	6.2	0.3	0.96	0.13	1.16	0.14
SIW-SB-016P-0.0-5.0	8.29	0.73	0.26	9.68	0.93	0.02	0.69	U	0.58	1	9.63	0.92	0.03	0.99	0.13	1.16	0.15
SIW-SB-016P-5.0-8.0	1.27	0.31	0.22	2.2	0.26	0.03	0.08	U	0.13	0.67	2.12	0.26	0.03	0.96	0.16	1.67	0.46
SIW-SB-017P-0.0-5.0	3.84	0.44	0.22	1.83	0.23	0.03	0.31	U	0.51	0.85	1.9	0.24	0.01	1.04	0.19	0.49	0.08
SIW-SB-018P-0.0-5.0	26.1	1.8	0.5	34.5	3.1	0.05	2.9		1.4	1.6	34.2	3.1	0.06	0.99	0.13	1.31	0.15
SIW-SB-DUP-003*	20.5	1.5	0.4	24.6	2.2	0.06	1.32		0.76	1.3	24	2.2	0.07	0.98	0.12	1.17	0.14
SIW-SB-019P-0.0-5.0	0.46	0.15	0.14	0.447	0.09	0.028	0.12	U	0.11	0.33	0.473	0.094	0.032	1.06	0.30	1.03	0.39
SIW-SB-019P-5.0-8.0	0.26	0.12	0.15	0.246	0.061	0.022	0.11	U	0.24	0.34	0.273	0.064	0.009	1.11	0.38	1.05	0.54
SIW-SB-020P-0.0-5.0	1.41	0.24	0.17	1.98	0.26	0.03	0.03	U	0.35	0.61	2.01	0.26	0.02	1.02	0.19	1.43	0.30
SIW-SB-020P-5.0-8.0	1.08	0.18	0.11	1.06	0.17	0.03	0.28	U	0.3	0.54	1	0.16	0.02	0.94	0.21	0.93	0.21
SIW-SB-021P-0.0-5.0	1.5	0.28	0.2	1.15	0.17	0.02	0.26	U	0.36	0.61	1.15	0.17	0.01	1.00	0.21	0.77	0.18
SIW-SB-021P-5.0-8.0	0.71	0.18	0.16	0.92	0.14	0.02	0.21	U	0.2	0.49	0.96	0.14	0.02	1.04	0.22	1.35	0.40
SIW-SB-022P-0.0-5.0	1.15	0.25	0.21	0.78	0.16	0.03	0.26	U	0.45	0.72	0.92	0.18	0.02	1.18	0.33	0.80	0.23
SIW-SB-022P-5.0-8.0	1.25	0.26	0.2	0.67	0.14	0.03	0.28	U	0.38	0.72	0.73	0.14	0.03	1.09	0.31	0.58	0.17
SIW-SB-023P-0.0-5.0	2.48	0.36	0.23	2.54	0.3	0.02	0.25	U	0.46	0.81	2.62	0.31	0.02	1.03	0.17	1.06	0.20
SIW-SB-023P-5.0-8.0	0.78	0.18	0.11	1.28	0.18	0.02	-0.04	U	9.3	0.4	1.19	0.17	0.02	0.93	0.19	1.53	0.41
SIW-SB-024P-0.0-5.0	1.63	0.28	0.2	1.61	0.21	0.01	0.18	U	0.35	0.73	1.69	0.21	0.01	1.05	0.19	1.04	0.22
SIW-SB-DUP-004*	1.63	0.28	0.2	1.85	0.24	0.02	0.29	U	0.45	0.71	1.89	0.24	0.02	1.02	0.19	1.16	0.25
SIW-SB-025P-0.0-5.0	1.09	0.23	0.18	1.08	0.16	0.01	0.18	U	0.18	0.63	1.03	0.15	0.01	0.95	0.20	0.94	0.24
SIW-SB-026P-0.0-5.0	1.87	0.37	0.29	1.9	0.24	0.02	0.1	U	0.29	0.95	1.77	0.23	0.02	0.93	0.17	0.95	0.22
	6.28			5.53	·				/		5.42		<del>-</del>	0.98	0.21	1.13	0.28
25: total propagated uncertain					G: / :		WED1	DIID: C		6.1				1 222			

2σ: total propagated uncertainty; MDC: Minimum Detectable Concentration; pCi/g: picocuries per gram; \*The DUP is a field duplicate of the preceding sample





## **APPENDIX A**

FIELD LOGS, SAMPLING FORMS, DAILY QUALITY CONTROL REPORT, SUMMARY REPORTS, AND CHAIN OF CUSTODY FORMS

(electronic copy only – provided on the disc located at the front of this document)



Date

Signed

Signed

PHOJECT Continued From Fage
7-12-11
0130 Moves Rib on 1st location
1.05.01 - 001
0127 P. Jet case O- II 3-4 Recover
136 RETTIVEN 220 COPE 5-40 1-4" Recover
3-4 Recovery 7-12-11
5IW 001-P 50.50
SAMPLE # 001-0.0-90 TAKEN @ 9"-13" Inin: 58
SAMPLE # 001-0.0-90 TAKEN @ 9"-13" Imin = 50
SIW-0019-5:0
0150 GAMMA Downhole Scan
Fed Spm
1 2000
2 3000
3 2000
4 2000
0157 Moves Rig to OOZ
0134 Moor 19
02 Ist ATTEMP Retusal 3.0
0222 Moved 20 North
0224 2ND ATTEMPS REFINAL @ 5.0' ROCK STUCK IN MACK
Sample# SIW-0028-00-50
GAMMA Readings G-1 1400 2' 1700 3'500 4'500
CPM 5' 600 Continued on Page
Read and Understood By

BK85-573

Continued on Page

Read and Understood By

Signed

Date

Signed

Date

Signed

Signed

- Tom rugo
5IW-5B004P-0-0-510 1530
SIW-SB004D-500-80 1530
58-Dup-001
*
DRILLER STOPPING FOR the day \$1535
* AT OUR Request DRIVER LEAVING RIS
X AT OUR Request DRIVER LEAVING Rig IN CONtain-Zone overnight
PARKED TRACLER IN Zone, put GEOPROBE FORKS
ON TOP OF TRACKE TO SECURE
DRILLER LEFT @ 1550
<i>f.</i> ,
Continued on Page
Read and Understood By

07/13/11	PREVIOUS NOTE	s for DA	1 IN Yell	o w
DRILLER ON S	TTE @ 0730		FIELD	NOTE
1010 MOVED RC	to DOS LOCATE	- 0.42		
1010 MOUDD Rg	SEFSET 140 E	E OF ORIGINA	1- POINT	
(ORIGINAL	PT OFF STEEP	RANK)	- N	
1017 Rig starts	BORING	BKgr	44	
1019 60-05	CORE Collectel		58 Cpm	
1024 0.5-9.0		2		
SIW-SB00	59-0.0-0.5	1031	Collection	
	SP-510-8.0		Collection	
SIW-5B-				
Pib				
0.0. 500 0.6. 010	1.5 0,0 7.5	0,0		
		010		
		0.0		
100-9.0 0.6 mg	1.5 0,0 2.	5 0.0		
	2.0 010 310			
* Tools DE				
CAMMA DOWNHOLD		open as	e 778	
1.0 1158 3	1719	open a	707 (NG	Tsail
* (a/L) DRESES	to 2100 10:4	Scanned Gio	- 401	
	ROBE OUT OF 1			
1-0p p		_	DTED 70	ADD SAND
PIT TEMP !	WELL IN@ 9.0		Continued	
WI (EIII)		d and Understood By		
			ž	
Signed	Date	Signed	-	Date

JECTNo	tebook No 5 Continued From Page
1054 MOVED TO SI-SBOILE (B) 1058 DRILLING ON 1ST CORE (6.	
SIW-SBOILPOO-8.0  SIW-SBOILP-50-8.0  SIW-SBOILP-50-8.0	70 1106
PID 0.5 1.0 1.5 2.0	2-5 3.0 3.5 4.0 4.
5.0-2.0 5.5 5.5 60 5.5, 7.0	7.5 8.0
CAMMA DOWNHOLE COPEN HOLE  1.0 1231 3.5 2522  1.0 2123  3.0 2716  * HOLE COTTAPSED @ 3.5 down	(NOPUC)
124 START BRILLING 0:0-5.0 Collection	
SIW-5 Bol29-60-50 1140 SIW-5 Bol29-50-80 1140	Continued on Page

**Read and Understood By** 

Signed

Date

Signed

DRGANICS SMELL @ 3-4.5 \$5-8.0'

SIW-SBOOTP-0.6-5.0 1.3 100 1.5 3.0 4.0 64

SIW-SBUOTP-50-8.0 8

Continued on Page

**Read and Understood By** 

Signed Date Signed Date

Signed

Notebook No. \_\_\_\_\_ Continued From Page

0.0-50 Tone Gilection	NO Comma
5-8.0 1345	FOR 5807
	HOLE CAUED IN
GAMMA SCAN (SBE	
1.0 49/ 4.0 (744	<u> </u>
20 943 50 1112	,
3.0 1136 6.0 1021	×
1345 Riggs moved to SBSDQ	sle
1355 0:00 5:0 CORE COLL	
1359 5.0-8.0 collected	
0 0 0 00(100	Collected @ Rad (cpm)
SIW-SBODEP-0:0-5:0	
SIW-SBOOLP-50-80	
SJW-SB006 A/S-5.0-8.0 / 5:	IW-SBOOKMSD-5.0-8.0 1410
PID IS NOT WORKING - Ceasing	y readings
Ris mans 1 to CROID 114110	
Rig moved to SBOIQ 1440	
-0 10	
5B019	
- collected 0:0- 50 @ 1445 collected 5:0-10:0 @ 1452	
Collected Siv- 10.0 C 1152	
7.00 L L A D	
- CORE has treat compressed i SIW-SB019P-0.0-\$10 (1520	NOOD, STRONG ORGANE
SIW-SBO194-0.0-5.10 (1220	
SIW-SBUIGP-50-10.0 (15)	
Read an	d Understood By

Date

Signed

1605 STOP drilling, DRILLER MOVING TO TRAILER TO SECURE TRAILER PERSONNEL SCANNED OUT. 1630 DRILLER LEAVES SITE Continued on Page

Read and Understood By

Signed

Date

**Signed** 

- 1635 BR	EALING down	Sampling table &	Equipt.
\$58005 GROW	ND WATER @	7.0' (1700)	
1715 LEFT	T SITE,	LOCKED GATE C	TOOO/BRAD)
	Read a	Con	itinued on Page
Signed	Date	Signed	Date

Signed Date Signed Date

Continued From Page

-			(CPM)
RAD	SCAN (cpm)	GAMMA	DOWN HOLE
BKgr		1' 1000	5 NA
0-5		2 3000	6 NIA
5-8	62	3 3500	7 NA
0		4 1500	8 N/A
		N/A-HoLe	COLLAPSED

SIW-SB022P-0.5-500 (1035 Collection) SIW-SB022P-50-800 (1035 Collection)

1031 DRILL Rig StanDive By

1039 Ric MOUZS TO 580/3

1048 SETUP ON HOLE

1054 START DRILLING

1056 CHECTED O-5' CORE

1059 START DRILLING

1106 COLLECTED 5-8' CORE

**Continued on Page** 

**Read and Understood By** 

Signed

Date

Signed

	PROJECT	Note	ebook No.
	PROJECT		Continued From Page
	BK 7-14-11 READINGS ON CORE		na Down Hole (CPM)
	Bk 7-14-11 (cpm)	-	000 400 2700
	BKgr 46	2 26	00 4.5 4200
	SURF (3") 407		O SIO' NIA
311	3-5 46	~AIW	HOLE COLLADSED
	5-8	High Ren	ding 33000 (3")
	* SAMPLED HOT ARRA IN C	GRE	
	- HAS TO Collect Soil FR	on 6-8"	TO OBTAIN
	SUFFICIENT MATERIAL.		
	- HOTT MATERIAL IN TOP	3-41.	
	- Collection of 5		
	RAD READINGS (COM)	6Amm	A DownHOLE (CPM.)
	5-8 118 55 (1-3' of material)		5 5600
	(1-3 of material)	7' N1	4
		8 NI	
		NIA =	FILLE IN@ 5
	SAMPLES	TIME	Commen'T
	SIW-SBO189-0:0-510	1110	HOT SAMPLE
	SIW-SBOBP-5-0-8.0	1110	
	* DRILLING Equipt Being	Deconner	HO RADING (N FO-
			RECORDS - EQUIPT INDICATE
	- MATERIAL From 5:0-8	3.0 CORE AD	pears to Be
		,	
	SLUFF From 0.0-5:0 Co SLIGHT HAD ELEVATED Readings	ON DRY MA-	TERIAL, BOUT
	DownHolt GAMMA DIDNT (NI	DICATE RAD	LEUELS Continued on Page
	R	Read and Understood	Ву

Notebook No. \_\_\_\_\_ Continued From Page

1145 Rg MOUED TO SBOIG	
SBOID	
1148 START CORNE 0-5	
(15) CORE Collected	
1155 START GRING 5-8	
1157 CORE COLLECTION	
	(CPM)
RAD READINGS (CPM)	GAMMA DOWNHOLE
0-5 77	1.0'2700 4' 1100
RAD READINGS (CPM) 0-5' 77  - No High Reading IN 3-4"	2' 1700 35' 800
5-8' 56	3 2300
	Highest Realing
•	Highest Reading 5000 Cpm
5-8 CORE Had LIMITED	MATERIL, FULL OF WATER
DECIDED TO INSERT WE	三しし.
- MATERIAL FROM 7-8 W.	AS Rock.
- GOOD FLOW OF WATER - INSERTED TO 7.0'	with prive
SIW-SB016P-0.0-50	(1200)
SIW-SB016P-0.0-50 SIW-SB016P-5.0-8.0	(1200)
Equipt. Deconned. Hf	HAS SCAN RECORDS
Read and	Understood By

Date

Signed

<b>Notebook</b>	No		
Con	tinued	From	Page

SBOIA
SBOIT  1223 RIG MOURS TO SBOIT  1226 START DRILLING ON 0-5'
1226 STOOT DRILLING ON 0-5
1227 - HITS REFUSAL @ 3.0' (NO SAMPLE Collectel)
1228 - MOVER Back 400 (South)
1229 - START DRILLIAM (0-5') & DESTROYER
- DIFFICULT DRILLING 2 3.0' MACRO-CORE
- Pustiss Those To Depth (5.0')
- Pusties Then to Depth (5.0')  1230 - Cullects Supple GRE
& RAD Readings on GRE (CPM) CAMMA (CPM)
0-5' 68 1- 1900 4' 550
BKgr 46 2'1800 5'N/A
3 '820
N/A SETT BU REFUSICO 4' BK 7-1411
BK 7-14-1
1234 - MACRO Destroyed by Hard Maderial
- DECISION NOT TO CONTINUE TO 5-81
due to Refusal @ 4.0'
- Coincided W/ NEIGHBORING SBOOZ (REFLUEL)
SAMPLES Collection TIME
SIW-SB017P-0.0-5.0 1240
NO 5-8' Sample
Continued on Page
Read and Understood By

Date

Signed

1236 DRILLERS DECONNING Equipt SCANINFO LISTED IN HP RECORDS - SCANNED OUT CLEAN.
12.42 SCAWNING OUT TO GO TO LUNCH.
1405 MOVE RIG TO SBUS
SBO 8  1922 START DRILLING ON 0-5'  1926 Collect CORE  1929 START DRILLING ON 5-8'  1434 COLLECT CORE
RAD READINGS ON CORE CAMMA DOWNMUE (CPM)  0-5' 51 (1.0')  1' 2700 4' 1629  5-8' 64  2 1700 5 2500  BYGT 46  3' 1400 6 2000  7' 2100 8' NIA
SIW-SBORP-0.0-5.0 1450 JEAN RECORDS HELD BY SIW-SBORP-50-8.0 1450 JEAN RECORDS HELD BY SIW-SBORMS-0.6-5.0 1450 SIW-SBORMSD-0.0 Continued on Page Read and Understood By

**Date** 

Signed

S ROJECT				Notebook NoContinued From Page
1447	Moves	70	SBOIS	

SROB				
START	BORING)	1450		
Co (lee	f Sample	CORE	145)	(0-5')
START	BORING (		455)	
Collect	Core		7)	

	CPM
RAD ON GORE (CPM)	Samma DownHole
8-9" 1185*	1 7000 4, 900
10-15" 300	2' 1500 5' 1500
e-8' N/A	3' 1300 6 N/A.
	3

\* Highest is 20000 CB-9")

CPM

Equipt: MACROS, Shoe, Deconned - Scan INFO IN HP records

Time 1500 Samples SIW-SBOKP-0:0-5.0 NO 5-8' Sample

1518 MOVING TO SBOYS

**Continued on Page** 

**Read and Understood By** 

**Signed Date** 

**Signed** 

1	
S B0/8	
1520 START DRILLING	
1521 CORE Collection (0-5')	
- LOCATION ON AREA where Ho	TTEST GAMMA CUALKOVEN
WAS SEEN	
CSAS SEETO	-4
1523 START BRILLING	
REFUSAL @ 5.5'	
1-247.0	
RAD SCANL ON CORE (CPM)	Comma Doundlove Copa
2-3" 360	1 19000 4 1300
UI.	2' 5000 5' 2000
*NO 5-8' CORE ( ROCK SHOE)	1 3 zoon 5,5 4500
	* HottesTe(2-3) (57000)
* REFUSAL @ 5.5	
HOT MATERIAL IN BOTTOM OF 5-	B Depth,
* CONSIDERED SLUFF SINCE NOT	High MAS Confer WAS
SEEN BY DOWN HOLE GAMANA	a that Reptk.
- Equipti moved AFTER DECONN	
ISSOMOUED TO SBO9	SAMPLE SIW-SBOIRPORD
5B09	1525 SIW-58-DUP-003
1555 START CORING (6-5')	
1558 Collect cope	
START CORING (5-8)	
U	
. 8	Continued on Page
Read an	d Understood By

Date

Signed

5B09 cont.
CORE RAD READING COMMA DOWNHOLE (CPM)
3-5 62 1 6100 3 1300 5 2600
0-3" 385 2 3300 4 1100
Hotteste 3-5" 11000
6 800 7.5 N/A
7.0 1300
NIA = FEIL IN
- PUTTING WELL IN at \$ 910"
- ABLE TO PUSH ADDITIONAL 115' W/ MEGA POINT
Y
SAMPLES Sample time 1605
SIW-SBO9P-0:0-5:0 As SIW-SBO9P-0:0 5:0B
LAS
1620 STOP DRILLING DECONNING Equipt REGORDS
w/ HP
- SCAN RECORDS WIHP.
1640 HP SCANNING OUT PERSONNEL
PODRILER LEAVING SITE
1705 HP SCANNING IN EXCAVATOR Continued on Page
Read and Understood By

Date

Signed

Date

Notebook No. \_\_\_\_\_ Continued From Page

1715 BEEAKING DOWN SUPPORT ZONE
1923 Post Work BrIEFING
1730 BRUSH CLEARING ON EXTENDED AREA (South)
51187-14-11
1730 TOBA HAS HP SCANIN EXCAUATOR TO
GIVE CLEAN STATUS
17.11 2
1740 TODA LEWELING BANK TO ALLOW GEOPRENE
1740 TODA LEWELING BANK TO ALLOW GEOPROBE to get to Sample points on Beach.
1814 PACK up remaining Field equipt & LOAD IN
CEACLEP.
- Lock TRAILER
1830 Exiting SITE
* GATE LOCKED (TODO/BRAD
TASKS/PERSONNEL INFO.
DRILLERS HOWIE HAMMEL / BRIAN SWEERY (ENVIRO) SAMPLERS BRAD GOUGH / SAM MARTIN / Bary Kinsall (GE)
SAMPLERS BRAD GOUGH / SAM MARTIN / Barry Kinsall (GG)
RAD SUPPORT DAVE LAWSON (SAIL)
MANAGER TODD Buchanan (Goo)
Combinued as B
Read and Understood By
Signed Date Signed Date

7	_	A	_11
1			

(orang	WATER N	MASUREMENTS	5		
TIME	WELL	RISER HEIGHT	WELL DEPTH	WL	
0728	5B05	14	9.0	52	5 ·Z
0736	5B16		7.0	3.8	٠.٥
2746	SBog		Pal	4.2	42

SAND ADDED TO PACK SCREEN. ADDED ALOT OF SAND. BELIEVE TIDAL FLUGH, WASTED BIGGER LOLE AT WILLS BOTTOM COLLETING TOLDS.

SUFF. NO BENTANDE ADDED. (COUNDANT PUT SAM SUFF. NO BENTANDE ADDED. (COUNDANT PUT SAM SOREEN

post DRILL WELL BOTTOMS.

MISACE Rep (ALAN ROOS) & BPA REP(OLAF

ON SITE 0830 TOBD, ALAN, OLAC WALKING SITE

BKKIN & HANE BOOTIESON. GLAC TAKING READINGS

OG 26 ER TODD & REPS EXIT SITE

0935 CREW DRESSING OUT FOR ENTRY, 0940 ENTERING CONTAM AREA

**Continued on Page** 

Read and Understood By

Signed

Date

**Signed** 

PROJECT		Notebook No Continued From P	Page
× × × × × × × × × × × × × × × × × × ×			
5BO23			
	ve up on		
0944 START	Coring (0-	ຣ໌)	
0945 Collect	7 core		
0959 START	- Cosery (5-8)		
oas3 collect	2 core		(cpm
RAD IN C	ORE COM BK	-44 cpm GAMMA	DounHole
8" 74	(A)		3300
0-5 44		3 1500 4	754
5-8 48		5 500	·
		A HAD PROBE	HONE
		up at 5.0	î
		HOLE COLLAPS	
A RENGES	SLANTED D		
* 4	MATERIAL IMPER	7)	
DOWNWAR		out.	90. //
DOMNMA	1 ISN C	ow .	
8. 45	& Sample 7	ine 0980) Berit 1	MACRO-CORE
SAMPLES	3P-0,0-0,5		A MATERIAL
	23P-510-810	270	, Conjo
SIW-5130	S10-010		
- 0044	Hal war	111 Ann Samole	
- SUBSTAN	UNAL WATER	IN Deep Sample	
		TO 7.5 CHOLE OF	WELD IN DIS
- SAND ADI	JED TO 2	15 PK 7-15-11	
BEN For to	e added to	-25 - SURT	0 \ 1
ADDED	1 BAGOF	SAND, DIDNT	Accumulate
AROWD SO	288NO TIDAL	WASH EXPANDED CONTIN	ued on Page
	Read	i and Understood By	
Signed	Date	Signed	Date

Date

Signed

1010 MOURD TO 58024	
2	
SBOZY -START CORING (1014) ( CORE COHECTION BX 7-  (- REFUSAL @ Zio  - Moving \$5.0 South	(1018)
-START C-PING (1014)	ORS Collection (0-51)
Cas Ciledan BX 7	15-11
(- ROESAL @ Zo	
- mayor & From South	IST
- Moving 50 South  BK 7-8-11  1010 Cope Collection Cos	ATTER
INTO COR CATERTION CO-S	BK 7-15-11 Move.
1075 START CORING	(core collect)
1028 START GRING @ 600	
RAD IN CORE COPM	Comma Pountble Com
811	1 2800 × 3 1400 \$ 4 900
8"-5.0' BKgr	2 1900 4.5(100)
0 50	
MOVING OFF HOLE. MA	TERIAL PEFUSAL
Same as Previous HOLE,	SBOZ, SBOZZ (ZATIENDTS)
300116	
- NE EDGE OF CONTAM	ZONE UNDER /Ayel
by Fill & CONCRETE, Rock	S, & TREATED WOOD
CHunks.	. 18
C TUCK T	
1035 SAMPLES S	ampling time 1030
SIW-SB024P-00-50	O
5IW-5BDUP-004	
	Continued on Page
Read	d and Understood By

1036 Examing Bank & Beach For Access AND SAMPLING POINTS.
1046 MOUNTE GEPROBE TO BEACH DRIVINGS POWN PLASTIC BLARGS (ON BEACH)
1056 MOUING TO SB010
START CORING (1100)  · CORE Collection (6-5) (1103)
- EASIER PUSH ON SHORELINE
- EASIER PUSH ON SHORELINE  1105 STREET CORINGO  1107 CORE COLLECTION (DARK, BLACK, Soliment) (DIESEL  (Separation WATER/PRODUCT) (SUBSTANTIAL  BKgr 44)  PAD & M. CORE  (AMORE DAVIDED (DARK)
RAD & on CORE GAMMA DOWNHOLE
O-S LBKgr WIA
5-9 LBKgr WATER ('below
HOLE opening.
* Put WELL IN @ 8:0
SAMPLES Sample collect (1115)
SIW-5B010P-0.0-0.5. SIW-5BDUPOS
SJW-SB010P-Sio-80 Continued on Page
Read and Understood By

Date

Signed

Date

Signed

12000 (lected sample from 5-8

Signed

Read and Understood By

Date

Continued on Page

Continued From Page

Dan I surel a	00 0 .
RAD LEWELS on Core	No DownHole
0.5 52	- WATER NEAR S
5-8 50	OF MOLE
SAMPLES	Time
5JW-5B021P-000-05	1210
SIW-SBOZI P-510-8.0	1210
NOTE: EXCESS DIESEL V	PRESENT IN BOTH
12.17 MOVING TO SBOZG	
19 SETTING UP ON HOLE	
1219 START CORING. (0-5) 1222 Sample collected	
1222 Sample collected	
1225 START CORING (D-8)	
1227 Sample Corrected	
RAD Courts ON CORE	No GAMMAREA
0-5 - 52	No Gamma Rea Water too Highe
5-8 48	0
Tild to the state of the state	
, re	Continued on Page
Read and U	Inderstood By

Date

Signed

Date

Signed

SAMPLES (1230) collections
SIW-5B026P-0-0-5
SIW-SBOZEMS-0.0-0.5
5IW -SB026MSD-0:0-0:5
124 TEFT CONTROM. Zone
1310 LEFT FOR LYNCH
1330 HP SCANNED OUT GEOPROBE
1412 ReturnED From Lunch
THE POINT IS
1423 DISCUSSED PATH FORWARD ON Surface
Samplink.
1425 HP SCANNING OUT DRILLING Equipt. 1437 START COLLECTING SAMPLING Equipt.
1437 START COLLECTING SAMPLING Equiption
1510 BRILLER PACKING UP Equipti
1512 DRILLER LEFT (5) Bago of Bentanite
1512 DR. LIER LEFT (5) Bags of Bentamite -also (1) Bucket. Total (6) Bags
V.
1538 TODD, BARRY, BRAD, SAM LOCATING SWITHER
SAMPLINDE Locations.
1600 STARTED SUFFACE SAMPLING
Continued on Page
Read and Understood By

Date

Signed

			Continued From	n Page
7-15-11 Surmer S.	amples			
LABEL ID	DATE	IME	Beko	Som pic C
SIW-55-2049-0.0-20	7/15/11	1600	37	49
SIW-SS-006P-0.0-2.0	7/15/11	1606	49	37 ₩
Slw-S5-027P-0.0.2.0	7/15/11	1625	56	90
Sw-55-0281-00-20	7/15/11	1640	52	72
SIW-55-0219-0.0-20	7/15/11	1650	37	44
1w-55-1747-001	7/15/11	1650	37	43
iw-55-026p-0.0-20	7/15/11	1740	45	43
1W-55-010P-0.0-2.0	7/15/11	1745	90	69 %
1W-55-019P-0.0-7.0	7/15/11	1800	36	32 de
iw - 55-607P -0.0-2.0	7/15/11	1802	34	46
1W-55-003P-00-20	7/15/11	1810	40	54
	*			
	. /			
	•			
			Continu	ued on Page

Date

Signed

OJECT_				Continued Fro	m Page
5752	-16-11 G/W	MEASUREM	terris		
	-	-4	-		
	WELL 5 Bo S	<u>PL</u>	7.5		
		14	7.5		
	5809				
	5B016	,,	-1.00		
	5B023	2.8"	7.3		
					/_
					/
			/		
		<i></i>			
		47			
	/				
_/					ontinued on Page
_					onunueu on Fage
			Read and Und	derstood by	
		P <sub>1</sub> +1		Signed	Date
	Signed	Date		Oigilou	

			Continued Fr	om Page
7-16-11 Surface So	umples			
SAMPLE 1D	DATE	TIME	PCKD	SAMPLE C
SIW-55-022P-0.0-2.0	7-16-11	0815	32	55
51W-SS-011P-0.0-20	7-16-11	0815	32	43
9W-55-012P-0.0-2.0	7-16-11	0875	40	55
SIW-SS-020P-0.0-2.0	7-16-11	0830	32	44
SIW- SS -001P-0.0-2,0	7-16-11	0838	40	65
SIW-SS-005P-0.0-2.0	7-16-11	0840	40	6 Z
SIW-55-014P-0.0-20	7-16-11	0850	35	46
SIW-SS-023P-0.0-2.0	7-16-11	0900	35	62
SIW-SS-002P-0.0-2.0	7-16-11	0900	35	48
SIW-55-017 P-0.0-2-0	7-16-11	0910	34	39
SIW-55-013P-0.0-2-0	7-16-11	1030	34	97
51W-55-016P-0.0-Z-U	7-16-11	10 38	34	147
51w-55- Dup-002	7-16-11	1038	34	112
51W-SS-015P-0.0-2.0	7-16-11	1045	34	91
Sw-55-008f-0.0-2.0	17-16-11	1050	34	57
SIW-SS-024P-0-0-7.0	7-16-11	1100	42	54
51W-55-Dup-003	7-16-11	1100	42	57
IW-35-009P-00-2.0	7-16-11	1105	42	120
51W-SS-018P-0-0-2.0	7-16-11	1112	42	121
iw-55-Dup-004	7-16-11	1112	42	116
JW-55-032P-0.0-2.0	7-16-11	1240		
Stopped Samplind	1115			
91125 Lunch				
1205 Return To	5 WORK		Conti	inued on Page

Date

Signed

Date

Signed

1207 TODD MOVES EXCAUATUR TO PIT 4, (TP-04) PREPS Samples FOR SHIPMENT
(TP-04)
-BRAD PREDS Samples FOR SHIPMENT
- Barry & SAM SUPPORT EXCAUATING
- HP will Scan Spoils AS Removed
1217 Begins Digging 1st 2:0 LIET 1231 ENDS 2.0 LIFT
1231 5005 2.0 1.57
1238 RAD SCAN INDICATES CAUNTS Relow
BKgr '
Desci.
MATERIAL composed of Fill, CARDMIT chunks,
Ly rocks & Concrete) Soil is Brown Sitti, Clay,
1240 - SIW-SS-032D-0.0-2.0 collected from 1st 2' of
TP-04.
1243 STERT Digging ON 2ND LIFT (2:0) ENDS 2ND LIFT (4:00)
ENDS 2ND LIFT (400)
15
1250 Pull few Bricks out @ 32"
1256 Lot of concrete, various metal,
- HIT SOLID SLAB OF some material
The state of the s
1250 HIT CONSTRUCTION MATERIA ((WOOD) Continued on Page
Read and Understood By
inglig unit officeration by

- WOOD LAYER OVERLAYED BY CONCRETE LAYER (36") (55 13000 CPM ON WOOD DEBRIS (METER 44 10)
THE POLICE STATE OF TO
- DOWNHULE GAMMA INDICATES SOIL@ BOTTOM OF TRENCH IS Below BKGR.
1259 CEASE DRILLING ON HOLE, DUE TO REFUSAL ON Construction Debris @ 36-38"!
12 - R - 11 · O
1302 Degin putting material back in TP-04
1302 Begin putting material back in TP-04. 1331 PACKING exercise MATERIAL IN PIT with treads
with treads
The san Street & there
1353 Movine to TROZ
TP-02
SIN EXCAUATING, TO 2.0
1413 STOP e 2.0'
DESCRIPTION:
- Construction Debris (Bricks, wood, concrete)
- Lots of Bricks
- RAD READINGS (Becomes Higher moving -23000 @ 23-24" toward RAD BOULDARY)
-SURFACE 8000 - 9000 CPM
- Background on Removed BRICK Continued on Page
Read and Understood By
Signed Date Signed
Signed Date

Notebook No.	
Continued From Page	

SAMOLE COLU	Betton	`	32 BKgrD
SAMPLE COLU	(620	CTP-02)	
- Collection Tim	0 (1422)		
SIW-M533-0 (65cpm)	1-2 , 514	(33 cb m)	de.
			Pass
1428 START Dyging			0 1
1438 STOPPED Dissing		BKgrd =	· Backgrours.
(DARK SOEL	Bricks, wood	2)	
- ALL SPOILS	From 2-4'	were at Bigrd o	count
- NO HITS O	on either L	vall profile	Jr.
		n yen-	
11.11.		*1	
1445 STARTED DILL			
1456 STOPPED DIE	loe N/b		
46 Depth.			
- Doscrip.		Labler	
-DARK FILL	, BRICKS, SA	LIGHT ND MATERIAL FEO	m Bottanel
- BRICK @	2-4' ALSO	seems to Be a	BRICK
	LIENDING D		£ 5
		49	
RAD.			- N.
	1	To the second	
- BACKGROUND - BCKRg on SPI	on ware-		
- DCKRg on Sp	6,125		
		7.6	
1535			
MOVING TO	16-03	10 mg - L	t.
			Continued on Page
	R	end and Understood By	
			,
Signed	Date	Signed	Date

ROJECI	Continued From Page
1540 1506 SETTING UP ON TP-03	
ar sering up on the	Acres .
546 N.	7- 2-3
546 START Digging	
TP03	n3
1548 Reached D-Z' depth	
Descrip.	8 5
-GRAYISH FILL SOIL, FEW BR.	cks & concrete churks
- Some whitish sand/cinders	
With Italy south / Chaptes	
Ã, ve constitu	
RAN, RRADINGS	•
- SPOILS - Bkg role	
- WALL FACE BKgrd	ř = = = = = = = = = = = = = = = = = = =
SAMPLE	RAD
SIM-5534P-0.0-2.0 154	48. 69 cpm
	P
10 m = 2-14	
1854-STORT Digsing 2-4 1600 STOP Digsing 2-4	
1600 STOP Digsin 214	
	Continued on Page
Read and Und	erstood By

Date

Signed

Signed

OJECT	Continued From Page
Desc.	
- Reddish Brick Color, CLAY, Rock	Icement chunks, CINDERS
17 DIGGING ON 4-6'	1 1/42
624 STOPPING ON 4-61	
DESC	
- HIT Rock @ 6.0'	
Hard Rock.	a little by
- Lagge chunks	
- Appears to be NATIVE MATERIAL	Reached 6' on the Eastern
-MET Refusal @ 51-61	ENS.
RAD	
- FACE PROFILE BKgrd	
- 5 Poils Bkgal	
632 MOVING SOIL BACK IN HOL	E
1643 HOUS CTPOSO FILED	
2 Å**	
1646	
MOVING TO TP-01	
X	
1651 SETUP TO DIG (0-2') START 1649	- 4
STORT 11049	IV.
5TOD 1658	
	Continued on Page
Road and	Understood By

Date

Signed

Notebook No. \_\_\_ **Continued From Page** Sugerico Sampius - (SAM/BRAD) luinct Bled SIW-SS-029P-0.0-2.0 7/16/11 1640 46 SIW-55-025P-0.0-20 7/16/11 1645 46 35 \* 46 SIW-55-025M5-0.0-2.0 7/16/11 1645 45 4 46 35 + SIW-55-025 MSD-0.0-20 7/16/11 1645 DESCR.P. MED BROWN FILL, NOT AS MUCH TPO) BR. CK. COMPete, Sample SIW-5505P-0.0-0.2 (58 cpm) 1705 \* SEE TODA'S CAMERA FOR Photo'S RAD PILE 1300 cpm (Sampled) FACE BKgrd START 1713 ON 2-4 depth STOO 1322 DESC. - Red, BRICK, CLAYES , Some BRICK, LARGE ROCKS - HAD BROKEN OFF P.PE, EAST END OF PIT. - Another HORIZONITAL PIPE E to West -WOOD OUTE CONCESTE AT 3.0' **Continued on Page** 

Read and Understood By

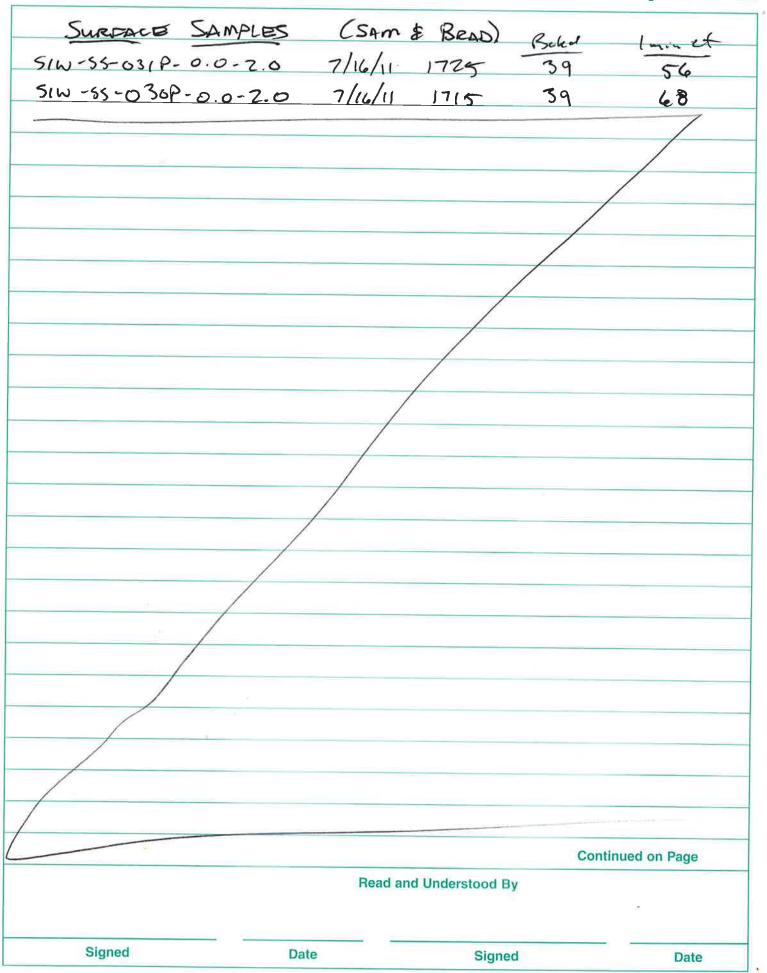
Signed

**Date** 

Signed

1331 START ON 4	-6'		
1342 STOP			
_			
Descript.			
- Rolish, CLAYEY,	matorio.		
- EXTRA LARGE	Rocks		<u> </u>
		the previous one	
		ings (44000 cpm) (40	ue /HR)
- Checking extra	with meters	to determine count	45
- SIDE FACE	PROFICES .		
1810 Brok Truma How	艺		
1835 SCANNED OC		SONNEL, Samples	
1842 EXITING R	0.4C		
1000 Excilina	141004		
19he Bear	N 1 4.	1 - Ant	1000
1845 BREAKING	DOWN SAM	pling equip. & BEEAK	HK-5M
10 / 1/			
1900 Locking	6 TRAILED		
LEAUIN	6 SITE		<u> </u>
	6		
		C	ontinued on Page
	Ro	ad and Understood By	
Signed	Date	 Signed	Date

Continued From Page



7/17/11 - Sunner CLEAR WINDS WSW, 74°
- Suppose To Reach 90°
07-16-11 5AM CALIBRATING HYDRO LOB
TODD, DAVE H, DAVE Le walking down SITE
0805 TODD Moves EXCAVATOR TO BOUNDARY TO BE SCANNED OUT.
0823 BRAD MARKING FINAL SS Sample Locations
0833 Barry & Sam collect 6/W Sampling equipt.
COLW SAMPLING (TEMP ILLELLS) HYDROLAB.  WELL # MLCFH Riser (FH) (EVEL (BIS) TEMP (C) 22.89°
LHELL# INL CFH) RISER(FH) LEVEL(BIS) TEMP (C) 22.89°
SBOS START 5.35 1-4"(13') 4.31 (mo. 333 ms/cm  (0850) END = 5.44  SAMPLE TIME OGOD MAJOHN 4.05' DO 3.17 mg/L  UNC, LTERED TIME (STAM END SORP SUI MV AMOUNT,  SIW-GWOS-OL STATES  SALINTY  VIELES  SALINTY
UNCILTERED TIME (STAM END SORP SUI MY AMOUNTS
SIW-GWOS-OL STORM 0903 TURB. JUNES 47556
5 IW-6W05-07 0903 0905 20.94 ASS
5 xw-6005-03 0905 0907
5IW-GW05-04 0907 0910
Sample Time 6916 0910
FILTERED STORT END AYDROLAB
1 5IW-6W05-05 OgH OQH TEMP(C) 21.84 SORP 503
SJU-605-06 0919 0921 COND 3319 TUBSO10 ! salvity 21:23
SIW-GUOS-03 0927 0924 PH 6.25 Continued on Page
SIW-6W-05-08 0924 Read and Understood By

Date

Signed

Notebook No. \_\_\_\_\_ Continued From Page

10 0		C	ontinued From P	age
UNFIGERED DUD	ne (0900)	FILTE	-RED	ple Time )
SIN-GWOSUDO		5 <sub>14</sub> ,-	GW OSFD-	05
5IW-6W05UD-02			GWOSFD-	<u> </u>
5IW-6W0SUD-03			LWOSFD-	
5 IN-640 SUD-04			SWOSFD-	
58-023 - 1000				
* 60 INCE STRAIGHT	TO HYDRO	LAR	٥	950
RL	WL(TOR)	HATEST (BUS)	HIDRE	LAB
5B023 2.8	6.96	4.16 426	1	) 22.46
)a 21 \" (2.7')	EN 6.84	LOS HOUSE	COND	3448
	2 50	umple Time 0955	Do	4.71
SAMPLES CUNFILTER	ردي		РΗ	4-55
5IW-6W023UF-01	START OGSS	3957	Soep	439
5IW-6W073UF-07	1000	1012	TURB	75.8
55W-6W0Z3WF-03	1012	1014	SALINIT	21.79
SIW-6402345-04	1015 11	017		. ,
(C )				
SAMPLES (FILTERED)				o LAB
SIU-GW02348-05	1018	1020		c) 22.42
SIW-6W023F -08	1020	1022	COND	3501
55w-6w023F-07	lozz	1024	D0	4.04
5IW-6W073F-08	1024	1026	PH	6.66
* Sample Time	1018		ORP	46.6
			JALMER	52.3
	Ψ.		Continued	J 21-99 I on Page
	Read and	d Understood By		

Date

Signed

5B026	_	ON	Edge	oF.	WATER
		_			

Well Ry WL (1041) WL (1085)

BOZG 26" START (,90 (1041) 0.233'

Papulu

Hydro LOB (UNFILTERED) 1042

TEMP (C) 24.22 SALINITY 22.41

COND 3546 ORP 49.1

DO 6.06 TURB 54.5

PH 7.31

			5 Ampl E		
SAMPLES	START	END	TIME	Com	A SAT
3IW-6W026UF-01	1046	1048	1046	UNF	CIERED
SIW-6W026 UF.02	1048	1050	1046	**	4
514-640026-4F-03	1650	1052	1046	<b>\</b> ~	<i>c</i> 1
SIW-GWOZGUF-04	1052	1054	1046	u	<i>(</i> )

5IW

HYDROLOB (FILTERED) 1054

TEMP (C) 24.18 SALINITY 20.66

COND 35013 ORP 486

DO 5.73 TURBIDITY 50.8

PH 7.32

Continued on Page

Read and Understood By

Signed

Date

Signed

SAMPLES		STORT	END	5 ample Time	Comment
SIW- G	W026F-05	1058	1100	£ 1058	FILTERED
51w-61	NO26F-06	1100	1102	1058	Figerol
SIW-GI	W026F-07	1102	1104	/0≶8	F. LTORED
SIW-G	W026F-08	1104	1106	1058	FILTERED
1109-1145 TODD/1	SRAD Samp	ling @ 50	empling	LOCATION . H	PAVE TO WAIT.
<u>VIELL</u> 58-010	RL W1	(toe) HEI	L (lags)	BS Jul	V.
0 0 0	= 1.33		0.45		9.
1201 HarolaB	CUNFILTE	red)			
	22.84		21.0	. 6	
Cons		ORA			
	4.39	TUNG. DIT	200		
	,18				
SAMPLES	STAR	T / END	3	iAmple Time	Comment
SIW-GWOIC	04F-01 120	10/ 120	8	1206	UN F. WERGA
SIW-BWOID U	E -02 120	8/120		1206	
52W-60010	45-03 1210	/ 1212		1206	Cc 45
SIW-GWOI		2/ 1214		120 (1	
1				Cor	ntinued on Page
		Rea	d and Under	stood By	*

Date

Signed

SAMPLES START/END	Sample Time	Comment
SIW-64010UFMS-01 1214/1216	1206	UN FILTERED
SIW-GWO10UPMS-02 1216/1218	1206	0
SIW-640 10 USMS-03 1218-/1220	1206	u 11
5 IN- GWO 10 UFMS-04 1220 / 1222	ero 6	u ()

SIW - GWO 10 UP MSD-01	1222/1224	1206	UNFILTERS
SIW-60010UPMSD-02	1224 /1226	1206	u a
SIW-GWOIOUPMSD-03	1226/1228	1206	n 4
5 IW-640 10 UP MSD-04	1228/1230	1206	n e ·

Hyprol	as LF	(TERED) 122	8	
	24.62	SALINITY	21.67	
COND	3444	ORP	474	
Dó	3.93	TURB	55.3	
рн	6.24			

SAMPLES	START / BND	SAMPLE TIME	Comment
SIW-BWOIOF-01	1234/1236	1206 1234	FILTERED
55W-6W010F-02	136/1238	BK 1206 1234	~ 4
SIW-6W010F-03	1238 /1240	206 1234	L H
5IW-60010F-04	1240/1242	1206-1234	·

Continued on Page

Read and Understood By

Signed	Date	Signed	Date

Continued From Page

SAMPLES STATE (BND SAMPLING TIME COMMENTS  STLU-GWOLDINS-01 1242 1244 1266 1234 TITESED  STLU-GWOLDINS-02 1244 1248 8 1266 1234 TITESED  STLU-GWOLDINS-03 1246 1250 1206 1234 TITESED  STLU-GWOLDINS-04 1248 1250 1206 1234 TITESED  STLU-GWOLDINSO-01 1250 /1257 1266 1234 TITESED  STLU-GWOLDINSO-02 1250 /1257 1266 1234 TITESED  STLU-GWOLDINSO-03 1254 /1256 9661 1206 1234 TITESED  STLU-GWOLDINSO-04 1256 1258 1206 1234 TITESED  STLU-GWOLDINSO-05 1256 1234 TITESED  STLU-GWOLDINSO-05 1256 1234 TITESED  STLU-GWOLDINSO-06 1256 1234 TITESED							
STW-ENDLONS-02 1244/124/2 BK (266 1234 """  STW-ENDLONS-03 1246/1248 PECT 1234 """  STW-ENDLONS-04 1248/1250 PECT 1234 """  SAMPLES STRET/END SIMPLETINE COMMENT  STW-ENDLONSO-01 1250/1257 1206 1234 FUTPER  STW-ENDLONSO-02 1252/1254 BK 1206 1234 """  STW-ENDLONSO-03 1254/1256 PK 1206 1234 """  STW-ENDLONSO-04 1256/1258 1206 1234 """  STW-ENDLONSO-04 1256/1258 1206 1234 """  BOZWL END OF SAMPLY 3.54  MOVING TO WELLS IN CONTAIN ZONE.  1332 SETTING UP ON SBOLG  SBOLD RL WLLDE HEIGHT WLLYS)  SBOLD 24" 7.58 5.58  STWEET HOROLAR UNFILTERED (1340)  TEMP 24:15 SALINHY 21:78  GNO 34M ORP 4U.4  DO 3.85 TURBIONEN UST				Samp	Ling Time	Com	nevi
STW-EWOLOMS-02 1244/124/2 BK (266 1234 """  STW-EWOLOMS-03 1246/1248 PEET 1234 """  STW-EWOLOMS-04 1248/1250 PEET 1234 """  SAMPLES STRET/END SIMPLETINE COMMENT  STW-EWOLOMSO-01 1250/1257 1206 1234 FUTPERS  STW-EWOLOMSO-02 1252/1254 BK 1206 1234 """  STW-EWOLOMSO-03 1254/1256 1206 1234 """  STW-EWOLOMSO-04 1256/1258 1206 1234 """  STW-EWOLOMSO-04 1256/1258 1206 1234 """  1302WL END OF SAMPLY 3.54  MOVING TO WELLS IN CONTAIN ZONE.  1332 SETTING UP ON SBOLG  SBOLD RL WLLDE HEIGHT WLLYS)  SBOLD 24" 7.58 5.58  STWEET HOROLAB UNFILTERED (1340)  TEMP 24:15 SALINHY 21:78  GND 34M ORP 4U.4  DO 3:85 TURBIONE UP  PH 16:46  CONTINUED ON PAGE	5IW-6W0	10/15-01 12	42 1244		1206 1234	F.LIE	REO
STW-GWOLOMS-04 1248/1250 /200 1234	SIW-LOWO	loms-02 1	244/1246				~ (
Samples START/END SAMPLETIME COMMENT  STW-GWOLOMSD-0) 1250/1257 1206 1234 F. LTBERT  STW-GWOLOMSD-02 1252/1254 BK 1206 1234 ""  STW-GWOLOMSD-03 1254/1256 9x54 1206 1234 ""  STW-GWOLOMSD-04 1256/1258 1206 1234 ""  STW-GWOLOMSD-04 1256/1258 1206 1234 ""  1302WL END OF SAMPLY 3.54  MOVING TO WELLS IN CONTAIN ZONE.  1332 SETTIME UP ON SBOLL  SBOLL PL WL(DE) HEIGHT WL(MS) FRITTON 25016 24" 7.58 5.58  STORES HIDROLAB UNFILTERED (1340)  TEMP 2415 SALINH 21:78  GND 3404 ORP 4U4  DO 3.85 TURBIOIFI (187)  PH 16.46  Continued on Page	STEN-GWOID	1 E0-2mg	246/248	9-15-	ROG 1234	ч	e 4
STW-GWOLOMSO-0  1250 / 1257   1206 1234   T. LTBERT   STW-GWOLOMSO-02   1252 / 1254   1206 1234   " "     STW-GWOLOMSO-03   1254 / 1256   1206 1234   " "     STW-GWOLOMSO-04   1256 / 1258   1206 1234   " "     STW-GWOLOMSO-04   1256 / 1258   1206 1234   " "     BOZWL END OF SAMPLY 3.54     MOVING to Wells in Contain Zone.    1332 SETTING UP ON SBOLG   SBOLD RL WLOW HETGHT WC(Ms)   Spoly     58016 RL WLOW HETGHT WC(Ms)   Spoly     58016 24" 7.58   5.58     STWAND 1415 Salinity 21.28     GWD 3406 ORP 4U.4   DO 3.85 TURBIDITY (BJ.)   PH 16.46   COntinued on Page	SIW-Lawolos	ns - 04 1:	248/1250			V.	"
STW-6W010MSD-0  1250 /1257   1206 1234   T.LTBERT   STW-6W010MSD-02   1252 /1254   8k   1206   1234   " "     STW-6W010MSD-03   1254 /1256   1206   1234   " "     STW-6W010MSD-04   1256 /1258   1206   1234   " "     STW-6W010MSD-04   1256 /1258   1206   1234   " "     1302WL END OF SAMPLY 3.54     MOVING to Well'S IN CONTAIN ZONE.    1332 SETTING UP ON SBOTE   SBOTE   WLOW HETCHT WLOWS   SOUTH     58016   24"   7.58   5.58     STWARD   1400 LAB   UNFILTERED (1340)     TEMP 24.15   Salinity 21.28     GND 3406   ORP 40.4     DO 3.85 TURBIONE UBZ     PH 16.46   COntinued on Page							
SIW - 6 WO   OMS D-0   1250 / 1257   1206   1234   FITEER STW - 6 WO   OMS D-02   1252 / 1254   1206   1234   1206   12	Samples		START/BUL	2 3	SAMPLE TIME	Coma	new.
STW-GWOIOMSD-03 1254/1256 206 1234 ""  STW-GWOIOMSD-04 1256/1258 1206 1234 ""  1302WL BND OF SAMPLING 3.54'  MOVING TO WELLS IN CONTAIN ZONE.  1332 SETTING UP ON SBOLG  SBOLG PL WL(W) HEIGHT WL(W)  58016 24" 7.58 5.58  SAMPLES HOROLAB UNFITERED (1340)  TEMP 24:15 Salinity 21:28  CND 34MV ORP 4U.4  DO 3.85 TURBIOIFY 687  PH 16:46  Continued on Page	SIW-6W	olomso-ol	1250/1250		1206 1234	+ Filt	ECEN
STW-EWOLOMSD-04 1256/1258 1256 1234 ""  1302WL END OF SAMPLY 3.54'  MOVING TO WELLS IN CONTAM ZONE.  1332 SETTING UP ON SBOLG  SBOLG PL WLOW HEIGHT WL(MS) FILL  58016 24" 7.58 5.58  STREET HOROLAB UNFITTERED (1340)  TEMP 24:15 Salinity 21:28  GND 34MB ORP 4U.4  DO 3.85 TURBIDIFY (187)  PH 16.46  Continued on Page	SJW - 6WO 10	20-02m	1252/1251	9 BK	1206 1234	L	41
1302 WL END OF SAMPLY 3.54'  MOVING TO WELLS IN CONTAIN ZONE.  1332 SETTING UP ON SBOLG  SBOLD PL WLLDD HEIGHT WLLLY FORD  58016 24" 7.58 5.58  SINDERS HOROLAB UNFITTERED (1340)  TEMP 24:15 Salinity 21:28  GND 34mb ORP 4U.4  DO 3.85 TURBIOIFI (187)  PH 16:46  Continued on Page	Ju-Gwold	m30-03	1254/125	مر مر	1206 1234		
Moving to Wells in Continue Zone.  1332 SETTING UP ON SBOLG  SBOLD RL WLOOD HETGHT WILLINGS FILLING  58016 24" 7.58 5.58  STORD 24" 7.58 5.58  STORES HIOROLAB UNFILTERED (1340)  Temp 24:15 Salinity 21:28  GND 34MB ORP 40.44  DO 3.85 TURBIOIFI (BZ)  PH 16.46  Continued on Page	SIW-LUOI	oms0-04	1256/125	3	1206 1232	t 4	4
Temp 24:15 Salinity 21:28  Cavo 34ab ORP 40.4  Do 3:85 TURBIDIE 687  PH 6.46  Continued on Page	1332 5 58016	PL PL	ON 580	16	FWL (bys)	10	
Continued on Page	COND	24.15 34mb	Salinity ORP	21.28	4	340)	
		77			C	ontinued on Pa	ge
			Read	and Under			
						.5	

Date

Si ned

Date

Signed

SAMPLES	START/END	SAMPLETIME	Comment
5IW-GW016UE-01	1345/1347	1345	UNFITTERED
5IW-GW016UF-02	1344/1349	1345	(C 9
SIW-GWOIGHF-03	1344/ 135/	1345	· ( "
SIW-GWO16 UF-04	1351/ 1353	1345	٠
52W - 6W016 WF 0 )		Bralis/11	
C CHANGETOL	1353 /1355	1345135	3 FILTERES
5=w-GW016F-01	1	1345 135	3
5IW-GW016F-02	1357/1359		3 4 4
55W-GWOIDF-03	1359/1401		
5IW-GWO16 F-04	1,50 1,71.01		
1× ANN. HELEN CU	RACIE ) ARRIVE	CAL SITE	
1220		. 070	
	TERED	- 191	
	LINITY 21.7		
CONP 3417 0	RP 47.		
DO 4.36 Tus	BIDITY 62.7		
PH 6.51		1	N
*	040		34 <sub>50</sub>
END WL 7.5L	(1406)		98
moving to 5809			
5809 RL 4	vitor) Kein	lf wr (bags)	
	6.94 5.91	-	
5Bo9 12	V_		
1, 0, 0, 0, 0, -	1409		
HYDROLAB - UNFILTE	Jech	22.06 Turi	1. S4.7
Temp 24.20 DO			Continued on Page
COND 35.1 PH		Jnderstood By	
	nead and C		

Date

Signed

Continued From Page

8			
SAMPLES START	/END SI	ample Time	Comment
SIW-6W094F-01 1415 1	· ·	1415	UNFITERED
SIW-6409UF-02 1417/		1415	W 11
SIW-64094503 1419/		1415	<u> </u>
	11423	1415	ιι "
HYDROLAB FILTERED	1424	п	
TEMP 24.36	, , , , ,		
COND. 32.8			
Do 3.74			
pH 4:54			
5ALINITY 20.45			
ORP 452			
TURBIDITY 49.5			
	1		
SAMPLES	START/END	SAMPLE TIME	the state of the s
5IW-GW09 F-01	1427/1429	(415	1427 FILTERES
5IW-6W69F-02	1429 / 1431	415	1427
SIW-6409F-03	1431 / 1433	1415	1427 4 "
SIW-6 WO9F-04	1433/ 1435	HATS	1427 "

CompleTED SAMpling 1435

\* END 6/L ON SBO9 6.43

Continued on Page

Read and Understood By

Signed

Date

Signed

PROJECT Continued From Page
1445 - Moving equipt to Boundary to be scanned out.
1500 ANN. HELEN CEAVE.
1520 SAM/Barry recheck gps points & Pull
Clags. SHOOT IN NEW SS points
,
1555 Complete check
1618 Carry equipt up to SUPPORT ZONE BORNER
FOR Release Seaves (DAUC)
- DAUR Scanning.
1635 Barry GPSS Fence pts IN
1635 Parry Cerss Tence pts 110
1705 Review Test PITS COORDINATES- (NESS DIF.)
1718 BRAD CONTINUES TO WORK ON Chains
1753 PACKING UP Released equipt into TRAILER
SEE YELLOW Survey Book FOR EXIT
Prep.
Continued on Pers
Continued on Page  Read and Understood By

Date

Signed

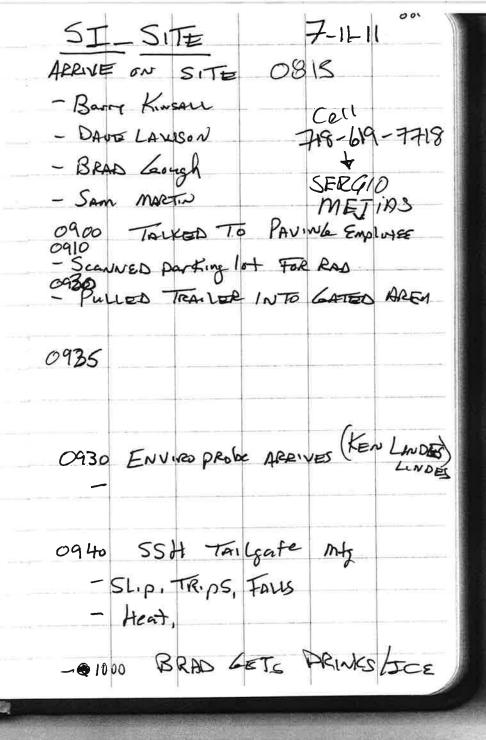
Signed

Date

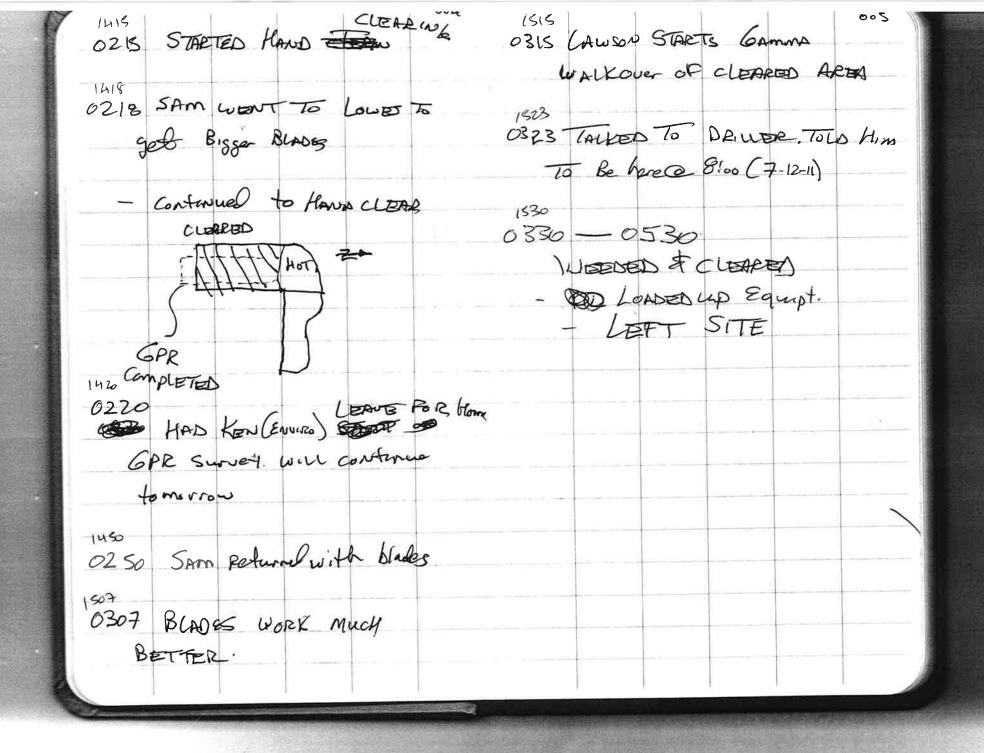
PROJECT			Contin	ued From Page
7-17-11 SURFACE S	SAMPLES			
SAMPLE 1D	DATE	TIME	Buco	Inin Rt Ct
SIW-SS-037P-0.0-2.0	7-17-11	0925	46	62
SW-55-036P-0.0-2.0	7-17-11	0935	46	45
Sw-55-038P-0.0-2.0	7-17-11	0947	46	91
SIW-55-042P-0.0-2.0	7-17-11	1013	46	48
510-55-039P-0.0-2.0	7-17-11	1240	39	69
SIW-55-039MS-0.0-2.0	7-17-11	1240	39	57
51W-55-039MSD-0.0-2.0	7-17-11	1240	39	62
SIW-SS-045P-0.02.0	7-17-11	1155	39	103
SIW-55-044 P-0.0.2.0	7-17-11	1230	39	64
SIW-55-043P -0,0.2.0	7-17-11	1200	39	95
SW-SS-041P-0.0-2.0	7-17-11	1120	39	62
51W-SS-040P-0.0-2.0	7-17-11	1140	39	62
SIW-55-DUP-005	7-17-11	1140	39	66
×				
-/				
				Continued on Page

Read and Understood By

Signed Signed Date Date



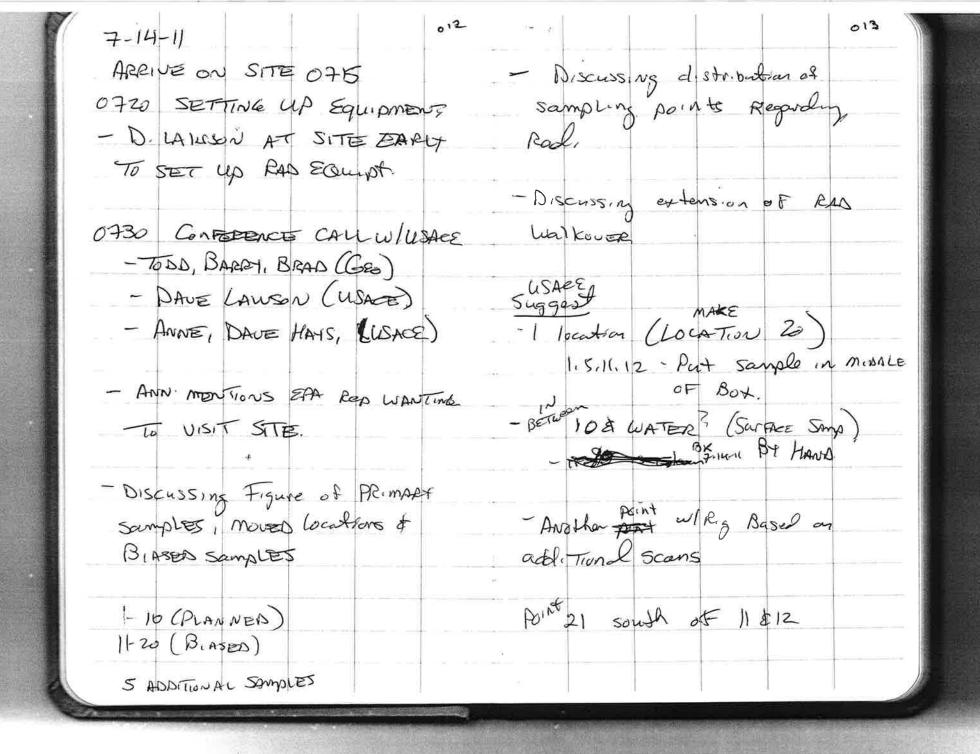
-955 LANDOWNER APRIVED 1145 START BRUSH CLEARING, - GIVES CREW HISTORY ON SITE - ASK ABout Access to Power - SALS BUSINESS MAN PROUDE \* Muttiple problems w/ STRING - Weeds too Big for weedentay 1005 LAWSON Sets up rad equipt. 1240 BRAD went to Lower to get Brush charry weeleaster 10B CAN ACCESS TO ELEC FROM BLADES. Continued Clearing BUSINESS W/ STIMS weed eaters (many BRAD delivers was a Ice 1300 1315 OLIS HAD KEN START ON GAR SCEN 1055 PORTA John Delivered 0 130 Returned w/ NEW ATTAChment 1100 TALKED TO T. BARLY ABOUT L'SSUE Blades, MounTED WALK DOW AREA 1350 0150 STARTED CLEARING again REVIEW SAM, BRAD, BARRY WORKED BETTER 1125 Ap does quick scan to give 0205 BOTH BLADES BROKE US clearance to cut Brush



- Time should be \$ 2 /2:00 NOW PRILLERS & GPR Personnel on 6650 PICKED UP WATER/TEE Staws By. 0720 ARRYED ON SITE 0730 Began Setup PID CALBRATED BY SAM - ENVIROPED BE ARRIVED - Cylinders well 0800 HAD SAVETY TAILGATE MY -4 GAS MIX # 72.150014 LOT# 633043 WI WURKERS - LAWSON CONSTED PAIS PORTION of ON-SITE RAD Isobutylene GAS # 12150054 TRACTING ON DECUES LOT# LTKO38-MM-CM 0927 LAWSON DOES PAD 0818 SAM Begurs calibrately flodrolab Checks ON NEWLY CLEARED & PID. ADEAS, NEAR NW point (110 MC) 0830 Barry Locating Samply points will trainible 0850 BRAD STARTS CALIBRATING 1100 Continued CLEARING 0905 Topis starts weed early Hot APEA Coesprobe & Equipt. 0907 Barm Discusses wi TODD THAT ALL WESTERN Points are 5.00 \$ 1320 Moving Rig to 1st OFF . E the ripraped wares LOCATION - DECIDE TO PLANE LAWSON X SEE FIELD SAMPLING BOOK do Samma warkover on Riprapi

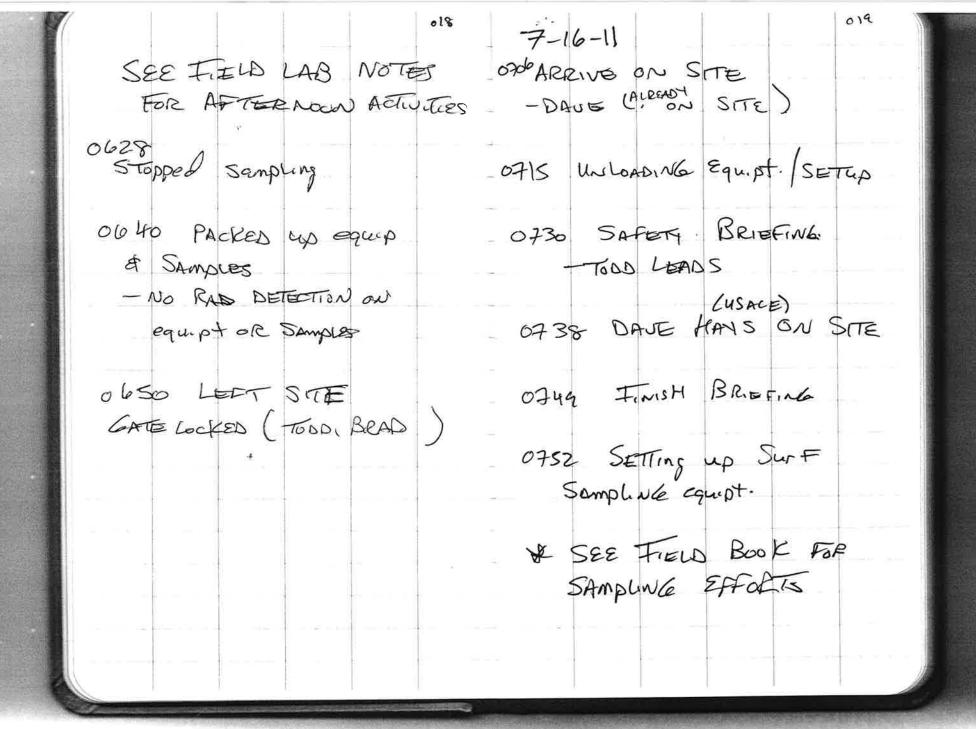
800 - ARRIVEON SITE 0725 1535 DRILLER ENDS DRILLER -CONFERENCE CALL W/ 0730 DAVE & ANN (USACE) 1550 BRILLER LAUES SITE - ALSO PRESENT (TODD, BRAD, DAVE, BARDY) 1550 Continued processing Sumples - DISCUSS OFFSETTING Sample pts that Fall on the shore - post work PAS SCAN TO A Sale & PROBLUCE pt OFF - Moves PRIVERS Roos and the Bout. SLEEVES INTO GEOTRA LER FOR Secrety of Tooling, Barrakanl - Secured ENU. ROPED BE TRAILER BY · DAUE L. DISCUSSES PROBLEM W/ SATEllites coverage Due to BRIDGE SETTING GEOPEORE Base on trailer Hitch. DISCUSSION ON 1610 - Broke Down sampling table - CONTINUED GAMMA SURVEY ON ADJACENT AREA. and equipt. - LOADED equipt. IN TRAILER · DISCUSS TEST PITS AND - Completes post work Forms. movince TP that is in the MOT AREA. DECIDE TO HOLD 1712 LEAVING SITE OFF UNTIL WE have MORE DATA.

1315 Returned to SITE



014 DRILLER LEFT - DISCUSSING SOUT Sampling NEW DECEMBERS BLASSO SUFF. TODO HAS EXCETOR SCANNES Samples" TODA WORKS ON FAR NW - STILL TEX TO DO ORIGINAL G& 7 Locations POINT OF BANK WITH ELCAN +TOR. - LEVELINE out Bank so - DISCUSSED TEST PITS, POTENTIAL GEOPROBE CAN Reach Boach contaminator equipt (Bucket) - BRAD, SAM, Barry GRUBBING Path FORENASO 1814 Pack up remaining equipt - LOOK @ data from BOREHOLE 1830 LENVING SITE PATA AND DECIDE 0830 - CON Ference over GATE LOCKED (TODD, BRAD) 0830 Continuing Setup to Semple RADZONE

7-15-11 - ARRIVE ON SITE -LAWSON ON SITE 0819 DR. WER ARRIVES 0820 SAFERY BRIEFING 0830 TODD & ALANDIZOOK - TEMP 71; WINDS (W) @ Samplink LOCATIONS - CLEAR, DE 0712 UNLOADING TRAILER 0925 DRESSING OUT FOR ENTRY · ADDICS TO Cooles 0935 SEE FIECDBOOK FOR - SETTING UP TABLES DALLY ACTIVITIES 1247 LEFT CONTIAM. AREA -SCANNED out PERSONNEL & 0800 USACE REP (ALON Equip. TRASH ARRIUMS 1310 LEFT FOR LUNCH 0817 WATING ON DRIVER -GATE SHUT, HP STILL - DRILLER HAD CALLOD ON SITE. Eastine NoTiFing us of THAT HE WOULD BE LATE 1412 RETURNED FROM LUNCH



BREAK AREA	ARRIVE ON SITE
1900 Lacking Transe	0700 SETTING UP BREAK AREA
- LEAVING SITE	- DAUS HAY'S ARRIVES
	0705 SAPETY BRIDFING
	0714 BREDRING COMPLETES
	0716 Som Calibrating Hyprolas
	0722 Barry TRANSFERPING PICS
	to computer FOR DAUE TO
	View
	0724 TODD & DAVE H, DAVE L.
	WALKING DOWN SITE

- SEE FRELD BOOK FOR WORK Desc. 1750 Packing up CLEACED 1932 LEAVING SITE GATE LOCKED (TODO, BRAD)

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/16/11	0838	SIW-SS-001P-0.0-2.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-001	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid S	ample	Aqueous Sample		
	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level:	
Waste	Other	☐ Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)		Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		Waste	Total Purge Volume:	
		Other	Purge Method:	
Analysis				
Volatiles Semivolatiles Ions RCRA Metals TAL Metals Select Metals (list)				
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	Contamination	
	Purge	Data		
Time Temper (hrs) (°C			RP Turbidity (NTU)	
			<del></del>	
Comments:				
Weather Conditions:	SUDDA SUDDA	Temperature: 85.0° F	Barometer:	

Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/16/11	0900	SIW-SS-002P-0.0-2.0
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-002
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
Solid S	ample	Aqueous Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
X Surface Soil	X) Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level:
☐ Waste	Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)		☐ Sump	Total Purge Time:
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		☐ Waste	Total Purge Volume:
		☐ Other	Purge Method:
Analysis			
☐ Volatiles ☐ Semivolatiles ☐ Ions ☐ RCRA Metals ☐ TAL Metals ☐ Select Metals (list)			
Pesticides Herbicides	PCB Cyanide Explosives	🕅 Other (list):Radiological (	Contamination
	Purge	Data	
Time Temper (hrs) (°C			RP Turbidity nv) (NTU)
<del></del>			
<del></del>			
Comments:			
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer:

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/15/11	1810	SIW-SS-003P-0.0-2.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-003	
Client: USACE - Kansas City District		Delivery Order: 0004	Chain of Custody Number:	
	Sample	Aqueous Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
[X] Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)		☐ Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		Waste	Total Purge Volume:	
		Other	Purge Method:	
Analysis				
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination	
	Purge	e Data		
Time Tempe	rature pH Condu	ctance D.O. O	RP Turbidity	
(hrs) (°C			nv) (NTU)	
- 8				
		<del></del>	<del></del>	
<del></del>		<del></del>	<del></del>	
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° f	ouvineu.	

Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/15/11	1600	SIW-SS-004P-0.0-2.0
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-004
	1720		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
Solid S	ample	Aqueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
X Surface Soil	X Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
Waste	Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		☐ Seep	End Purge:
Sample Description (classification, consistency)		☐ Sump	Total Purge Time:
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		☐ Waste	Total Purge Volume:
		Other	Purge Method:
Volatiles Semivolatiles	Anal Ions RCRA Metals TAL Met	lysis  als Select Metals (list)	
Pesticides Herbicides			Contamination
		Data Data	
Time Temper (%)			RP Turbidity nv) (NTU)
10			
Comments:			
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer:

		TAUTELI		
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/16/11	0840	SIW-SS-005P-0.0-2.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	buto	Grab	SS-005	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
Solid S	Sample	Aqueous	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	XX Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	☐ Waste	Total Purge Volume:	
		Other	Purge Method:	
Analysis				
Volatiles Semivolatiles		(5)		
Volatiles Semivolatiles Ions RCRA Metals TAL Metals Select Metals (list)  Pesticides Herbicides PCB Cyanide Explosives Xother (list): Radiological Contamination				
	Purge	e Data		
Time Tempe	_		RP Turbidity	
(hrs) (°C			(NTU)	
(1113)	.) (50) (115)	(mg/L) (mg/L)	(11)	
<del></del>	<del></del>		<del></del>	
Comments:				
			1	
			1	
			1	
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° F		

Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/15/11	1606	SIW-SS-006P-0.0-2.0
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-006
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
Solid S	Sample	Aqueous Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
X Surface Soil	X Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
[] Waste	Other	Domestic Well	One Purge Volume:
[]] Other		Other	Start Purge:
	Velin	Seep	End Purge:
Sample Description (classification, consistency)		☐ Sump	Total Purge Time:
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		Waste	Total Purge Volume:
		Other	Purge Method:
Analysis  Volatiles Semivolatiles Ions RCRA Metals TAL Metals Select Metals (list)			
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination
	Purge	e Data	
Time Tempe (hrs) (°C			RP Turbidity nv) (NTU)
Comments:			
		0115	
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer:

Site Name;	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/15/11	1802	SIW-SS-007P-0.0-2.0
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-007
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
Solide	Sample		l is Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
X Surface Soil	X Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	☐ Multi-increment	☐ Monitoring Well	Static Water Level:
Waste	Other	☐ Domestic Well	Öne Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	Waste	Total Purge Volume:
		Other	Purge Method:
Analysis			
Volatiles Semivolatiles Ions RCRA Metals TAL Metals Select Metals (list)			
			Contamination
	Purge	. Data	
Time Tempe (hrs) (°C			DRP Turbidity mv) (NTU)
-			
Comments:			
Weather Conditions:	sunny snowy	Temperature: 85.0° F	Barometer:

Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/16/11	1050	SIW-SS-008P-0.0-2.0
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	Duro	Grab	SS-008
Client;	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
	Sample	Aqueous Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
X Surface Soil	XX Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	☐ Groundwater	Total Well Depth
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:
Waste	① Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		Waste	Total Purge Volume:
		Other	Purge Method:
Analysis			
Volatiles Semivolatiles Ions RCRA Metals TAL Metals Select Metals (list)			
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination
		Data	
Time Tempe	· ·		RP Turbidity
(hrs) (°C	(SU) (mS,	/cm) (mg/L) (n	nv) (NTU)
			<del></del>
<del></del>			
	<del></del>		
Comments;			
connens,			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	suriny snowy	85.0° F	

Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/16/11	1105	SIW-SS-009P-0.0-2.0
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	Dixo	Grab	SS-009
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
Solid S	ample	Aqueous Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
X Surface Soil	X Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
Waste	Other	☐ Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		☐ Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		Waste	Total Purge Volume:
		☐ Other	Purge Method:
Analysis			
☐ Volatiles ☐ Semivolatiles ☐ Ions ☐ RCRA Metals ☐ TAL Metals ☐ Select Metals (list)			
Pesticides Herbicides			Contamination
	Purge	: Data	
Time Tempei (hrs) (°C	rature pH Condu	ctance D.O. O	RP Turbidity IV) (NTU)
			<del></del>
		<del></del>	
Comments:			
confiners.			
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer:

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/15/11	1745	SIW-SS-010P-0.0-2.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	trico	Grab	SS-010	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solids	Sample		Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	[X] Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
[ ] Waste	Other	Domestic Well	One Purge Volume:	
[ ] Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		☐ Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Met	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	Contamination	
	Purge	e Data		
Time Temper (hrs) (°C			RP Turbidity nv) (NTU)	
	3 38.381		<u> </u>	
	<del></del>			
Comments:				
Weather Conditions:		Temperature;	Barometer:	
cloudy rainy	sunny snowy	85.0° F	geren was the Med a	

Sumple By:   Staten Island, NY   Synature(s):   Sampling Method:   Sampling Location:   Synature(s):   Synature(s):   Sampling Method:   Synature(s):   Sy	5ite Name: Staten Island Warehouse	Sample Date:		Sample Ti	me;	Sample N	lumber:
Sample   Description (Classification, color, plasticity, monature content, constant norm of taken from 0.0-2.0'.   Sample   Description   Constant Number:   Sample   Description   Constant Number:   Sample   Conduct Number:   Sample   Conduct Number:   Sample   Conduct Number:   Constant Number:	FUSRAP Site Staten Island NV	07/	16/11		0815	SIV	V-SS-011P-0.0-2.0
Brad Gough/Sam Martin  Contract Number:  USACE - Kansas City District  Solid Sample  Solid Sample Type:  Well Information  Well Casing Sze:  Solid Sample Type:  Solid Sample Type:  Solid Sample Type:  Well Information  Well Casing Sze:  Solid Sample Depth  Solid Sample Type:  Solid Sample Type:  Well Information  Well Casing Sze:  Solid Sample Depth  Solid Sample Type:  Solid Sample Type:  Well Information  Well Casing Sze:  Solid Sample Depth  Solid Sample Depth  Solid Sample Type:  Well Casing Sze:  Solid Sample Depth  Solid Sample Type:  Well Casing Sze:  Solid Sample Depth  Solid Sample Depth  Solid Sample Type:  Well Casing Sze:  Solid Sample Depth  Solid Sample Depth  Solid Sample Depth  Solid Sample Type:  Well Information  Well Casing Sze:  Solid Sample Depth  Solid Sample Depth  Solid Sample Type:  Well Information  Well Casing Sze:  Solid Sample Depth  Solid Sample Depth  Solid Sample Type:  Well Casing Sze:  Solid Sample Depth  Solid Sample Type:  Well Casing Sze:  Solid Party Solid Sample Type:  Well Casing S	Sampled By:	Signature(s):	, 0	Sampling	Method:	Samplin	Location:
USACE - Kansas City District  Solid Sample Solid Sample Solid Sample Solid Sample Solid Sample Collection:	Brad Gough/Sam Martin	7	De XI				SS-011
USACE - Kansas City District  Solid Sample Solid Sample Solid Sample Type:    Sample Collection:   Aqueous Sample Type:   Well Information		Contract Numbe	r:	Delivery C	Order:	Chain of	Custody Number:
Sample Type:     Sample Collection:	USACE - Kansas City District	W912D	Q-10-D-3012	P '		2	
Sample Type:     Sample Collection:	Solid S	ample			Aque	ous Samp	le
Surface Soil			ction:	Aqueous			
Sample Description (classification, color, plasticity, moisture content, consistency)  Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.  Analysis  Volatiles   Semivolatiles   Ions   RCRA Metals   TAL Metals   Select Metals (list)      Pesticides   Herbicides   PCB   Cyanide   Explosives   Monitoring Well   Static Water Level:     Other   Start Purge:     End Purge:     Seep   End Purge:     Static Water Level:     Other   Start Purge:     Static Water Level:     Other   Static Purge:     Static Purge:	X Surface Soil	X Grab		1		Well Casi	
Other	Subsurface Soil	Composite		Gr	oundwater	Total We	ll Depth
Other   Start Purge:	Sediment	☐ Multi-incre	ement		Monitoring Well	Static Wa	oter Level:
Sample Description (classification, color, plasticity, moisture content, consistency)   Sump	[] Waste	Other			Domestic Well	One Purg	e Volume:
Sample Description (classification, color, plasticity, moisture content, consistency)  Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.    Waste	Other				Other	Start Pur	ge:
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.    Other				∏ Se	ер	End Purg	e:
taken from 0.0-2.0'.    Other		color, plasticity,	moisture content,	Sump		Total Pur	ge Time:
Analysis  Volatiles Semivolatiles Ins RCRA Metals TAL Metals Select Metals (list)  Pesticides Herbicides PCB Cyanide Explosives X Other (list): Radiological Contamination  Purge Data  Time Temperature pH Conductance D.O. ORP Turbidity (hrs) (9C) (SU) (mS/cm) (mg/L) (mv) (NTU)			☐ Waste		Total Pur	ge Volume:	
Volatiles   Semivolatiles   Tons   RCRA Metals   TAL Metals   Select Metals (list)     Pesticides   Herbicides   PCB   Cyanide   Explosives   X Other (list):   Radiological Contamination				Поя	her	Purge Me	thod:
Pesticides			Ana	lysis			
Time Temperature pH Conductance D.O. ORP Turbidity (hrs) (°C) (SU) (mS/cm) (mg/L) (mv) (NTU)	Volatiles Semivolatiles	Ions RCR	A Metals TAL Me	tals 🔲 S	Select Metals (list)		
Time Temperature pH Conductance D.O. ORP Turbidity (hrs) (°C) (SU) (mS/cm) (mg/L) (mv) (NTU)	Pesticides Herbicides	PCB Cyanic	le Explosives	X Other (	list):Radiologic	al Contam	ination
(hrs) (°C) (SU) (mS/cm) (mg/L) (mv) (NTU)			Purge	Data			
	Time Tempe	ature	_		D.O.	ORP	Turbidity
Comments:			(SU) (mS,	/cm)	(mg/L)	(mv)	(NTU)
Comments:							
comments:							
Comments:			<del></del>				
Comments:							
Comments:							
Comments:							
Comments:							
Comments:							<del></del>
Comments:							
Comments:							
Comments:							
	Comments:						
Mosther Conditional	Weather Conditions:			Tana		lo.	
Weather Conditions:    Temperature;   Barometer:   Cloudy   rainy   sunny   85.0° F		sunnv	SHOWY	remperat.		Isaromete	er:

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/16/11	0825	SIW-SS-012P-0.0-2.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-012	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid S	ample	Agueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	(X) Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
[ ] Waste	Other	☐ Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		☐ Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	□Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	☐ Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	7		
	Tons ☐ RCRA Metals ☐ TAL Met  PCB ☐ Cyanide ☐ Explosives		Contamination	
	Purge	Data		
Time Tempe (hrs) (°C	rature pH Condu	ctance D.O. O	DRP Turbidity nv) (NTU)	
		<del></del>		
Comments:				
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer:	

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse	07/16/11	1030	SIW-SS-013P-0.0-2.0	
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	Signature(s). Brown	Grab	SS-013	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid S	ample	Agueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	☐ Monitoring Well	Static Water Level:	
☐ Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)		☐ Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		□Waste	Total Purge Volume:	
		☐ Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Met	als Select Metals (list)		
			Contamination	
	Purge	Data		
Time Temper (hrs) (°C	rature pH Conduc	ctance D.O. O	RP Turbidity nv) (NTU)	
		"		
Comments:				
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer:	

TIELD DATA STILLT				
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/16/11	0850	SIW-SS-014P-0.0-2.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	DX0	Grab	SS-014	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
	ample	Aqueous	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		Waste	Total Purge Volume:	
			Purge Method:	
<del></del>	Ana	lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Met	tals Select Metals (list)		
Pesticides Herbicides			Contamination	
	Purge	e Data		
Time Tempe (hrs) (°C			RP Turbidity nv) (NTU)	
			<del></del>	
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° F		

Ch. Maria		D	la 1 11 1	
Site Name: Staten Island Warehouse	Sample Date: 07/16/11	Sample Time: 1045	Sample Number: SIW-SS-015P-0.0-2.0	
FUSRAP Site Staten Island, NY				
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-015	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solids	ample	Agueou	s Sample	
	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	[X] Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	☐ Waste	Total Purge Volume:	
		Other	Purge Method:	
	Δna	lysis		
		· _		
Volatiles Semivolatiles	Ions RCRA Metals TAL Met	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination	
	Purge	e Data		
Time Tempe	_		RP Turbidity	
(hrs) (°C				
(ms) (sc	(SU) $(MS)$	/cm) (mg/L) (n	ıv) (NTU)	
		<del></del>		
<del></del>				
		<del></del>		
Comments:				
oonmate.				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° F		

		TAUTILLI		
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/16/11	1038	SIW-SS-016P-0.0-2.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	fra Fo	Grab	SS-016	
	17-8			
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
Solid S	ample	Aqueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
(X) surface soil	(X) Grab	☐ Surface Water	Well casing Size.	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
			-	
Waste	Other	[] D	One Purge Volume:	
waste	[_]Oulei	Domestic Well	one raige volume.	
r				
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification,	color, plasticity, moisture content,	Sump	Total Purge Time:	
consistency)		Samp	l sacrificação nime:	
Fill: Brownish tan, topsoil, so	cattered gravel. Sample			
taken from 0.0-2.0'.	sacce da Braven sample	Waste	Total Purge Volume:	
taken nom o.o z.o .				
		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	] Ions	tals Select Metals (list)		
(2,) (3,10,10,10,10,10,10,10,10,10,10,10,10,10,	Jacob Charles Children			
Pesticides Herbicides 🗌	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination	
		D-4-		
	_	e Data		
Time Tempe			RP Turbidity	
(hrs) (°C	(SU) (SU) (mS <sub>i</sub>	/cm) (mg/L) (n	nv) (NTU)	
	<del></del>			
			<del></del>	
<del></del>				
			· · · · · · · · · · · · · · · · · · ·	
Comments:				
Weather Conditions: Temperature: Barometer:				
		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° F		

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse	07/16/11	1038	SIW-SS-Dup-002	
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location;	
Brad Gough/Sam Martin	Signature (S)	Grab	SS-016	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
	ample		s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, taken from 0.0-2.0'.	scattered gravel. Sample	☐ Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis		
X Volatiles X Semivolatiles	Ions X RCRA Metals TAL Met	tals Select Metals (list)		
X Pesticides X Herbicides X	PCB Cyanide Explosives	Other (list):		
	Purge	e Data		
Time Tempe	_		RP Turbidity	
(hrs) (°C			nv) (NTU)	
()	, ()	(,		
			<del></del>	
		<u> </u>		
<del></del>				
Comments:				
Weather Conditions:	snowy	Temperature: 85.0° F	Barometer:	

Site Name:	Sample Date:		Sample Tir	me:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/	16/11		0910	SIW-SS-017P-0.0-2	2.0
Sampled By:	Signature(s):	, .	Sampling	Method:	Sampling Location:	
Brad Gough/Sam Martin	1	mo o		Grab	SS-017	
Client:	Contract Numbe		Delivery O	rder:	Chain of Custody Number:	
USACE - Kansas City District	W912D0	Q-10-D-3012	0004			
	ample				s Sample	
Solid Sample Type:	Sample Colle	tion:	Aqueous	Sample Type:	Well Information	1
X Surface Soil	X Grab		Sur	rface Water	Well Casing Size:	
Subsurface Soil	Composite		Gro	oundwater	Total Well Depth	
Sediment	☐ Multi-incre	ment		Monitoring Well	Static Water Level:	
∭ Waste	Other			Domestic Well	One Purge Volume:	
Other				Other	Start Purge:	
			See	ер	End Purge:	
Sample Description (classification, consistency)	color, plasticity, r	noisture content,	Sump		Total Purge Time:	
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		Waste		Total Purge Volume:		
			OtherPurge Method:		Purge Method:	
		Ana	lysis			
Volatiles Semivolatiles	Ions RCRA	Metals TAL Me	tals 🔲 S	ielect Metals (list)		
Pesticides Herbicides	PCB Cyanic	e Explosives	X Other (I	list):Radiological	Contamination	
		Purg	e Data			
Time Tempe	rature	_	ctance	D.O. C	RP Turbidity	
(hrs) (°C		•	/cm)		nv) (NTU)	
	·				<u> </u>	
			<del></del>			
				-		
<del></del>						
Comments:						
Weather Conditions:		1	Temperatu		Barometer:	
cloudy rainy	şunny	snowy		85.0° F		

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/16/11	1112	SIW-SS-018P-0.0-2.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-018	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid S	ample	Aqueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
[ ] Other		☐ Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)		☐ Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me			
		X) Other (list): Radiological (		
	Purge	Data		
Time Tempe (hrs) (°C			RP Turbidity nv) (NTU)	
		<del></del>		
Comments:				
		f	L	
Weather Conditions:	SINDY SNOWY	Temperature: 85.0° F	Barometer:	

Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/16/11	1112	SIW-SS-Dup-004
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	D.Fo	Grab	SS-018
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid S	Sample	Aqueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
X Surface Soil	X Grab	Surface Water	Well Casing Size;
Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	☐ Multi-increment	☐ Monitoring Well	Static Water Level:
☐] Waste	Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
Fill: Brownish tan, topsoil, taken from 0.0-2.0'.	scattered gravel. Sample	Waste	Total Purge Volume:
		☐ Other	Purge Method:
	Ana	alysis	
X Volatiles X Semivolatiles		etals Select Metals (list)	
X Pesticides X Herbicides X	PCB Cyanide Explosives	Other (list):	3.0
	Pura	e Data	
Time Tempe (hrs) (°C	rature pH Condu	uctance D.O. O	RP Turbidity nv) (NTU)
<del></del>			
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	unny snowy	85.0° F	

Site Name:	Canada Data	C 1 T	CI- Norsham
Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
FUSRAP Site Staten Island, NY	07/15/11	1800	SIW-SS-019P-0.0-2.0
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	200	Grab	SS-019
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	chain of coscoy number.
	ample		Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
X Surface Soil	X Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:
		]	
( ) Waste	Other	☐ Domestic Well	One Purge Volume:
E.J Waste	Other		5/10 / Glg5 10101110
[ ] au	1	C1	Cha A Direct
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification,	color, plasticity, moisture content,	□ Sump	Total Purge Time:
consistency)			
Fill: Brownish tan, topsoil, so	cattered gravel. Sample	Waste	Total Purge Volume:
taken from 0.0-2.0'.			
		Other	Purge Method:
		Odlei	a a gerrealour
	Δna	lysis	
Volatiles Semivolatiles		als Select Metals (list)	
[ ] volatiles [ ] Settitivolatiles [ ]	Ions RCRA Metals TAL Met	asseect metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	Contamination
	_	e Data	
Time Tempe			RP Turbidity
(hrs) (°(	C) (SU) (mS,	/cm) (mg/L) (m	IV) (NTU)
	<del></del>		<del></del>
			<del></del>
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	SINDY SNOWY	85.0° F	

Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/16/11	0830	SIW-SS-020P-0.0-2.0
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	fre to	Grab	SS-020
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
Solid Sample		Aqueous Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
X Surface Soil	X Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level:
☐ Waste	Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, color, plasticity, moisture content, consistency)		☐ Sump	Total Purge Time:
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		☐ Waste	Total Purge Volume:
		Other	Purge Method:
Analysis			
Volatiles Semivolatiles Ions RCRA Metals TAL Metals Select Metals (list)			
Pesticides Herbicides PCB Cyanide Explosives XI Other (list): Radiological Contamination			
Purge Data			
Time Tempe (hrs) (°C			RP Turbidity nv) (NTU)
Comments:			
Weather Conditions: Temperature; Barometer:			

	11000			
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/15/11	1650	SIW-SS-021P-0.0-2.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	Syllactic (9).	Grab	SS-021	
Drad Godgily Saill Walter	17-8-2	0100		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
Solid S	Sample	Aqueo	ous Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	· ·		Well Casing Size:	
X Surface Soil	X Grab	Surface Water	Well Cashing Size.	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level:	
has a deditional				
F-1	[7]		One Purge Volume:	
Waste	Other	Domestic Well	One Purge volume:	
==		ľ		
Other		Other	Start Purge:	
11.5-2				
		Seep	End Purge:	
Sample Description (classification,	color placticity moisture content		Total Purge Time:	
consistency)	coor, pasacity, mostare contains	Sump	Total raige time,	
Fill: Brownish tan, topsoil, so	cattored gravel Sample			
taken from 0.0-2.0'.	cattered graver. Sample	☐ Waste	Total Purge Volume:	
taken from 0.0-2.0.				
		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles		tals Select Metals (list)		
(_) voldules (_) Semivolables (_				
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiologica	l Contamination	
Elicatere Elicatere				
	Purge	e Data		
Time Tempe	rature pH Condu	ctance D.O.	ORP Turbidity	
(hrs) (°C	C) (SU) (mS	/cm) (mg/L)	(mv) (NTU)	
		<del></del>		
		<del></del>		
		<del></del>		
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	cunny cnowy	85.0° F	1	

Site Name:	Sample Date:	Sample Time:	Sample Number:		
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/15/11	1650	SIW-SS-Dup-001		
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	buto	Grab	SS-021		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004			
Solid S	Sample	Aqueou	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	(X) Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:		
Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)		Sump	Total Purge Time:		
Fill: Brownish tan, topsoil, taken from 0.0-2.0'.	scattered gravel. Sample	Waste	Total Purge Volume:		
		Other	Purge Method:		
	Ana	lysis			
X Volatiles X Semivolatiles	Ions X RCRA Metals TAL Me	tals Select Metals (list)			
X Pesticides X Herbicides X	PCB Cyanide Explosives	Other (list):			
	Purge	e Data			
Time Tempe	_		RP Turbidity		
(hrs) (%			nv) (NTU)		
		×			
	<del></del>				
Comments:					
conners:					
Weather Conditions:		Temperature:	Barometer:		
cloudy rainy					

		TA OTICET			
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:		
FUSRAP Site Staten Island, NY	07/16/11	0815	SIW-SS-022P-0.0-2.0		
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	DXO	Grab	SS-022		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004			
	ample		s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	X) Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:		
Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:		
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	Waste	Total Purge Volume:		
		Other	Purge Method:		
	Analysis				
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)			
Pesticides Herbicides			Contamination		
	Purge	e Data			
Time Tempe (hrs) (°C			RP Turbidity nv) (NTU)		
Y					
Comments:					
III. II. O. IV		L	la .		
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer:		

	LTI	LLU DA	IA SHEET			
Site Name:	Sample Date:		Sample Time:		Sample Nur	nber:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/16/11			900		SS-023P-0.0 <b>-</b> 2
Sampled By: Brad Gough/Sam Martin	Signature(s):	0	Sampling Metho	xl: Grab	Sampling L	ocation: SS-023
<sup>Client:</sup> USACE - Kansas City District	Contract Number: W912DQ-10-D-3	012	Delivery Order:	0004	Chain of Cu	stody Number:
Solid	Sample			Agu	eous Sample	
Solid Sample Type:	Sample Collection:		Aqueous Sam			ell Information
X Surface Soil	[X] Grab		Surface V		Well Casing	Size:
Subsurface Soil	Composite		Groundw	aber	Total Well C	Depth
Sediment	Multi-increment		☐Mon	itoring Well	Static Wate	r Level:
Waste	Other	_	☐ Dom	nestic Well	One Purge	Volume:
Other			Othe	er	Start Purge	
	L		Seep		End Purge:	
Sample Description (classification consistency)	, color, plasticity, moisture cor	ntent,	Sump		Total Purge	Time:
Fill: Brownish tan, topsoil, taken from 0.0-2.0'.	scattered gravel. Samp	ole	Waste		Total Purge	Volume:
			Other_		Purge Meth	od:
		Ana	lysis			
Volatiles Semivolatiles	Ions RCRA Metals	TAL Mel	als Select	Metals (list)		
Pesticides Herbicides	PCB Cyanide Exp	olosives	X Other (list): _	Radiologi	cal Contamin	ation
		Purge	Data			
	erature pH PC) (SU)	Condu (mS,		D.O. mg/L)	ORP (mv)	Turbidity (NTU)
	<del></del>					
						<del></del>
				<del></del>		<del> </del>
			<del></del>	<del></del>		
Comments:						
Weather Conditions;			Temperature:		Barometer:	
cloudy rainy	sunny sr	nowy	8	85.0° F		

Site Name:	Sample Date:	Sample Time:	Sample Number:		
Staten Island Warehouse	07/16/11	1100	SIW-SS-024P-0.0-2.0		
FUSRAP Site Staten Island, NY	Signature(s):				
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-024		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:		
Solid S	ample	Aqueous	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	X Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
Waste	Other	☐ Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:		
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	☐ Waste	Total Purge Volume:		
		Other Purge Method:			
	Analysis				
Volatiles Semivolatiles		tals Select Metals (list)			
Pesticides Herbicides			Contamination		
	Purae	e Data			
Time Tempe. (hrs) (°C	rature pH Condu	ctance D.O. O	RP Turbidity		
Comments:					
Weather Conditions: Temperature: Barometer:					

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse	07/16/11	1100	SIW-SS-Dup-003	
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	B. Lo	Grab	SS-024	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004	19	
Solid S	Sample	Aqueou	Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Sеер	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, taken from 0.0-2.0'.	scattered gravel. Sample	Waste	Total Purge Volume:	
		Other	Purge Method:	
	An	alysis		
X Volatiles X Semivolatiles	Ions X RCRA Metals TAL M	letals Select Metals (list)		
X Pesticides X Herbicides X	PCB Cyanide Explosives	Other (list):		
	Pure	ge Data		
Time Tempe			RP Turbidity	
(hrs) (%			1V) (NTU)	
()	· (••)	(g/-)		
<del></del>	<del></del>			
			<del></del>	
<u> </u>				
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	unny snowy	85.0° F		

		1111011011	
Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse	07/16/11	1645	SIW-SS-025P-0.0-2.0
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	Signature(s).	Grab	SS-025
Brad Godgil/Sail Wartill	1752	Grab	33-023
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid	Sample	Agueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
	· ·		
X Surface Soil	(X) Grab	Surface Water	Well Casing Size:
		1	
Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
2_10001110110	E		
			One Purge Volume:
Waste	Other	Domestic Well	One Purge volume:
		1	
Other		Other	Start Purge:
		Seep	End Purge:
	***	7 23007	
Sample Description (classification,	color, plasticity, moisture content	1	Total Purge Time:
consistency)	color, plasticity modern contains	Sump	total ruige inne.
Fill: Brownish tan, topsoil, s	cattered gravel Sample	1 _	
taken from 0.0-2.0'.	cattered graves. Sample	Waste	Total Purge Volume:
taken nom 0.0-2.0.		1	
		Other	Purge Method:
	An	alysis	
Volatiles Semivolatiles			
[] voldules [] Semivolaules [	JIONS CIRCRA PIECEIS CITAL PI	easscett Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological	Contamination
	Purç	ge Data	
Time Tempe	rature pH Cond	uctance D.O. C	ORP Turbidity
(hrs) (°0	C) (SU) (m:	S/cm) (mg/L) (ı	nv) (NTU)
	<del></del>	<del></del>	
Comments:			
Markhay Conditions		Transaction.	lp
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	85.0° F	

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/16/11	1645	SIW-SS-025MS-0.0-2.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin		Grab	SS-045	
Client: USACE - Kansas City Distric	Contract Number: t W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid S	ample	Aqueous	Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
☐)%urface Soil	<b>☐ X</b> 6rab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
[] Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)		☐ Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, taken from 0.0-2.0'.	scattered gravel. Sample	☐ Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Met	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	□ <b>¼</b> ther (list): Radiologica	l Contamination	
	Purge	e Data		
Time Tempe	rature pH Condu	ctance D.O. O	RP Turbidity	
(hrs) (°C			nv) (NTU)	
		<del></del>		
·				
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° F		

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, N	07/16/11	1645	SIW-SS-025MSD-0.0-2.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin		Grab	SS-045	
Client: USACE - Kansas City Distric	Contract Number: t W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid 9	iample	Agueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
□ <b>X</b> surface Soil	<b>∑%</b> rab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level;	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	\$tart Purge:	
		☐ Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	□Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis	<u> </u>	
Volatiles Semivolatiles	Ions RCRA Metals TAL Met	tals Select Metals (list)		
		□Xother (list): Radiologica		
		e Data		
Time Tempe (hrs) (°C	rature pH Condu	ctance D.O. O	RP Turbidity nv) (NTU)	
			<del></del>	
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sinny snowy	85.0° F		

Site Name:	Sample Date:	Sample Time:	Sample Number:		
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/15/11	1740	SIW-SS-026P-0.0-2.0		
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	D.Fo	Grab	SS-026		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:		
Solid S	ample	Aqueous	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	X Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
[]] Waste	Other	☐ Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:		
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	Waste Total Purge Volume:			
		Other	Purge Method:		
	Ana	lysis			
Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)			
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination		
	Purge	e Data			
Time Tempe (hrs) (°C			RP Turbidity nv) (NTU)		
<del></del>	· · · · · · · · · · · · · · · · · · ·				
Comments:					
Weather Conditions:		Temperature:	Barometer:		
cloudy rainy	sunny snowy	85.0° F			

Site Name:	Sample Date:	Sample Time:	Sample Number:		
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/15/11	1625	SIW-SS-027P-0.0-2.0		
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-027		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:		
Solid S	ample	Aqueous	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	X Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level:		
Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
	<u> </u>	Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:		
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	Waste Total Purge Volume:			
		Other	Purge Method:		
	Ions RCRA Metals TAL Me	lysis tals Select Metals (list)			
Pesticides Herbicides		Other (list): Radiological (     Data	Contamination		
Time Tempe (hrs) (°0	rature pH Condu	ctance D.O. O	RP Turbidity nv) (NTU)		
· · · · · · · · · · · · · · · · · · ·					
Comments:	Comments:				
Weather Conditions:		Temperature:	Barometer:		
cloudy rainy	SUDDY Shows	85.0° F			

En u		TA OTTLET	La 1 1/ 1	
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/15/11	1640	SIW-SS-028P-0.0-2.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
	signature(s).		1 ' -	
Brad Gough/Sam Martin	1) X	Grab	SS-028	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004	, , , , , , , , , , , , , , , , , , , ,	
	Sample	Aqueous	Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
(V) Surface Soil	(A) Grab	☐ 2011ace Mare	The casing seed	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
		m	Static Water Level:	
Sediment	Multi-increment	Monitoring Well	Stauc water Level.	
Waste	Other	Domestic Well	One Purge Volume:	
<u></u>				
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification,	and a selection and beautiful and the selection of the se		W. 15 T	
consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
l ''				
Fill: Brownish tan, topsoil, s	cattered gravel. Sample	Waste	Total Purge Volume:	
taken from 0.0-2.0'.				
		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles		□ Select Metals (list)		
[] volatiles [] Semivolatiles []				
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination	
[_]reductions (_]nertricides (_]	rcb [] cyanide [] explosives	M Other (list):		
	Purge	e Data		
Time Tempe	_		RP Turbidity	
(hrs) (°0	C) (SU) (mS,	/cm) (mg/L) (m	ıv) (NTU)	
			<del></del>	
		<del></del>		
<u> </u>				
Comments:				
j J				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	SUBBY SHOWY	85 0° F		

10 EMP AVIVALIANI					
Site Name:	Sample Date:	Sample Time:	Sample Number:		
Staten Island Warehouse	07/16/11	1640	SIW-SS-029P-0.0-2.0		
FUSRAP Site Staten Island, NY Sampled By:		Canadian Makkadi			
	Signature(s):	Sampling Method: Grab	Sampling Location: SS-029		
Brad Gough/Sam Martin	of the state of	Grab	55-029		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004			
Solids	l Sample	Aguagu	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	X Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
L_1000MING					
777			One Purge Volume:		
Waste	Other	Domestic Well	one raige volume.		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification,	color, plasticity, moisture content,	Sump	Total Purge Time:		
consistency)	., .,	Lasump			
Fill: Brownish tan, topsoil, se	cattered gravel. Sample		Total Purge Volume:		
taken from 0.0-2.0'.	S. E. F.	Waste	lotzi Purge volume:		
taken nom o.o 2.o .					
		Other	Purge Method:		
Analysis					
Volatiles Semivolatiles Ions RCRA Metals TAL Metals Select Metals (list)					
		5 11 1 1 1			
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination		
	Pura	e Data			
Time Tempe	_		RP Turbidity		
			•		
(hrs) (°0	C) (SU) (mS	/cm) (mg/L) (n	nv) (NTU)		
			_		
	<del></del>	<del></del>			
S					
S					
			<del></del>		
· · · · · · · · · · · · · · · · · · ·					
Comments:					
Weather Conditions:		Temperature:	Barometer:		
cloudy rainy	GINDY SOOWY	85.0° F			

Site Name: Sample Date: Sample Time: Sample Number:				
Staten Island Warehouse FUSRAP Site Staten Island, NY	94mpie Date: 07/16/11	Sample Time: 1715	SIW-SS-030P-0.0-2.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-030	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid S	ample	Aqueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
☐] Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)		☐ Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)		
			Contamination	
	Purge	e Data		
Time Tempe (hrs) (%			RP Turbidity nv) (NTU)	
Comments:				
I <sub>II</sub>				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	SUDDY SDOWY	85.0° F	I	

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse	07/16/11	1725	SIW-SS-031P-0.0-2.0	
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	Brose State	Grab	SS-031	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid S	Sample	Aqueous	Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	☐ Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
☐ Waste	Other	Domestic Well	One Purge Volume:	
[] Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	☐ Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis		
Volatiles   Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)		
			Contamination	
	Puras	e Data		
Time Tempe (hrs) (°0	rature pH Condu	ctance D.O. O	RP Turbidity nv) (NTU)	
Comments:				
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer;	

Site Name:	Sample Date:	Sample Time:	Sample Number:		
Staten Island Warehouse	07/16/11	1240	SIW-SS-032P-0.0-2.0		
FUSRAP Site Staten Island, NY Sampled By:					
Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-032		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004			
Solid S	Sample	Agueou	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	X Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
☐ Waste	☐ Other	☐ Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)		□ Sump	Total Purge Time:		
Fill: Brownish tan, topsoil, taken from 0.0-2.0'. From		☐ Waste	Total Purge Volume:		
		Other	Purge Method:		
	Ana	lysis			
Volatiles Semivolatiles	Ions RCRA Metals TAL Met	als Select Metals (list)			
			l Contamination		
	Purge	: Data			
Time Tempe (hrs) (°C	rature pH Condu	ctance D.O. O	RP Turbidity nv) (NTU)		
			<del></del>		
Comments:					
Weather Conditions:		Temperature:	Barometer:		
cloudy rainy					

	TALLO DA	TA GITEET			
Site Name: Staten Island Warehouse	Sample Date: 07/16/11	Sample Time: 1422	Sample Number: SIW-SS-033P-0.0-2.0		
FUSRAP Site Staten Island, NY					
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-033		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004			
Solid S	ample	Aqueou	is Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	X) Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:		
Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:		
Fill: Brownish tan, topsoil, taken from 0.0-2.0'. From		Waste	Total Purge Volume:		
		Other	Purge Method:		
	Ana	lysis			
Volatiles Semivolatiles		tals Select Metals (list)			
Pesticides Herbicides	PCB Cyanide Explosives	Other (list): Radiologica	Contamination		
	Purge	e Data			
Time Tempe	rature pH Condu	ctance D.O. C	ORP Turbidity		
(hrs) (°0			mv) (NTU)		
( - )	()	,, (3, -)	,		
			····		
<del></del>					
<del></del>					
	<del></del>				
Comments:					
Weather Conditions:		Temperature:	Barometer:		
cloudy rainy	tinny snowy	. ×> 11″ ⊢			

Sita Namos	Cample Dates	Camala Timas	Example Number		
Site Name: Staten Island Warehouse FUSRAP Site Staten Island, NY	Sample Date: 07/16/11	Sample Time: 1548	Sample Number: SIW-SS-034P-0.0-2.0		
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	020	Grab	SS-034		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:		
	Sample Sample Collection:	Aqueous Sample Type:	s Sample Well Information		
1 11	· ·	D	Well Casing Size:		
X Surface Soil	(X) Grab	Surface Water	well casing size.		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
☐ Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:		
Fill: Brownish tan, topsoil, taken from 0.0-2.0'. From	-	☐ Waste	Total Purge Volume:		
		Other	Purge Method:		
	Ana	lysis			
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)			
			Contamination		
	Purge	e Data			
Time Tempe (hrs) (°C	rature pH Condu	ctance D.O. O	RP Turbidity nv) (NTU)		
Comments:					
Weather Conditions:  Cloudy rainy uppy snowy 85.0° F					

Cha Manua					
Site Name: Staten Island Warehouse FUSRAP Site Staten Island, NY	Sample Date: 07/16/11	Sample Time: 1705	Sample Number: SIW-SS-035P-0.0-2.0		
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-035		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:		
Solid S	Sample	Agueous	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	X Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	☐ Multi-increment	☐ Monitoring Well	Static Water Level:		
☐ Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		☐ Seep	End Purge:		
Sample Description (classification, consistency)		☐ Sump	Total Purge Time:		
Fill: Brownish tan, topsoil, taken from 0.0-2.0'. From		☐ Waste	Total Purge Volume:		
		Other	Purge Method:		
	Ions RCRA Metals TAL Met		Contamination		
Pesticides Herbicides		2	Contamination		
Purge Data  Time Temperature pH Conductance D.O. ORP Turbidity  (hrs) (°C) (SU) (mS/cm) (mg/L) (mv) (NTU)					
Comments:					
		L.	P		
Weather Conditions: Temperature: Barometer:					

Site Name: Sample Date: Sample Time: Sample Number:				
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/17/11	0935	SIW-SS-036P-0.0-2.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-036	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solids	Sample		s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	☐ Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
[] Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis	\ <del></del>	
Volatiles Semivolatiles	Ions RCRA Metals TAL Met	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list):Radiological (	Contamination	
	Purge	Data		
Time Tempe (hrs) (°C			RP Turbidity 1v) (NTU)	
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	aluun auomn	85.0° F		

Site Name:	Sample Date:	Sample Time:	Sample Number:		
Staten Island Warehouse	07/17/11	0925	SIW-SS-037P-0.0-2.0		
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	Duto	Grab	\$\$-037		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:		
Solid S	ample	Aqueou	Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	X Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
∐ Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:		
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	Waste	Total Purge Volume:		
		Other	Purge Method:		
	Ana	lysis			
Volatiles Semivolatiles		tals Select Metals (list)			
			Contamination		
	Purge	e Data			
Time Tempe (hrs) (°C	rature pH Condu	ctance D.O. O	RP Turbidity  (NTU)		
<del></del>					
Comments:					
Weather Conditions:					

TIELD DATA SHEET					
Site Name: Staten Island Warehouse	Sample Date: 07/17/11	Sample Time: 0947	Sample Number: SIW-SS-038P-0.0-2.0		
FUSRAP Site Staten Island, NY					
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-038		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:		
Solids	ample		Sample		
	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	X Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:		
Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:		
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		☐ Waste	Total Purge Volume:		
		Other	Purge Method:		
	Analysis				
Volatiles Semivolatiles	Ions RCRA Metals TAL Met	tals Select Metals (list)			
Pesticides Herbicides			Contamination		
	Purge	2 Data			
Time Tempe (hrs) (°C	rature pH Condu	ctance D.O. O	RP Turbidity nv) (NTU)		
		<del></del>			
Comments:					
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer:		

TILED DATA SHELT					
Site Name: Staten Island Warehouse FUSRAP Site Staten Island, NY	Sample Date: 07/17/11	Sample Time: 1240	Sample Number: SIW-SS-039P-0.0-2.0		
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-039		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:		
Solids	ample	Aguacu	s Sample		
	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	X Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
Waste	Other	☐ Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	'Total Purge Time:		
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	☐ Waste	Total Purge Volume:		
		Other	Purge Method:		
	Ana	lysis	<del></del>		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me				
			Contamination		
	Purge	e Data			
Time Tempe. (hrs) (°C	rature pH Condu	ctance D.O. O	nv) (NTU)		
Comments:					
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer:		

TELD DATA STILLT					
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:		
	07/17/11	1240	SIW-SS-039MS-0.0-2.0		
FUSRAP Site Staten Island, NY		Constitute Marked.			
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	0220	Grab	SS-039		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004			
			<u></u>		
	Sample		s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	(X) Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
[_] Substituce Still	Composite	☐ Glodiidwatei	Total Non Bapa		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
Waste	Other	☐ Domestic Well	One Purge Volume:		
E lost-		□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Start Purge:		
Other		Other	Start ruige.		
		Seep	End Purge:		
Sample Description (classification,	color, plasticity, moisture content,	Sump	Total Purge Time:		
consistency)					
Fill: Brownish tan, topsoil, s	cattered gravel. Sample		Total Purge Volume:		
taken from 0.0-2.0'.		Waste	Total raige volume.		
		l _			
		Other	Purge Method:		
	Ana	lysis			
☐ Volatiles ☐ Semivolatiles ☐ Ions ☐ RCRA Metals ☐ TAL Metals ☐ Select Metals (list)					
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological	Contamination		
	D	e Data			
	_				
Time Tempe			DRP Turbidity		
(hrs) (°	C) (SU) (mS	/cm) (mg/L) (r	nv) (NTU)		
			<del></del>		
		<del></del>			
<del></del>					
Comments:					
Weather Conditions:		Temperature:	Barometer:		
cloudy rainy sunny snowy 85.0° F					

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/17/11	1240	SIW-SS-039MSD-0.0-2.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-039	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid S	ample	Aqueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysi <b>s</b>		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)		
Pesticides Herbicides			Contamination	
	Purge	e Data		
Time Tempe (hrs) (°C			RP Turbidity nv) (NTU)	
<del></del>				
·				
Comments:				
Weather Conditions:	SURINY SHOWY	Temperature: 85.0° F	Barometer:	

Site Name:	Sample Date:		Sample Ti	ime:	Sa	imple Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/1	7/11		1140		SIW-SS-040P-0.0-2.0
Sampled By:	Signature(s):	()	Sampling	Method:	S	ampling Location:
Brad Gough/Sam Martin	f,	nto		Grab		SS-040
Client: USACE - Kansas City District	Contract Number: W912DQ	-10-D-3012	Delivery C	Order: 0004	Ch	nain of Custody Number:
Solid S	ample			Acute	ous S	Sample
Solid Sample Type:	Sample Collect	ion:	Aqueou	s Sample Type:	1	Well Information
X Surface Soil	X Grab			rface Water	W	ell Casing Size:
Subsurface Soil	Composite		Gr	oundwater	To	otal Well Depth
Sediment	Multi-increm	ent		Monitoring Well	St	atic Water Level:
Waste	Other			Domestic Well	Or	ne Purge Volume:
Other				Other	St	art Purge:
			Se	ер	En	nd Purge:
Sample Description (classification, consistency)			Sui	тр	То	otal Purge Time:
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		□Wa	aste	То	tal Purge Volume:	
			O#	her	Pu	rge Method:
		Ana	lysis			
Volatiles Semivolatiles	Ions RCRA	Metals TAL Me	tals 🗌 S	Select Metals (list)		
Pesticides Herbicides	PCB Cyanide	Explosives	X Other (	list): Radiologic	al Cor	ntamination
		Purge	Data			
Time Temper (hrs) (°C	,	H Condu SU) (mS,	ctance /cm)	D.O. (mg/L)	ORP (mv)	,
				<del></del>		
Comments:						
		1.0				
Weather Conditions:			Temperatu	ire:	Bai	rometer:
cloudy rainy	sunny	snowy		85.0° F		

Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse	07/17/11	1140	SIW-SS-Dup-005
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	Signature(s):	Grab	SS-040
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid S	ample	Aqueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
X Surface Soil	X Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:
☐ Waste	Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)		☐ Sump	Total Purge Time:
Fill: Brownish tan, topsoil, taken from 0.0-2.0'.	scattered gravel. Sample	☐ Waste	Total Purge Volume:
		Other	Purge Method:
Analysis			
X Volatiles X Semivolatiles	Ions X RCRA Metals TAL Met	tals Select Metals (list)	
X Pesticides X Herbicides X		Other (list):	
		Data	
Time Tempe	_		DD Tourside.
	•		RP Turbidity
(hrs) (°C	(SU) (mS,	/cm) (mg/L) (m	nv) (NTU)
			<del></del>
<u> </u>		<u> </u>	
<del></del>			
	<del></del>		
Comments:			
commens.			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	85.0° F	,

		IA STILLT		
Site Name: Staten Island Warehouse FUSRAP Site Staten Island, NY	Sample Date: 07/17/11	Sample Time: 1120	Sample Number: SIW-SS-041P-0.0-2.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-041	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid	Sample Sample	Agueou	s Sample	
	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	[X] Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	□Waste	Total Purge Volume:	
		Other	Purge Method:	
Analysis				
Volatiles Semivolatiles	Ions RCRA Metals TAL Met	tals Select Metals (list)		
Pesticides Herbicides			Contamination	
	Purge	e Data		
Time Temper (hrs) (°C	rature pH Condu	ctance D.O. C	PRP Turbidity nv) (NTU)	
<del></del>				
			<del></del>	
Comments;				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy snowy 85.0° F				

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:			
FUSRAP Site Staten Island, NY	07/17/11	1120	SIW-SS-041PC-0.0-2.0			
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:			
Brad Gough/Sam Martin	Die	Grab	SS-041			
Client;	Contract Number:	Delivery Order:	Chain of Custody Number:			
USACE - Kansas City District	W912DQ-10-D-3012	0004				
Solid S	ample	Aqueou	s Sample			
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information			
X Surface Soil	X Grab	Surface Water	Well Casing Size:			
Subsurface Soil	Composite	Groundwater	Total Well Depth			
Sediment	Multi-increment	Monitoring Well	Static Water Level:			
Waste	☐ Other	Domestic Well	One Purge Volume:			
Other		Other	Start Purge:			
		Sеер	End Purge:			
Sample Description (classification, consistency)		☐ Sump	Total Purge Time:			
Fill: Brownish tan, topsoil, taken from 0.0-2.0'. Chara		Waste	Total Purge Volume:			
		Other	Purge Method:			
	Ana	İysis	***			
X Volatiles X Semivolatiles	Ions X RCRA Metals TAL Me	tals Select Metals (list)				
X Pesticides X Herbicides X	PCB Cyanide Explosives	□ 04 (5.4).				
[V] League [V] Leaping [V]		Other (list):				
	_	e Data				
Time Tempe			RP Turbidity			
(hrs) (°C	(SU) (mS,	/cm) (mg/L) (n	nv) (NTU)			
<del></del>						
Comments:						
Weather Conditions:		Temperature:	Barometer:			
cloudy rainy	unny snowy	85.0° F				

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:		
FUSRAP Site Staten Island, NY	07/17/11	1013	SIW-SS-042P-0.0-2.0		
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-042		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:		
Solid S	ample	Agueou	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	X Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)		□ Sump	Total Purge Time:		
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	☐ Waste	Total Purge Volume:		
		Other	Purge Method:		
		lysis  als □ Select Metals (list)  X Other (list): Radiological (	Contamination		
	Purae	: Data			
Time Temper (hrs) (°C	rature pH Conduc	ctance D.O. O	RP Turbidity nv) (NTU)		
Comments:	Comments:				
Weather Conditions:		Temperature:	Barometer:		
cloudy rainy	sunny snowy	85.0° F	person services shad a		

Site Name: Staten Island Warehouse	Sample Date;	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/17/11	1013	SIW-SS-042PC-0.0-2.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	Buto	Grab	SS-042	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
Solid 9	Sample	Aqueou	Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
☐ Waste	Other	☐ Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		☐ Seep	End Purge:	
Sample Description (classification, consistency)		☐ Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'. Characterization sample.		☐ Waste	Total Purge Volume:	
		☐ Other	Purge Method:	
Analysis				
X Volatiles X Semivolatiles Ions X RCRA Metals TAL Metals Select Metals (list)				
	PC8 Cyanide Explosives			
With markers With the Parkers Wi				
	•	e Data		
Time Tempe	·		RP Turbidity	
(hrs) (°C	(SU) (mS,	/cm) (mg/L) (m	ıv) (NTU)	
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	unny snowy	85.0° F		

Co		THE CHILL			
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:		
FUSRAP Site Staten Island, NY	07/17/11	1200	SIW-SS-043P-0.0-2.0		
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	Buto	Grab	SS-043		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District		27	Chain or Custody Number:		
		0004			
	Sample	Aqueou	is Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
X Surface Soil	[X] Grab	Surface Water	Well Casing Size:		
Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:		
☐ Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:		
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.		Waste	Total Purge Volume:		
		Other	Purge Method:		
	Ana	lysis			
Volatiles Semivolatiles		etals Select Metals (list)			
	JACINA FIREMIS				
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological	Contamination		
	Pura	e Data			
Time Tempe	_		NDD Turkidika		
(hrs) (°C			DRP Turbidity nv) (NTU)		
(1118)	(SU) (mS	/cm) (mg/L) (r	nv) (NTU)		
		——————————————————————————————————————			
		<u> </u>			
Comments:					
Weather Conditions:		Temperature:	Barometer:		
cloudy rainy	sunny snowy	85.0° F			

Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse	07/17/11	0925	SIW-SS-043PC-0.0-2.0
FUSRAP Site Staten Island, NY		Sampling Method:	Sampling Location:
Sampled By: Brad Gough/Sam Martin	Signature(s):	Grab	SS-043
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid S	Sample	Aqueous	Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
X Surface Soil	[X] Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	☐ Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
☐ Waste	Other	Domestic Well	One Purge Volume:
		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'. Characterization sample.		☐ Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	nlysis	V
X Volatiles X Semivolatiles		etals Select Metals (list)	
[V] Acianies [V] SelliAcianies [	JIONS A RCRA METAIS TAL ME	sassect Hears (list)	
X Pesticides X Herbicides X	PCB Cyanide Explosives	Other (list):	
		e Data	
			RP Turbidity
(hrs) (o	(SU) (mS	5/cm) (mg/L) (n	nv) (NTU)
l			
		<del></del>	
Commonte			
Comments:			
		National Control of the Control of t	
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	85.0° F	

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/17/11	0925	SIW-SS-043MSC-0.0-2.0	
Sampled By: Barry Kinsall/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-043	
Client:	Contract Number:	Delivery Order;	Chain of Custody Number:	
USACE - Kansas City District		0004		
Solid S	Sample	Aqueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
☐ Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		. □Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, taken from 0.0-2.0'. Chara		☐ Waste	Total Purge Volume:	
taken nom 6.5 2.6 . Ghan	acterization sample.	Other	Purge Method:	
	Ana	lysis		
X Volatiles X Semivolatiles	Ions X RCRA Metals TAL Me	tals Select Metals (list)		
X Pesticides X Herbicides X	PCB Cyanide Explosives	Other (list):		
	Purge	e Data		
Time Tempe (hrs) (°C			RP Turbidity nv) (NTU)	
Comments:				
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer: 766.4 mmHg	

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/17/11	0925	SIW-SS-043MSDC-0.0-2.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Barry Kinsall/Sam Martin	\$ 2.4D	Grab	SS-043	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
	Sample	Aqueous	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
☐ Waste	Other	☐ Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		☐ Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'. Characterization sample.		Waste	Total Purge Volume:	
	·	Other	Purge Method:	
	Ana	lysis		
X Volatiles X Semivolatiles	Ions X RCRA Metals TAL Met	als Select Metals (list)		
X Pesticides X Herbicides X	PCB Cyanide Explosives	Other (list):		
	Purge	Data		
Time Tempe	_		RP Turbidity	
(hrs) (°C			v) (NTU)	
			<u> </u>	
<u> </u>				
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° F	766.4 mmHg	

Site Name:	Sample Date:	Camala Tara	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/17/11	Sample Time: 1230	SIW-SS-044P-0.0-2.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Meth≪l: Grab	Sampling Location: SS-044	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid S	Sample	Agueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	X Grab	Surface Water	Well Casing Size:	
Subsurface Soil	☐ Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
☐ Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, so taken from 0.0-2.0'.	cattered gravel. Sample	Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	etals Select Metals (list)		
	PCB Cyanide Explosives		Contamination	
Time Tempe (hrs) (°C	rature pH Condu		nRP Turbidity nv) (NTU)	
	1	<del></del>		
	<del></del>			
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° F		

Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/17/11	1230	SIW-SS-044PC-0.0-2.0
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-044
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	chain of cuscody Number.
	ample	Aqueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
X Surface Soil	X Grab	Surface Water	Well Casing Size;
Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
[ ] Waste	Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)		Sump	Total Purge Time:
Fill: Brownish tan, topsoil, taken from 0.0-2.0'. Chara		Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	
X Volatiles X Semivolatiles	Ions X RCRA Metals TAL Me		
X Pesticides X Herbicides X		Other (list):	
	Purae	e Data	
Time Tempe (hrs) (°C	rature pH Condu	ctance D.O. O	RP Turbidity nv) (NTU)
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	85.0° F	

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/17/11	1230	SIW-SS-CDup-001	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SS-044	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid S	Sample	Aqueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
X Surface Soil	(X) Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
☐ Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		☐ Seep	End Purge:	
Sample Description (classification, consistency)		Sump	Total Purge Time:	
Fill: Brownish tan, topsoil, taken from 0.0-2.0'. Chara		Waste	Total Purge Volume:	
		Other	Purge Method:	
Analysis				
[X] Volatiles [X] Semivolatiles [X] Pesticides [X] Herbicides [X]		als Select Metals (list)		
	Purae	Data		
Purge Data  Time Temperature pH Conductance D.O. ORP Turbidity  (hrs) (°C) (SU) (mS/cm) (mg/L) (mv) (NTU)				
		<del></del>	<del></del>	
( <del></del>				
Comments:				
			•	
Weather Conditions: cloudy rainy	unny snowy	Temperature: 85.0° F	Barometer:	

State Island Warehouse  O7/17/11  Sampled By: Sample Description (classification, color, plasticity, moisture content, consistancy)  Fill: Brownish tan, topsoil, scattered gravel. Sample  Laken from 0.0-2.0°.  State Sample Description (classification, color, plasticity, moisture content, consistancy)  Fill: Brownish tan, topsoil, scattered gravel. Sample    Volasies   Semivolaties   PcB   Cyanide   Explosives   Content Monitoring   Radiological Contamination	Site Name:	Sample Date:	Sample Time:	Sample Number:
Sample Description (dassification, color, plasticity, moisture content, consistency)   Sample Description (dassification, color, plasticity, color, color, plasticity, color, color, color, color, color, color, color, c	Staten Island Warehouse	l '	I '	
Sample dept   Sample   Sampl	FUSRAP Site Staten Island, NY			51VV-55-045P-0.0-2.0
Contract Number: USACE - Kansas City District  Solid Sample   May    Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
USACE - Kansas City District  W912DQ-10-D-3012  Solid Sample Type: Well Information Well Casing Stee: Well Life Total Well Depth Static Water Level: Solid Sample Depth Solid Sample Depth Solid Well Casing Stee:  Solid Well Casing Stee: Solid Well Casin	Brad Gough/Sam Martin	Duro	Grab	SS-045
USACE - Kansas City District  W912DQ-10-D-3012  Aqueous Sample  Aqueous Sample Type:  Well Information  Well Casing Size:  Total Well Depth  State Water Level:  Other	Client	Contract Number	Dalisans Ordans	Chain of Custody Number
Solid Sample   Sample Collection:   Aqueous Sample   Subsurface   Subsurf			9,	Chain of Custody Number:
Solid Sample Type:   Sample Collection:     Surface Water     Well Information	OSACE - Karisas City District	W912DQ-10-D-3012	0004	
Surface Soil	Solid S	ample	Aqueous	s Sample
Surface Soil	Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Subsurface Soil   Composite   Groundwater   Total Well Depth				
Static Water Level:	[A] Surface Soil	(A) Grab	Surface water	WEN Casing Size.
Static Water Level:				
Waste	Subsurface Soil	Composite	Groundwater	Total Well Depth
Waste				
Waste	Sediment	Multi-increment	Monitoring Well	Static Water Level:
Other	E_Joediniait			
Other				
Seep   End Purge	∟j Waste	Other	Domestic Well	One Purge Volume:
Seep   End Purge				
Sample Description (classification, color, plasticity, moisture content, consistency)   Sump	Other		Other	Start Purge:
Sample Description (classification, color, plasticity, moisture content, consistency)  Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.    Waste				
Sample Description (classification, color, plasticity, moisture content, consistency)  Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.    Waste				find Disease
Waste   Wast			Seep	eno ruige.
Waste   Wast				
Fill: Brownish tan, topsoil, scattered gravel. Sample taken from 0.0-2.0'.    Other		color, plasticity, moisture content,	Sump	Total Purge Time:
taken from 0.0-2.0'.    Other				
taken from 0.0-2.0'.    Other	Fill: Brownish tan, topsoil, se	cattered gravel. Sample	Wacha	Total Purge Volume:
Analysis    Volatiles   Semivolatiles   Ions   RCRA Metals   TAL Metals   Select Metals (list)     Pesticides   Herbicides   PCB   Cyanide   Explosives   X Other (list):   Radiological Contamination	taken from 0.0-2.0'.		174300	,
Analysis  Volatiles   Semivolatiles   Itons   RCRA Metals   TAL Metals   Select Metals (list)   Pesticides   Herbicides   PCB   Cyanide   Explosives   X Other (list):   Radiological Contamination    Purge Data Time   Temperature   pH   Conductance   D.O.   ORP   Turbidity (hrs)   (°C)   (SU)   (mS/cm)   (mg/L)   (mv)   (NTU)				
Volatiles   Semivolatiles   Ions   RCRA Metals   TAL Metals   Select Metals (list)   Radiological Contamination	1		☐ Other	Purge Method:
Volatiles   Semivolatiles   Ions   RCRA Metals   TAL Metals   Select Metals (list)   Radiological Contamination				
Pesticides   Herbicides   PCB   Cyanide   Explosives   X Other (list): Radiological Contamination    Purge Data  Time   Temperature   pH   Conductance   D.O.   ORP   Turbidity   (hrs)   (°C)   (SU)   (mS/cm)   (mg/L)   (mv)   (NTU)    Comments:  Weather Conditions:   Temperature:   Barometer:		Ana	lysis	
Pesticides   Herbicides   PCB   Cyanide   Explosives   X Other (list): Radiological Contamination    Purge Data  Time   Temperature   pH   Conductance   D.O.   ORP   Turbidity   (hrs)   (°C)   (SU)   (mS/cm)   (mg/L)   (mv)   (NTU)    Comments:  Weather Conditions:   Temperature:   Barometer:	Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Purge Data  Time Temperature pH Conductance D.O. ORP Turbidity (hrs) (°C) (SU) (mS/cm) (mg/L) (mv) (NTU)  Comments:  Weather Conditions: Temperature: Barometer:				
Purge Data  Time Temperature pH Conductance D.O. ORP Turbidity (hrs) (°C) (SU) (mS/cm) (mg/L) (mv) (NTU)  Comments:  Weather Conditions: Temperature: Barometer:	Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination
Time Temperature pH Conductance D.O. ORP Turbidity (hrs) (°C) (SU) (mS/cm) (mg/L) (mv) (NTU)  Comments:  Weather Conditions: Temperature: Barometer:				
(hrs) (OC) (SU) (mS/cm) (mg/L) (mv) (NTU)	_	_		
Comments:  Weather Conditions:  Temperature:  Barometer:	Time Tempe	rature pH Condu	ctance D.O. O.	RP Turbidity
Comments:  Weather Conditions:  Temperature:  Barometer:	(hrs) (°0	C) (SU) (mS	/cm) (mg/L) (m	ıv) (NTU)
Weather Conditions: Temperature: Barometer:	,			
Weather Conditions: Temperature: Barometer:				
Weather Conditions: Temperature: Barometer:				
Weather Conditions: Temperature: Barometer:				
Weather Conditions: Temperature: Barometer:		<del></del>		
Weather Conditions: Temperature: Barometer:				
Weather Conditions: Temperature: Barometer:				
Weather Conditions: Temperature: Barometer:				<del></del>
Weather Conditions: Temperature: Barometer:				
Yeather Conditions: Temperature: Barometer:				
Yeather Conditions: Temperature: Barometer:			<del></del>	
Yeather Conditions: Temperature: Barometer:				
Weather Conditions: Temperature: Barometer:				
Weather Conditions: Temperature: Barometer:	Commonly			
	comments:			
	Wasther Conditions:		Tammarah ma	Queen char.
cloudy rainy sunny snowy 85.0° F			85.0° F	Salvilletti .

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/12/11	1330	SIW-SB-001P-0.0-5.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	De to	Grab	SB-001	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
Solid S	Sample	Aqueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	[X] Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time;	
Fill: Blackish, grey, dry, hard rocks. Sample taken from 2		Waste	Total Purge Volume:	
·		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination	
		e Data		
Time Tempe	_		RP Turbidity	
(hrs)	·		nv) (NTU)	
()	, (50) (ms	/cm/ (mg/c) (i	((()))	
	<del></del>			
		У		
***************************************				
Comments:			<del></del>	
		r	T	
Weather Conditions:	SILINOV STICKEY	Temperature:	Barometer:	

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/12/11	1330	SIW-SB-001P-5.0-8.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	Dixo	Grab	SB-001	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
	Sample		s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	[X] Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	'Total Purge Time:	
Fill: Greyish brown, wet, san and gravel. Sample taken fr		Waste	Total Purge Volume:	
		Other	Purge Method:	
Analysis				
Volatiles Semivolatiles	] Ions	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination	
	Purg	e Data		
Time Tempe	rature pH Condu	ictance D.O. C	DRP Turbidity	
(hrs) (°0		/cm) (mg/L) (r	nv) (NTU)	
3 <del></del>				
· <del></del>				
<del></del>			<del></del>	
· ·				
-			<del></del>	
C				
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snovy	84.0° F		

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/12/11	1424	SIW-SB-002P-0.0-5.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-002	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid 9	Sample	Aqueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	X Grab	Surface Water	Well Casing Size:	
[X] Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level:	
[] Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brown/black, dry, hard. 1.5-2.8'	. Sample taken from	Waste	Total Purge Volume:	
		Other	Purge Method:	
		lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ontamination	
	Purg	e Data		
Time Tempe	rature pH Condu	ictance D.O. C	DRP Turbidity	
(hrs) (00	C) (SU) (mS	/cm) (mg/L) (i	nv) (NTU)	
			<del>-</del>	
	<del></del>	<del></del>		
<del></del>				
Comments:				
		1.	T	
Weather Conditions: Temperature: Barometer:				

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/12/11	1508	SIW-SB-003P-0.0-5.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	br Lo	Grab	SB-003	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
	ample		Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	(X) Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	☐ Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
	<del></del>	Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	'Total Purge Time:	
Fill: Brown/tan, dry, hard, fi from 1.9-2.8'	ne. Sample taken	Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis	<del></del>	
Volatiles Semivolatiles	Ions RCRA Metals TAL Met	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination	
	Purge	e Data		
Time Tempe (hrs) (%			RP Turbidity nv) (NTU)	
Comments:				
Weather Conditions: Temperature: Barometer:				

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/12/11	1508	SIW-SB-003P-5.0-8.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	Duto	Grab	SB-003	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
Solid 5	Sample	Aqueous	Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	(X) Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
Waste	[_] Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		. Sæp	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
Fill: Brown, dry, soft, gravelly. Sample taken from 4.3-5.0'. Strong diesel odor.		☐ Waste	Total Purge Volume:	
7.5 5.6 . Strong dieser odor		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles		tals Select Metals (list)		
Pesticides Herbicides		X Other (list): Radiological Co		
[]/ Cotto []/ Clotted				
The state of the s	_	e Data	DD Turkidik.	
Time Tempe			RP Turbidity (NTU)	
(hrs) (o	C) (SU) (mS	/cm) (mg/L) (m	(1110)	
	<del></del>			
12.1				
( <del></del>				
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	SURINY SNOWY	88.0° F		

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/12/11	1530	SIW-SB-004P-0.0-5.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-004	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid S	Sample	Aqueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	[X] Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
☐ Waste	Other	☐ Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brown/tan, dry, mediur 1.0-1.7'	n. Sample taken from	Waste	Total Purge Volume:	
		Other	Purge Method:	
Analysis				
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	(list): Radiological Co	ontamination	
	Purg	e Data		
Time Tempe (hrs) (°0			ORP Turbidity nv) (NTU)	
(hrs) (°C	(50) (1115	/cm) (mg/L) (i	(NTO)	
			<del></del>	
			<del></del>	
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	84.0° F		

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:		
FUSRAP Site Staten Island, NY	07/12/11	1530	SIW-SB-004P-5.0-8.0		
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	Dr. O	Grab	SB-004		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District		0004			
Solid S	Sample	Agueou	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
Surface Soil	[X] Grab	Surface Water	Well Casing Size:		
[X] Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:		
Waste	[ ] Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:		
Fill: Black/brown, dry, hard 3.0-4.0'	. Sample taken from	Waste	Total Purge Volume:		
		☐ Other	Purge Method:		
	Ana	lysis			
Volatiles Semivolatiles	Volatiles Semivolatiles Ions RCRA Metals TAL Metals Select Metals (list)				
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination		
	Purge	e Data			
Time Tempe	rature pH Condu	ictance D.O. O	RP Turbidity		
(hrs)	(SU) (mS	/cm) (mg/L) (r	nv) (NTU)		
			<del></del>		
3-10-1-10-10-10-10-10-10-10-10-10-10-10-1	The state of the s				
\					
1 <del>3-1</del>	<del></del>				
1 <del></del> : 2 <del></del>	<del></del>				
\					
Comments:					
Mark C. Pri		I	5		
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 88.0° F	Barometer:		
cious, rainy	301117	00.0 1			

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:		
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/12/11	1530	SIW-SB-Dup-001		
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	Dixo	Grab	SB-004		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004	7		
Solid S	Sample	Aqueou	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
Surface Soil	[X] Grab	Surface Water	Well Casing Size:		
X Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
, Waste	Other	Domestic Well	One Purge Volume:		
		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:		
Fill: Brown/tan, dry, mediur	n. Sample taken from	Waste	Total Purge Volume:		
		Other	Purge Method:		
	Ana	lysis			
Semivolatiles	☐ Volatiles ☐ Semivolatiles ☐ Ions ☐ RCRA Metals ☐ TAL Metals ☐ Select Metals (list)				
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination		
	Purg	e Data			
Time Tempe			PRP Turbidity		
(hrs) (°0	(SU) (mS	/cm) (mg/L) (r	nv) (NTU)		
: <del></del> : : <del></del> :					
( <del>)                                    </del>					
			<del></del>		
Comments:					
Weather Conditions:		Tamparahira	Barometer:		
cloudy rainy	sunny snowy	Temperature: 88.0° F	porotticus.		

	TILLUDA	IN STILLT			
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:		
	07/13/11	1031	SIW-SB-005P-0.0-5.0		
FUSRAP Site Staten Island, NY	Signature(s):	Sampling Method:	Sampling Location:		
Sampled By: Brad Gough/Sam Martin	signature(s):	Grab	1 ' "		
Brad Gough/Sam Martin	1 July 2	Grab	SB-005		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004	9		
Solids	Sample	Agueou	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
			Well Casing Size:		
Surface Soil	X Grab	Surface Water	Yell Casilly Size.		
X Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level:		
Waste	Other	Domestic Welf	One Purge Volume:		
[] Other		Other	Start Purge;		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:		
Fill: Reddish brown, loose, brick pieces. Sample taken from 2.0-2.9'		Waste	Total Purge Volume:		
taken from 210 213 ii		Other	Purge Method:		
	Ana	lysis			
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tais Select Metais (list)			
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination		
	Purg	e Data			
Time Tempe	erature pH Condu	ictance D.O. O	RP Turbidity		
(hrs) (o	C) (SU) (mS	/cm) (mg/L) (r	nv) (NTU)		
	, , , , ,				
	<del></del>				
<del></del>					
/					
Comments:					
Weather Conditions:		Temperature:	Barometer:		
cloudy rainy	sunny snowy	87.0° F	1		

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/13/11	1031	SIW-SB-005P-5.0-8.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	D-50	Grab	SB-005	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
			s Sample	
Solid Sample Type:	Sample Sample Collection:	Aqueous Sample Type:	Well Information	
		Surface Water	Well Casing Size:	
Surface Soil	[X] Grab	Surface Water	area casing oze.	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
[_] Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
Fill: Brown, wet, loose, sand	dy gravel. Sample	Waste	Total Purge Volume:	
taken from 3.4-4.4'.		Other	Purge Method:	
	Δna	llysis		
Volatiles Semivolatiles		tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination	
	Purge	e Data		
Time Tempe (hrs) (°	rature pH Condu	ictance D.O. O	RP Turbidity nv) (NTU)	
<del></del>				
Comments:				
Weather Conditions:	SURINY SHOWY	Temperature: 87.0° F	Barometer:	

	I I L L D DA	IA SHEET			
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:		
FUSRAP Site Staten Island, NY	07/13/11	1031	SIW-SB-Dup-002		
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	Dw O	Grab	SB-005		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004			
Solid 9	l Sample	Aqueou	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
Surface Soil	(X) Grab	Surface Water	Well Casing Size:		
X Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
Waste	Other	Domestic Well	One Purge Volume:		
Other			Start Purge:		
		Sæp	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:		
Fill: Brown, wet, loose, sandy gravel. Sample taken from 3.4-4.4'.		Waste	Total Purge Volume:		
taken nom 3.4-4.4.		Other	Purge Method:		
	Ana	llysis			
Semivolatiles		tals Select Metals (list)			
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination		
	Purge	e Data			
Time Tempe	erature pH Condu	ictance D.O. C	RP Turbidity		
(hrs) (o		/cm) (mg/L) (r	nv) (NTU)		
Comments;					
Weather Conditions:		Temperature:	Barometer:		
cloudy rainy sunny snowy 87.0° F					

Site Name:	Sample Date:	Sample Time:	Sample Number:
Site Name: Staten Island Warehouse FUSRAP Site Staten Island, NY	07/13/11	1410	SIW-SB-006P-0.0-5.0
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-006
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
Solid S	Sample	Aqueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	X Grab	Surface Water	Well Casing Size:
X Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:
☐ Waste	[] Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:
Fill: Brown, wet, gravelly, cl Sample taken from 1.2-3.7'		Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
			Contamination
	Purge	e Data	
Time Tempe (hrs) (%			RP Turbidity nv) (NTU)
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	SIDDA SDOWY	87.0° F	

	TIELD DATA SHEET				
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:		
FUSRAP Site Staten Island, NY	07/13/11	1410	SIW-SB-006P-5.0-8.0		
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	Signature(s).	Grab			
Brad Godgil/Sain Martin	1720	Glab	SB-006		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004			
Solids	l Sample		Sample		
	Sample Collection:	Aqueous Sample Type:	Well Information		
,					
Surface Soil	X Grab	Surface Water	Well Casing Size:		
X Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
	[		page water core.		
	F-1	(77)	2 2 41		
	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
		L Seep			
Sample Description (classification,	color plasticity moisture content		Tabal Buran Timor		
consistency)	cool, plasacity, mosture content,	Sump	Total Purge Time:		
Fill: Brownish grey, moist, lo	ose sandy Sample				
taken from 4.2-5.7'.	oose, sandy. Sample	☐ Waste	Total Purge Volume:		
taken from 4.2-5.7.					
		Other	Purge Method:		
			-		
Analysis					
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select metals (list)			
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination		
Climan Climan					
	Purge	e Data			
Time Tempe	rature pH Condu	ctance D.O. O	RP Turbidity		
(hrs) (°(	(SU) (mS,	/cm) (mg/L) (n	ıv) (NTU)		
, , ,		3 3 7			
			<del></del>		
	-				
<u> </u>					
Comments:					
Weather Conditions:		Temperature:	Barometer:		
cloudy rainy	sunny snowy	87.0° F			

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/13/11	1410	SIW-SB-006MS-5.0-8.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	the	Grab	SB-006	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solids	Sample		Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	X Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
☐ Waste	Other	☐ Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brownish grey, moist, ic taken from 4.2-5.7'.	ose, sandy. Sample	☐ Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)		
Pesticides Herbicides []	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination	
	Purae	e Data		
Time Tempe	_		RP Turbidity	
(hrs) (°C			1v) (NTU)	
	(ma)	(mg/c/	(*** = 7	
			<del></del>	
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	87.0° F		

Site Name:	Sample Date:		Sample Tin	ne:	5	ample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/	13/11		1410		SIW-SB-006MSD-5.0-8.0
Sampled By: Brad Gough/Sam Martin	Signature(s):	5-50	Sampling I	Method: Grab		Sampling Location: SB-006
Client: USACE - Kansas City District	Contract Number W912D0	: Q-10-D-3012	Delivery Or	rder: 0004		Chain of Custody Number:
Solid S	ample			Aqueo	ous	Sample
Solid Sample Type:	Sample Collec	tion:	Aqueous	Sample Type:	T	Well Information
Surface Soil	X Grab			face Water	1	Vell Casing Size:
[X] Subsurface Soil	Composite		Gro	undwater	Ī	Total Well Depth
Sediment	Multi-incre	ment		Monitoring Well	5	static Water Level:
Waste	Other			Domestic Well	1	One Purge Volume:
Other				Other	-	Start Purge:
	)		See	р	8	End Purge:
Sample Description (classification, consistency)	color, plasticity, r	noisture content,	☐ Sump		Total Purge Time:	
Fill: Brownish grey, moist, lotaken from 4.2-5.7'.	ose, sandy.	Sample	☐ Wa	ste	Ī	lotal Purge Volume:
			Oth	er	ī	Purge Method:
		Ana	lysis			
Usolatiles Semivolatiles	Ions RCRA	Metals TAL Met	ak 🔲 S	elect Metals (list)		
Pesticides Herbicides	PCB Cyanic	e Explosives	X Other (l	ist): Radiologica	al Co	ontamination
		Purge	Data			
Time Tempe	rature	pH Condu	ctance	D.O.	OR	P Turbidity
(hrs) (9		(SU) (mS,	/cm)	(mg/L)	(m	v) (NTU)
		<del></del>				
		<del></del>				
Comments:						
Weather Conditions:			Temperatu	ire;	$\neg$	Barometer:
cloudy rainy	sunny	snowy		87.0° F		

Cita Name:	Enwale Date:	F	EI- Norselean	
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/13/11	1345	SIW-SB-007P-0.0-5.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	truto	Grab	SB-007	
	17-7-3-			
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
Solid S	Sample	Agueous	Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	[X] Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
() Sediment	[] Huld-increment		Stade Water Level.	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
			r. I D.	
		Seep	End Purge:	
Sample Description (classification,	color, plasticity, moisture content,	Sump	Total Purge Time:	
consistency)				
Fill: Dark brown, moist, san	d and gravel present.	Waste	Total Purge Volume:	
Sample taken from 2.0-3.0'		☐ waste	Total range voidine.	
1			u	
		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	] Ions   RCRA Metals   TAL Me	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	🗓 Other (list): Radiological	Contamination	
		D-1-		
	•	e Data		
Time Tempe			RP Turbidity	
(hrs) (°(	C) (SU) (mS,	/cm) (mg/L) (m	ıv) (NTU)	
	<del></del>	<del></del>		
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	87.0° F	1	

Ch. Harry	Canala Data	Camela Time	Cample Number	
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/13/11	1345	SIW-SB-007P-5.0-8.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	Dayo	Grab	SB-007	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004	or outour Hambor.	
	Sample		Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	(X) Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
□Waste	Other	☐ Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		☐ Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brown, wet, pieces of c present, diesel odor. Samp		Waste	Total Purge Volume:	
		Other	Purge Method:	
Analysis				
Oveleties Oseriuslatiles O		tals Select Metals (list)		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	(as		
Pesticides Herbicides	PCB Cyanide Explosives	Other (list): Radiological	Contamination	
	_	e Data		
			RP Turbidity	
(hrs) (o	C) (SU) ( $mS$	/cm) (mg/L) (n	ıv) (NTU)	
		<del></del>		
	<del></del>	<del></del>		
<del></del>				
Comments:				
eominens.				
4420004		12	le .	
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	87.0° F		

Site Name:	Sample Date:	Sample Time:	Sample Number:		
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/14/11	1450	SIW-SB-008P-0.0-5.0		
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-008		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:		
Solid S	Sample	Agueous	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
Surface Soil	X) Grab	Surface Water	Well Casing Size:		
X Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
Waste	Other	Domestic Well	One Purge Volume:		
① Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:		
Fill: Brown, dry, clayey, incre 3.5'. Sample taken from 2.0		Waste	Total Purge Volume:		
		Other	Purge Method:		
	Ana	lysis			
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)			
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination		
	Purge	e Data			
Time Tempe (hrs) (°0			RP Turbidity nv) (NTU)		
( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )					
3 <del></del>					
Comments:					
Weather Conditions: Temperature: Barometer:					

Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse	07/14/11	1450	SIW-SB-008P-5.0-8.0
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	Brito	Grab	SB-008
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
Solid S	Sample	Agueous	Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	X Grab	Surface Water	Well Casing Size:
X Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	☐ Monitoring ₩ell	Static Water Level:
Waste	Other	Domestic Well	One Purge Volume:
① Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:
Fill: Brown, moist, clayey, in 3.5-4.5'. Sample taken from		☐ Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination
**************************************	Purge	e Data	
Time Tempe (hrs) (°C			RP Turbidity nv) (NTU)
<del></del>			<del></del>
<del>2011-1-1-1</del> : 2			
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	SILIDA SUOMA	85.0° F	

Site Name:	Sample Date:	Sample Time:	Sample Number:		
Staten Island Warehouse	07/14/11	1450	SIW-SB-008MS-0.0-5.0		
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	buto	Grab	SB-008		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:		
Solids	Sample	Agueou	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
Surface Soil	X Grab	Surface Water	Well Casing Size:		
X Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	☐ Multi-increment	☐ Monitoring Well	Static Water Level:		
Waste	Other	☐ Domestic Well	One Purge Volume:		
Other	ļ.	Other	Start Purge:		
	<u></u>	Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:		
Fill: Brown, dry, clayey, incre 3.5'. Sample taken from 2.0		☐ Waste	Total Purge Volume:		
		Other	Purge Method:		
Analysis					
Volatiles Semivolatiles		tals Select Metals (list)			
Pesticides Herbicides			Contamination		
	Purge	e Data			
Time Tempe (hrs) (ºº	rature pH Condu	ctance D.O. O	RP Turbidity nv) (NTU)		
	<del></del>				
Comments:	Comments:				
Weather Conditions:	· · · · · · · · · · · · · · · · · · ·	Temperature:	Barometer:		
cloudy rainy	sunny snowy	85.0° F			

Cha Name	Carrata Datas	SI- \(\frac{\pi}{2}\)	Cassala Musekani		
Staten Island Warehouse	Sample Date: 07/14/11	Sample Time: 1450	Sample Number: SIW-SB-008MSD-0.0-5.0		
FUSRAP Site Staten Island, NY					
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-008		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004			
	ample		s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
Surface Soil	X Grab	Surface Water	Well Casing Size:		
X Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:		
Fill: Brown, dry, clayey, incre 3.5'. Sample taken from 2.0		Waste	Total Purge Volume:		
		Other	Purge Method:		
Analysis					
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)			
			Contamination		
	Purge	e Data			
Time Tempe (hrs) (°C			RP Turbidity nv) (NTU)		
<del></del>					
	2 - X		<del></del>		
	<del></del>		<del></del>		
·					
Comments:					
		1	I.		
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer:		

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/14/11	1605	SIW-SB-009P-0.0-5.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	buto	Grab	SB-009	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
	Sample		s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	X Grab	Surface Water	Well Casing Size:	
[X] Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	☐ Monitoring Well	Static Water Level:	
Waste	Other	☐ Domestic Well	One Purge Volume:	
Other		① Other	Start Purge:	
		☐ Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brown, clayey, moist, plastic. Sample taken from 0.0-0.5'. Highest readings at 3.0-6.0".		Waste	Total Purge Volume:	
· ·		Other	Purge Method:	
Analysis				
Volatiles Semivolatiles	Ions RCRA Metals TAL Met	tals Select Metals (list)		
	PCB Cyanide Explosives			
	Purge	e Data		
Time Tempe (°C	rature pH Condu	ctance D.O, O	RP Turbidity nv) (NTU)	
· · · · · · · · · · · · · · · · · · ·				
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° F		

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/14/11	1605	SIW-SB-009P-5.0-8.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	Dixo	Grab	SB-009	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
	Sample		Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	[X] Grab	Surface Water	Well Casing Size;	
[X]Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
◯ Waste	Other	☐ Domestic Well	One Purge Volume:	
[ ] Other		Other	Start Purge:	
***************************************		☐ Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Reddish brown, clayey, gravelly, moist. Sample taken from 0.0-0.5'. Highest readings at		Waste	Total Purge Volume:	
2.5-3.0′.		Other	Purge Method:	
Analysis				
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	🕅 Other (list): Radiological Co	ntamination	
	Purge	e Data		
Time Tempe (hrs) (°0			RP Turbidity nv) (NTU)	
<del></del>				
· · · · · · · · · · · · · · · · · · ·				
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy sunny snowy 85.0° F				

		111111111111111111111111111111111111111	
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
FUSRAP Site Staten Island, NY	07/15/11	1115	SIW-SB-010P-0.0-5.0
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	fruto	Grab	SB-010
Client: USACE - Kansas City District	Contract Number:	Delivery Order:	Chain of Custody Number:
	W912DQ-10-D-3012	0004	
	Sample	Aqueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	X Grab	Surface Water	Well Casing Size:
X Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
Waste	Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
Fill: Clayey sand, brown, mo	oist, coarse. Sample	Waste	Total Purge Volume:
101001111111111111111111111111111111111		Other	Purge Method:
	Ana	lysis	
Volatiles Semivolatiles		tals Select Metals (list)	
[ ] volaties [ ] Serili volatiles [	JIOIS   KCKA METAIS   TAL ME	as Sect ricus (ist)	7 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination
		e Data	T. J. L.
Time Tempe (hrs) (°0			DRP Turbidity mv) (NTU)
<del></del>			
Commonty			
Comments:			
		1	
Weather Conditions:	SUDDY SDOWY	Temperature:	Barometer:

Site Name: Staten Island Warehouse	Sample Date:	Sample Time;	Sample Number:	
FUSRAP Site Staten Island, NY	07/15/11	1115	SIW-SB-010P-5.0-8.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-010	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid 9	Sample	Aqueous Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	[X] Grab	Surface Water	Well Casing Size:	
[X] Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge;	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
Fill: Blackish brown saturated, sediment. Sample taken from 1.6.0-3.6'. Diesel present		Waste	Total Purge Volume:	
		Other	Purge Method:	
Volatiles Semivolatiles		lysis tals Select Metals (list)  X Other (list): Radiological Co		
	Purae	e Data		
Time Temperature pH Conductance D.O. ORP Turbidity (hrs) (°C) (SU) (mS/cm) (mg/L) (mv) (NTU)				
Comments:				
Weather Conditions:	sunny snowy	Temperature: 84.0° F	Barometer:	

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:		
FUSRAP Site Staten Island, NY	07/15/11	1115	SIW-SB-Dup-005		
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	Duto	Grab	SB-010		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004			
Solid 9	ample	Aqueou	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
Surface Soil	▼ Grab	Surface Water	Well Casing Size:		
[X] Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
☐ Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:		
Fill: Clayey sand, brown, wet, coarse. Sample taken from 1.0-1.6'.		Waste	Total Purge Volume:		
		Other	Purge Method:		
	Ana	lysis			
Volatiles Semivolatiles	☐ Volatiles ☐ Semivolatiles ☐ Ions ☐ RCRA Metals ☐ TAL Metals ☐ Select Metals (list)				
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination		
	Purge	e Data			
Time Tempe (hrs) (°(			RP Turbidity nv) (NTU)		
<del></del>			<del></del>		
ļ ———— ——		<del></del>	<del></del>		
Comments:					
Weather Conditions:		T	Paramahari		
cloudy rainy					

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:		
FUSRAP Site Staten Island, NY	07/13/11	1105	SIW-SB-011P-0.0-5.0		
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	buto	Grab	SB-011		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004			
Solid S	Sample	Aqueou	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
Surface Soil	[X] Grab	Surface Water	Well Casing Size:		
[X] Subsurface Soil	Composite	☐ Groundwater	Total Well Depth		
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:		
☐ Waste	Other	Comestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:		
Fill: Brown/red, moist. Sam	ple taken from 2.5-3.3'.	Waste	Total Purge Volume:		
		Other	Purge Method:		
	Analysis				
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)			
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination		
	Purge	e Data			
Time Tempe	rature pH Condu	ctance D.O. O	RP Turbidity		
(hrs) (or		/cm) (mg/L) (г	nv) (NTU)		
<del></del>					
Comments:	Comments:				
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 87.0° F	Barometer:		

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/13/11	1105	SIW-SB-011P-5.0-8.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	by to	Grab	SB-011	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
Solid S	Sample	Аqиеои	is Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	[X] Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
×		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
Fill: Brown/red, moist to we 5.5-6.8'.	et. Sample taken from	Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis	to	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	etals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ontamination	
	Purg	e Data		
Time Tempe	•		ORP Turbidity	
(hrs) (o	C) (SU) (mS	5/cm) (mg/L) (	mv) (NTU)	
			<del></del>	
			<del></del>	
		<del></del>		
			<del></del>	
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	87.0° F		

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse	07/13/11	1140	SIW-SB-012P-0.0-5.0	
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	but o	Grab	SB-012	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid	Sample	Agueous	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	X Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
☐] Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Tan/brown, dry, loose, taken from 1.5-2.3'.	black gravel. Sample	Waste	Total Purge Volume:	
		Other	Purge Method:	
Analysis				
Volatiles Semivolatiles		tals Select Metals (list)		
Pesticides Herbicides	_		Contamination	
	Purge	e Data		
Time Tempe (hrs) (%	rature pH Condu	ctance D.O. O	RP Turbidity nv) (NTU)	
<del></del>				
	<del></del>			
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	SUNDY SDOWY	87.0° F	gran or i hadal i	

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/13/11	1140	SIW-SB-012P-5.0-8.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-012	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid S	Sample	Aqueous	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	(X) Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
☐ Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
	L	☐ Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Clay: Reddish brown, moist, black gravel. Sample taken from 3.6-4.4'.		Waste	Total Purge Volume:	
		Other	Purge Method:	
		lysis		
		tals Select Metals (list)    X Other (list): Radiological	Contamination	
<del></del>	Purge	e Data		
Time Tempe (hrs) (ºº			RP Turbidity nv) (NTU)	
<del></del>				
Comments:				
Wester C. Person	-	I <del>-</del>	5	
Weather Conditions:	sunny snowy	Temperature: 87.0° F	Barometer:	

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/14/11	1110	SIW-SB-013P-0.0-5.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-013	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solide	Sample		Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	[X] Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)		Sump	Total Purge Time:	
Fill: Dark brown, moist, loose, organic material. Sample taken from 1.0-2.0'. Core had higher		Waste	Total Purge Volume:	
gamma readings.		Other	Purge Method:	
Analysis				
☐ Volatiles ☐ Semivolatiles ☐ Ions ☐ RCRA Metals ☐ TAL Metals ☐ Select Metals (list)				
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	Contamination	
	Purg	e Data		
Time Tempe (hrs) (°C	·		RP Turbidity nv) (NTU)	
(III3) (*C		,cm) (mg/c) (m		
	<del></del>			
<del></del>		<del></del>		
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° F		

	TALLU DA			
Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse	07/14/11	1110	SIW-SB-013P-5.0-8.0	
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	Signature(s).	Grab	SB-013	
	17.2 5			
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
Solid 9	Sample	Адиеои	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
	X Grab	Surface Water	Well Casing Size:	
[_] Surface Soil	(X) Grad	Surface water	Trail cashing seed	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
☐ Waste	[] Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
Fill: Brownish tan, wet, loose, scattered sand, gravel/brick. Sample taken from 2.0-3.0'.		Waste	Total Purge Volume:	
		Other	Purge Method:	
Analysis				
Flyoner Florence F		tals Select Metals (list)		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	talsSelect Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological	Contamination	
Treducies [] relations		E oute. (may).		
	_	e Data		
Time Tempe	rature pH Condu	ictance D.O. C	RP Turbidity	
(hrs) (°	C) (SU) (mS	/cm) (mg/L) (r	nv) (NTU)	
			<del></del>	
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° F		

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Site Name: Staten Island Warehouse	07/13/11	1555	SIW-SB-014P-0.0-5.0	
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	Signature(s).	Grab	SB-014	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solids	l Sample	Agueous	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	X Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brownish red, dry, loose 1.6-2.6'.	e. Sample taken from	Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)		
			Contamination	
	Purge	e Data		
Time Tempe (hrs) (°	rature pH Condu	ictance D.O. O	RP Turbidity nv) (NTU)	
<del></del>				
Comments:				
		1	To .	
Weather Conditions:	cunny snowy	Temperature: 87.0° F	Barometer:	

TIELD DATA SHELT					
Site Name:	Sample Date:		Sample Time:		Sample Number:
Staten Island Warehouse	07/	13/11	1555		SIW-SB-014P-5.0-8.0
FUSRAP Site Staten Island, NY		/			
Sampled By:	Signature(s):	1 4	Sampling Method:		Sampling Location:
Brad Gough/Sam Martin	7	20	Grab		SB-014
Client:	Contract Number		Delivery Order:		Chain of Custody Number:
USACE - Kansas City District		Q-10-D-3012			chain or cuscody redineer.
OSACE - Karisas City District	W912DC	Z-10-D-3012	0004		
Solid S	ample			Aqueous	Sample
	Sample Collec	tion:	Aqueous Sample T	vpe:	Well Information
Surface Soil	X Grab		Surface Water		Well Casing Size:
El Surface Soil	(X) Grab		Surface water		Wai casing Sec.
X Subsurface Soil	Composite		Groundwater		Total Well Depth
T76 "				114-11	Static Water Level:
Sediment	Multi-incre	ment	Monitoring	weii	Stade Water Level.
Waste	Other		☐ Domestic ₩	/ell	One Purge Volume:
			_		
					Start Purge:
Other			Other		Start rurge:
			Seep		End Purge:
Sample Description (classification,	color placticity r	noisture content			Total Purge Time:
consistency)	color, plasacity, i	ioistare content,	Sump		Total rurge Time:
Fill: Brownish grey, wet, clay	ey. Sample 1	aken from	Waste		Total Purge Volume:
2.6-3.6'.					
			m		Duma Halbadi
			Other		Purge Method:
		Ana	lysis		
Volatiles Semivolatiles	Ions RCRA	Metals TAI Me	tals Select Metals	(list)	
	120113 (				
Pesticides Herbicides	PCR [] Cvanid	e Explosives	X Other (list):R	adiological (	Contamination
(2,1000000000000000000000000000000000000	, 00				
		Purge	e Data		
Time Tempe	rature	pH Condu	ctance D.O.	0	RP Turbidity
(hrs) (°0			/cm) (mg/L)		(NTU)
(,5)	-/	(1115)	(1119) 2)	(	(
***************************************					
Comments:					
Commens.					
Markhar Canditians:			Tananah		Dava makeri
Weather Conditions:		ı	Temperature:	_	Barometer:
cloudy rainy	sunny	snowy	87.0°	F	

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
FUSRAP Site Staten Island, NY	07/14/11	1500	SIW-SB-015P-0.0-5.0
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-015
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
Solid 5	Sample	Адцеоц	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	X Grab	Surface Water	Well Casing Size:
[X] Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
( ) Waste	Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:
Fill: Brown, dry, topsoil mix, Sample taken from 1.0-1.4'	organic material.	☐Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Pesticides Herbicides		X Other (list): Radiological Co	
	Purge	e Data	
Time Tempe (hrs) (°0			RP Turbidity nv) (NTU)
Comments:			
Weather Conditions; cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer:

Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/14/11	1200	SIW-SB-016P-0.0-5.0
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-016
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
Solid S	Sample	Aqueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	(X) Grab	Surface Water	Well Casing Size:
X Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	☐ Multi⊰increment	Monitoring Well	Static Water Level:
Waste	Other	Domestic Well	One Purge Volume:
[_] Other		Other	Ştart Purge:
		Seep	End Purge:
Sample Description (classification, consistency)		☐ Sump	Total Purge Time:
Fill: Brown, gravel, dry, orgataken from 1.0-1.6'.	anic material. Sample	☐ Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological	Contamination
	Purge	e Data	
Time Tempe (hrs) (°	•		RP Turbidity nv) (NTU)
<u> </u>	<del></del>	<del> </del>	
		<del></del>	
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	85.0° F	1

		TA STILLT	·		
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:		
FUSRAP Site Staten Island, NY	07/14/11	1200	SIW-SB-016P-5.0-8.0		
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	buto	Grab	SB-016		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004			
Solid S	Sample	Aqueou	s Sample		
	Sample Collection:	Aqueous Sample Type:	Well Information		
Surface Soil	X Grab	Surface Water	Well Casing Size:		
X Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:		
Fill: Brown, gravel, saturated taken from 3.0-3.4'.	d material. Sample	Waste	Total Purge Volume:		
		Other	Purge Method:		
	Ana	lysis			
Volatiles Semivolatiles		tals Select Metals (list)			
		X) Other (list): Radiological			
		e Data			
Time Tempe	_		ORP Turbidity		
(hrs) (°C			mv) (NTU)		
(1115)	2) (30) (113	(mg/L) (mg/L)	(110)		
·					
·					
· · · · · · · · · · · · · · · · · · ·					
Comments:					
Sommens.					
Worther Conditions:		Tampara hurar	Rammahari		
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer:		

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/14/11	1240	SIW-SB-017P-0.0-5.0	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Brad Gough/Sam Martin	Duto	Grab	SB-017	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
Solid S	ample		s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	X Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	☐ Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brown, dry, topsoil mix, Sample taken from 1.0-2.0'.		☐ Waste	Total Purge Volume:	
		☐ Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination	
	Purge	e Data		
Time Tempe		ctance D.O. O	RP Turbidity	
(hrs) (°0	(SU) (mS <sub>i</sub>	/cm) (mg/L) (n	1V) (NTU)	
Y				
)				
	<del></del>			
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy snowy 85.0° F				

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
FUSRAP Site Staten Island, NY	07/14/11	1525	SIW-SB-018P-0.0-5.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-018	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid 9	ample	Aqueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	X Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
[ ] Waste	Other	Domestic Well	One Purge Volume:	
Other	1	Other	Start Purge:	
	L	Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:	
Fill: Brown, clayey, moist, p. from 0.3-2.4'. Highest readi		☐ Waste	Total Purge Volume:	
taken from where the higher observed in the rad walkove		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)		
	PCB Cyanide Explosives			
	Purge	e Data		
Time Tempe (hrs) (°C	rature pH Condu	ctance D.O. O	nv) (NTU)	
<del></del>				
Comments:				
Weather Conditions:		Temperature:	Barometer:	

	TILLU DA	TA SHEET	
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
FUSRAP Site Staten Island, NY	07/14/11	1525	SIW-SB-Dup-03
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	Dix	Grab	SB-018
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid S	Sample	Aqueo	us Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	[X] Grab	Surface Water	Well Casing Size:
X Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
Waste	Other	☐ Domestic Well	One Purge Volume:
Other		Other	Start Purge;
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
Fill: Brown, clayey, moist, plastic. Sample taken from 0.3-2.4'. Highest readings at 0.3". Sample		Waste	Total Purge Volume:
taken from where the higher observed in the rad walkove	est reading was	Other	Purge Method:
observed in the rad walkovi		llysis	I.
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	•	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	ontamination
	Purg	e Data	
Time Tempe (hrs) (°C	·		ORP Turbidity (MTU)
	<del></del>		
Commonte			
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	SURRY STOWY	85.0° F	

Site Name:	Sample Date:	Sample Time:	Sample Number:		
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/13/11	1520	SIW-SB-019P-0.0-5.0		
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-019		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:		
Solid S	ample	Aqueous	Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
Surface Soil	X Grab	Surface Water	Well Casing Size:		
X Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
[_] Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:		
Fill: Tan, dry, loose, gravel present. Sample taken from 1.7-2.7'.		Waste	Total Purge Volume:		
		Other Purge Method:			
	Ana	lysis			
Olatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)			
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination		
	Purge	e Data			
Time Tempe (hrs) (°0			RP Turbidity nv) (NTU)		
Comments:					
Weather Conditions;		Temperature:	Barometer:		
cloudy rainy	SINNY SNOWY	87.0° F			

Site Name:	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/13/11	1520	SIW-SB-019P-5.0-8.0	
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-019	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
Solid S	i Sample	Aqueous	Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	[X] Grab	Surface Water	Well Casing Size:	
X Subsurface Soil	Composite	Groundwater	Total Well Depth	
Sediment	Multi-increment	Monitoring Well	Static Water Level:	
[] Waste	Other	Domestic Well	One Purge Volume:	
Other		Other	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
Fill: Brown, moist, black san 5.5-6.5'.	d. Sample taken from	Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis		
		tals Select Metals (list)  [X] Other (list): Radiological (	Contamination	
Pesticides Herbicides		Es date: (IIII)		
Time Tempe (hrs) (%	rature pH Condu		RP Turbidity nv) (NTU)	
2				
Comments;				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy snowy 87.0° F				

		TA SHEET	
Site Name: Staten Island Warehouse	Sample Date: 07/14/11	Sample Time: 1015	Sample Number: SIW-SB-020P-0.0-5.0
FUSRAP Site Staten Island, NY			
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-020
Client: USACE - Kansas City District	Contract Number:	Delivery Order:	Chain of Custody Number:
	W912DQ-10-D-3012	0004	
	ample	Aqueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	X Grab	Surface Water	Well Casing Size:
X Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:
☐ Waste	Other	Domestic Well	One Purge Volume:
[ ] Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
Fill: Reddish brick, gravel ma taken from 0.8-1.8'.	aterial, moist. Sample	☐ Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Pesticides Herbicides		X Other (list): Radiological (	
	Purge	⊇ Data	
Time Tempe (hrs) (°C	rature pH Condu	ctance D.O. O	RP Turbidity nv) (NTU)
			And the second
Comments:			
Weather Conditions:	sunny snowy	Temperature: 85.0° F	Barometer:

Site Name:	Sample Date:	Sample Time:	Sample Number:		
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/14/11	1015	SIW-SB-020P-5.0-8.0		
Sampled By: Brad Gough/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-020		
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:		
Solid S	Sample	Aqueou	s Sample		
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
Surface Soil	[X] Grab	Surface Water	Well Casing Size:		
X Subsurface Soil	Composite	Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
☐ Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	Start Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:		
Fill: Reddish brick, gravel mataken from 3.0-3.8'.	aterial, moist. Sample	Waste	Total Purge Volume:		
		☐ Other	Purge Method:		
	Ana	lysis			
Volatiles Semivolatiles		tals Select Metals (list)			
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological	Contamination		
	Purg	e Data			
Time Tempe (hrs) (%	•		RP Turbidity nv) (NTU)		
Comments:					
		T	E) a see a see least		
Weather Conditions:	STOWN	Temperature: 85.0° F	Barometer:		

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:		
FUSRAP Site Staten Island, NY	07/15/11	1210	SIW-SB-021P-0.0-5.0		
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:		
Brad Gough/Sam Martin	byto	Grab	SB-021		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:		
USACE - Kansas City District	W912DQ-10-D-3012	0004			
Solid S	Sample	Aqueous Sample			
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information		
Surface Soil	[X] Grab	Surface Water	Well Casing Size:		
[X] Subsurface Soil	Composite	☐ Groundwater	Total Well Depth		
Sediment	Multi-increment	Monitoring Well	Static Water Level:		
Waste	Other	Domestic Well	One Purge Volume:		
Other		Other	\$tart Purge:		
		Seep	End Purge:		
Sample Description (classification, consistency)	color, plasticity, moisture content,	□Sump	Total Purge Time:		
Sand: Black, wet, loose, coafrom 1.0-2.4'	arse. Sample taken	Waste	Total Purge Volume:		
		Other	Purge Method:		
	Ana	lysis			
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)			
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination		
	Purge	e Data			
Time Tempe (hrs) (°0	•		RP Turbidity		
			<u> </u>		
			<del></del>		
		THE PERSON NAMED OF THE PE			
<u></u>					
Comments:					
Weather Conditions:		Temperature:	Barometer:		
cloudy rainy	sunny snovy	84.0° F			

	111100	TA OTTECT	
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
	07/15/11	1210	SIW-SB-021P-5.0-8.0
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	Signature(s).	Grab	SB-021
	V/-X		
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District		0004	
	Sample		Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	[X] Grab	Surface Water	Well Casing Size:
X Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
[]] Waste	[] Other	Domestic Well	One Purge Volume:
Other		☐ Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:
Sand: Black sediment, wet, loose, coarse. Sample taken from 1.0-2.4'		Waste	Total Purge Volume:
token nom 1.0 2. i		Other	Purge Method:
	Ana	lysis	
Volatiles Semivolatiles		tals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination
	Purge	e Data	
Time Tempe (hrs) (°			RP Turbidity nv) (NTU)
	<del></del>		
	2 2 2		
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	84.0° F	

		· · · · · · · · · · · · · · · · · · ·	
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
	07/14/11	1035	SIW-SB-022P-0.0-5.0
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	Signature(s). But 5	Grab	SB-022
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	Show of dascoup Hamber
Solid S	ample	Agueou	s Sample
	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	X Grab	Surface Water	Well Casing Size:
X Subsurface Soil	Composite	☐ Groundwater	Total Well Depth
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:
Waste	Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:
Fill: Reddish tan, dry, black a taken from 1.2-2.2'.	asphalt pieces. Sample	☐ Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
		- "	Contamination
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological	Contamination
	Purge	e Data	
Time Tempe	rature pH Condu	ctance D.O. C	RP Turbidity
(hrs) (°0			nv) (NTU)
[	()	,, (5, -)	,
· · · · · · · · · · · · · · · · · · ·			
No. 100 100 100 100 100 100 100 100 100 10			
Comments:			
porter of the that t			
[]			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	85.0° F	

Site Name:	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse	07/14/11	1035	SIW-SB-022P-5.0-8.0
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	Signature(s).	Grab	SB-022
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
Solid S	l Sample	Aqueous Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	X Grab	Surface Water	Well Casing Size:
X Subsurface Soil	Composite	☐ Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
Waste	Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
Clay: Red, wet, soft, gravelly 3.4-4.4'.	y. Sample taken from	Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	, , , , , , , , , , , , , , , , , , , ,
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological (	Contamination
	Purg	e Data	
Time Tempe (hrs) (°			RP Turbidity nv) (NTU)
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	85.0° F	

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
	07/15/11	0950	SIW-SB-023P-0.0-5.0
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	buto	Grab	SB-023
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
	ample		Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	X Grab	Surface Water	Well Casing Size:
X Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	☐) Multi-increment	Monitoring Well	Static Water Level:
Waste	Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:
Fill: Reddish brown, clayey, Sample taken from 1.0-2.0'		Waste	Total Purge Volume:
·		Other	Purge Method:
	Ana	lysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination
	Purge	e Data	
Time Tempe (hrs) (°C			RP Turbidity nv) (NTU)
	<del></del>		
Comments:			
Weather Conditions:	SURRY	Temperature: 84.0° F	Barometer:

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
FUSRAP Site Staten Island, NY	07/15/11	0950	SIW-SB-023P-5.0-8.0
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	Dixo	Grab	SB-023
Client:	Contract Number:	Delivery Order;	Chain of Custody Number:
USACE - Kansas City District		0004	
Solids	Sample	Δαιι	eous Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	X Grab	Surface Water	Well Casing Size:
X Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:
Waste	① Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
Fill: Reddish brown, clayey, plastic, gravelly. Sample tak		Waste	Total Purge Volume:
, , ,		Other	Purge Method:
	Ana	alysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	etals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiologica	l Contamination
	Purg	e Data	
Time Tempe	rature pH Condu	uctance D.O.	ORP Turbidity
(hrs) (or	C) (SU) (mS	5/cm) (mg/L)	(mv) (NTU)
Series Situation			
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	84.0° F	

		AIA OIILLI	
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
	07/15/11	1030	SIW-SB-024P-0.0-5.0
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	Signacura(s).	Grab	SB-024
			Chain of Custody Number:
Client: USACE - Kansas City District	Contract Number:	Delivery Order: 0004	Chain of Custody Number:
	Sample		s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	X Grab	Surface Water	Well Casing Size:
$[\underline{X}]$ Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
[ ] Waste	[] Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	, color, plasticity, moisture content,	Sump	Total Purge Time:
Fill:Brown, moist, gravelly, taken from 1.0-1.7'.	asphalt pieces. Sample	☐ Waste	Total Purge Volume:
		Other	Purge Method:
	An	alysis	-l\\
Volatiles Semivolatiles		letals Select Metals (list)	
	PCB Cyanide Explosives	X Other (list): Radiological Co	
	Purc	ge Data	
	erature pH Cond	uctance D.O. (	DRP Turbidity mv) (NTU)
X <del>111111111111111111111111111111111111</del>	<del></del>		
	<del></del>		
Comments:			
commens:			
No. of the little		wet strate & these	In
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	84.0° F	1

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/15/11	1030	SIW-SB-Dup-004
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	Dr. O	Grab	SB-024
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid 9	Sample	Aqueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	[X] Grab	Surface Water	Well Casing Size:
X Subsurface Soil	Composite	Groundwater	Total Well Depth
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level:
[ ] Waste	Other	☐ Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
Fill: Brown, moist, gravelly, asphalt pieces. Sample taken from 1.0-1.7'		☐ Waste	Total Purge Volume:
taken nom 1.0 1.7		Other	Purge Method:
×	Ana	lysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination
	Purg	e Data	
Time Tempe (hrs) (º			DRP Turbidity mv) (NTU)
		<del></del>	
			-
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	84.0° F	

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/15/11	1135	SIW-SB-025P-0.0-5.0
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	De to	Grab	SB-025
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid 9	Sample	Aqueous	Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	[X] Grab	Surface Water	Well Casing Size:
[X] Subsurface Soil	Composite	☐ Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
Waste	Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
Clay: Redish brown, wet, pl from 1.0-1.9'	astic. Sample taken	Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	
Semivolatiles Semivolatiles	Ions RCRA Metals TAL Me		
Pesticides Herbicides	PCB Cyanide Explosives	Other (list): Radiological Co	ntamination
	Purge	e Data	
Time Tempe (hrs) (°C			RP Turbidity nv) (NTU)
3 <del></del>	2 1 1 2 2		
34			
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	84.0° F	

Site Name: Staten Island Warehouse	Sample Date:		Sample Tim	ne:	Sample Number:
FUSRAP Site Staten Island, NY	07/3	15/11		1230	SIW-SB-026P-0.0-5.0
Sampled By:	Signature(s):	, 0	Sampling N	Method:	Sampling Location:
Brad Gough/Sam Martin	i i	Duto		Grab	SB-026
Client:	Contract Number	er:	Delivery Or	der:	Chain of Custody Number:
USACE - Kansas City District		Q-10-D-3012		0004	
Solid	ample		-	Δαμερι	s Sample
Solid Sample Type:	Sample Coile	ction:	Anneous	Sample Type:	Well Information
		edon,	·		Well Casing Size:
Surface Soil	X Grab		Surr	face Water	Well Casting Size.
[X] Subsurface Soil	Composib	2	[] Gro	undwater	Total Well Depth
Sediment	Multi-incn	ement		Monitoring Well	Static Water Level:
☐ Waste	Other			Domestic Well	One Purge Volume:
Other				Other	Start Purge:
			☐ See	р	End Purge:
Sample Description (classification, consistency)	color, plasticity,	moisture content,	Sum	пр	Total Purge Time:
Sand: Brownish/red, gravel Sample taken from 1.0-2.4'	y, coarse ,w	et, loose.	☐ Was	ste	Total Purge Volume:
			Oth	er	Purge Method:
		Ana	lysis		
Volatiles Semivolatiles	Ions RCR	A Metals TAL Me	tals Se	elect Metals (list)	
Pesticides Herbicides	PCB Cyani	de Explosives	X Other (li	st): Radiological Co	ntamination
		Purge	Data		
Time Tempe	rature	pH Condu	ctance	D.O. 0	RP Turbidity
(hrs) (°0	<b>(</b> )	(SU) (mS	/cm)	(mg/L) (r	nv) (NTU)
			_		
3-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1					
Comments:					
Weather Conditions:			Temperatu	re:	Barometer:
cloudy rainy	sunny	snowy		84.0° F	

	11111		
Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
FUSRAP Site Staten Island, NY	07/15/11	1230	SIW-SB-026P-5.0-8.0
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Brad Gough/Sam Martin	Signature(s).	Grab	SB-026
	V -X -X		
Client: USACE - Kansas City District	Contract Number:	Delivery Order:	Chain of Custody Number:
	W912DQ-10-D-3012	0004	
	Sample		s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	X Grab	Surface Water	Well Casing Size:
X Subsurface Soil	Composite	[] Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
[_] Waste	Other	Domestic Well	One Purge Volume:
Other		Other	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
Sand: Black sediment, wet, organic material present. Sample taken from 3.0-4.0'		Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological Co	ntamination
	Purae	e Data	
Time Tempe	_		RP Turbidity
(hrs) (°0			nv) (NTU)
( )	(****)	,, (g, _) (	,
·			
' <del></del>			<del></del>
			<del></del>
Comments:			
		· · · · · · · · · · · · · · · · · · ·	v—————————————————————————————————————
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	aluun auumn	84 0° F	I

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
	07/17/11	0900	SIW-GW-005UFP	
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Barry Kinsall/Sam Martin	B 70	Grab	SB-005	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
	Sample	Agueous	Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	☐Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	X Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	☐ Monitoring Well	Static Water Level:	
∭ Waste	Other	☐ Domestic Well	One Purge Volume:	
Other		X Other Temp Well	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
		Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	ontamination	
	Purge	e Data		
Time Tempe	=		RP Turbidity	
(hrs) (°(			nv) (NTU)	
0856 22	2.89 6.31 3	33 3.17 5	55.6	
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° F	766.4 mmHg	

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/17/11	0900	SIW-GW-005UFDUP
Sampled By: Barry Kinsall/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-005
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
Solid	Sample	Aqueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	☐ Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	X Groundwater	Total Well Depth
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:
☐ Waste	Other	Domestic Well	One Purge Volume:
Other		X Other Temp Well	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
		Waste	Total Purge Volume:
		Other	Purge Method:
☐ Volatiles ☐ Semivolatiles ☐ ☐ Pesticides ☐ Herbicides ☐	Ions RCRA Metals TAL Me	ilysis tals Select Metals (list)    Radiological C	
		e Data	
	erature pH Condu	ictance D.O. O	nv) (NTU)
0856 - 22	2.89 6.31 3	33 3.17 5	55.6
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	85.0° F	766.4 mmHg

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/17/11	0916	SIW-GW-005FP	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location;	
Barry Kinsall/Sam Martin	B 20	Grab	SB-005	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
Solid S	Sample	Aqueou	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	Grab	Surface Water	Well Casing Size:	
Subsurface Soil	☐ Composite	(X) Groundwater	Total Well Depth	
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level:	
Waste	☐ Other	Domestic Well	One Purge Volume:	
Other		X Other Temp Well	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	□Sump	Total Purge Time:	
		Waste	Total Purge Volume:	
			Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles		tals Select Metals (list)		
		X Other (list): Radiological C		
	Purge	e Data		
Time Tempe			RP Turbidity	
	·		nv) (NTU)	
(1115)	c) (30) (113	(mg/L) (	(110)	
0910 22	1.84 6.25 3	39 3.17 5	50.3 50.0	
Comments:				
noonin(Glio)				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	suriny snowy	85.0° F	766.4 mmHg	

Site Name: Staten Island Warehouse	Sample Date:		Sample Tin	ne:	Sample Num	ber:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/17	/11		0916	SIW	/-GW-005FDUP	
Sampled By:	Signature(s):		Sampling I	Method:	Sampling Lo	xation:	
Barry Kinsall/Sam Martin	-	270		Grab		SB-005	
Client:	Contract Number:		Delivery Or	der:	Chain of Cus	tody Number:	
USACE - Kansas City District	W912DQ-	10-D-3012		0004			
Solid S	ample			Aqueou	s Sample		
Solid Sample Type:	Sample Collect	ion:	Aqueous	Sample Type:	W	ell Information	
Surface Soil	Grab			face Water	Well Casing	Size:	
Subsurface Soil	Composite		X Gro	undwater	Total Well D	epth	
Sediment	Multi-increm	ent		] Monitoring Well	Static Water	Level:	
Waste	Other			Domestic Well	One Purge V	folume:	
Other			X	Other Temp Well	Start Purge:		
			See	P	End Purge:		
Sample Description (classification, consistency)	color, plasticity, mo	oisture content,	Sun	пр	Total Purge	Time:	
			∭Wa	sbe	Total Purge	Volume:	
			Oth	er	Purge Metho	od:	
<del></del>		Ana	lysis		*		
Volatiles Semivolatiles	]Ions [] RCRA	Metals TAL Met	als 🗌 S	elect Metals (list)			
Pesticides Herbicides	PCB Cyanide	Explosives	X Other (l	ist): Radiological (	Contamina	tion	
			Data	,			
Time Tempe	rahiira .	_		D.O. (	ORP	Turbidity	
(hrs) (or		oH Condu SU) (mS/			mv)	(NTU)	
(1115)	-) (	50) (1113)	CIII)	(1119/12) (	····v)	(1110)	
0910 21	84 6.	.25 33	39	3.17	50.3	50.0	
**************************************							
						<del>.</del>	
	<del></del>						
Comments:							
Weather Conditions:			Temperatu	re:	Barometer:		
cloudy rainy	sunny	snowy	J	85.0° F		766.4 mmHg	

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/17/11	1415	SIW-GW-009UFP	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Barry Kinsall/Sam Martin	B, 20	Grab	SB-009	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
	ample		s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	☐ Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	X Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
☐] Waste	Other	Domestic Well	One Purge Volume:	
Other		X Other Temp Well	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
		Waste	Total Purge Volume:	
		Other	Purge Method:	
	An	alysis	,	
Volatiles Semivolatiles	Ions RCRA Metals TAL M	etals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	Contamination	
- 31	Purc	je Data		
Time Tempe	_		RP Turbidity	
(hrs) (or	•		nv) (NTU)	
(1113)	c) (50) (iii			
1408 24	1.20 6.57	3.36	45.8 54.7	
Comments:				
Worth or Con Picture		Tourseller	Paramoter	
Weather Conditions: cloudy rainy	sunny snowy	Temperature: 85.0° F	Barometer: 766.4 mmHg	

Site Name: Staten Island Warehouse	Sample Date:		Sample Tir	ne:		Sample N	umber:	
FUSRAP Site Staten Island, NY	07/17/11			1427		S	IW-GW-009FP	
Sampled By:	Signature(s):		Sampling	Method:		Sampling	Location:	
Barry Kinsall/Sam Martin	\$	7-10		Grab			SB-009	
Client:	Contract Number:		Delivery O	rder:		Chain of	Custody Number:	
USACE - Kansas City District	W912DQ-10-D-	3012		0004				
Solid	Sample			Aqueous Sample		le		
Solid Sample Type:	Sample Collection:		Aqueous	Sample Type:			Well Information	
Surface Soil	□Grab		☐ \$ur	face Water		Well Casi	ng Size:	
Subsurface Soil	Composite		X Gro	oundwater		Total We	ll Depth	
Sediment	Multi-increment			Monitoring Well		Static Wa	iter Level:	
☐ Waste	Other			Domestic Well		One Purg	e Volume:	
Other			۵	Other Temp W	ell	Start Pur	ge;	
			☐ Sex	èp		End Purg	e:	
Sample Description (classification consistency)	, color, plasticity, moisture o	content,	Sui	mp		Total Pur	ge Time:	
			□wa	ste		Total Pur	ge Volume:	
			Ott	ner	<b>⇒</b> :	Purge Me	ethod:	
		Ana	lysis					
Volatiles Semivolatiles	Ions RCRA Metals	TAL Me	tals 🔲 S	select Metals (list) _				
Pesticides Herbicides	PCB Cyanide E	Explosives	X Other (	list): Radiolo	gical C	ontami	nation	
		Purg	e Data					
Time Temp	erature pH	_	ctance	D.O.	0	RP	Turbidity	
	PC) (SU)	(mS	/cm)	(mg/L)	(n	nv)	(NTU)	
1424 2	4.36 6.56	3	28	3.74	4	5.2	49.5	
	<del></del>	_			-			
Comments:								
Weather Conditions:			Temperati			Baromet		
cloudy rainy	sunny	snowy		85.0° F			766.4 mmHg	

Site Name:	Sample Date:	Sample Time:	Sample Number:
Site Name: Staten Island Warehouse	07/17/11	1206	SIW-GW-010UFP
FUSRAP Site Staten Island, NY Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Barry Kinsall/Sam Martin	8,20	Grab	SB-010
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
	<u>`</u>		
	Sample		s Sample Well Information
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	
Surface Soil	Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	X Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
☐ Waste	Other	Domestic Well	One Purge Volume:
Other		X Other Temp Well	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
100		☐ Waste	Total Purge Volume:
-		Other	Purge Method:
	Ions RCRA Metals TAL Me	alysis  etals Select Metals (list)  Radiological C	
Pesticides Herbicides	PCB Cyanide Explosives	Other (list): Radiological C	Ontarimation
	*	e Data	DRP Turbidity
	•		nv) (NTU)
1201 -27	2.84 6.18 3	46 4.39	18.2 57.6
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny	85.0° F	766.4 mmHg

E. 11		Comple Town	Sample Number:	
Site Name: Staten Island Warehouse	\$ample Date: 07/17/11	Sample Time: 1206	SIW-GW-010UFMS	
FUSRAP Site Staten Island, NY				
Sampled By: Barry Kinsall/Sam Martin	Signature(s):	Sampling Method: Grab	Sampling Location: SB-010	
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:	
USACE - Kansas City District	W912DQ-10-D-3012	0004		
Solid S	ample		Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	☐ Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	X Groundwater	Total Well Depth	
Sediment	Multi-increment	☐ Monitoring Well	Static Water Level:	
Waste	☐ Other	Domestic Well	One Purge Volume:	
Other		X Other Temp Well	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content.	Sump	Total Purge Time:	
		Waste	Total Purge Volume:	
		Other	Purge Method:	
	Ana	lysis		
Volatiles Semivolatiles		tals Select Metals (list)		
	PCB Cyanide Explosives	🛚 Other (list): Radiological C	ontamination	
	Purg	e Data		
Time Tempe	rature pH Condu		RP Turbidity	
(hrs) (°	C) (SU) (mS	/cm) (mg/L) (n	nv) (NTU)	
1201 22	2.84 6.18 3	46 4.39	57.6	
Comments:				
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° F	766.4 mmHg	

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:	
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/17/11	1206	SIW-GW-010UFMSD	
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:	
Barry Kinsall/Sam Martin	8,20	Grab	SB-010	
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:	
	Sample	***	s Sample	
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information	
Surface Soil	Grab	Surface Water	Well Casing Size:	
Subsurface Soil	Composite	X Groundwater	Total Well Depth	
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:	
☐ Waste	Other	Domestic Well	One Purge Volume:	
Other		X Other Temp Well	Start Purge:	
		Seep	End Purge:	
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:	
		☐ Waste	'Total Purge Volume:	
		Other	Purge Method:	
	Ana	alysis		
Volatiles Semivolatiles		etals Select Metals (list)		
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	contamination	
	Purg	e Data		
Time Tempe	erature pH Condu	uctance D.O. C	RP Turbidity	
	·	S/cm) (mg/L) (r	nv) (NTU)	
1201 22	2.84 6.18 3	4.39	48.2 57.6	
	<del></del>			
Comments:	——————————————————————————————————————			
Weather Conditions:		Temperature:	Barometer:	
cloudy rainy	sunny snowy	85.0° F	766.4 mmHg	

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/17/11	1234	SIW-GW-010FP
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Barry Kinsall/Sam Martin	8220	Grab	SB-010
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid S	Sample		s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	☐ Grab	Surface Water	Well Casing Size:
Subsurface Soil	☐ Composite	X Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
☐ Waste	☐ Other	☐ Domestic Well	One Purge Volume:
Other		X Other Temp Well	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
		Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	
☐ Volatiles ☐ Semivolatiles ☐	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	ontamination
	Purg	e Data	
Time Tempe (hrs) ( <sup>o</sup>			nRP Turbidity nv) (NTU)
1228 24	1.62 6.24 3	44 3.93	55.3
			<del></del>
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	ginny snowy	85.0° F	766,4 mmHg

Site Name: Staten Island Warehouse	Sample Date:		Sample Tim	2:	Sample Numb	er:
FUSRAP Site Staten Island, NY	07/1	7/11		1234	SIW	-GW-010FMS
Sampled By:	Signature(s):		Sampling M	ethod:	Sampling Loc	ation:
Barry Kinsall/Sam Martin	4	3,20		Grab		SB-010
Client:	Contract Number		Delivery Ord		Chain of Cust	ody Number:
USACE - Kansas City District	W912DQ	-10-D-3012		0004		
Solid S	ample			Aqueou	ıs Sample	
Solid Sample Type:	Sample Collec	tion:	Aqueous	Sample Type:	We	II Information
Surface Soil	Grab		Surfa	ice Water	Well Casing S	ize:
Subsurface Soil	Composite		<b>⊠</b> Grou	ndwater	Total Well De	pth
Sediment	Multi-incre	ment		Monitoring Well	Static Water I	Level:
Waste	Other			Domestic Well	One Purge Vo	olume:
Other			X	Other Temp Well	Start Purge:	
			Seep	1	End Purge:	
Sample Description (classification, consistency)	color, plasticity, n	noisture content,	Sum	Sump Total Purge Tim		īme:
			□Was	æ	Total Purge V	olume:
			Othe	r	Purge Method	d:
		Ana	lysis			
Volatiles Semivolatiles	Ions RCRA	Metals TAL Met	als Se	lect Metals (list)		
Pesticides Herbicides	PCB Cyanid			t): Radiological	Contaminat	ion
			Data			
Time Temps	vakura	_		D.O. (	ORP	Turbidity
Time Tempe		•				(NTU)
(hrs) (°		(SU) (mS,	/cm)	(mg/L) (	mv)	(1410)
1228 24	1.62	5.24 34	44	3.93	47.4	55.3
		<del></del>				
		<del></del>				
Comments:						
					-10	
Weather Conditions:			Temperatur	e: 85.0° F	Barometer:	766.4 mmHg
cloudy rainy	SUTINY	snowy		03.0 1		100.4 HIIIIIR

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
FUSRAP Site Staten Island, NY	07/17/11	1234	SIW-GW-010FMSD
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Barry Kinsall/Sam Martin	820	Grab	SB-010
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid S	Sample	Aqueous	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	X Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
☐Waste	Other	☐ Domestic Well	One Purge Volume:
Other		X OtherTemp Well	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
		Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	llysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	ontamination
	Purg	e Data	
Time Temps	erature pH Condu	ictance D.O. C	RP Turbidity
(hrs) (°	•		nv) (NTU)
			17.4 55.3
122824	4.62 6.24 3	44 3.93	
<del></del>			
Comments:			
Marthas Canditions		Temperature:	Barometer:
Weather Conditions: cloudy rainy	sunny snowy	85.0° F	766.4 mmHg

Site Name: Staten Island Warehouse	Sample Date:	Sample Time;	Sample Number:
FUSRAP Site Staten Island, NY	07/17/11	1345	SIW-GW-016UFP
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Barry Kinsall/Sam Martin	\$20	Grab	SB-016
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid S	Sample	Aqueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	X Groundwater	Total Well Depth
Sediment	☐ Multi-increment	☐ Monitoring Well	Static Water Level:
☐ Waste	☐ Other	Domestic Well	One Purge Volume:
Other		X Other Temp Well	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
		☐ Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	nlysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	etals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	ontamination
	Purg	e Data	
Time Tempe	rature pH Condu	uctance D.O. O	RP Turbidity
(hrs) (°0			nv) (NTU)
			60.7
1340 24	6.46 3	3.85	68.7
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	85.0° F	766.4 mmHg

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
FUSRAP Site Staten Island, NY	07/17/11	1353	SIW-GW-016FP
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Barry Kinsall/Sam Martin	8,20	Grab	SB-016
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid	Sample	Aqueous	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	X Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
☐ Waste	Other	☐ Comestic Well	One Purge Volume:
Other		X Other Temp Well	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:
,		☐Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	
Volatiles Semivolatiles		tals Select Metals (list)	
Pesticides Herbicides		[X] Other (list): Radiological C	
	Purg	e Data	
Time Tempe	_		RP Turbidity
(hrs) (°			nv) (NTU)
(5)	(	,, (g, -)	, ,
1349 24	4.58 6.31 3	47 4.36	7.0 62.7
Comments:			
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	85.0° F	766.4 mmHg

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/17/11	0955	SIW-GW-023UFP
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Barry Kinsall/Sam Martin	8,20	Grab	SB-023
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid S	Sample		s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	☐ Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	X Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
☐ Waste	☐ Other	Domestic Well	One Purge Volume:
Other		X Other Temp Well	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:
		Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	ontamination
	Purge	e Data	
Time Tempe (hrs) (°			RP Turbidity nv) (NTU)
0950 22	2.46 6.55 3	48 4.71	75.8
Comments:			
Marthan Conditions		Tomporphyrol	Barometer:
Weather Conditions:	SURDY Showy	Temperature: 85.0° F	766.4 mmHg

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
Staten Island Warehouse FUSRAP Site Staten Island, NY	07/17/11	1018	SIW-GW-023FP
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Barry Kinsall/Sam Martin	8,20	Grab	SB-023
Client: USACE - Kansas City District	Contract Number: W912DQ-10-D-3012	Delivery Order: 0004	Chain of Custody Number:
	Sample		Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	▼ Groundwater	Total Well Depth
Sediment	Multi-increment	Monitoring Well	Static Water Level:
☐ Waste	Other	☐ Domestic Well	One Purge Volume:
Other		X Other Temp Well	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	☐ Sump	Total Purge Time:
		Waste	Total Purge Volume:
			Purge Method:
	Ana	lysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	ontamination
	Purge	e Data	
Time Tempe (hrs) (%	rature pH Condu	ctance D.O. O	RP Turbidity nv) (NTU)
1013 22	2.42 6.66 3	51 4.04 4	52.3
<del></del>	<del></del>		
Comments:			
Washing Condition		Tomporahira	Ezmanhari
Weather Conditions:	SIDDA SUOMA	Temperature: 85.0° F	Barometer: 766.4 mmHg

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
FUSRAP Site Staten Island, NY	07/17/11	1046	SIW-GW-026UFP
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Barry Kinsall/Sam Martin	B 20	Grab	\$B-026
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid S	Sample	Aqueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	X Groundwater	Total Well Depth
Sediment	☐ Multi-increment	Monitoring Well	Static Water Level:
Waste	☐ Other	Domestic Well	One Purge Volume:
Other		X Other Temp Well	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
		Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lγsis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	etals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	(list): Radiological C	ontamination
	Purg	e Data	
Time Tempe	•		RP Turbidity
(hrs) (%	·		nv) (NTU)
1042 24	1.52 7.31 3	6.06	19.1 54.5
	<del></del>		
Comments:			
		r	
Weather Conditions:		Temperature:	Barometer:
cloudy rainy	sunny snowy	85.0° F	766.4 mmHg

Site Name: Staten Island Warehouse	Sample Date:	Sample Time:	Sample Number:
FUSRAP Site Staten Island, NY	07/17/11	1058	SIW-GW-026FP
Sampled By:	Signature(s):	Sampling Method:	Sampling Location:
Barry Kinsall/Sam Martin	\$ 7.00	Grab	SB-026
Client:	Contract Number:	Delivery Order:	Chain of Custody Number:
USACE - Kansas City District	W912DQ-10-D-3012	0004	
Solid 5	Sample	Aqueou	s Sample
Solid Sample Type:	Sample Collection:	Aqueous Sample Type:	Well Information
Surface Soil	□Grab	Surface Water	Well Casing Size:
Subsurface Soil	Composite	X Groundwater	Total Well Depth
Sediment	☐ Multi-increment	☐ Monitoring Well	Static Water Level:
☐ Waste	Other	Domestic Well	One Purge Volume:
Other		Xi Other _Temp Well	Start Purge:
		Seep	End Purge:
Sample Description (classification, consistency)	color, plasticity, moisture content,	Sump	Total Purge Time:
		Waste	Total Purge Volume:
		Other	Purge Method:
	Ana	lysis	
Volatiles Semivolatiles	Ions RCRA Metals TAL Me	tals Select Metals (list)	
Pesticides Herbicides	PCB Cyanide Explosives	X Other (list): Radiological C	ontamination
	Purg	e Data	
Time Tempe	rature pH Condu	rctance D.O. O	RP Turbidity
(hrs) (°0	•		nv) (NTU)
1054 24	7.32 3	52 5.73 4	8.6 50.8
2			
		<del></del>	
Commence			
Comments:			
Weather Conditions:	[ <del></del> ]	Temperature:	Barometer:
cloudy rainy	sunny snowy	85.0° F	766.4 mmHg

Project Name/Number: STATEN JSLAND JS	torm □Snow □70-85 °F ☑85	- > °F	SI	
Date: 7	torm □Snow □70-85 °F ☑85	- > °F		
Weather: Clear Overcast Rain Thunders Temperature: <a>32 °F</a> 32-50 °F 50-70 °F Wind: Still Gusty Moderate High; Direct Humidity: Dry Moderate Humid  Activity  CLEAR W6 GRABING RAD SCAN Earl Olipootion	]70-85 °F 🗹85			
Temperature: S32 °F 32-50 °F 50-70 °F Wind: Still Gusty Moderate High; Direct Humidity: Dry Moderate Humid  Activity  LEARING GRADBING  RAD SCAN Earl Chipperion	]70-85 °F 🗹85			
Wind: Still Gusty Moderate High; Direct Humidity: Dry Moderate Humid  Activity  CLEARING GRABULE  RAD SCAN Early Chilopolism				
Humidity: Dry Moderate Humid  Activity  CLEARING GRABBING  RAD SCAN Early Chilopodion	tion: <b>N</b> W N			
CLEARING / GRABBING RAD SCAN Equipol Odilopation				
CLEARING / GRABBING RAD SCAN (Equipor Odilopoolion				
RAD SCAN / Eaught Odiporation	Contractor/ Subcontractor	Equipment	Number of Workers	Total Hours Worke
RAD SCAN / Eaught Odipration	680	WESTERS	3	9
O =	SAIC	Miss METE	25 1	9
GPR Swed	ENV. PROBE	GPR	-	4
7				
A CONTRACTOR OF THE PROPERTY O	ctive Action Taker			
METAL BLADE ATT. BREAKING BOY	Rought M	ETAL BL	ADE A	TACH
METAL BLADE ATT. BREAKINg BOY	ght STEEL	- BLADES	S- Wol	K BE
\				
Total Daily Hours Worked by all Personnel:				

#### **Daily Quality Control Report (Page 2 of 2)**

Cofeter Asthilte Cofete Transation				
Safety: Activity Safety Inspection	Comment And Tal	2222		
Safety Deficiencies Observed	Corrective Action Tak	en		
Remarks:				
Safety Statistics				
Number of First Aid Incidents:				
Number of Recordable Incidents:				
Number of Lost Time Days:				
Transcer of Bost Time Buys.				
Answer each question by checking the appropri	ate column [yes, no, 1	ot observ	red (N/O)	, or not applicat
(N/A)].			17	v
Forms attached:	Yes	No	N/O	N/A
Daily Tailgate Meeting Form	V .			
Surveying Checklist	<b>√</b>			
Borehole and Core Logging Checklist				1.
Decontamination Checklist				
Instrument Calibration Checklist				V
Sample Collection Checklist				V
Packing, Storing, and Shipment of Samples Checklis	st			V
Field Documentation Checklist				4
Health and Safety Checklist				
IDW Management Checklist				V.
Mobilization/Demobilization Checklist				V
Building Questionnaire				1
HTRW Drilling Log Form				N.
Field Data Sheet				N
Chain of Custody Forms				1/
The FOM shall complete and sign a DQCR daily, al			1 00	V

FOM Signature:

Date:

7-1(-11

#### **Daily Quality Control Report (Page 2 of 2)**

FOM Signature:

Safety: Activity Safety Inspection	2			
Safety Deficiencies Observed	Corrective Action Take	en		
A ( / A				
NA	NCA			
Remarks:				
Safety Statistics				
Number of First Aid Incidents:				
Number of Recordable Incidents:				
Number of Lost Time Days:				
	. 1 .	. 1	1 (21/0)	
	ate column [yes, no, n	ot observ	ved (N/O)	, or not a
Answer each question by checking the appropria (N/A)].				
(N/A)]. Forms attached:	ate column [yes, no, n	ot observ	ved (N/O)	, or not a
(N/A)].  Forms attached: Daily Tailgate Meeting Form				
(N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist				
(N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist				
(N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist				
(N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist				
(N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist	Yes			
(N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Samples Checklis	Yes			
(N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Samples Checklis Field Documentation Checklist	Yes			
(N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Samples Checklis Field Documentation Checklist Health and Safety Checklist	Yes			
(N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Samples Checklis Field Documentation Checklist Health and Safety Checklist IDW Management Checklist	Yes			
(N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Samples Checklis Field Documentation Checklist Health and Safety Checklist IDW Management Checklist Mobilization/Demobilization Checklist	Yes			
(N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Samples Checklis Field Documentation Checklist Health and Safety Checklist IDW Management Checklist Mobilization/Demobilization Checklist Building Questionnaire	Yes			
(N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Samples Checklis Field Documentation Checklist Health and Safety Checklist IDW Management Checklist Mobilization/Demobilization Checklist Building Questionnaire HTRW Drilling Log Form	t Yes,			
(N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Samples Checklis Field Documentation Checklist Health and Safety Checklist IDW Management Checklist Mobilization/Demobilization Checklist Building Questionnaire	Yes			

7-11-11

## Daily Tailgate Meeting Form

Job Name STATEN JSL	Number	Date 7/11/11
Start Time 0940	Completed 0955	Site Location
Type of Work (General)		ISLAMO
	SAFETY ISSUES	
Tasks (this shift)	RAD SULVEY	
Protective Clothing/Equipment	To be deformand	tup
Chemical Hazards	10 BE OCCUMENTED	
Physical Hazardous	TR.P. Shps / Falls, HEAT	
Control Methods	DASIMETERS RAN METER	3 12835
Special Equipment/Techniques	Canal Marie 1 Press, RANS Marie 1	s , safety glasses , each
Hazard Communication Overview		r
Nearest Phone	Cell phones on sute	Hospital
Name/Address		Special Topics
(incidents, actions taken, etc.)		T S S S S S S S S S S S S S S S S S S S
	<u>ATTENDEES</u>	
Print Name		
SAM MARTIN	L.	Sign Name
BRAD (TOUGH		
DAVID LAWFON	- D-2	8
Ken Lindes	1/22	
Barry Kinsall		
	100	Fill
		-
	<del></del>	
	0 -0.	
Meeting co	nducted by:	ľ
	The same of the sa	

Project Name/Number: SI WARTHUUSE  Site: STATEN JELAND NY  Date: 7/11/11  GPR Survey				
(-PP				
G1 / 201 VE				
Complete one time for project. Answer each question by c				
observed (N/O) or not applicable (N/A)]. If a "No" is chec	cked, provi	de an exp	olanation o	on the
Noncompliance and Corrective Action form.				
Surveying	Yes	No	N/O	N/A
1. Was the Scope of Work reviewed with the surveyor?	1			
2. Was the schedule for the work provided to the surveyor?	/			-
3. Was the survey completed by a licensed land surveyor?				1
4. Were locations surveyed for horizontal and vertical control?				V
5. Were conditions measured to the closest 0.1 feet and				1
elevations measured to the closest 0.01 feet?				V
6. Was the survey marker and TOC surveyed for each				/
monitoring well?				V
7. Were surveyor's closure calculations reviewed?				V
8. Was surveyor interviewed by QC Inspector before leaving				1/
the Site?				
The QC inspector shall sign this checklist upon completion of al	l items on tl	ne checkli	st.	
e QC inspector shall sign this checklist upon completion of al	l items on tl	ne checkli	st.	
QC Inspector Signature://	Date	e:		

ampling Date: 7-1-11 oring/Monitoring Well Number(s): VA				•
oring/Monitoring well Number(s):	<u> </u>		1 (01/0)	
nswer each question by checking the appropriate column N/A)]. If "no" is checked, provide an explanation on the f	l [yes, no, n	ot observ	red (N/O)	, or not applicable
quipment	Yes	No	N/O	N/A
Was all sampling equipment decontaminated properly prior				
use and between sample intervals?				V/
Was each decontamination event recorded in the logbook?				V /
Was IDW (decontamination water) handled in accordance ith the approved work plan?				
in me approve won pane				
Corrective Actions:				*

Instrument Calibration Checklist (Page 1 of 1)			
Project Name/Number: Start Island L	JAREHULSE	ST	
Site: STATEN ISLAND, MY			
Date: 7-11-11		Are	- Morribe.
Complete daily. Answer each question by checking the appro	priate column [ye	es, no, not	observed (N/O),
or not applicable (N/A)]. If a "no" is checked, provide an exp	planation on the N	Noncomplia	ance or
Corrective Actions form.			
Instrumental Calibration	Yes No	N/O	N/A
Were all field instruments calibrated properly?			
2. Were all field instruments calibrated on the schedule in the			
Work Plan/SSHP?	//		
3. Did the Field Calibration Forms list all calibration events?			
BREATHING FORE Mov. be	P Decum		
The QC inspector shall sign this checklist upon completion of all ite	ems on the checklis	st.	
	V/1000-		

				NI	a ont uple
Sample Collection Checklist (Page 1 of 1)  Project Name/Number: 5 James	$\sim$	-		1	INT
Project Name/Number:	<u></u>	سر د		D	unal E
Site: STATEN ISLAMD, MY				Pro	
Sampling Date: 7-11-11					
Answer each question by checking the appropriate column		not obser	ved (N/O)	, or not app	olicable
(N/A)]. If "no" is checked, provide an explanation on the fe	T	1 34	1 110	T >7(1)	
General	Yes	No	N/O	N/A	
Were new protective gloves worn between sampling locations and/or intervals?					
2. Were samples collected using methods described in the					
Work Plan?					
3. Were sample containers filled in the correct order?					
4. Was sampling equipment appropriate for the purpose and site conditions?				/	
5. Was sampling equipment decontaminated or		-	1	~	
disposable/dedicated equipment used between each sample?				/	
6. Were procedures for collecting QA/QC samples followed as					
per the Work Plan?					
7. Were sampling locations properly identified by land survey or GPS locator?					
8. Were bottles adequately protected from contamination prior				201	
to sample identification?					
Soil samples	Yes	No	N/O	N/A	
9. Were samples collected according to the Work Plan?					
10. Was a field sampling form completed?			-		
11. Were the analytical parameters and QA/QC samples recorded on the Field Data Sheet?				/	
recorded on the Field Data Sheet:					
Water samples	Yes	No	N/O	N/A	
12. Were samples collected according to the Work Plan?					
13. Was a field sampling form completed?					
14. Were the analytical parameters and QA/QC samples					
recorded on the Field Data Sheet?				/	
15. Was headspace in sample containers for volatiles					
eliminated?					
			ļ'		
Corrective Actions:					
The QC inspector shall sign this checklist upon completion of all	l items on	the checkl	ist.		
QC Inspector Signature:	Da	te:			
13 /1/1		7	[[ 17		
- Jacob		7 /	11-11	_	

Project Name/Number: STATEN TSCARLO (NY)  Sampling Date: 7-(-1)  Boring/Monitoring Well Number(s): N(A)  Surface Soil Sample Number(s): N(A)   Packing, Storing, and Shipment of Samples Checklist (P	age 1 of	<u>1)</u>				
Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	Project Name/Number: ST WARTHUSE	S	I			
Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	Sites STATES / TEST A (A) A	t			$\mathcal{N}$	
Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:					, 0	101
Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	Sampling Date: 7-([-1]					
Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	Boring/Monitoring Well Number(s):					NOT
Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	()				= } \	)(1),4)
Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:					<del>_</del> ^	Comp
Complete daily. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:						Sn. 1
or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	Surface Soil Sample Number(s):				_	
Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	Complete daily. Answer each question by checking the app	ropriate c	olumn [ye	es, no, not	observed (	(N/O),
Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	or not applicable (N/A)]. If a "no" is checked, provide an e					
1. Were the samples handled according to the Work Plan and QAPP? 2. Did the samples remain in ice from collection until cooler was taped for shipment? 3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled? 4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler? 5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape? 6. Was a shipping label attached to the cooler? The QC inspector Signature:  Date:		010		T save	1 1	
QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  Date:		Yes	No	N/O	N/A	
2. Did the samples remain in ice from collection until cooler was taped for shipment? 3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled? 4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler? 5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape? 6. Was a shipping label attached to the cooler? The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:						
was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  Date:						
3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:						
sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	3. Were Chain of Custody forms filled out accurately and					
number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:						
4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:						
4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:						
preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	number of containers for each analytical parameter, and media					
5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	number of containers for each analytical parameter, and media sampled?					
Cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the				/	
6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?				1	
The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the				/	
QC Inspector Signature: Date:	number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?				/	
- 13 - 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?		lo ch - LT		/	
- 13	number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?	items on t	he checkli	st.	/	
7-11-11	number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all			St.		

Project Name/Number: 57 402 EHUUSE Site: STATEN ISLAND WY				
Complete daily. Answer each question by checking the app or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.		~*		
Field Documentation	Yes /	No	N/O	N/A
Was all original field data, except boring logs, recorded in black indelible ink?			3,10,750	37.W.F.F
2. Were logbooks filled out properly, accurately recounting the day's events?	1			
3. Were all field forms completed and information accurately recorded:	/			
-Daily Quality Control Report?				
-Daily Tailgate Meeting Form?	1			
-HTRW Drilling Log Form?	- /			/
-Field Log Books?	Y		/	
-Project Photograph Log (in Log Book)?				- /
-Field Data Sheet?				//
-Chain of Custody Forms?				/
List additional field forms completed:				
SUNEY CHECKLIST				
The QC inspector shall sign this checklist upon completion of all	items on the	e checklis	st.	
QC Inspector Signature:	Date	;		
55 Jell		7-11-	-11	_

#### Health and Safety Checklist (Page 1 of 2)

Observations	Yes	No	N/O	N/A
12. Are exclusion zones and contaminant reduction zones	,			
adequately marked?	V			
13. Is required personal protective equipment available and	/			
correctly used, maintained, and stored?	<b>/</b>			
14. Is the following emergency equipment located at each site:				
-Fire extinguisher?	٧,			
-Eyewash (15 minutes fresh water)?	1			
-Communications (walkie-talkie or phone)?	√,			
-First aid kit?	<b>V</b>			1
15. Is the buddy system in use?				/
16. Are personnel refraining from drinking, chewing, smoking,				
taking medications, or other hand-to-mouth contact while				
working in the exclusion zone?	,			
17. Is air monitoring equipment being used appropriately?	/			
18. Is the site organized to allow the use of lifting equipment,	1			
and avoid tripping hazards and spreading contamination?	√			
19. Was a random employee asked if he/she knew site hazard		/		
and emergency procedures?		٧		
20. Is the drill rig kill switch clearly marked and easily		/		
accessible?		V		

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature:

Date:

7-11-11

Health and Safety Checklist (Page 1 of 2)							
Date: 7.1(-11							
Project Name/Number: STATEN JSLANN Site: STATEN JSLANN, NY Briefed on-site Personnel and Work Locations: ST	Ware	House	- S.	I			
CT / ADIGNOT SITE							
Briefed on-site Personnel and Work Locations:	- W	AFRICE	4E -	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Complete weekly for each site. Answer each question by ch no, not observed (N/O), or not applicable (N/A)]. If a "no" the Noncompliance or Corrective Actions form.	ecking the	appropr d, provide	iate colun e an expla	nn [yes, nation on			
Documentation	Yes	No	N/O	N/A			
1. Is the Site Health and Safely Plan (SSHP) on the Site?	1,						
2. Has the SSHP been reviewed, dated, and signed within the							
last year?	V /						
3. Are the tasks being completed reflected in the hazard task							
analysis?	V						
4. Is there a written acknowledgement that all employees,							
including subcontractors, have been briefed and read the	8						
SSHP?							
5. Are the following training records current and available:							
-40-hour HAZWOPER/8-hour refresher for ALL employees	1945						
and subcontractors?	/						
-24-hour Supervised Field Experience?	1						
-CPR/First Aid?	- >/		-				
-8-hour Hazardous Waste Site Supervisor, and refresher?	/						
-Initial Site Health and Safety Briefing?	1						
-Site Health and Safety Briefing for each location or site?	1		-				
6. Are emergency maps posted at the site and maintained in	<b>/</b>						
vehicles?							
7. Were daily safety checklists completed and fire	1,						
extinguishers checked?			-				
8. Were applicable Material Safety Data Sheets at the Site?							
9. Are documents that indicate employees and subcontractors	1						
are medically fit to work and wear the required personal	,						
protective equipment current and available?  10. Were daily air monitoring equipment calibrations recorded?	/						
11. Are respirator fit test records available and current?				V			
11. Are respirator in test records available and current?							

Project Name/Number: SI WRIHOUSE SI Site: STATEN TS(AND NY			$\wedge$	/(A
Site: STATEN ISCAND NY			/ \	
Sampling Date:				
Boring/Monitoring Well Number:				
				_
Complete weekly for each site. Answer each question by ch				
observed (N/O), or not applicable (N/A)]. If a "no" is check	ked, provi	de an exp	olanation o	on the
Managemulianas on Compativo Astiona form				
Noncompliance or Corrective Actions form.  Investigation-Derived Waste Management	Yes	No	N/O	N/A
Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management	Yes	No	N/O	N/A
Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management Plan?	Yes	No	N/O	N/A
Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management Plan?  2. Were soil cuttings, drilling fluids, decontamination water,	Yes	No	N/O	N/A
Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management Plan?  2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized?	Yes	No	N/O	N/A
Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management Plan?  2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized?  3. Were all containers properly labeled and stored?	Yes	No	N/O	N/A
Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management Plan?  2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized?  3. Were all containers properly labeled and stored?  4. Were all containers in satisfactory condition?				N/A
Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management Plan?  2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized?  3. Were all containers properly labeled and stored?				N/A
Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management Plan?  2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized?  3. Were all containers properly labeled and stored?  4. Were all containers in satisfactory condition?  The QC inspector shall sign this checklist upon completion of all				N/A
Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management Plan?  2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized?  3. Were all containers properly labeled and stored?  4. Were all containers in satisfactory condition?		ne checklis		N/A
Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management Plan?  2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized?  3. Were all containers properly labeled and stored?  4. Were all containers in satisfactory condition?  The QC inspector shall sign this checklist upon completion of all	items on the	ne checklis	et.	N/A

Dany Quanty Control Report (1 age 1 of 2	<u> </u>			
Project Name/Number:				
Site: STATEN ISLAND				
Date: 7-12-11				
Weather: Clear Overcast Rain T	hunderstorm Snow			
Temperature:	-70 °F □70-85 °F ☑85	5 > °F		
Wind: Still Gusty Moderate Hig	h; Direction: NW	$\mathcal{N}$		
Humidity: Dry Moderate Humid				
Activity	Contractor/ Subcontractor	Equipment	Number of Workers	Total Hours Worked
Weel ofing /CLEACINE	680	weelest	2	
Comma WALKOUER	SAIL	M. SCERAD	(	
GPS Survey/LOCATING	680 -	TRIMBLE		
SPR Survey	ENV. ROPIEBE	6PR	1	
OEO PROBING	ENULTUPROBE		2	
Problems Encountered	Corrective Action Taker	1		
SENT DP RODS ON COMERETE NO			- Mays	To A
IMARIA				
		***		
Total Daily Hours Worked by all Personnel:	See .			
	1/15			

10,0

#### **Daily Quality Control Report (Page 2 of 2)**

Safety Deficiencies Observed		Corrective Action Taken
N(A-		NIA
Remarks:		
Safety Statistics		
Number of First Aid Incidents:	0	
Number of Recordable Incidents:	0	
The state of the conduction of the state of		

ble (N/A)].

Forms attached:	Yes	No	N/O	N/A
Daily Tailgate Meeting Form	V			
Surveying Checklist	L			
Borehole and Core Logging Checklist	V.			
Decontamination Checklist				
Instrument Calibration Checklist				
Sample Collection Checklist				
Packing, Storing, and Shipment of Samples Checklist	J.			
Field Documentation Checklist				
Health and Safety Checklist	1			
IDW Management Checklist				
Mobilization/Demobilization Checklist				1
Building Questionnaire				/
HTRW Drilling Log Form	J. 1			
Field Data Sheet	J,			
Chain of Custody Forms			3	

The FOM shall complete and sign a DQCR daily, all DQCRs to be submitted at conclusion of field work.

FOM Sign	ature:	Do	
1	k	e e	
7			

Date:

7-12-11

# Daily Tailgate Meeting Form

Job Name ST Start Time 0715	Number Completed 0778	Date 7/12/11 Site Location States True
Type of Work (General) BRu	SAFETY ISSUES	MKOVER, BRILLING.
	SAFETY ISSUES	SAMPLING
Tasks (this shift) Protective Clothing/Equipment Chemical Hazards Physical Hazardous Control Methods Special Equipment/Techniques Idazard Communication Overview Idearest Phone Ideame/Address Incidents, actions taken, etc.)	Heat Stress, WEED EATH	PED HATS, SAFETY GLASSES  STEEL-TOE BOOTS  INL. CORE SLICING PINCH  ALR MUNITIES  RAN SCANNERS  Hospital  Special Topics
	<b>ATTENDEES</b>	
Print Name  1000 Buch 9451  DAVID LAMON  SAM MARTIN  BEND COMH  KEN LINGES  HOWARD HAMMEL  Brian Sweeney	John January 19-1	Sign Name
Meeting cond	ducted by: Barry Kinsall	PAUG LAWSON

Surveying Checklist (Page 1 of 1)				
Project Name/Number: STATEN ISLAM	WARE	louse.	SI	
Site: STATEN ISLAND, NY				
Date: 7/2/11				
GPR SURVETING	,			
Complete one time for project. Answer each question by c		e approp	riate colur	nn [ves. no
observed (N/O) or not applicable (N/A)]. If a "No" is chec	ked provi	de an ext	lanation o	on the
Noncompliance and Corrective Action form.	nou, provi	ao an ong	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,
Surveying	Yes	No	N/O	N/A
1. Was the Scope of Work reviewed with the surveyor?	1,			
2. Was the schedule for the work provided to the surveyor?				
3. Was the survey completed by a licensed land surveyor?				1
4. Were locations surveyed for horizontal and vertical control?				
5. Were conditions measured to the closest 0.1 feet and				/
elevations measured to the closest 0.01 feet?				γ
6. Was the survey marker and TOC surveyed for each				1
monitoring well?				V
7. Were surveyor's closure calculations reviewed?				
8. Was surveyor interviewed by QC Inspector before leaving				1
the Site?				/
The QC inspector shall sign this checklist upon completion of all	items on th	e checklis	t.	

7.12.11

QC Inspector Signature

### Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: STATEN Islam	UDI	Site:	STAT	EN:	ISLAND, A	24
Boring/Monitoring Well Number: SBool, SBool	(R. )	CO 35	SI		· ·	1
	>120 C/7	75700 A				
Date: 7/12/11						
Complete for each boring log. Answer each question by cl	necking th	e annronr	iate colum	n ives n	o not	
observed (N/O), or not applicable (N/A)]. If a No is check	ed provid	le an evnl	anation on	the	0, 1101	
noncompliance and Corrective Actions form.	cu, provic	ic air cxpi	anation on	tile		
Borehole Logging	Yes	No	N/O	N/A	Ĩ	
Was boring logged by a geologist, geological engineer, or	1 es	INO	IN/O	IN/A	-	
other qualified personnel?	K					
2. Was log completed and entries printed legibly on the HTRW					Ti .	
Drilling Log?						
3. Was the log scale 1 inch = 1 foot?						
4. Were logs completed in the field (originals)?	1					
5. Does the log contain the following entries?						
-Unique borehole number	V					
-Depositional type (alluvium, till, loess, etc.)	V					
-Depths/Heights recorded in tenths of feet.	Í					
-Soils classified as per USCS and fully described with	1					
numerical percents of constituents.	1					
-Soil moisture content and texture or cohesiveness.						
6. Was general information (top of form HTRW drilling log)	,					
completed?	1					
7. Were special conditions (i.e. intervals of hole instability) and	- 2					
their resolution recorded?	/					
8. Were start and completion dates and time included for	1					
boring installation activities?	V					
9. Were boundaries between soils noted (solid line at						
appropriate depth or dashed line if transitional or if observed in				./		
cuttings?				V /		
10. Were depths at which free water was encountered and		$\checkmark$				
stabilized water levels recorded?		V		× .		
11. Were soil sample depths recorded?	V					
12. If changes in drilling or sampling methods or equipment						
and changes in sample or borehole diameter recorded?	/					
13. Were soil sampling methods and recovery recorded?	<u>/</u>					
14. Was observed evidence of contamination in samples,	√					
cuttings, or drilling fluids recorded?	-1				-	
15. Were abbreviations used on the log defined?	V			-		
16. Were drilling fluid losses including depth, rate, and volume in the subsurface recorded?				V		
Borehole Logging	Yes	Nie	N/O	N/A	-	
17. Was drilling fluid described (water source, additive brand,	res	No	IN/O	IN/A	-	
product name, and mixture)?				1		
18. Were drilling pressures and driller's comments recorded?					-	
19. Was total depth recorded and marked with a double line?				V/	1	
20. Was monitoring well diagram completed and attached to				V/	-	
log?				√		
21. Was drilling fluid described (water source, additive brand,				-/-	1	
product name, and mixture)?				√		

Borehole and Core Logging Checklist (Page 2 of 2)

22. Was rock described using standard geologic nomenclature; e.g. rock type, relative hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or	Yes	5.550	N/O	N/A
hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or				
				/
closed fractures, joints, bedding planes, or cavities and filling materials?				V
23. Was start and stop time of each core run recorded?				V
24. Were depths to top and bottom of each core run recorded?				1
25. Was length of core recovered in each core run recorded?				1
26. Were the size and type of coring bit and barrel recorded?				1
27. Was the depth to the bottom of the hole measured after the core was removed for				
each core run?				/

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature

Date:

7-12-11

to use and between sample intervals?  2. Was each decontamination event recorded in the logbook?  3. Was IDW (decontamination water) handled in accordance with the approved work plan?		
Boring/Monitoring Well Number(s): SBo of Scool S	rved (N/O)	), or not
Answer each question by checking the appropriate column [yes, no, not observed]. If "no" is checked, provide an explanation on the form.  Equipment  1. Was all sampling equipment decontaminated properly prior to use and between sample intervals?  2. Was each decontamination event recorded in the logbook?  3. Was IDW (decontamination water) handled in accordance with the approved work plan?	rved (N/O)	), or not
Answer each question by checking the appropriate column [yes, no, not obset [N/A)]. If "no" is checked, provide an explanation on the form.  Equipment  1. Was all sampling equipment decontaminated properly prior o use and between sample intervals?  2. Was each decontamination event recorded in the logbook?  3. Was IDW (decontamination water) handled in accordance with the approved work plan?	rved (N/O)	), or not
Equipment  I. Was all sampling equipment decontaminated properly prior to use and between sample intervals?  2. Was each decontamination event recorded in the logbook?  3. Was IDW (decontamination water) handled in accordance with the approved work plan?	N/O	N/A
1. Was all sampling equipment decontaminated properly prior to use and between sample intervals? 2. Was each decontamination event recorded in the logbook? 3. Was IDW (decontamination water) handled in accordance with the approved work plan?		
2. Was each decontamination event recorded in the logbook? 3. Was IDW (decontamination water) handled in accordance with the approved work plan?  Corrective Actions:		
with the approved work plan?   ✓		
The QC inspector shall sign this checklist upon completion of all items on the check	iet	
the QC inspector shall sign this encektist upon completion of an items on the encek	151.	
OC Inspector Signature: Date:		
44 1000	4.	
7-12-	17	

I)

Instrument Calibration Checklist (Page 1 of 1)						
Project Name/Number: STATEN ISLAND	WARE	POUSE	= 5	_		
Site: STATE N JSLAND, MY						
Date: 7-12-11			A	. B V	MON. To	AΔ
•			<i>I</i> ) ·		, 0.0	men f
Complete daily. Answer each question by checking the app	ropriate co	olumn [ye	es, no, not	observed	l (N/O),	
or not applicable (N/A)]. If a "no" is checked, provide an e	explanation	n on the N	Voncompl	iance or		
Corrective Actions form.					-	
Instrumental Calibration	Yes	No	N/O	N/A	301	
1. Were all field instruments calibrated properly?					1	
2. Were all field instruments calibrated on the schedule in the						
Work Plan/SSHP?					4	
3. Did the Field Calibration Forms list all calibration events?						
List instruments used at the site: Berathy		= Mo	Notar			
- SEE Hp Documentation	i.					
			,			
The QC inspector shall sign this checklist upon completion of all	items on th	e checklis	t.			
QC Inspector Signature:	Date	:				
BILL	-	7-12-1	1			

### Sample Collection Checklist (Page 1 of 1)

Project Name/Number: STATEN ISLAND	WAR	EHouse	57	_	
Site: STATEN ISLANA, NY			Ved.		
Sampling Date: 7/12/11					
Answer each question by checking the appropriate column	ı [ves, no,	not obser	ved (N/O	), or not ar	plicable
(N/A)]. If "no" is checked, provide an explanation on the				,, 1	•
General	Yes	No	N/O	N/A	7
1. Were new protective gloves worn between sampling locations and/or intervals?	1	1.0	1,70		
2. Were samples collected using methods described in the		-	1		-
Work Plan?	V				
3. Were sample containers filled in the correct order?					1
4. Was sampling equipment appropriate for the purpose and site conditions?	1				
5. Was sampling equipment decontaminated or					1
disposable/dedicated equipment used between each sample?					
6. Were procedures for collecting QA/QC samples followed as per the Work Plan?	/				
7. Were sampling locations properly identified by land survey or GPS locator?	1				
8. Were bottles adequately protected from contamination prior to sample identification?	1				
					<del>1</del> 7.
Soil samples	Yes	No	N/O	N/A	1
9. Were samples collected according to the Work Plan?					1
10. Was a field sampling form completed?					1
11. Were the analytical parameters and QA/QC samples					1
recorded on the Field Data Sheet?	V	<u></u>			]
	T		T	1-2	1
Water samples	Yes	No	N/O	N/A	
12. Were samples collected according to the Work Plan?				/	
13. Was a field sampling form completed?				/	
14. Were the analytical parameters and QA/QC samples				-	1
recorded on the Field Data Sheet?					
15. Was headspace in sample containers for volatiles					1
eliminated?					
	1			1	
Corrective Actions:					
The QC inspector shall sign this checklist upon completion of all	items on t	he checkli	st.		
QC Inspector Signature	Dat	te:			
$\mathcal{R} \cap \mathcal{U}$		_			
De sec	-	7-12	-11	<del></del>	
(III) 677					

<u> </u>	Packing, Storing, and Shipment of Samples Checklist (I	Page 1 of	1)			
	Project Name/Number:					
	Site: 7/12/11 STATEN JECANN	NY				
	Sampling Date: 7112111					
	Boring/Monitoring Well Number(s): NIA (N	o well	Ca		a a	
	SB001, SB002, SB003, SB004					
					_	
	3				_	
Sul	Sur Face: Soil Sample Number(s):					
	SIW-SBOULF-0.0-0.5, SIW-SB	DOLP-	500 2	<b>B</b>		
	SIW-SB002P-010-0.5, NO 5:0-B	Sanole	3.0	19.0	_	
					-	58-1
	SIW-SB004P-0.0-0.5, SIW-SB00L	037-5	0-10-0		B - D:	CFRem out
	Complete daily. Answer each question by checking the app.	tr-s	or Mrc	ol o	Observed	(N/O)
	or not applicable (N/A)]. If a "no" is checked, provide an e					(1 <i>v</i> 0),
72	Corrective Actions form.			•		7
-	Packing, Storing, and Shipment of Samples	Yes	No	N/O	N/A	
	Were the samples handled according to the Work Plan and QAPP?	1				
	2. Did the samples remain in ice from collection until cooler				/	RAD
-	was taped for shipment?					
	3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date,	/				
	sampling time, analytical parameters, preservatives, size and	<b>V</b>				
	number of containers for each analytical parameter, and media					
_	sampled?  4. Were Chain of Custody forms signed and dated by the					1201W Ter
	preparer, placed in water resistant bagging, and included in the				1	NOT
0.00	cooler?				V	Jack
	5. Were signed and dated custody seals properly placed on the				/	rocated to
	cooler and the cooler sealed with strapping tape?				/	
	6. Was a shipping label attached to the cooler?		1 11		V_	
	The QC inspector shall sign this checklist upon completion of all	items on th	ie checklis	t.		
1	QC Inspector Signature:	Date	<b>:</b> :			
	ROP					
1	13 fres	7	-12-1	(	2.0	
	-1 -					

))

Field Documentation Checklist (Page 1 of 1)					
Project Name/Number: Staren Island Ly	AALIOUS	S.	T		
Project Name/Number: STATEN ISLAND IN T	7/12/	11			
Complete daily. Answer each question by checking the app or not applicable (N/A)]. If a "no" is checked, provide an ex- Corrective Actions form.	ropriate coxplanation	olumn [ye on the N	es, no, not oncompli	observed ance or	(N/O),
Field Documentation	Yes	No	N/O	N/A	1
1. Was all original field data, except boring logs, recorded in black indelible ink?	/				
2. Were logbooks filled out properly, accurately recounting the day's events?	V				
3. Were all field forms completed and information accurately	./				
recorded:	V				
-Daily Quality Control Report?	√				
-Daily Tailgate Meeting Form?	1				
-HTRW Drilling Log Form?	7				
-Field Log Books?	7				
-Project Photograph Log (in Log Book)?					
-Field Data Sheet?	1/				
-Chain of Custody Forms?					
List additional field forms completed:					
					E.
The QC inspector shall sign this checklist upon completion of all	items on th	e checklis	t.		f
QC Inspector Signature:	Date	:			
A) H		7.12	-11	=	

Health and Safety Checklist (Page 1 of 2)				
Date: 7-/12-111				
Project Name/Number: STATEN TSLAWS	War	EHouse	SI	-
Site: STATEN ISLAND, NY				
Briefed on-site Personnel and Work Locations:	WOON	Sam	Mar	400
TODO Buchanan, BRAS Couch	· Ra	~ K	us ll	
3	, , , ,			
Complete weekly for each site. Answer each question by c				
no, not observed (N/O), or not applicable (N/A)]. If a "no	" is checke	d, provide	e an expla	nation on
the Noncompliance or Corrective Actions form.				
Documentation	Yes	No	N/O	N/A
1. Is the Site Health and Safely Plan (SSHP) on the Site?	1			
Is the Site Health and Safely Plan (SSHP) on the Site?     Has the SSHP been reviewed, dated, and signed within the				
last year?	V			
3. Are the tasks being completed reflected in the hazard task	,			
analysis?	1			
4. Is there a written acknowledgement that all employees,				
including subcontractors, have been briefed and read the				
SSHP?	1			
5. Are the following training records current and available:	1			
-40-hour HAZWOPER/8-hour refresher for ALL employees	J			
and subcontractors?	,			
-24-hour Supervised Field Experience?	4			
-CPR/First Aid?	J			
-8-hour Hazardous Waste Site Supervisor, and refresher?	J.			

-Initial Site Health and Safety Briefing?

protective equipment current and available?

vehicles?

extinguishers checked?

-Site Health and Safety Briefing for each location or site?
6. Are emergency maps posted at the site and maintained in

8. Were applicable Material Safety Data Sheets at the Site?9. Are documents that indicate employees and subcontractors are medically fit to work and wear the required personal

10. Were daily air monitoring equipment calibrations recorded?

11. Are respirator fit test records available and current?

7. Were daily safety checklists completed and fire

#### Health and Safety Checklist (Page 1 of 2)

Observations	Yes	No	N/O	N/A
12. Are exclusion zones and contaminant reduction zones adequately marked?	1			
13. Is required personal protective equipment available and correctly used, maintained, and stored?	/			
14. Is the following emergency equipment located at each site:	٠,			
-Fire extinguisher?	1			
-Eyewash (15 minutes fresh water)?	1/			
-Communications (walkie-talkie or phone)?	1,			
-First aid kit?	<b>V</b> ,			
15. Is the buddy system in use?	J			
16. Are personnel refraining from drinking, chewing, smoking, taking medications, or other hand-to-mouth contact while working in the exclusion zone?	1			
17. Is air monitoring equipment being used appropriately?				
18. Is the site organized to allow the use of lifting equipment, and avoid tripping hazards and spreading contamination?	J			
19. Was a random employee asked if he/she knew site hazard and emergency procedures?	1			
20. Is the drill rig kill switch clearly marked and easily accessible?	1			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature

Date:

7-12-11

investigation-Derived waste Management Checklist (		•		
Project Name/Number: STATEN FLAND Lu	AREHOUSE	- S-		
Site: STATEN JELANA, NY				
Sampling Date: 7-12-11				
Boring/Monitoring Well Number:				
Complete weekly for each site. Answer each question by observed (N/O), or not applicable (N/A)]. If a "no" is che Noncompliance or Corrective Actions form.	checking the	e appropi de an exp	riate colun olanation o	ın [yes, no, not on the
Investigation-Derived Waste Management	Yes	No	N/O	N/A
1. Was all IDW managed according to the Waste Management				
Plan?				
2. Were soil cuttings, drilling fluids, decontamination water,		/		
development water, and PPE containerized?	/	1		V
3. Were all containers properly labeled and stored?				
4. Were all containers in satisfactory condition?				
The QC inspector shall sign this checklist upon completion of a	ll items on th	e checklis	t.	
QC Inspector Signature:	Date			_

# ALL CLITTINGS RETURNED TO VACANT BOREHOLE,

Daily Quality Control Report (Page 1 of 2) Project Name/Number: Start Iscans WAREHOUSE SI Site: STATEN JSLAND, NY Weather: Clear Overcast Rain Thunderstorm Snow Wind: Still Gusty Moderate High; Direction: WNW Humidity: Dry Moderate Humid Activity Total Contractor/ Equipment Number Subcontractor of Hours Worked Workers SAIC GAMMA WALKOURP 幅 lis 600 TRIMBLE GUU, ROPROBE GEOPROBE GEOPPEOBING / WELL INSTALL 2 Conference Call W/ USACE Geo /SAIC NIA 4 Problems Encountered Corrective Action Taken MIA NIA

Total Daily Hours Worked by all Personnel: Q · 0

### Daily Quality Control Report (Page 2 of 2)

Safety Deficiencies Observed	Correct	ive Action Tak	en		
NIA		NI	A		
·					
Remarks:					
VI-	į.		- 3		
Safety Statistics					
Number of First Aid Incidents:	0				
Number of Recordable Incidents:	0				
Number of Lost Time Days:  Answer each question by checking	the appropriate colu	nn [yes, no, n	ot obser	ved (N/O),	, or not
Answer each question by checking (N/A)].  Forms attached:	the appropriate colu	nn [yes, no, n	ot observ	ved (N/O),	, or not
Answer each question by checking (N/A)].  Forms attached: Daily Tailgate Meeting Form	the appropriate colu				
Answer each question by checking (N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist	the appropriate colu				
Answer each question by checking (N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist	the appropriate colu				
Answer each question by checking (N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist	the appropriate colu				
Answer each question by checking (N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist	the appropriate colu				
Answer each question by checking (N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist					
Answer each question by checking (N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Sam					
Answer each question by checking (N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Sam Field Documentation Checklist					
Answer each question by checking (N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Sam Field Documentation Checklist Health and Safety Checklist					
Answer each question by checking (N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Sam Field Documentation Checklist Health and Safety Checklist IDW Management Checklist	ples Checklist				
Answer each question by checking (N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Sam Field Documentation Checklist Health and Safety Checklist IDW Management Checklist Mobilization/Demobilization Checklist	ples Checklist				
Answer each question by checking (N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Sam Field Documentation Checklist Health and Safety Checklist IDW Management Checklist Mobilization/Demobilization Checklist Building Questionnaire	ples Checklist				
Answer each question by checking (N/A)].  Forms attached: Daily Tailgate Meeting Form Surveying Checklist Borehole and Core Logging Checklist Decontamination Checklist Instrument Calibration Checklist Sample Collection Checklist Packing, Storing, and Shipment of Sam	ples Checklist				

7-13-11

# Daily Tailgate Meeting Form

Job Name <u>Statew</u> Island Start Time <u>1920</u>	Number Completed 1935	Date 7/13/11 Site Location STATEN ISLA
Type of Work (General) RAD, SC	SAFETY ISSUES	MY NY
Tasks (this shift) Protective Clothing/Equipment Chemical Hazards Physical Hazardous Control Methods Special Equipment/Techniques Hazard Communication Overview Nearest Phone Name/Address (incidents, actions taken, etc.)	Sub-Surface Sampling Minimal PPE ungrade As Needed Hard HARS & His Blips, Trips, Falls Severe Weather Decon	Map Posted  Hospital  Special Topics
	ATTENDEES	
Print Name  Barry Kinsall  Brian Gourt  SAM MARTEN  DAVID LAMON  MOWARD HAMMEN  Brian Sweeney  JORN Buchanan	Aland to	Sign Mame  Sign Mame
Meeting conduct	ed by:	

Project Name/Number:		STATEN	J8CAND	LARFHOUSE SI	
	STATEN				
Date:	7-13-11			GR	5 / TRIMBLE

Complete one time for project. Answer each question by checking the appropriate column [yes, no, not observed (N/O) or not applicable (N/A)]. If a "No" is checked, provide an explanation on the Noncompliance and Corrective Action form.

Yes/	No	N/O	N/A
V/			
			/
			()
	/		
	V		
	/		
			V
	Yes	Yes No	Yes No N/O

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature:

Date:

7-13-11

### Borehole and Core Logging Checklist (Page 1 of 2)

product name, and mixture)?

Project Name/Number:		Site:	STAT	en j	SLAND, 1	NY
Boring/Monitoring Well Number: 5805, 5806, 58	07, 8	508, S	Boll,	SB012	,5B014,	·
Date: 7/13/11					5B019	9
Complete for each boring log. Answer each question by ch	ecking th	e appropr	iate colum	n [ves, no	, not	
observed (N/O), or not applicable (N/A)]. If a No is checked					,	
noncompliance and Corrective Actions form.	ou, provid	ic all expir	anditon on			
		NT-	NIO	NI/A	Ē	
Borehole Logging	Yes	No	N/O	N/A		
1. Was boring logged by a geologist, geological engineer, or						
other qualified personnel?						
2. Was log completed and entries printed legibly on the HTRW						
Drilling Log?						
<ul><li>3. Was the log scale 1 inch = 1 foot?</li><li>4. Were logs completed in the field (originals)?</li></ul>	-,					
	<b>V</b>		L			
5. Does the log contain the following entries?  -Unique borehole number	/					
-Depositional type (alluvium, till, loess, etc.)	•					
-Depths/Heights recorded in tenths of feet.	- V					
-Soils classified as per USCS and fully described with	1					
numerical percents of constituents.						
-Soil moisture content and texture or cohesiveness.	_ v					
6. Was general information (top of form HTRW drilling log)	/					
completed?						
7. Were special conditions (i.e. intervals of hole instability) and their resolution recorded?	<b>√</b>					
8. Were start and completion dates and time included for						
boring installation activities?	<b>/</b>					
9. Were boundaries between soils noted (solid line at						
appropriate depth or dashed line if transitional or if observed in						
cuttings?				V		
10. Were depths at which free water was encountered and						
stabilized water levels recorded?				V		
11. Were soil sample depths recorded?						
12. If changes in drilling or sampling methods or equipment						
and changes in sample or borehole diameter recorded?	1					
13. Were soil sampling methods and recovery recorded?	1					
14. Was observed evidence of contamination in samples,				1		
cuttings, or drilling fluids recorded?				V		
15. Were abbreviations used on the log defined?	_					
16. Were drilling fluid losses including depth, rate, and volume						
in the subsurface recorded?						
Borehole Logging		No	N/O	N/A		
17. Was drilling fluid described (water source, additive brand,		1,0	1,,,0			
product name, and mixture)?				/		
18. Were drilling pressures and driller's comments recorded?						
19. Was total depth recorded and marked with a double line?				V		
20. Was monitoring well diagram completed and attached to				1		
og?				<b>✓</b>		
1 Was drilling fluid described (water source, additive brand				- 2		

Borehole and Core Logging Checklist (Page 2 of 2)

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative	1		3.31.30	195500405
hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or				1
closed fractures, joints, bedding planes, or cavities and filling materials?				1
23. Was start and stop time of each core run recorded?				V
24. Were depths to top and bottom of each core run recorded?				1,
25. Was length of core recovered in each core run recorded?				V.
26. Were the size and type of coring bit and barrel recorded?				1
27. Was the depth to the bottom of the hole measured after the core was removed for	1			7
each core run?				
	1			-

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature

Date:

7-13-11

Decontamination Checklist (Page 1 of 1)						
Project Name/Number: STATEN ISLAND	WAR	ef locks	<u> </u>	I		
Site: STATEN ISLAND, NY						
Sampling Date: 7/13/11						
Boring/Monitoring Well Number(s): 5805, 5806	, SBOF	1.5Ba	11,5	3012,	5B014	SBOI
Answer each question by checking the appropriate column (N/A)]. If "no" is checked, provide an explanation on the f	[yes, no, r					
Equipment	Yes	No	N/O	N/A		
1. Was all sampling equipment decontaminated properly prior to use and between sample intervals?	1,					
2. Was each decontamination event recorded in the logbook?	1					
3. Was IDW (decontamination water) handled in accordance with the approved work plan?	1					
Corrective Actions:						
The QC inspector shall sign this checklist upon completion of all	items on th	ie checklis	t.			
QC Inspector Signature	Date	: 7-12-	1.5			

Instrument Calibration Checklist (Page 1 of 1)					
Project Name/Number: STATEN JSLAM	MARE	lous B	I2 -		
Site: STATEN ISLAND, NY			_		_
Date: 7-13-11			A	ir /	novitoring
					J
Complete daily. Answer each question by checking the appr					i (N/O),
or not applicable (N/A)]. If a "no" is checked, provide an e	xplanatior	on the N	Noncompl:	iance or	
Corrective Actions form.					<b>→</b>
Instrumental Calibration	Yes /	No	N/O	N/A	(6)
1. Were all field instruments calibrated properly?	/				
2. Were all field instruments calibrated on the schedule in the	/				
Work Plan/SSHP?					_
3. Did the Field Calibration Forms list all calibration events?					_
List instruments used at the site:  SEE HP DROWNEY IN 1991		VE /	Me N. Y	Ser.	
9					
The QC inspector shall sign this checklist upon completion of all	:	a abaaldia	4		
The QC inspector shall sign this checklist upon completion of all	items on th	e checkins	ι.		
QC Inspector Signature	Date				
Control of the contro		•			
1	+	-13-11			
	<del></del>				Ø

# Sample Collection Checklist (Page 1 of 1)

Project Name/Number: STATEN ISLAMA	WA	estou	S € S	ST.	
Site: STATEN ISLAND, NY					
Sampling Date: 7/13/11					
Answer each question by checking the appropriate column		not obser	ved (N/O)	), or not ap	plicable
(N/A)]. If "no" is checked, provide an explanation on the			LNIO	NI/A	f
General	Yes	No	N/O	N/A	
1. Were new protective gloves worn between sampling locations and/or intervals?	<b>√</b>				
2. Were samples collected using methods described in the Work Plan?	V				
3. Were sample containers filled in the correct order?	1				
4. Was sampling equipment appropriate for the purpose and site conditions?	1				
5. Was sampling equipment decontaminated or disposable/dedicated equipment used between each sample?	1				
6. Were procedures for collecting QA/QC samples followed as per the Work Plan?	/				
7. Were sampling locations properly identified by land survey or GPS locator?	<b>V</b>				
8. Were bottles adequately protected from contamination prior					
to sample identification?	V				
•		1			5
Soil samples	Yes	No	N/O	N/A	1
9. Were samples collected according to the Work Plan?	V				ĺ
10. Was a field sampling form completed?	1				Í
11. Were the analytical parameters and QA/QC samples	,				
recorded on the Field Data Sheet?					
					1.
Water samples	Yes	No	N/O	N/A	1
12. Were samples collected according to the Work Plan?	NIA				
13. Was a field sampling form completed?	NIA				
14. Were the analytical parameters and QA/QC samples					
recorded on the Field Data Sheet?	AIN				
15. Was headspace in sample containers for volatiles					]
eliminated?	NIA				
			4		-
Commention Astinus					
Corrective Actions:					
The QC inspector shall sign this checklist upon completion of all	l items on t	he checkli	st.		
QC Inspector Signature:	Dat	e:			
13 dll		7-13	-1(		
		/ • 🔾	/ -		

Site: STATEN ISLAMA (M)  Sampling Date: 7-13-11  Boring/Monitoring Well Number(s): SRos, SRob, SRob, SRoH, S	Site: STATEN ISLAND, AVI  Sampling Date: 7-13-11  Boring/Monitoring Well Number(s): SRos SBob, S	Packing, Storing, and Shipment of Samples Checklist (				
Sampling Date: 7-(3-)1  Boring/Monitoring Well Number(s): SRos, SRob, SR	Sampling Date: 7-13-11  Boring/Monitoring Well Number(s): SRos SRob SRob SRob SRob SRob SRob SRob SRob	Project Name/Number: STATEN ISLAM	WAREHO	USE	SI	
Boring/Monitoring Well Number(s): SRos, SRob, SR	Boring/Monitoring Well Number(s): SBos, SBob, SBoH, SB	Site: STATEN ISLAND, NY				
Boring/Monitoring Well Number(s): SRos, SRob, SR	Boring/Monitoring Well Number(s): SBos, SBob, SBoH, SB	Sampling Date: 7-13-11				
Surface Soil Sample Number(s):    N(A   Several Surface Soil Sample Number(s):   N(A   Several Surface Soil Sample Number(s):   N(A   Several Surface Soil Sample Number(s):   N(A   Several Surface Soil Sample Surface Soil Sample Surface Soil Sample Surface Surfa	Surface Soil Sample Number(s):		, SBn=	7, SE	110	
Complete daily. Answer each question by checking the appropriate column [yes, no, not observe or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	Surface Soil Sample Number(s):  N(A  Complete daily. Answer each question by checking the appropriate column [yes, no, not observe or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the proparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Were signed and lated custody seals properly placed on the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:					<b>_</b>
Complete daily. Answer each question by checking the appropriate column [yes, no, not observe or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	Complete daily. Answer each question by checking the appropriate column [yes, no, not observed for not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:					_,
Complete daily. Answer each question by checking the appropriate column [yes, no, not observe or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	Complete daily. Answer each question by checking the appropriate column [yes, no, not observed for not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:					
Complete daily. Answer each question by checking the appropriate column [yes, no, not observe or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	Complete daily. Answer each question by checking the appropriate column [yes, no, not observed for not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	Surface Soil Sample Number(s): N(P				
or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  5. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	buriace con bumple (vamoer(b).				
or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  5. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	Feet Control of the C	1117			_
or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  5. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:					_
or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:	or not applicable (N/A)]. If a "no" is checked, provide an explanation on the Noncompliance or Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  5. Was a shipping label attached to the cooler?  The QC inspector Signature:  Date:					
2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  Date:	2. Did the samples remain in ice from collection until cooler was taped for shipment? 3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled? 4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler? 5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape? 6. Was a shipping label attached to the cooler? 6. Was a shipping label attached to the cooler? 6. Cooler Signature: 6. Date:  Date:		Capitaliation	i on the i	voncompi	lance of
was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  Date:	was taped for shipment?  B. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  B. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the property placed on the cooler?  B. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  B. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  Date:	Corrective Actions form.  Packing, Storing, and Shipment of Samples				
completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the prooler?  5. Were signed and dated custody seals properly placed on the prooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  Date:	Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?				
sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the property placed and dated custody seals properly placed on the property and the cooler sealed with strapping tape?  5. Were signed and dated custody seals properly placed on the property placed on the prop	Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler				
sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  Date:	Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and	Yes			
preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	oreparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  Countries of the cooler of the cooler of the cooler of the cooler of the checklist.	Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date,	Yes			
5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  5. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?	Yes			
cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	cooler and the cooler sealed with strapping tape?  5. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the	Yes			
6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the	Yes			
The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	The QC inspector shall sign this checklist upon completion of all items on the checklist.  QC Inspector Signature:  Date:	Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the	Yes			
()		Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?	Yes			
()		Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?	Yes	No	N/O	
7-13-11	7-13-11	Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all the cooler sealed with schecklist upon completion of all the coolers.	Yes V	No	N/O	
		Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all the cooler sealed with schecklist upon completion of all the coolers.	Yes V	No ne checkli	N/O	

))

Field Documentation Checklist (Page 1 of 1)					
Project Name/Number: STATEN ISLAND, NY	Wae	effocis	= S	T	
Site: STATEN IS LAND, NY					
Complete daily. Answer each question by checking the app	ropriate c	olumn [v	e no not	observed	1 (N/O)
or not applicable (N/A)]. If a "no" is checked, provide an ex-	vnlanation	on the N	Ioncompli	ance or	· (100),
Corrective Actions form.	Apranation	on the r	oncompn	unce or	
Field Documentation	Yes	No	N/O	N/A	1
1. Was all original field data, except boring logs, recorded in	103	110	100	17/18	
black indelible ink?	V				
2. Were logbooks filled out properly, accurately recounting the	-/				1
day's events?	V				
3. Were all field forms completed and information accurately					1
recorded:	<b>√</b>				
-Daily Quality Control Report?	<b>√</b>				
-Daily Tailgate Meeting Form?	1				
-HTRW Drilling Log Form?					
-Field Log Books?	<b>V</b>				
-Project Photograph Log (in Log Book)?			/		
-Field Data Sheet?	1,				
-Chain of Custody Forms?	/				
List additional field forms completed:	- V	11			77
					-
The QC inspector shall sign this checklist upon completion of all	itama an th	a abaaldia		_	
The QC mopeotor shall sign this enceknet upon completion of an	items on th	e checkiis	ι.		
QC Inspector Signature:	Date				
Q OTH	Date	•			
3) 1		-13-	11		
A ST		- 13	( )		
· 6					

Health and Safety Checklist (Page 1 of 2)					
Date: 7/B   1					
Project Name/Number: STATEN ISLAND	WARE	HOUSE	<sub>5</sub> S	I	
Site: STATIEN ISLAND					
Briefed on-site Personnel and Work Locations:			7,		4
DANTE LAWSON, TODO Buchenan	1, 54	mm	artan	BRA	D Cough
Howas Hammel, BRIAN SLUG					
Complete weekly for each site. Answer each question by cheno, not observed (N/O), or not applicable (N/A)]. If a "no" the Noncompliance or Corrective Actions form.	necking th is checke	e appropr d, provide	iate colum e an expla	nn [yes, nation on	
Documentation	Yes	No	N/O	N/A	
1. Is the Site Health and Safely Plan (SSHP) on the Site?	Yes				
2. Has the SSHP been reviewed, dated, and signed within the last year?	/				
3. Are the tasks being completed reflected in the hazard task		-			
analysis?	<b>V</b>				
4. Is there a written acknowledgement that all employees, including subcontractors, have been briefed and read the SSHP?					
5. Are the following training records current and available:					
-40-hour HAZWOPER/8-hour refresher for ALL employees and subcontractors?	/				
-24-hour Supervised Field Experience?					
-CPR/First Aid?	J				
-8-hour Hazardous Waste Site Supervisor, and refresher?	7,				
-Initial Site Health and Safety Briefing?	V.				
-Site Health and Safety Briefing for each location or site?	/				
6. Are emergency maps posted at the site and maintained in vehicles?	✓				
7. Were daily safety checklists completed and fire	1				
extinguishers checked?	V ,				
8. Were applicable Material Safety Data Sheets at the Site?					
9. Are documents that indicate employees and subcontractors					
are medically fit to work and wear the required personal	1				
protective equipment current and available?					
10. Were daily air monitoring equipment calibrations recorded?	<b>√</b>			_/	
11. Are respirator fit test records available and current?					Ĺ

## Health and Safety Checklist (Page 1 of 2)

Observations	Yes	No	N/O	N/A
12. Are exclusion zones and contaminant reduction zones adequately marked?	1			
13. Is required personal protective equipment available and correctly used, maintained, and stored?	5			
14. Is the following emergency equipment located at each site:	- /			
-Fire extinguisher?	√,			
-Eyewash (15 minutes fresh water)?	✓			
-Communications (walkie-talkie or phone)?	V			
-First aid kit?	/_			
15. Is the buddy system in use?				
16. Are personnel refraining from drinking, chewing, smoking, taking medications, or other hand-to-mouth contact while working in the exclusion zone?	/			
17. Is air monitoring equipment being used appropriately?				
18. Is the site organized to allow the use of lifting equipment, and avoid tripping hazards and spreading contamination?	1			
19. Was a random employee asked if he/she knew site hazard and emergency procedures?		/		
20. Is the drill rig kill switch clearly marked and easily accessible?				

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature

Date:

7-13-11

Investigation-Derived Waste Management Checklist (P.	<u>age 1 of 1)</u>					_
Project Name/Number: STATEN ISLAND	MARALL	bin803	SI			
Site: STATEN ISLAND, NY						
Sampling Date: 7-13-11						
Boring/Monitoring Well Number: SBOS, SBOD,	SB07,	SBo	11, SB	01456	Bo14, SB019	t
Complete weekly for each site. Answer each question by clobserved (N/O), or not applicable (N/A)]. If a "no" is chec	_				o, not	
Noncompliance or Corrective Actions form.	•				±0	
Investigation-Derived Waste Management	Yes	No	N/O	N/A		
1. Was all IDW managed according to the Waste Management						

Yes	No	N/O	N/A
<b>/</b>			
			~
			1
			/
	Yes	Yes No	Yes No N/O

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature;

Date:

7-13-11

RETURNOS TO RESpective BH

Daily Quality Control Report (Page 1 of 2)					
Project Name/Number:					
Site: STATEN ISLAWA.	NY				
Date: 7/14/11					
Weather: Clear Overcast Rain Thunder					
Temperature:	☑70-85 °F □85	5 > °F			
Wind: Still Gusty Moderate High; Dire					
Humidity: Dry Moderate Humid					
Activity	Contractor/ Subcontractor	Equipment	Number of Workers	Total Hours Worked	
CLEARING / GRUBBING	GEO	WEED EAT		3	i i
GEOPROBING	ENUIRO PROJ			3	
Soil SAMPLING	GEO	Misc. Equ	74 3	4	1
RAD WALK OUDR	SAIC	-	-	i i	BK
EXCAVATION	COEO	METERS SMALL EXCAVATOR	Ī.	2	
Problems Encountered Corre	ective Action Taker	1			
Total Daily Hours Worked by all Personnel:	<b>1</b> 100				

#### Daily Quality Control Report (Page 2 of 2)

Safety: Activity Safety Inspection						
Safety Deficiencies Observed	C	orrective Action	Take	en		
NIA		NIA	4			
Remarks:						
Safety Statistics						
Number of First Aid Incidents:	d					
Number of Recordable Incidents:	Ø					
Number of Lost Time Days:	6					
Answer each question by checking the	appropriate	column [yes,	no, n	ot observ	red (N/O)	, or not appli
(N/A)].						
Forms attached:		Ye	8	No	N/O	N/A
Daily Tailgate Meeting Form		/				
Surveying Checklist						
Borehole and Core Logging Checklist		/				
Decontamination Checklist		J				
Instrument Calibration Checklist						

Forms attached:	Yes	No	N/O	N/A
Daily Tailgate Meeting Form	1			
Surveying Checklist	(%)			/
Borehole and Core Logging Checklist				
Decontamination Checklist	5			
Instrument Calibration Checklist				
Sample Collection Checklist	1			
Packing, Storing, and Shipment of Samples Checklist				
Field Documentation Checklist	√.			
Health and Safety Checklist	1			
IDW Management Checklist	7			
Mobilization/Demobilization Checklist				
Building Questionnaire	,			/
HTRW Drilling Log Form	1			
Field Data Sheet	1			
Chain of Custody Forms			7	

The FOM shall complete and sign a DQCR daily, all DQCRs to be submitted at conclusion of field work.

OM Signature:
55
<u> </u>

Date: 7-14-11

# Daily Tailgate Meeting Form

Job Name	Number	Date 7-14-11
Start Time O9140	Completed	Site Location STATEN
Type of Work (General)	Impling (SuilY GEMPIONE	
Tasks (this shift)	SAFETY ISSUES	GEOPROBE 1
Protective Clothing/Equipment Chemical Hazards Physical Hazardous	Caloues, Tiusk, Booties, 1	brol Harts, Satisfe slasses
Control Methods Special Equipment/Techniques	7	CORE CUITING
Hazard Communication Overview Nearest Phone Name/Address	Ceu PHenes	Hospital
incidents, actions taken, etc.)		Special Topics
	<u>ATTENDEES</u>	
Todd Buchanan Zavid Lamon	- John	Sign Name
Howard Hammen Brian Sween ag	Mantha 1	
Derry Kinsall		
		\
Meeting cond	ducted by:	

Project Name/Number: STATEN ISLAN	10 WAREHOUSE SI	
Site: STATEN ISLAND, NY	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	-
Date: 7-14-11	/ / / / /	

Complete one time for project. Answer each question by checking the appropriate column [yes, no, not observed (N/O) or not applicable (N/A)]. If a "No" is checked, provide an explanation on the Noncompliance and Corrective Action form.

Surveying	Yes	No	N/O	N/A/
1. Was the Scope of Work reviewed with the surveyor?		1732		1
2. Was the schedule for the work provided to the surveyor?				1
3. Was the survey completed by a licensed land surveyor?				1
4. Were locations surveyed for horizontal and vertical control?				1
5. Were conditions measured to the closest 0.1 feet and				/
elevations measured to the closest 0.01 feet?				1
6. Was the survey marker and TOC surveyed for each				/
monitoring well?				1
7. Were surveyor's closure calculations reviewed?				
8. Was surveyor interviewed by QC Inspector before leaving				)
the Site?				/

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature

Date:

7-14-11

## Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number:		Site:	STATEN	ISLAND,	NY
Boring/Monitoring Well Number Date: 7-14-11	5B020, SB022, S1 5B015, SB018, SB09	3013/88	olb, SBOL	t, sbog	
Complete for each horing log A	nswer each question by checking	the annronria	te column [ves.	no. not	

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or				
other qualified personnel?	V			
2. Was log completed and entries printed legibly on the HTRW				
Drilling Log?				
3. Was the log scale 1 inch = 1 foot?				
4. Were logs completed in the field (originals)?	<b>√</b>			
5. Does the log contain the following entries?				
-Unique borehole number	V.			
-Depositional type (alluvium, till, loess, etc.)	1			
-Depths/Heights recorded in tenths of feet.				1
-Soils classified as per USCS and fully described with				
numerical percents of constituents.	<b>V</b>			
-Soil moisture content and texture or cohesiveness.	~			#
6. Was general information (top of form HTRW drilling log)				
completed?	1			
7. Were special conditions (i.e. intervals of hole instability) and	_			
their resolution recorded?	1			
8. Were start and completion dates and time included for				
boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at				
appropriate depth or dashed line if transitional or if observed in				/
cuttings?				
10. Were depths at which free water was encountered and				
stabilized water levels recorded?		V		
11. Were soil sample depths recorded?	/			
12. If changes in drilling or sampling methods or equipment	,			
and changes in sample or borehole diameter recorded?	/			
13. Were soil sampling methods and recovery recorded?				
14. Was observed evidence of contamination in samples,	1			
cuttings, or drilling fluids recorded?	1			
15. Were abbreviations used on the log defined?				
16. Were drilling fluid losses including depth, rate, and volume				1
in the subsurface recorded?				V
Borehole Logging	Yes	No	N/O	N/A
17. Was drilling fluid described (water source, additive brand,				
product name, and mixture)?				V.
18. Were drilling pressures and driller's comments recorded?				
19. Was total depth recorded and marked with a double line?				1
20. Was monitoring well diagram completed and attached to				,
log?				V,
21. Was drilling fluid described (water source, additive brand,				
product name, and mixture)?				

Borehole and Core Logging Checklist (Page 2 of 2)

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative				
hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or				/
closed fractures, joints, bedding planes, or cavities and filling materials?				~
23. Was start and stop time of each core run recorded?				1
24. Were depths to top and bottom of each core run recorded?				1
25. Was length of core recovered in each core run recorded?		_		1
26. Were the size and type of coring bit and barrel recorded?	1			1
27. Was the depth to the bottom of the hole measured after the core was removed for	1			
each core run?				

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature:

Date:

7-14-11

Project Name/Number:				
Site: STATEN ISLAND, NY				
Sampling Date: 7-14-18				<b>.</b>
Boring/Monitoring Well Number(s): SB020, S8022,	5B013, 5	BU16.	SBUIT,	5809, 58018
Answer each question by checking the appropriate column	[yes, no, 1			
(N/A)]. If "no" is checked, provide an explanation on the f			1 110	NT/A
Equipment	Yes	No	N/O	N/A
1. Was all sampling equipment decontaminated properly prior to use and between sample intervals?	1			
2. Was each decontamination event recorded in the logbook?	/			
3. Was IDW (decontamination water) handled in accordance with the approved work plan?	1			
with the approved work plan:				
Corrective Actions:				
Corrective Actions:		ne checkl	ist	
Corrective Actions:		ne checkl	ist.	
			ist.	

Instrument Calibration Checklist (Page 1 of 1)			
Project Name/Number: STATED ISLAND	WAR	EHOUSE	51
Site: STATEN ISCAND			
Date: 7-14-11			
Date			
			= .
Complete daily. Answer each question by checking the appr	-		
or not applicable (N/A)]. If a "no" is checked, provide an example and a corrective Actions form.	xplanatio	n on the N	oncompi
nstrumental Calibration	Yes	No	N/O
. Were all field instruments calibrated properly?	Jes	NO	14/0
2. Were all field instruments calibrated on the schedule in the	-/		
Work Plan/SSHP?	,		
3. Did the Field Calibration Forms list all calibration events?			
BREATHING ZONE MONITORS	CAS.	F) (S	ee Hi
FOR THOUGH FALCOURH			
HYDROLAD CDIDN'T USED			
HYDROLD (DIDN'T USE)			
HYDROLAB (DIDN'T USE)		-3	
HYDROLAB (DIDN'T USE)			
HYDROLAB (DIDN'T USE)			
HYDROLAB (DIDN'T USE)		ne checklist.	
The QC inspector shall sign this checklist upon completion of all i		ne checklist.	
HYDROLAB (DIDN'T USE)			
THY DROUMB (DIDNT USE)  The QC inspector shall sign this checklist upon completion of all i	tems on tl		

# Sample Collection Checklist (Page 1 of 1)

Project Name/Number:					
Site: STATEN ISLAWD, NY					
Sampling Date: 7-14-11					
Answer each question by checking the appropriate column	lves no	not obset	ved (N/O	or not an	nlicable
(N/A)]. If "no" is checked, provide an explanation on the		not obser	vea (11/0)	,, or not up	phodore
General	Yes	No	N/O	N/A	l .
1. Were new protective gloves worn between sampling	/				
locations and/or intervals?					
2. Were samples collected using methods described in the Work Plan?	1				
3. Were sample containers filled in the correct order?					
4. Was sampling equipment appropriate for the purpose and site conditions?	1				
5. Was sampling equipment decontaminated or	1			1(4):	
disposable/dedicated equipment used between each sample?	V				
6. Were procedures for collecting QA/QC samples followed as per the Work Plan?	/				
7. Were sampling locations properly identified by land survey	1				
or GPS locator?	<b>✓</b>				
8. Were bottles adequately protected from contamination prior	/				
to sample identification?	_ v			l	J
Soil samples	Yes-	No	N/O	N/A	ľ
9. Were samples collected according to the Work Plan?	105	140	14/0	11/21	
10. Was a field sampling form completed?	/				
11. Were the analytical parameters and QA/QC samples	,				
recorded on the Field Data Sheet?	<b>✓</b>				
				T-11-1	16
Water samples	Yes	No	N/O	N/A	
12. Were samples collected according to the Work Plan?				/	
13. Was a field sampling form completed?				/	
14. Were the analytical parameters and QA/QC samples					
recorded on the Field Data Sheet?				/	
15. Was headspace in sample containers for volatiles				1	
eliminated?					
	1				E
Corrective Actions:					
The QC inspector shall sign this checklist upon completion of all	l items on t	the checkli	st.		
QC Inspector Signature:	Dat	te:			
45 220		2-14-	) (		
777	7	-1-1	11		

Packing, Storing, and Shipment of Samples Checklist (F	Page 1 of 1	)		
Project Name/Number:				
Site: STATEN ISLAND, NY				
Sampling Date: 7-14-11				
Boring/Monitoring Well Number(s):				
5B020, SB022, SB013, SB011		7.5	B08	
5B015,5B018,5B09				
Surface Soil Sample Number(s):				-
				-
				===
Complete daily. Answer each question by checking the ann	ropriate co	dumn Iv	es, no, not	ODSELVE
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.	explanation	on the l	Noncompl	iance or
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples	ropriate co explanation	olumn [yen on the l	es, no, not Noncompl	iance or
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  I. Were the samples handled according to the Work Plan and	explanation	on the l	Noncompl	iance or
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler	explanation	on the l	Noncompl	iance or
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and	explanation	on the l	Noncompl	iance or
or not applicable (N/A)]. If a "no" is checked, provide an electrocorrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media	explanation	on the l	Noncompl	iance or
or not applicable (N/A)]. If a "no" is checked, provide an electric Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the	explanation	on the l	Noncompl	iance or
or not applicable (N/A)]. If a "no" is checked, provide an electric Actions form.  Packing, Storing, and Shipment of Samples  I. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the	explanation	on the l	Noncompl	iance or
Complete daily. Answer each question by checking the apport not applicable (N/A)]. If a "no" is checked, provide an electric corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?	explanation	on the l	Noncompl	iance or
or not applicable (N/A)]. If a "no" is checked, provide an electric Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the prooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?	Yes	No No	N/O N/O	iance or
or not applicable (N/A)]. If a "no" is checked, provide an electric Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all	Yes /	No No	N/O N/O	iance or
or not applicable (N/A)]. If a "no" is checked, provide an electroctive Actions form.  Packing, Storing, and Shipment of Samples  I. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the prooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?	Yes Ves Ves Ves Ves Ves Ves Ves Ves Ves V	No No	N/O N/O st.	iance or

Field Documentation Ch	ecklist (Page 1 of 1)
------------------------	-----------------------

Field Documentation Checklist (Page 1 of 1)					
Project Name/Number: STATEN ISLAND	MARE	645E	SI	-	
Site: STATEN JSLAND, NY					
Complete daily. Answer each question by checking the ap	nronriate co	olumn (vec	s no not	observed	1 (N/O)
or not applicable (N/A)]. If a "no" is checked, provide an					. ( ),
Corrective Actions form.	explanation	on the re	ncompii	unce or	
Field Documentation	Yes	No	N/O	N/A	7
Was all original field data, except boring logs, recorded in	103	110	100	.,,,,	1
black indelible ink?	V				
2. Were logbooks filled out properly, accurately recounting the					1
day's events?	V				
3. Were all field forms completed and information accurately					1
recorded:	1				
-Daily Quality Control Report?	1				
-Daily Tailgate Meeting Form?	1				
-HTRW Drilling Log Form?	<b>/</b>				
-Field Log Books?	/				
-Project Photograph Log (in Log Book)?	<b>&gt;</b>	/			
-Field Data Sheet?	1				
-Chain of Custody Forms?	1				
List additional field forms completed:					
		-			-
					-
The QC inspector shall sign this checklist upon completion of all	items on th	e checklist.			-
QC Inspector Signature;	Date	:			
R(1)	2	(			
The Tark	+-1	4-11			

Health and Safety Checklist (Page 1 of 2)				
Date: 7-14-11				
Project Name/Number:				
Site: STATEN ISLAND, NY				
Briefed on-site Personnel and Work Locations:	IN IS	LANA	war	EHUUSE
STATION IS LAND , NY				
P				
Complete weekly for each site. Answer each question by ch	ecking the	e appropi	iate colum	ın [yes,
no, not observed (N/O), or not applicable (N/A)]. If a "no"	is checked	d, provid	e an expla	nation on
the Noncompliance or Corrective Actions form.				
Documentation	Yes	No	N/O	N/A
1. Is the Site Health and Safely Plan (SSHP) on the Site?				
2. Has the SSHP been reviewed, dated, and signed within the				
last year?	~			
3. Are the tasks being completed reflected in the hazard task				
analysis?	V			
4. Is there a written acknowledgement that all employees,				
including subcontractors, have been briefed and read the				
SSHP?				
5. Are the following training records current and available:				<u></u>
-40-hour HAZWOPER/8-hour refresher for ALL employees				
and subcontractors?	/		-	
-24-hour Supervised Field Experience? -CPR/First Aid?	-/			
	-1			
-8-hour Hazardous Waste Site Supervisor, and refresher?				
-Initial Site Health and Safety Briefing? -Site Health and Safety Briefing for each location or site?	/			
6. Are emergency maps posted at the site and maintained in				
vehicles?	✓			
7. Were daily safety checklists completed and fire	7			
extinguishers checked?	1,			
8. Were applicable Material Safety Data Sheets at the Site?				
9. Are documents that indicate employees and subcontractors		11-17		
are medically fit to work and wear the required personal				
protective equipment current and available?	٠,			
10. Were daily air monitoring equipment calibrations recorded?	<b>√</b>			1
11. Are respirator fit test records available and current?				V

## Health and Safety Checklist (Page 1 of 2)

Observations	Yes	No	N/O	N/A
12. Are exclusion zones and contaminant reduction zones adequately marked?	/			
13. Is required personal protective equipment available and correctly used, maintained, and stored?	/			
14. Is the following emergency equipment located at each site:				
-Fire extinguisher?	1,			
-Eyewash (15 minutes fresh water)?	1,			
-Communications (walkie-talkie or phone)?	1,			
-First aid kit?	1,			
15. Is the buddy system in use?	<b>✓</b>			
16. Are personnel refraining from drinking, chewing, smoking, taking medications, or other hand-to-mouth contact while working in the exclusion zone?	\ <u></u>			
17. Is air monitoring equipment being used appropriately?	1			
18. Is the site organized to allow the use of lifting equipment, and avoid tripping hazards and spreading contamination?	1			
19. Was a random employee asked if he/she knew site hazard and emergency procedures?			/	
20. Is the drill rig kill switch clearly marked and easily accessible?	1			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature:

Date:

7-14-11

Project Name/Number:				
Site: STATEN ISLAND, NY				
Sampling Date: 7-14-1				
Boring/Monitoring Well Number: 58020, S& 58015	, 58018	3,5B0	16 , 58 9	13. F108
Complete weekly for each site. Answer each question observed (N/O), or not applicable (N/A)]. If a "no" is Noncompliance or Corrective Actions form.				
Investigation-Derived Waste Management	Yes	No	N/O	N/A
1. Was all IDW managed according to the Waste Manageme Plan?	ent			
2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized?				
3. Were all containers properly labeled and stored?				
4. Were all containers in satisfactory condition?				
The QC inspector shall sign this checklist upon completion of	of all items on th	e checkli	st.	
QC Inspector Signature	Date	»:		
De la companya della companya della companya de la companya della	7	-14-1	1	<del></del>
of Au Cuttings & To Respective BH.	F Decor	WA	TER	RETURN

Daily Quality Control Report (Page 1 of 2) Project Name/Number:\_ STATEN ISLAND WAREHOUSE 7-15-11 Date: Weather: Clear Overcast Rain Thunderstorm Snow Temperature:  $\square <32 \text{ °F } \square 32-50 \text{ °F } \square 50-70 \text{ °F } \square 70-85 \text{ °F } \square 85 > \text{°F}$ Wind: Still Gusty Moderate High; Direction: \_\_\_\_\_ Humidity: Moderate Humid Total Equipment Number Contractor/ Activity Hours of Subcontractor Worked Workers CEUPPOBE GEOPROBINA ENVIPEOBE 2 Tools SAMPLING 600 METERS SAIC HP SUPPORT Cao manable Corrective Action Taken Problems Encountered Total Daily Hours Worked by all Personnel:

#### Daily Quality Control Report (Page 2 of 2)

Corrective A	ction Taken
	NIA
	10.7.
+	
đ,	
Ø	
1	

Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)].

Forms attached:	Yes	No	N/O	N/A
Daily Tailgate Meeting Form				
Surveying Checklist				
Borehole and Core Logging Checklist	1			
Decontamination Checklist	1			
Instrument Calibration Checklist	1			
Sample Collection Checklist	1			
Packing, Storing, and Shipment of Samples Checklist	1			
Field Documentation Checklist	✓.			
Health and Safety Checklist	1			
IDW Management Checklist				
Mobilization/Demobilization Checklist				
Building Questionnaire				
HTRW Drilling Log Form	1			
Field Data Sheet	1,		y .	
Chain of Custody Forms			3:	

The FOM shall complete and sign a DQCR daily, all DQCRs to be submitted at conclusion of field work.

FOM Signature

Date:

# Daily Tailgate Meeting Form

Job Name Start Time 0820	Number Completed 032 8	Date 7-15-11 Site Location STATE W
Type of Work (General)	nplink, brussink, we	EMP. JELAND, MY
	SAFETY ISSUES	
Tasks (this shift) Protective Clothing/Equipment Chemical Hazards Physical Hazardous Control Methods Special Equipment/Techniques Hazard Communication Overview Nearest Phone Name/Address (incidents, actions taken, etc.)	SEE ABOUTE TRUEK, BOOTIES, NITELL CASOLINE RAD, CUIS, YOMO, HYRAT, DOSIMETERS, & AIR MON	EGLOUES, SAPETI GLASSE, STEEL TOE BROTS  TODOMO, PAD METERS.  Hospital Special Topics
	<b>ATTENDEES</b>	
Print Name  BLAD GOCGH  HOWARD HAMMED  TOUR BYCLA CHOCH  Allen ROOS  OLE & POVETKO  ZAVIZLAMEN  Brian Sweeney  SAM MARKEN		Sign Name
Meeting con	nducted by:	

#### Surveying Checklist (Page 1 of 1)

Project Name/Number:_	STATION ISLAND	WAREHUSE	SI
Site: STATEN	ISLAND, NY		n ( /A
Date: 7-15-11			NA

Complete one time for project. Answer each question by checking the appropriate column [yes, no, not observed (N/O) or not applicable (N/A)]. If a "No" is checked, provide an explanation on the Noncompliance and Corrective Action form.

Surveying	Yes	No	N/O	N/A
Was the Scope of Work reviewed with the surveyor?				
2. Was the schedule for the work provided to the surveyor?				_
3. Was the survey completed by a licensed land surveyor?				_
4. Were locations surveyed for horizontal and vertical control?				
5. Were conditions measured to the closest 0.1 feet and				
elevations measured to the closest 0.01 feet?				/
6. Was the survey marker and TOC surveyed for each				_
monitoring well?				
7. Were surveyor's closure calculations reviewed?				/
8. Was surveyor interviewed by QC Inspector before leaving				_
the Site?				

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature:

Date:

#### Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: STATEN ISLAND, NAREHOUSE SI Site: STATEN IS LAND, N	1
Boring/Monitoring Well Number: 58023, 58024, 58010, 58025, 58021, 58026	9
Date:	

Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not observed (N/O), or not applicable (N/A)]. If a No is checked, provide an explanation on the noncompliance and Corrective Actions form.

noncompliance and Corrective Actions form.				
Borehole Logging	Yes	No	N/O	N/A
1. Was boring logged by a geologist, geological engineer, or				
other qualified personnel?	<b>✓</b>			
2. Was log completed and entries printed legibly on the HTRW				
Drilling Log?	✓			
3. Was the log scale 1 inch = 1 foot?			V	
4. Were logs completed in the field (originals)?	<b>/</b>			
5. Does the log contain the following entries?	,			
-Unique borehole number	<b>√</b> ,	_		
-Depositional type (alluvium, till, loess, etc.)			,	
-Depths/Heights recorded in tenths of feet.			/	
-Soils classified as per USCS and fully described with				
numerical percents of constituents.	\ \ \ \ \			
-Soil moisture content and texture or cohesiveness.	1			
6. Was general information (top of form HTRW drilling log)	1			
completed?	V			
7. Were special conditions (i.e. intervals of hole instability) and	1			
their resolution recorded?	<b>✓</b>			
8. Were start and completion dates and time included for	/			
boring installation activities?	✓			
9. Were boundaries between soils noted (solid line at			-	
appropriate depth or dashed line if transitional or if observed in			<b>√</b>	
cuttings?				
10. Were depths at which free water was encountered and			.1	
stabilized water levels recorded?			14	
11. Were soil sample depths recorded?				
12. If changes in drilling or sampling methods or equipment	/			
and changes in sample or borehole diameter recorded?	V,			
13. Were soil sampling methods and recovery recorded?	/			
14. Was observed evidence of contamination in samples,	1			
cuttings, or drilling fluids recorded?	1,			
15. Were abbreviations used on the log defined?				
16. Were drilling fluid losses including depth, rate, and volume				/
in the subsurface recorded?				~
Borehole Logging	Yes	No	N/O	N/A
17. Was drilling fluid described (water source, additive brand,	7117557			1
product name, and mixture)?				V,
18. Were drilling pressures and driller's comments recorded?				1,
19. Was total depth recorded and marked with a double line?				
20. Was monitoring well diagram completed and attached to				1
log?				V /
21. Was drilling fluid described (water source, additive brand,				
product name, and mixture)?				- ES

Borehole and Core Logging Checklist (Page 2 of 2)

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative		410,9	JE-19-3E	
hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or				
closed fractures, joints, bedding planes, or cavities and filling materials?				75
23. Was start and stop time of each core run recorded?				1
24. Were depths to top and bottom of each core run recorded?				1
25. Was length of core recovered in each core run recorded?				1
26. Were the size and type of coring bit and barrel recorded?				1
27. Was the depth to the bottom of the hole measured after the core was removed for				1
each core run?				
mt o a t			(4)	

The QC inspector shall sign this checklist upon completion of all items on the checklist.

Cins	pector S	ıgnatur	e: 22-	
-1.	٧ '		40	)
A	$\neg$	Vin		
-	~			

Date:

Decontamination Checklist (Page 1 of 1)					
Project Name/Number: STATEN JELANA WA	REHOUSE	- SI			
Project Name/Number: STATEN JSLAWS WAS					
Sampling Date: 7-15-11					
Boring/Monitoring Well Number(s): 58023, S80	24, SB	010.5	B025.	5B021	SBOZ
Answer each question by checking the appropriate column					
(N/A)]. If "no" is checked, provide an explanation on the					6
Equipment	Yes	No	N/O	N/A	
1. Was all sampling equipment decontaminated properly prior to use and between sample intervals?	1				
2. Was each decontamination event recorded in the logbook?					
3. Was IDW (decontamination water) handled in accordance with the approved work plan?					
Corrective Actions:					
The QC inspector shall sign this checklist upon completion of all	ll items on th	ne checklis	st.		
QC Inspector Signature:	Date				
	7	-15-11	ı		

			JSLAND				
Site:	TATEN	25 LAND	WAREHOU	SE	<del></del> :		
Date: $\overline{7}$	-15-11						
					-		
Complete da	ly Angwer	each question h	y checking the	nnronriata o	alumn [s	res no not	oheers
			ecked, provide a				
Corrective A		11 a 110 15 CIN	ceked, provide a	n explanation	i on the	rvoncompi	ianee o
Instrumental				Yes	No	N/O	N/A
1. Were all fie	ld instruments	s calibrated prope	erly?				
			e schedule in the				
Work Plan/SS	LTD9					.	ı
				7		-	
3. Did the Fiel List instrum	d Calibration ents used at	Forms list all cal		Bone	monn	br. S	528
3. Did the Fiel List instrum	d Calibration	t the site:		Bone	Mon i	PR. S	SEE.
3. Did the Fiel List instrum	d Calibration ents used at	t the site:		Bone	Mon i	br. S	320
3. Did the Fiel List instrum	d Calibration ents used at	t the site:		Bone	monr	br. S	528
3. Did the Fiel List instrum	d Calibration ents used at	t the site:		Bone	Mon r	br. S	SEE
3. Did the Fiel List instrum	d Calibration ents used at	t the site:		Bone	monr	br. S	SEE.
3. Did the Fiel List instrum	d Calibration ents used at	t the site:		Bone	Mon	br. S	SEE
3. Did the Fiel List instrum	ents used at	t the site:					SEE.
3. Did the Fiel  List instrum  HP  The QC inspec	ents used at	t the site:	Breathing	all items on th	e checkl		SEE.
3. Did the Fiel List instrum	ents used at	t the site:	Breathing		e checkl		528

Sample Collection Checklist (Page 1 of 1)				
Project Name/Number: STATEN ISLAND	1-LAREHO	SE	SI	
Site: STATEN ISLAND, NY				
Sampling Date: 7-15-11				
Answer each question by checking the appropriate colum	n [yes, no,	not obse	rved (N/O)	, or not applicable
(N/A)]. If "no" is checked, provide an explanation on the				
General	Yes	No	N/O	N/A
1. Were new protective gloves worn between sampling	1			
locations and/or intervals?	<del></del>			
2. Were samples collected using methods described in the Work Plan?	V .			
3. Were sample containers filled in the correct order?				
4. Was sampling equipment appropriate for the purpose and site conditions?	1			
5. Was sampling equipment decontaminated or	-			
disposable/dedicated equipment used between each sample?	1			
6. Were procedures for collecting QA/QC samples followed as	1			
per the Work Plan?				
7. Were sampling locations properly identified by land survey or GPS locator?				
8. Were bottles adequately protected from contamination prior				
to sample identification?	/			
to bumple identification.				
Soil samples	Yes	No	N/O	N/A
9. Were samples collected according to the Work Plan?	1,			
10. Was a field sampling form completed?				
11. Were the analytical parameters and QA/QC samples				
recorded on the Field Data Sheet?				
				1
Water samples	Yes	No	N/O	N/A
12. Were samples collected according to the Work Plan?				
13. Was a field sampling form completed?				
14. Were the analytical parameters and QA/QC samples				1
recorded on the Field Data Sheet?				
15. Was headspace in sample containers for volatiles				./
eliminated?				
				-1
Corrective Actions:				
Concentre / Colons.				
The QC inspector shall sign this checklist upon completion of a	all items on t	the check	list.	<del></del> :
(				
QC Inspector Signature:	Da	te:		
X W	-	1_K-1	1	

Site: STATEN JSLAND WAREHOUSE	3.				
Sampling Date: 7/5-11					
Boring/Monitoring Well Number(s): 58-3, SB	3024	SBO	10,SB	225	
SBOZI, SBOZL					
				_	
Surface Soil Sample Number(s): VIX				_	
				_	
				_	
Complete daily. Answer each question by checking the appr					(N/O)
or not applicable (N/A)]. If a "no" is checked, provide an ex-					(N/O)
or not applicable (N/A)]. If a "no" is checked, provide an ex- Corrective Actions form.	xplanatio	n on the	Noncompl	iance or	(N/O)
or not applicable (N/A)]. If a "no" is checked, provide an ex-					(N/O)
or not applicable (N/A)]. If a "no" is checked, provide an ex- Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an ex- Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an ex- Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?	xplanatio	n on the	Noncompl	iance or	(N/O).
or not applicable (N/A)]. If a "no" is checked, provide an ex- Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an excorrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an extension of Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an extension of Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an extension of Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an excorrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an excorrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an excorrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an extension of Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an extended corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an excorrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an excorrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an excorrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an excorrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the	xplanatio	n on the	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an excorrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the	xplanatio	n on the	Noncompl	iance or	

Field Documentation Checklist (Page 1 of 1)					
Project Name/Number: STATEN JSLANA	WARE	House			
Site: STATEN ISLAND, NY					
Complete daily. Answer each question by checking the app	ropriate co	olumn [ye	es, no, not	observed	(N/O),
or not applicable (N/A)]. If a "no" is checked, provide an ex-	xplanation	on the N	oncomplia	ance or	
Corrective Actions form.	•		_		
Field Documentation	Yes	No	N/O	N/A	ĺ
1. Was all original field data, except boring logs, recorded in	-				
black indelible ink?	/				
2. Were logbooks filled out properly, accurately recounting the	/				
day's events?	<b>/</b>				
3. Were all field forms completed and information accurately	1				
recorded:	V.,				
-Daily Quality Control Report?	V.				
-Daily Tailgate Meeting Form?	1,				
-HTRW Drilling Log Form?	V.				
-Field Log Books?	/				
-Project Photograph Log (in Log Book)?	1				
-Field Data Sheet?	1/				
-Chain of Custody Forms?					
List additional field forms completed:					
					2
					-
The QC inspector shall sign this checklist upon completion of all	items on th	ne checklis	t.		*

Date:

Health and Safety Checklist (Page 1 of 2)				
Date: 7-15-11				
Project Name/Number: STATES IRLAND L	VACETK	CSE	SI	
Site: STATEN ISLAND				
Briefed on-site Personnel and Work Locations:				
STATEN ISLAND WAREHOUSE	<b>5</b> 0			
		L,	, -	
Too Budanan, Beno Gough B	arry )	Kinsa 1	r za	1 Water 1
Howard Hommel , Bran Sweener Complete weekly for each site. Answer each question by cl	ALL	a R.	os Qu	EF. Povotko
Complete weekly for each site. Answer each question by cl	ecking the	e appropr	iate colun	nn [yes,
no, not observed (N/O), or not applicable (N/A)]. If a "no"	is checke	d, provid	e an expla	nation on
the Noncompliance or Corrective Actions form.				
Documentation	Yes	No	N/O	N/A
1. Is the Site Health and Safely Plan (SSHP) on the Site?				
2. Has the SSHP been reviewed, dated, and signed within the	/			
last year?	٧			
3. Are the tasks being completed reflected in the hazard task				
analysis?				
4. Is there a written acknowledgement that all employees,	/			
including subcontractors, have been briefed and read the	<b>✓</b>			
SSHP?				
5. Are the following training records current and available:	/			
-40-hour HAZWOPER/8-hour refresher for ALL employees	/.			
and subcontractors?	-/			
-24-hour Supervised Field Experience?	-/			
-CPR/First Aid?	V,			
-8-hour Hazardous Waste Site Supervisor, and refresher?	-/,			
-Initial Site Health and Safety Briefing?	-/			
-Site Health and Safety Briefing for each location or site?  6. Are emergency maps posted at the site and maintained in				
vehicles?				
7. Were daily safety checklists completed and fire	,		-	
extinguishers checked?	<b> </b>			
8. Were applicable Material Safety Data Sheets at the Site?				
9. Are documents that indicate employees and subcontractors				
are medically fit to work and wear the required personal	+1		/	
protective equipment current and available?	,		V	
10. Were daily air monitoring equipment calibrations recorded?	/			
11 Are requirement fit test records available and surrent?				

## Health and Safety Checklist (Page 1 of 2)

Observations	Yes	No	N/O	N/A
12. Are exclusion zones and contaminant reduction zones adequately marked?	1			
13. Is required personal protective equipment available and correctly used, maintained, and stored?	1			
14. Is the following emergency equipment located at each site:	1			
-Fire extinguisher?	1			
-Eyewash (15 minutes fresh water)?	1.			
-Communications (walkie-talkie or phone)?	1,			
-First aid kit?	1,			
15. Is the buddy system in use?	/			
16. Are personnel refraining from drinking, chewing, smoking, taking medications, or other hand-to-mouth contact while working in the exclusion zone?	<b>\</b>			
17. Is air monitoring equipment being used appropriately?	/			
18. Is the site organized to allow the use of lifting equipment, and avoid tripping hazards and spreading contamination?	<b>\</b>			
19. Was a random employee asked if he/she knew site hazard and emergency procedures?			/	
20. Is the drill rig kill switch clearly marked and easily accessible?	1			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature:

Date:

Site: STATEN FSLAND WAREHOUSE				
Sampling Date: 7-15-11				
Boring/Monitoring Well Number: 88024, SB023	, 5B0	10. CR	DE CR	٥- اهـ
being fromtening wen rumber. O o o o in State	1 3.00	1 500	1231 213	041500
Complete weekly for each site. Answer each question by ch	ecking th	e annroni	riate colum	n Ives no
		υ αρρισρί	race corum	m Lycs, no,
			olanation o	n the
observed (N/O), or not applicable (N/A)]. If a "no" is chec			olanation o	on the
			olanation o	on the
observed (N/O), or not applicable (N/A)]. If a "no" is checknoncompliance or Corrective Actions form.	ked, provi	de an exp		
observed (N/O), or not applicable (N/A)]. If a "no" is check Noncompliance or Corrective Actions form. Investigation-Derived Waste Management	ked, provi	de an exp		
observed (N/O), or not applicable (N/A)]. If a "no" is checknoncompliance or Corrective Actions form.  Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management Plan?  2. Were soil cuttings, drilling fluids, decontamination water,	ked, provi	de an exp		
observed (N/O), or not applicable (N/A)]. If a "no" is check Noncompliance or Corrective Actions form.  Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management Plan?  2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized?	ked, provi	de an exp		
observed (N/O), or not applicable (N/A)]. If a "no" is checknoncompliance or Corrective Actions form.  Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management Plan?  2. Were soil cuttings, drilling fluids, decontamination water,	ked, provi	de an exp		
observed (N/O), or not applicable (N/A)]. If a "no" is check Noncompliance or Corrective Actions form.  Investigation-Derived Waste Management  1. Was all IDW managed according to the Waste Management Plan?  2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized?	ked, provi	de an exp		

**Daily Quality Control Report (Page 1 of 2)** Project Name/Number: STATEN ISLAND WAREHOUSE SI Site: STATEN ISCAND, NY 7116111 Weather: Clear Overcast Rain Thunderstorm Snow Temperature: 32 °F 32-50 °F 50-70 °F 70-85 °F 85 > °F Wind: Still Gusty Moderate High; Direction: Humidity: Dry Moderate Humid Total Activity Contractor/ Equipment Number Subcontractor Hours of Workers Worked Hand Augers GEO Small Excavator Small GEO SAIC SAIC Problems Encountered Corrective Action Taken Total Daily Hours Worked by all Personnel:

#### **Daily Quality Control Report (Page 2 of 2)**

Safety: Activity Safety Inspection	
Safety Deficiencies Observed	Corrective Action Taken
NA	W/A
Remarks:	
	+
Safety Statistics	
Number of First Aid Incidents:	
Number of Recordable Incidents:	
Number of Lost Time Days:	
Answer each question by checking the	appropriate column [yes, no, not observed (N/O), or not applica

ble (N/A)1.

Yes	No	N/O	N/A
			/
/			
/			
/			
/			
/			
/			
/			
			1,
1		¥	
		f.	
	Yes /	Yes No	Yes No N/O

The FOM shall complete and sign a DQCR daily, all DQCRs to be submitted at conclusion of field work.

Date:

7-16-11

Project Name/Number: STATEN ISLAND L	MEEHE	山山区	SI		
Site: STATEN ISLAMS, NY					
Sampling Date: 7-16-11					
Boring/Monitoring Well Number(s):				_	
				_	
Surface Soil Sample Number(s):				=	
				-	
Commista daile. Assures and acception be also describe and	ropriata co	dumn Ive	es, no, not	observed	1 (N/O
Complete daily. Answer each question by checking the appropriate or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.	xplanation	on the l	Noncompl	iance or	` 7
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples					]
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and	xplanation	on the l	Noncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples	xplanation	on the l	Voncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?	xplanation	on the l	Voncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and	xplanation	on the l	Voncompl	iance or	
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date,	xplanation	on the l	Voncompl	iance or	, K
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and	xplanation	on the l	Voncompl	iance or	, k
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media	xplanation	on the l	Voncompl	iance or	, s
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?	xplanation	on the l	Voncompl	iance or	S.
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the	xplanation	on the l	Voncompl	iance or	\$ S
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the	xplanation	on the l	Voncompl	iance or	S S
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?	xplanation	on the l	Voncompl	iance or	S
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?	Yes	No No	Noncompl N/O	iance or	S S
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?	Yes	No No	Noncompl N/O	iance or	, s
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?  6. Was a shipping label attached to the cooler?  The QC inspector shall sign this checklist upon completion of all	Yes	No No	Noncompl N/O	iance or	S.
or not applicable (N/A)]. If a "no" is checked, provide an e Corrective Actions form.  Packing, Storing, and Shipment of Samples  1. Were the samples handled according to the Work Plan and QAPP?  2. Did the samples remain in ice from collection until cooler was taped for shipment?  3. Were Chain of Custody forms filled out accurately and completely, including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled?  4. Were Chain of Custody forms signed and dated by the preparer, placed in water resistant bagging, and included in the cooler?  5. Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape?	Yes  items on the	No No	Noncompl N/O st.	iance or	S

Decontamination Checklist (Page 1 of 1)			
Project Name/Number: STATEN JSLAND	WAREHOUSE	- SI	
Site: STATEN ISLAND, NT			
Sampling Date: 7-16.11			
Boring/Monitoring Well Number(s):		,	
Answer each question by checking the appropriate column	[yes, no, not obse	erved (N/O)	, or not applicab
(N/A)]. If "no" is checked, provide an explanation on the f <b>Equipment</b>	orm. Yes No	N/O	N/A
Was all sampling equipment decontaminated properly prior	105 110	100	
to use and between sample intervals?			
2. Was each decontamination event recorded in the logbook?	7		
3. Was IDW (decontamination water) handled in accordance			
with the approved work plan?			
Corrective Actions:			
	=		
The QC inspector shall sign this checklist upon completion of all	items on the check	dist.	
QC Inspector Signature:	Date:		
$\mathcal{R}$	7 11	ı f	
A) gry	7-16	- / /	- 1 <b>6</b> 0 

# Daily Tailgate Meeting Form

Job Name	Number	Date 7-16-11
Start Time 0730	Completed	Site Location Station
Type of Work (General)	SampleNba	ISLANA
		WREHOWE
	SAFETY ISSUES	
Tasks (this shift) Protective Clothing/Equipment Bo Chemical Hazards Physical Hazardous Control Methods Precial Equipment/Techniques Tazard Communication Overview Tearest Phone Tame/Address The control of the control	EXCAMPTION, SAMPLING, STE OLES, NITE, LE GLOVES, STE GASOLINE GEN, EXCAMPTOR, YOTTOS, SI THING ZONE MON. DOS, DO EXCAMPTOR	BRUSH CLEARENGE BOUTS, Salady plass LAS, TRE. PS, FAUS SIMENERS Hospital Special Topics
	<b>ATTENDEES</b>	
Print Name Barry Kinsal SAM MARTIN BRAS GOULH Print Guson	San	Over Name
Meeting cond	ducted by:	

# Surveying Checklist (Page 1 of 1)

Project Name/Number: STATE ISLAND	WARE	SHILSE	SI		
Site: STATEN FSLANDINT					1
Date: 7-16-11			6	PS /	TRIMBLE
	4 44 4			•	Ç
Complete one time for project. Answer each question b					no, not
observed (N/O) or not applicable (N/A)]. If a "No" is c	hecked, prov	ide an exp	lanation o	on the	
Noncompliance and Corrective Action form.					
Surveying	Yes	No	N/O	N/A	
1. Was the Scope of Work reviewed with the surveyor?					

Yes	No	N/O	N/A
/			
			/
			/
			/
			/
			/
			/_
			/
			1
			/
	Yes	Yes No	Yes No N/O

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature:

Date:

7-16.11

Field Documentation	Checklist	(Page 1	of 1)

Field Documentation Checklist (Page 1 of 1)				
Project Name/Number: STATEN JSLAND	WAPERLO	SE	SI	
Site: STATEN JSLAND I NY			_	
Complete daily. Answer each question by checking the app	oropriate col	ımn [v	es. no. not	observ
or not applicable (N/A)]. If a "no" is checked, provide an e				
Corrective Actions form.	mpiunation c	11 1110 1	toncompil	21100 01
Field Documentation	Yes	No	N/O	N/A
Was all original field data, except boring logs, recorded in	100	140	1170	1011
black indelible ink?				
2. Were logbooks filled out properly, accurately recounting the				
day's events?	/ /			
3. Were all field forms completed and information accurately				
recorded:				
-Daily Quality Control Report?	/			
-Daily Tailgate Meeting Form?	/			
-HTRW Drilling Log Form?	/			
-Field Log Books?				
-Project Photograph Log (in Log Book)?			/	
-Field Data Sheet?				
-Chain of Custody Forms?				
List additional field forms completed:				
The QC inspector shall sign this checklist upon completion of all	items on the	checkli	st.	
	_			
QC Inspector Signature:	Date:			
	7	.16-	11	
Jun -		-/0	/ I	-
<u> </u>				

# Sample Collection Checklist (Page 1 of 1)

Project Name/Number: SIATEN JELAND	WORE	HOUSE	SI	
Site: STATEN JSLAND, NY				
Sampling Date: 7-/6-)(				
	_	. 1	1.01/0)	.11
Answer each question by checking the appropriate column		not observ	red (N/O)	, or not applica
(N/A)]. If "no" is checked, provide an explanation on the f	1	No	N/O	N/A
1. Were new protective gloves worn between sampling	Yes	INO	INIO	IN/ZX
locations and/or intervals?				
Were samples collected using methods described in the				
Work Plan?	1			
3. Were sample containers filled in the correct order?	1			
4. Was sampling equipment appropriate for the purpose and				
site conditions?			<u> </u>	
5. Was sampling equipment decontaminated or				
disposable/dedicated equipment used between each sample?	1			
6. Were procedures for collecting QA/QC samples followed as				
per the Work Plan?  7. Were sampling locations properly identified by land survey	1			
or GPS locator?	1			
8. Were bottles adequately protected from contamination prior	-/-			
to sample identification?	/			
VO SMALDE TOURISMAN SALES				
Soil samples	Yes	No	N/O	N/A
9. Were samples collected according to the Work Plan?	1			
10. Was a field sampling form completed?	1			
11. Were the analytical parameters and QA/QC samples				
recorded on the Field Data Sheet?	V			
		1		
Water samples	Yes	No	N/O	N/A
12. Were samples collected according to the Work Plan?				
13. Was a field sampling form completed?				
14. Were the analytical parameters and QA/QC samples				0.5
recorded on the Field Data Sheet?				
15. Was headspace in sample containers for volatiles				
eliminated?				/
0,00				
Corrective Actions:				
The QC inspector shall sign this checklist upon completion of al	l items on t	he checklis	st.	
OC Inspector Signature:	Dat	te:		
Q ( ) ///			١,	
1)	-	t -16-1	'/	
QC Inspector Signature:		te: 7 - 16-1	"	_

Health and Safety Checklist (Page 1 of 2)				
Date: 7-/6.11				
Project Name/Number: STATEN JSLAND	1.100	U	- 27	=
Fit	- COLUMN TO SERVICE SE	y ives (a.		E-0
Site: STATEN ISLAND, NY				
Briefed on-site Personnel and Work Locations: 51	CUDI	EHO	. SIS	
Paris D. R. Karris -		D.	1	
BRAD Lough, Barry Kinsall - Som Martin, Dovid Lows	1000	134	muncer	1
Som Martin Davin Louis	· ~			
, 50 0 000				
Complete weekly for each site. Answer each question by cl	hecking the	annronr	iate colum	nn Eves
no, not observed (N/O), or not applicable (N/A)]. If a "no"	is checked	1 provid	e an exnla	nation on
the Noncompliance or Corrective Actions form.	13 CHOOKO	ı, provid	o an onpia	
Documentation	Yes/	No	N/O	N/A
1. Is the Site Health and Safely Plan (SSHP) on the Site?	1	- Site		
2. Has the SSHP been reviewed, dated, and signed within the	/			
last year?	/			
3. Are the tasks being completed reflected in the hazard task				
analysis?	/			
4. Is there a written acknowledgement that all employees,	ا و ا			
including subcontractors, have been briefed and read the	/			
SSHP?				
5. Are the following training records current and available:				_
-40-hour HAZWOPER/8-hour refresher for ALL employees	/			
and subcontractors?	-			
-24-hour Supervised Field Experience? -CPR/First Aid?	-		-	
-8-hour Hazardous Waste Site Supervisor, and refresher?	/			
-Initial Site Health and Safety Briefing?	/			
-Site Health and Safety Briefing for each location or site?	1			
6. Are emergency maps posted at the site and maintained in				
vehicles?				
7. Were daily safety checklists completed and fire	/			
extinguishers checked?	/,			
8. Were applicable Material Safety Data Sheets at the Site?	/			
9. Are documents that indicate employees and subcontractors				
are medically fit to work and wear the required personal				
protective equipment current and available?	/			
10. Were daily air monitoring equipment calibrations recorded?	/			
11. Are respirator fit test records available and current?				-

# Health and Safety Checklist (Page 1 of 2)

Observations	Yes	No	N/O	N/A
12. Are exclusion zones and contaminant reduction zones adequately marked?				
13. Is required personal protective equipment available and correctly used, maintained, and stored?	/			
14. Is the following emergency equipment located at each site:				
-Fire extinguisher?	/			
-Eyewash (15 minutes fresh water)?	/			
-Communications (walkie-talkie or phone)?	/			
-First aid kit?	/			
15. Is the buddy system in use?	/			
16. Are personnel refraining from drinking, chewing, smoking, taking medications, or other hand-to-mouth contact while working in the exclusion zone?	/			
17. Is air monitoring equipment being used appropriately?	/			
18. Is the site organized to allow the use of lifting equipment, and avoid tripping hazards and spreading contamination?	/			
19. Was a random employee asked if he/she knew site hazard and emergency procedures?	/			
20. Is the drill rig kill switch clearly marked and easily accessible?	/			

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature:

Date:

7-16-11

Investigation-Derived Waste Management Checklist (P	age 1 of 1)			
Project Name/Number: STATEN ISLAND L	VARETO	SE	SI	
Site: STATEN ISLAMS, NT				
Sampling Date: 7-16-11				
Boring/Monitoring Well Number:				
Complete weekly for each site. Answer each question by clobserved (N/O), or not applicable (N/A)]. If a "no" is checknocompliance or Corrective Actions form.	_			
Investigation-Derived Waste Management	Yes	No	N/O	N/A
1. Was all IDW managed according to the Waste Management	/			
Plan?				
2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized?				//
3. Were all containers properly labeled and stored?				
4. Were all containers in satisfactory condition?				
The QC inspector shall sign this checklist upon completion of all	l items on the	checklis	t.	
QC Inspector Signature:	Date:	- 16-	) [	

Borehole and Core Logging Checklist (Page 2 of 2)

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative				
hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or				
closed fractures, joints, bedding planes, or cavities and filling materials?				
23. Was start and stop time of each core run recorded?				/
24. Were depths to top and bottom of each core run recorded?				-
25. Was length of core recovered in each core run recorded?				-
26. Were the size and type of coring bit and barrel recorded?				/
27. Was the depth to the bottom of the hole measured after the core was removed for				-
each core run?			2	

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature:

Date:

7.16.11

Instrument Calibration Checklist (Page 1 of 1)				
Project Name/Number: STATON JSCAND WA	2 EHouse	= 2-	F.	
Site: STATEN ISLAND, NY				
Date: 7.16-11				
Complete daily. Answer each question by checking the approx not applicable (N/A)]. If a "no" is checked, provide an electric form.				
Instrumental Calibration	Yes	No	N/O	N/A
1. Were all field instruments calibrated properly?	1	7.5%	7.8.37.56	
2. Were all field instruments calibrated on the schedule in the Work Plan/SSHP?	1			
3. Did the Field Calibration Forms list all calibration events?				
List instruments used at the site:  BREATHING ZONE THE MON.  SEE Mp Recapos	be			
The QC inspector shall sign this checklist upon completion of all QC Inspector Signature:	items on th		t.	

7-16-11

19. Was total depth recorded and marked with a double line? 20. Was monitoring well diagram completed and attached to

21. Was drilling fluid described (water source, additive brand,

product name, and mixture)?

Borehole and Core Logging Checklist (Page 1 of 2)					
Project Name/Number: STATEN JSLAND WAREN  Boring/Monitoring Well Number: N/A  Date: 7-16-11	tour !	SIL Site:	STATI	EN ISI	AND, NY
Boring/Monitoring Well Number:		=====		$   \sqrt{0} $	OR, Whom
Date: 7-16-11					-
Complete for each boring log. Answer each question by ch	_				not
observed (N/O), or not applicable (N/A)]. If a No is checked	d, provid	le an expl	anation on	the	
noncompliance and Corrective Actions form.				1	
Borehole Logging	Yes	No	N/O	N/A	
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?					
2. Was log completed and entries printed legibly on the HTRW Drilling Log?					
3. Was the log scale 1 inch = 1 foot?					2.5
4. Were logs completed in the field (originals)?					
5. Does the log contain the following entries?					
-Unique borehole number					
-Depositional type (alluvium, till, loess, etc.)					
-Depths/Heights recorded in tenths of feet.					
-Soils classified as per USCS and fully described with					
numerical percents of constituents.					
-Soil moisture content and texture or cohesiveness.					
6. Was general information (top of form HTRW drilling log)					
completed?					
7. Were special conditions (i.e. intervals of hole instability) and					
their resolution recorded?				_	
8. Were start and completion dates and time included for					
boring installation activities?					
9. Were boundaries between soils noted (solid line at					
appropriate depth or dashed line if transitional or if observed in				/	
cuttings?					
10. Were depths at which free water was encountered and				~	
stabilized water levels recorded?					
11. Were soil sample depths recorded?				_	
12. If changes in drilling or sampling methods or equipment					
and changes in sample or borehole diameter recorded?					
13. Were soil sampling methods and recovery recorded?					
14. Was observed evidence of contamination in samples,					
cuttings, or drilling fluids recorded?					ν.
15. Were abbreviations used on the log defined?					
16. Were drilling fluid losses including depth, rate, and volume				/	
in the subsurface recorded?			27/0		
Borehole Logging	Yes	No	N/O	N/A	
17. Was drilling fluid described (water source, additive brand,					
product name, and mixture)?  18. Were drilling pressures and driller's comments recorded?			-		
TA WELL OF HIDD DIESSUES AND OFFICE & COMMENTS RECORDED!			III.		

Daily Quality Control Report (Page 1 of	<u>Z)</u>				
Project Name/Number: STATEM				SI	
Site: STATEN ISLAND W	AREL	House			
4					
Weather: Clear Overcast Rain 7	Γhunders	torm Snow			
Temperature:			s > °F		
Wind: Still Gusty Moderate Hig					
Humidity: Dry Moderate Humid					
Activity		Contractor/ Subcontractor	Equipment	Number of	Total Hours
Soil Sampling		600	Augers	Workers 2	Worked
RAD WALKOUED		SAIC	MIS RAD	i	
GPS SULVEY		GED	TRIMALE	i	
Soil Sampling  GIW Sampling  RAD WALFOUER  GPS SURVEY  HP SURVEY		SAIC	MISC RAD		
Problems Encountered	Correc	ctive Action Take	<u>n</u>		
		<u> </u>			
Total Daily Hours Worked by all Personnel:	1'	2.5			

# **Daily Quality Control Report (Page 2 of 2)**

Safety: Activity Safety Inspection				
Safety Deficiencies Observed	Corrective Action Take	en		, , , , , , , , , , , , , , , , , , ,
NA	NA			
7	•			
Remarks:				8
-				
10.00				
Safety Statistics				
Number of First Aid Incidents:				
Number of Recordable Incidents:				
Number of Lost Time Days:				
Answer each question by checking the appropri	ate column [yes, no, n	ot observ	ved (N/O)	, or not applicable
(N/A)].			·	
Forms attached:	Yes	No	N/O	N/A
Daily Tailgate Meeting Form				
Surveying Checklist				
Borehole and Core Logging Checklist				
Decontamination Checklist				
Instrument Calibration Checklist				
Sample Collection Checklist				
Packing, Storing, and Shipment of Samples Checkli	st			
Field Documentation Checklist				
Health and Safety Checklist				
IDW Management Checklist	· ·			1
Mobilization/Demobilization Checklist				Y.
Building Questionnaire				
HTRW Drilling Log Form				
Field Data Sheet				
Chain of Custody Forms		****	1	
SAMULT OF SAMULT TO SAMULT			J	

The FOM shall complete and sign a DQCR daily, all DQCRs to be submitted at conclusion of field work.

FOM	Signat	ure:	N	7
1	1	X		6"
7		, ,		

Date:

7.17-11

# Daily Tailgate Meeting Form

Job Name STATEN JSLAW	LURCE HOUSE SI	Date 7/17/11
Start Time 6205	Completed 0714	Site Location 5 TATEN
Type of Work (General)	Ling /DATA Collection	Island Warehouse
	<b>SAFETY ISSUES</b>	
Tasks (this shift) Son Away 5	CAN OTTON, Comma Walkows	
Protective Clothing/Equipment HAAD Chemical Hazards	CAN STION, Comma Walkoup	<b>~</b> .
Chemical Hazards	I LAD	LOUBS, TYVEK, SAFETY
Physical Hazardous Anch points	E RAN HEATETERS NOW	GLASSES (NANSTERNA)
Control Methods BZ Monitors Special Equipment/Techniques	DOSIMETERS, Bandaries	100\$
Hazard Communication Overview		
Nearest Phone	ill PHONES	**
Name/Address	11101025	Hospital Special Topics
(incidents, actions taken, etc.)		Special Topics
	<u>ATTENDEES</u>	
O Print Name	0.0	Sign Name
Barry Linsall	\( \frac{1}{2} \)	Julian Name
DAVID (ALCOH		
TOOD Buchanan	- Jail	
SAM MARTEN	JONE	The state of the s
Jc-12 Heys		C/C
He less Edel		
THE TEN COME	— <u>Ju</u>	le rea
		0
Martin		
Meeting conducte	ed by: / edil Tub	

	Surveying	Checklist	(Page	1	of 1	()
--	-----------	-----------	-------	---	------	----

	Name/Number:_	STATEA	1 JELAND	WAREHOUSE	(CT
Site:	STATEN	ISCANDA	WAREHOUSE		
Date:_	7-17-	Ц			

Complete one time for project. Answer each question by checking the appropriate column [yes, no, not observed (N/O) or not applicable (N/A)]. If a "No" is checked, provide an explanation on the Noncompliance and Corrective Action form.

Yes	No	N/O	N/A
1/			
7			
			<b>/</b>
			V
			/
			V
			V
			1
			V_
	Yes	Yes No	Yes No N/O

The QC inspector shall sign this checklist upon completion of all items on the checklist.

OC Inspector Signature:

Date:

7-17-11

TRIMBLE GAS

# Borehole and Core Logging Checklist (Page 1 of 2)

Project Name/Number: STATION ISLAND 4	ARTS HO	Site:	SI			
Boring/Monitoring Well Number:	•					
Doring/Monitoring with Number.			$\Lambda$	MA		
Date: 7-17-11			/ V	, <b>,</b> ,		
Complete for each boring log. Answer each question by checking the appropriate column [yes, no, not						
observed (N/O), or not applicable (N/A)]. If a No is checked	ed, provid	e an expla	ination on	the		
noncompliance and Corrective Actions form.			1110			
Borehole Logging	Yes	No	N/O	N/A		
1. Was boring logged by a geologist, geological engineer, or other qualified personnel?						
2. Was log completed and entries printed legibly on the HTRW						
Drilling Log?						
3. Was the log scale 1 inch = 1 foot?						
4. Were logs completed in the field (originals)?						
5. Does the log contain the following entries?						
-Unique borehole number				/		
-Depositional type (alluvium, till, loess, etc.)						
-Depths/Heights recorded in tenths of feet.						
-Soils classified as per USCS and fully described with						
numerical percents of constituents.						
-Soil moisture content and texture or cohesiveness.						
6. Was general information (top of form HTRW drilling log)				/		
completed?						
7. Were special conditions (i.e. intervals of hole instability) and						
their resolution recorded?						
8. Were start and completion dates and time included for						
boring installation activities?						
9. Were boundaries between soils noted (solid line at						
appropriate depth or dashed line if transitional or if observed in cuttings?						
10. Were depths at which free water was encountered and						
stabilized water levels recorded?				/		
11. Were soil sample depths recorded?						
12. If changes in drilling or sampling methods or equipment						
and changes in sample or borehole diameter recorded?						
13. Were soil sampling methods and recovery recorded?				/		
14. Was observed evidence of contamination in samples,				/		
cuttings, or drilling fluids recorded?				· ·		
15. Were abbreviations used on the log defined?						
16. Were drilling fluid losses including depth, rate, and volume				/		
in the subsurface recorded?						
Borehole Logging	Yes	No	N/O	N/A		
17. Was drilling fluid described (water source, additive brand,						
product name, and mixture)?						
18. Were drilling pressures and driller's comments recorded?						
19. Was total depth recorded and marked with a double line?						
20. Was monitoring well diagram completed and attached to log?				/		
21. Was drilling fluid described (water source, additive brand,				1		
product name, and mixture)?						

NIA

Borehole and Core Logging Checklist (Page 2 of 2)

Core Logging	Yes	No	N/O	N/A
22. Was rock described using standard geologic nomenclature; e.g. rock type, relative				
hardness, density, texture, color, weathering, bedding, fossils, crystals, and open or				/
closed fractures, joints, bedding planes, or cavities and filling materials?				1
23. Was start and stop time of each core run recorded?				/
24. Were depths to top and bottom of each core run recorded?				
25. Was length of core recovered in each core run recorded?				-
26. Were the size and type of coring bit and barrel recorded?				1
27. Was the depth to the bottom of the hole measured after the core was removed for				
each core run?				/

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature:

Date:

7-17-11

Project Name/Number: STATEN JSLAND	WAREH	louse	SI	
Project Name/Number: STATEN ISLAND Site: STATEN ISLAND WAREHOU	SE			
Sampling Date: 7-17-11	-			
Boring/Monitoring Well Number(s): 5805, 580	0,580	116,5	Esoa	15B026
Answer each question by checking the appropriate column (N/A)]. If "no" is checked, provide an explanation on the	ı [yes, no, r			
Equipment	Yes	No	N/O	N/A
1. Was all sampling equipment decontaminated properly prior	100	BK		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
to use and between sample intervals?  2. Was each decontamination event recorded in the logbook?	1/20	7-17-1		
	10000000			-
	/			
with the approved work plan?  Corrective Actions:	BaRLE	2 7	UBIN	5 bs
with the approved work plan?  Corrective Actions:	3a RL 8		UBIN	56.
with the approved work plan?  Corrective Actions:  USED D(Spo				56.
3. Was IDW (decontamination water) handled in accordance with the approved work plan?  Corrective Actions:  USED Despoy		he checkli		56.

<b>Instrument Calibration Checklist (Page 1 of 1)</b>						
Project Name/Number: STATEN JSLAM	WAR	Stews	ST	-		
Project Name/Number: STATEN ISLAMS  Site: 7-17-11 STATEN ISLAMS	My wa	REHow	~ - <u>-</u>	•		
Date: 7-17-11			2			
Complete daily. Answer each question by checking the app	ropriate c	olumn [ye	es, no, not	observed	(N/O),	
or not applicable (N/A)]. If a "no" is checked, provide an e	explanatio	n on the N	Voncompli	ance or		
Corrective Actions form.					·	
Instrumental Calibration	Yes	No	N/O	N/A		
Were all field instruments calibrated properly?		V				
2. Were all field instruments calibrated on the schedule in the	/	8				
Work Plan/SSHP?	V ,					
3. Did the Field Calibration Forms list all calibration events?	/					
List instruments used at the site: PROBLEM ON BOTH HYDROCARS  CALIBRATION. TURBITY OFF.						
HYDROLAB						
BREATHING Zone Monitor			Mp	Recre	72	
The QC inspector shall sign this checklist upon completion of all	items on th	he checklis	t.			
QC Inspector Signature:	Date	e:				
5/200	7-	17-11		_	ý.	

1			QUANTA	DAILY CAL	BRATION		
Hydrola	GEC	)-461-1 )-461-2 )-461-3	4616		Sy To	ЭН В G МС ЈЕ "7-17-11	
			pH CAL	BRATION			
Buffer +/- 1 St	Lot#	Exp. Date	Vendor	Time	Tento (Celsius)	рН	.Adj. To
pH 4	110263	01-13	Fisher	0750	27.63	4,04	4
pH 7	111103	03-13	Fisher	0748	26.10	7,22	
pH 19		HE	CR				
% Sat DO m Does	uration: gu Readini reading ma	g (+/- 0.2 / eet DO Sa	00 % rg/l)7 turation Valu	127	se oriteria? <u>K</u> _	: 100% <i>(e.   (<sub>o</sub></i>	0911
1412 (			_o:# <u>1(05</u>		BRATION   <u>(-   2                                  </u>		
		TURBID	ITY CALIBR	ATION PER	FORMANCE CH	ECK	
TURBIDITY CALIBRATION PERFORMANCE CHECK  4-Beam Turbidity Quick-Cal Cube QCC#:81181							
X Reading is within acceptance criteria of the Quick-Cal Cube for the instrument to be used.  Reading is not within acceptance criteria of the Quick-Cal Cube for the instrument to be used. If reading is not within the Quick-Cal Cube acceptance criteria, perform primary calibration according to operational manual.							
5 0 56	12		5731	RP Calibration			
ZoBell 3 Lot#	clution Clos210	28_ Ex	piration Oate	02-1	2		
Reading	Pnor to C	ORP Value alibration: bration:	27:53	10 mV @ mV @ +/- 10 mV @	Deg C 4	C C	
Comme	nts						¥

Sample Collection Checklist (Page 1 of 1)					
Project Name/Number: STATEN ISCAM		HOUSE	25		
Site: STATEN ICLAND WAREHOOD	re				
Sampling Date: 7-17-11	-				
Answer each question by checking the appropriate column	[yes, no, 1	not observ	red (N/O)	, or not app	licable
(N/A)]. If "no" is checked, provide an explanation on the for	orm.				
General	Yes	No	N/O	N/A	
1. Were new protective gloves worn between sampling					
locations and/or intervals?	V				
2. Were samples collected using methods described in the	1				
Work Plan?	V .				
3. Were sample containers filled in the correct order?					
4. Was sampling equipment appropriate for the purpose and	1				
site conditions?	V				
5. Was sampling equipment decontaminated or					
disposable/dedicated equipment used between each sample?	/				
6. Were procedures for collecting QA/QC samples followed as					
per the Work Plan?	V				
7. Were sampling locations properly identified by land survey					
or GPS locator?					
8. Were bottles adequately protected from contamination prior	1				
to sample identification?	<b>√</b>				
Soil samples	Yes	No	N/O	N/A	
9. Were samples collected according to the Work Plan?	V.				
10. Was a field sampling form completed?	V				
11. Were the analytical parameters and QA/QC samples	/				
recorded on the Field Data Sheet?	<b>√</b>				
Water samples	Yes	No	N/O	N/A	
•	7			13.00.00	
12. Were samples collected according to the Work Plan?					
13. Was a field sampling form completed?	V				
14. Were the analytical parameters and QA/QC samples	,				
recorded on the Field Data Sheet?	√				
15. Was headspace in sample containers for volatiles					
	NA				
eliminated?	14		1	1	

Corrective Actions:	
The QC inspector shall sign this checklist upon com-	apletion of all items on the checklist.
QC Inspector Signature:	Date: 7/17/11

Packing, Storing, and Shipment of Samples Checklist (1	Page 1 of	<u>1)</u>			
Project Name/Number: STATEN ISLAND	WARE	Thuse	SI	-	
Site: STATEN ISLAND NUA	BEHou	SE			
Sampling Date: 7-17-1					
Boring/Monitoring Well Number(s): Wells LTEn					
Co e Space SR 1	- 0	50 -	/	-	
SBOS, SBOID, SBOID, SB	023,	J205	6	_	
100				<del></del>	
Surface Soil Sample Number(s): SS037, SS03	6.55	2E02	,5504	= 	
527, DempEo22, empEo22, PEO22	-	_			
	172,	30-19	7 20-1	٦,	
55041,55040, 55 Bup-005					
				_	
Complete daily. Answer each question by checking the app	ropriate c	olumn [ve	es. no. not	observed (N/	/O).
or not applicable (N/A)]. If a "no" is checked, provide an experience of the state					,,
Corrective Actions form.	1				
Packing, Storing, and Shipment of Samples	Yes	No	N/O	N/A	
1. Were the samples handled according to the Work Plan and					
QAPP?  2. Did the samples remain in ice from collection until cooler	-				
was taped for shipment?					
3. Were Chain of Custody forms filled out accurately and					
completely, including project name and number, sampling date,	/				
sampling time, analytical parameters, preservatives, size and	1				
number of containers for each analytical parameter, and media					
sampled?					
4. Were Chain of Custody forms signed and dated by the	2				
preparer, placed in water resistant bagging, and included in the cooler?	/				
5. Were signed and dated custody seals properly placed on the			_		
cooler and the cooler sealed with strapping tape?	1				
6. Was a shipping label attached to the cooler?		-			
The QC inspector shall sign this checklist upon completion of all	items on t	he checklis	st.		
, I					
QC Inspector Signature:	Dat	e:			
IS ON		2-(-)	1		
- In	7	17	1	-	

# Field Documentation Checklist (Page 1 of 1)

Project Name/Number: STATEN ISLA	no L	DREHO	use	SI	
Project Name/Number: STATEN ISLAND CUDE HOW	re				
Complete daily. Answer each question by checking the app or not applicable (N/A)]. If a "no" is checked, provide an ex- Corrective Actions form.	ropriate c	olumn [ye	es, no, not	observed (	(N/O),
Field Documentation	Yes	No	N/O	N/A	
1. Was all original field data, except boring logs, recorded in black indelible ink?	<b>V</b>				
2. Were logbooks filled out properly, accurately recounting the day's events?	$\sqrt{}$				
3. Were all field forms completed and information accurately recorded:	1,				
-Daily Quality Control Report?	1				
-Daily Tailgate Meeting Form?	√.				
-HTRW Drilling Log Form?				~	
-Field Log Books?					
-Project Photograph Log (in Log Book)?	-4				
-Field Data Sheet?					
-Chain of Custody Forms?					
List additional field forms completed:					
The QC inspector shall sign this checklist upon completion of all	items on th	ne checklis	t.		
QC Inspector Signature:	Date  7	e: -17-1	(	<b>=</b> :	
$\iota$					

Health and Safety Checklist (Page 1 of 2)				
Date: 7-17-11				
Project Name/Number: ST RT Souplu	4-			
Site: STATEN ISLAM WE	+ REH	USE	0	_
Briefed on-site Personnel and Work Locations:	s LAC	wan	, 132	10 La
Briefed on-site Personnel and Work Locations: PAULE	1, 3	Am 11	be tin	
			_	
Complete weekly for each site. Answer each question by cl	hecking th	e appropr	iate colun	ın [yes,
no, not observed (N/O), or not applicable (N/A)]. If a "no'	' is checke	d, provide	e an expla	nation on
the Noncompliance or Corrective Actions form.			1.110	27/4
Documentation	Yes	No	N/O	N/A
1. Is the Site Health and Safely Plan (SSHP) on the Site?	1			
2. Has the SSHP been reviewed, dated, and signed within the				
last year?	V			
3. Are the tasks being completed reflected in the hazard task				
analysis?	V			
4. Is there a written acknowledgement that all employees,	1			1
including subcontractors, have been briefed and read the SSHP?	1			
5. Are the following training records current and available:	/			
-40-hour HAZWOPER/8-hour refresher for ALL employees	1			
and subcontractors?	1			
-24-hour Supervised Field Experience?	1,			
-CPR/First Aid?	1			
-8-hour Hazardous Waste Site Supervisor, and refresher?	1			
-Initial Site Health and Safety Briefing?	Ji			
-Site Health and Safety Briefing for each location or site?	1			
6. Are emergency maps posted at the site and maintained in	1			
vehicles?	<b>/</b>			
7. Were daily safety checklists completed and fire				
extinguishers checked?	1			
8. Were applicable Material Safety Data Sheets at the Site?				
9. Are documents that indicate employees and subcontractors	,			
are medically fit to work and wear the required personal	/-			
protective equipment current and available?	/			
10 Were daily air monitoring equipment calibrations recorded?				1

11. Are respirator fit test records available and current?

# Health and Safety Checklist (Page 1 of 2)

Observations	Yes	No	N/O	N/A
12. Are exclusion zones and contaminant reduction zones	/			
adequately marked?				
13. Is required personal protective equipment available and				
correctly used, maintained, and stored?	V/			
14. Is the following emergency equipment located at each site:	1			
-Fire extinguisher?	//			
-Eyewash (15 minutes fresh water)?	<b>V</b> /			
-Communications (walkie-talkie or phone)?	1/_			
-First aid kit?	V/_			
15. Is the buddy system in use?				
16. Are personnel refraining from drinking, chewing, smoking,	1			
taking medications, or other hand-to-mouth contact while	V			
working in the exclusion zone?				
17. Is air monitoring equipment being used appropriately?	/			
18. Is the site organized to allow the use of lifting equipment,	/			
and avoid tripping hazards and spreading contamination?	<b>V</b>			
19. Was a random employee asked if he/she knew site hazard				
and emergency procedures?			V	
20. Is the drill rig kill switch clearly marked and easily				/
accessible?				LV_

The QC inspector shall sign this checklist upon completion of all items on the checklist.

QC Inspector Signature:

Date:

7-17-11

Investigation-Derived Waste Management Checklist (Pa				
Project Name/Number: STATEN TSLAND	LARES	huse	SI	
Site: STATEN ISLAM NO WARE	HOLDE	-		
Sampling Date: 7-17-11				
Boring/Monitoring Well Number: 5805, 58040	SBOI	6,5B	23, S.	B026
Complete weekly for each site. Answer each question by chobserved (N/O), or not applicable (N/A)]. If a "no" is check Noncompliance or Corrective Actions form.				
Investigation-Derived Waste Management	Yes	No	N/O	N/A
1. Was all IDW managed according to the Waste Management Plan?	/			
2. Were soil cuttings, drilling fluids, decontamination water, development water, and PPE containerized?		/		
3. Were all containers properly labeled and stored?				V
4. Were all containers in satisfactory condition?				
The QC inspector shall sign this checklist upon completion of all	items on th	e checklis	t.	
QC Inspector Signature:	Date 7	: 17-	11	

Attachment 8

NSTRUM	ENTATION C	C CHECK LOG		METER:	44-1	10B 	DATE (MO/YR):	July	2011
Soi	ırce		Acceptan	ce Criteria			Model	Number	Cal. Due
Type	Cs-137	Bkgrd. QC (		Source QC	(cpm) range	Meter	2221	178108	4/1/2012
Number	SN-5780-07	6,106 to	10,803	225,455	to 338,182	Detector	44-10B	187432	4/1/2012
Date	Time	Pr≘-use Bkg cpm	Post Bkg cpm¹	Pre-use Source	Post Source cpm¹	Bat. Check	QC <sup>1</sup>	Pre-use HPT	Post HPT
				cpm		Sat/Unsat	Sat/Unsat	Initial	Initial
7-11-11	1736	8954	8868	180715	188807	SAT	SAT	72	7
7-4-11	0700	6585	6867	780131	182666	SAT	SAT	HUNNUNN	PA PA
7-13-11	0645	6801	6961	282173	783718	SAT	SKT	72	2
7-14-11	0630	9491	9262	286901	189101	SAT	SAT	2	R
7-15-11	0630	9108	NH	78,6789	NA	SM	SAT	2	
7-16-11	0630	9756	NA	282844	NA	SKT	SKT	72	ΝA
7-17-11	0630	9137	9243	190091	186769	S XT	SAT	2	72
<u> </u>									
					KA				
					70				
							<b>_</b>		
				ļ					
							1		
						<u></u>			
									_

Gamma scan Instruments used for confirmation or verification surveys require a post check-in.

Reviewed By :

(RPM/Designee)

Date : 2/24/11

	Initial Instrument Check In								
	Meter Number: Meter Model: Cal. Due:	178108 2221 4/1/2012	Detector Number: Detector Model: Cal. Due:	187432 44-10B 4/1/2012					
ALPHA ALPHA	Source Type: Source #: Source Astivity:		Threshold: High Voltage:			(min)			
ALPHA ALPHA ALPHA ALPHA ALPHA ALPHA	Source COPM	ВКС СРМ	(min) Background count time: Average Bkg. (CPM): Average Source (GCPM): Average Net Source (NCPM): Source Range (GCPM): Background Range (CPM):	#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!	to to	#DIV/0! #DIV/0!			
ALPHA ALPHA ALPHA ALPHA ALPHA ALPHA			Determined Efficiency: 20% of Bkg. 1 Standard Deviation of Bkg. 3 Standard Deviations of Bkg.	#DIV/0! #DIV/0! #DIV/0!	_				

#### Beta / Gamma (circle one)

			<u> </u>			
BETA	Source Type:	Cs-137	Threshold:	10		
BETA	Source #:	SN-5780-07	High Voltage:	1100		
BETA	Source Activity:	0.91 uCi	_			
BETA	Source count time:	1	(min) Background count time:	1		(min)
BETA	Source GCPM	BKG CPM	Average Bkg. (CPM):	8,455		
BETA	281,941	8872	Average Source (GCPM):	281,818		
BETA	281,661	8876	Average Net Source (NCPM):	273,364		
BETA	280,752	8598	Source Range (GCPM):	225,455	to	338,182
BETA	281,168	7348	Background Range (CPM):	6,106	to	10,803
BETA	281,285	7038	Determined Efficiency:	NA		
BETA	282,464	7758				
BETA	281,701	9100	20% of Bkg.	1691		
BETA	282,722	9311	1 Standard Deviation of Bkg.	783		
BETA	281,747	8778	3 Standard Deviations of Bkg.	2348		
BETA	282,742	8869	<u></u>			

Performed By:

Date

Reviewed By:

Data

(RPM Asst. RPM)



Designer and Manufacturer of Scientific and Industrial Instruments

#### CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.

POST OFFICE BOX 810 PH. 325-235-5494 FAX NO. 325-235-4672

501 OAK STREET

Failed:

	_				SWEE	WATER, TEXAS	79556, U.S.A.
CUSTOM	IER SAIC					ORDER NO	20172746/361507
	Ludlum Measure	ments, Inc. Mo	del	2221	Seria	al No. 178/08	3
( ) –			del				
0.1.0							
		<del></del>				1 Year Meter	face 202-159
Check mark	<ul><li>✓applies to applica</li></ul>	ble instr. and/or detecto	or IAW mfg. spec.	T7	<u>74</u> °FRH_	32 % A	lt694.8_ mm Hg
☐ New i	Instrument Instrum	nent Received 🔲 V	√ithin Toler. +-10%	] 10-20% 🗂 Out	of Tol. Requir	ing Repair 🦳 Otl	her-See comments
∕ Mech	nanical ck.	Meter Zeroed		Background Sub	otract	☐ Input Ser	ns Linearity
CRU		<del></del>	<u>[7</u>	=			
			ck.	•		_	
		n LMI SOP 14.8 rev 12/	05/89.				97.
Instrument \	Ser Vall selCemments	V Input Sens COME	Hents my Dat One	Comments	V of commence	Threshold	m\
manument	Voit Get - Thing ent 3	v imput delis.e.w.					
Δ H,	V Readout (2 points)	Ref./Inst.	500 //	495v	Ref./Inst.	2000 / /	/995v
COMME	NTS.						
COMME	1110.	Peak Settings	Gros	s Counts			
	High Voltage:	904v					
Thre	shold Setting:	642					
	-	40	n/a				
Wi	ndow Position:	"in"	"out	TP			
resolut	ion for Cs137:	11.93%	n/a				
	Firmware:2	61027					
Calibra	tion performed	with 5' C cable	•				
	Ludlum Measurements, Inc.   Model   4221   Serial No.   777/8						
Gamma Calib	ration: GM detectors posi		rce except for M 44-9 in w	nich the front of prob	e faces source.		
				_			
6. 1				"AS FOU	JND READING		
					N/H		
				<del>-</del>			
				<del>-</del> ————	<del></del>		
			)T(1	<u> </u>			
	<del></del>					-	
••	I have desired a substitution of a substitution	0.5 - 14-1 - 0.004			Λ1	1 Damma(a) Callib	ented Floring in ally
					: ::		<u>.</u>
	- ·						
	CAL. POINT	A A			OINT	ECEIVED	METER READING*
Readout	400kcpm	N/#	3995960	Log Scale 5	i00kcpm	W/H	50011
	40kcpm						591
	4kcpm						51K
	400cpm		40		500cpm		500
	40cpm		4				5-0
udium Measure	ments, Inc. certifies that the al	bove instrument has been calib	rated by standards traceable	o the National Institute	of Standards and Techno	logy, or to the calibration	facilities of
ther internations	al Standards Organization mei	mbers, or have been derived fro	om accepted values of natural	physical constants or h	save been derived by the	ratio type of calibration te	chniques.
-				781 050			711 21001100 1101 20 1000
				: =	= = -		tron Am.241 Re S/N T.304
125.23						_ 1010 11ea	1011 A111-247 DE 3/14 1-304
Alpha	s/N	[] {	∃eta S/N		🗹 Other	Am2	241:0.83uçi
500	0.S/N 9494	40 —	Oscilloscope S/N		□ Z Multie	nator C/N	78401031
					<b>X</b>	neter on -	10401001
Calibrated I	ву: _> \\	5-	4		Date /- //	PR-11	
			•	-			<u> </u>
Reviewed I	By: Alyan	1 Ham			Date \\A e	AII .	
This seatificate	ehall not be seen discust.	and the field and the same of	are all of the first	4. 1			
FORM C22A	03/11/2010 Page _	ept in full, without the written app	proval of Ludium Measuremen	its, Inc.	AC Inst. Pa	ssed Dielectric (Hi-Pot led:	) and Continuity Test



#### Designer and Manufacturer of Scientific and Industrial Instruments

#### **LUDLUM MEASUREMENTS, INC.**

POST OFFICE BOX 810 PH. 325-235-5494 **501 OAK STREET** 

FAX NO. 325-235-4672

SWEETWATER, TEXAS 79556, U.S.A.

# Bench Test Data For Detector

Detector	44-10	_ Serial No <i>PR137</i> !	132		
Customer				Order #.	20172746/361507
Counter	2221	Serial No. 178/08		Counter Input Sensitivity	mv
Count Time	6 Sec.			Distance Source to Detector	Suff-ale
Other	11.V- Set 1	v.Th 44-10	Connect	· D .	
High Voltage	Background	Isotope An 241 Size 20.83mp	Isotope	Isotope	Isotope
900	639	639			
950	674	4757			
1000	73/	11667			
1050	785	12399			
1100	787	12395	<del></del>		
1150	781	12487			
1200		15888			
125	s 818	14393			
					ļ <u> </u>
<del></del>					
			·		-
<del></del>					
	<u> </u>				
A					
Signature	35	56		Date	- ABR-11

FORM C4A 03/11/2010

44-9 July 2011 INSTRUMENTATION OF CHECK LOG METER . DATE (MO/VP) .

INSTRUMENTATION QC CHECK LOG METER:			DATE (MO/YR) : July 2011							
		Acceptan	ce Criteria		Alpha					
Number	Cal. Due	Bkgrd. QC (	cpm) range	Source QC (	ncpm) range	Source Ty	/pe S	Source Number	Inst. Efficiency	Inst. Avg. Bkgrd
197790	3/28/2012	Alpha	Beta	Alpha	Beta	N/A		N/A	N/A	N/A
Dete	ctor	N/A	20	N/A	2366			E	Beta	
Number	Cal. Due	to	to	to	to	Source Ty	/pe S	Source Number	Inst. Efficiency	Inst. Avg. Bkgrd
212132	3/28/2012	N/A	75	N/A	3549	SrY - 90	)	SN-5781-07	18.9%	48
Date	Time	Bkgrd. C	(C (cpm)	Source C	(ncpm)	Bat. Check	QC1	HPT	Comme	nt
		Alpha	Beta	Alpha	Beta	Sat/Unsat	Sat/Unsat			
7-11-11	1236	NK	31	W	3091	SAT	SAT	2		
フールール	0700	NK	50	4N	3928	SAT	SAT	2		
7-13-11	10645	VΑ	47	NA	7490	SKT	SAT	2		_
7-14-11	0630	Λ¥	49	NA.	3028	SMT	SIT	2		
7-15-11	0630	NA	63	NA	2848	SAT	SAT			
7-16-11	0630	NA	41	NA.	3143	SAT	SAT	3		
7-17-11	0630	Nh	44	NA	2843	SAT	SAT	12		
									<del></del>	
					<del></del>					
				<u> </u>		ļ				
								+		
			_							
							1			
					KA		ļ		· · · · · ·	
				<del>                                     </del>	1	-	-			
						<b>-</b>	-			
								+ -		··
						<del>                                     </del>				
				<del> </del>				$\leftarrow$		
	-		}	1		<del>                                     </del>	1			
			<del> </del>	<del>                                     </del>	<del> </del>	<del> </del>	+			
				<del>                                     </del>		1		<del>                                     </del>		
							<del>                                     </del>			
		.,,		1		1	1			
				1	<del>                                     </del>	<del>                                     </del>	1		<del></del>	
				1		1	· · · · · · · · · · · · · · · · · · ·		<del></del>	
				<b>†</b>		1	1			

An unsatisfactory QC check requires recording the result in the comment cortains and repeating the evaluation. Tag the instrument out of service and notify the HP Supervisor upon failing the QC check two times in succession.

Reviewed By:

j	nitial	Instrument Check I	n
- 1	11111111111	modularion Circon i	

212132 Meter Number: 197790 Detector Number: 2221 Detector Model: <u>44-9</u> Meter Model: 3/28/2012 3/28/2012 Cal. Due: Cal. Due:

ALPHA	Source Type:		Threshold:	
ALPHA	Source #:		High Voltage:	
ALPHA	Source Astivity:			
ALPHA	Source count time:		(min) Background count time:	(min)
ALPHA	Source GCPM	BKG CPM	Average Bkg. (CPM):	
ALPHA			Average Source (GCPM):	
ALPHA			Average Net Source (NCPM):	
ALPHA			Source Range (GCPM):	to
ALPHA			Background Range (CPM):	to
ALPHA			Determined Efficiency:	
ALPHA				_
ALPHA			20% of Bkg.	
ALPHA			1 Standard Deviation of Bkg.	
ALPHA			3 Standard Deviations of Bkg.	
ALPHA				

#### Beta / Gamma (circle one)

BETA	Source Type:	SrY - 90	Threshold:	55		
BETA	Source #:	SN-5781-07	High Voltage:	900		
BETA	Source Activity:	15,362	_			•
BETA	Source count time:	1	(min) Background count time:	1		(min)
BETA	Source GCPM	BKG CPM	Average Bkg. (CPM):	48		
BETA	2,943	41	Average Source (GCPM):	2,957		
BETA	2,942	45	Average Net Source (NCPM):	2,910		
BETA	2,963	52	Source Range (GCPM):	2,366	to	3,549
BETA	2,906	48	Background Range (CPM):	20	to	75
BETA	2,969	41	Determined Efficiency:	18.9%		
BETA	2,875	39				
BETA	2,965	53	20% of Bkg.	10		
BETA	2,969	64	1 Standard Deviation of Bkg.	9		
BETA	3,079	58	3 Standard Deviations of Bkg.	27		
BETA	2,961	35				

Performed By:

Reviewed By:

(RPM Asst. RPM)

# ALPHA For Partable Counters: Detector Area (cm2) = 15.5 Efficiency (%) = 1.00 Background (opm) = 1.00 Background count time = 1.0 Gross count time = 1.0 MIDA (dpm/100cm2) = #DIV/0!

**BETA** 

For Portable Counters:

Detector Area (cm2) =	15.5
Efficiency (%) =	0.1894
Surface Efficeincy =	1.00
Background (cpm) =	47.6
Background count time =	1.0
Gross count time =	1.0
MDA (dpm/100cm2) =	1195.6

NCD = < 82.7

		beta Cambra	ation Report					
Date Calibrated: 03/29/	2011 1:3	0:35 PM Order	Number: SAIC HAI	RRISBURG20	0110329-002			
Technician: B. French	1	Customer: SAIC HA						
pair Instrument								
Serial Number: 212132		Manufacturer: Ludlı	ım M	lodel: 44-9	Last Calil	brated: 4/1/20	)10	
Reason for recalibration	Due for Calib	eration						
Calibration Instru	nent							
Serial Number: 197790	Ins	t. Type: 2221	Calibra	ation Due: 3	3/28/2012			
Calibration Source	S							
4π Beta Sourc	e ID: SAIC-00	54 Isotope: SrY	-90 Current A	ctivity: 1	3009.13dpm Assay	v Date: 11/15/	/2006	
		-		·	1	, =		
2π Beta Sourc	e ID: SAIC-00:	Isotope: SrY	-90 Current A	ctivity:	9036.28cpm Assay	y Date: 11/15/	2000	
Seta as Found	_		Beta as Left	· · · · ·				
Background 1 min. coun	ts NA	-	Background 1 n					
	IVA			30				
Source 1 min. counts		· · · · · · · · · · · · · · · · · · ·	Source 1 min. co	ounts				
	NA		Bource 1 mm. et	310	04			
	4π % effic	eiency: 0			4π % efficie	ncy: 23.63		
	2π % effic	iency: 0		$2\pi$ % efficiency: 34.02				
Beta Threshold:	55mV	High Voltage:	900V	Next Cali	bration Due: 3/28/2	2012		
Comments					· · · · · · · · · · · · · · · · · · ·			
erformed By:	The :	Frence	<u></u>	Date:	3/29/11	,		
eviewed By	WM			Date:	3/30/11	•		
ι	ر د	/ /			¢ 7	·		

# Scaler/Ratemeter Calibration Report

					M1101 W11011	rtopor	•			
Date Calibrated	Date Calibrated: 03/29/2011 1:28:11 PM Order Number: SAIC HARRISBURG20110329-001									
Technician: B. French Customer: SAIC HARRISBURG										
Temperature (F	): 70 I	łumidity (%	): 24	A	ltitude (asl):	660	Ba	rametric Pressi	ure ("Hg):	29.56
Repair Instr	ument			-			· · · · ·		<u>.</u>	
Serial Number:	197790		Manufacti	urer: Ludl	lum	Model: 2	2221	M	eterface: 20	2-159
Received: Wit	thin 10%									
Last Calibrated	: 4/1/2010	)	Calibrati	ion Interval	: 1 yr.	Nex	t Calib	oration Due: 3	/28/2012	
Mechanica Mechanica	ок 🔼	Meter Zero	ed	Batte	ery Ck Min.	Volt.		☐ Inpu	ıt Sens. Line	earity
F/S Resp. (	ok 🔼	Reset OK		Geo1	tropism			Win	idow Operat	ion
Audio OK		Alarm Setti	ng OK	Back	cground Subtra	ct				
Voltage Se	t 900 '	V at	55 mV	Det. Op.	900 V at		55 mV	Threshold 1	Dial ratio: [	00 = 10
HV readou	Ref. 1	499 Volts	Inst. 1	500 V	olts R	ef. 2 2	002 V	olts Inst.	2 2000	Volts
Calibrated :	in accordance	with ANSI	N323A-199	7 and the m	anufacturers p	rocedure				
CTV* Analog R	Reading					1				
Multiplier	Ref. Cal	Poin	Inst. As	s Found	Inst. As	Left		Multimeter ser. #	02/70/26	
X 1000	400	K cpm	400	K cpm	400	K cpm	<u> </u>			
X 1000	100	K cpm	100	К срт	100	K cpm	] 🗆 ʻ	Oscilloscope ser.	#	
X 100	40	K cpm	40	K cpm	40	К срт		m500 ser. # 20	1462	
X 100	10	K cpm	10	K cpm	10	K cpm	<b>.</b> □ (	Other ser. #		
X 10	4	K cpm	4	К срт	4	K cpm				
X 10	1	K cpm	1	K cpm	1	K cpm				
X 1	400	cpm	400	cpm	400	cpm				
X 1	100	cpm	100	cpm	100	cpm				
CTV* Digital Reference Pt.	Inst. as	Found	Inst. as	Left	CTV* Log S Reference	Scale Pt	Inst	as Found	Inst. as L	eft
400 K cr		(0) cpm	40013		500		500		500	
40 K cr		(0) cpm	4001	(0) cpm	50	K cpm	50	K cpm	50	K cpm
4 K cr	_	(0) cpm	400	(0) cpm	5	K cpm	5	K cpm	5	K cpm
400 cpm		(0) cpm	40	(0) cpm	500	cpm	500		500	
40 cpm	4	(0) cpm	4	(0) cpm	50	cpm	50	срт	50	cpm
* Conventionally	True Value		** Uncer	tainty within	+/- 10%	[_	A	All range(s) calib	l rated electron	ically
Comments					<u> </u>	<del></del>				
Comments										
	<i>~</i>		_	_				, ,		
Performed By:	720	6 7	door		]	Date:	3	129/11	•	

Date:



Calibration Date: 4-17-2007

	Gamma Standard	
		S.O.# 6620 P.O.# 20077000355
Description of Standard:		
Model No. CS-7D	Serial No <u>5780.07</u>	IsotopeCs-137
The source of gamma radiat	tion is mounted on a5.0	8cm diameterPLASTIC
disc, mm	m thick and sealed in aPLAS	STIC RESIN .
	$\mathcal{A}_{ij}$	
Measurement Method:	gra e	
by NIST S/N 2752-91	te was compared with a similar of the comparison of relation resolution gamma ray detector (height analyzer.	ve gama ray emission rates was
Measurement Result:		
The gamma ray activity of	the standard on4-17-2007	7 was 1.0 ci.
The uncertainty of the mea	asurement is 2.2 %, which is the	sum of the uncertainty
assigned to the NIST refer	sence (2.4%), random counting	error at the 99% confidence
11	upper limit of systematic errors	
rever, and the estimated u		4
Calibrated by: ART REU	Reviewed b	y: Stan South



16/32

# CERTIFICATE OF CALIBRATION

Electroplated Alpha Standard	
	S.O.#6620
	P.O.# <u>2007000355</u>
Description of Standard:	
Model No. DNS-4 Serial No. 5777-07 Isoto	opeTh-230
Electroplated on polished SS disc, 0.79	mm thick.
Total diameter of 2.23 cm and an active diameter of	1.91 cm.
The radioactive material is permanently fixed to the disc by heat covering over the active surface.	treatment without any
Measurement Method:	
The 2pi alpha emission rate was measured using an internal gas flochamber. Absolute counting of alpha particles emitted in the heminactive surface was verified by counting above, below, and at the calibration is traceable to NIST by reference to an NIST calibration $S/N = 4001-02$	isphere above the operative voltage.
Measurement Result:	
The observed alpha particles emitted from the surface of the disc the calibration date was:	per minute (cpm) on
<u>15,800</u> + <u>475</u>	
The total disintegration rate (dpm) assuming 1.5% backscatter of a the surface of the disc, was:	alpha particles from
<u>31,200</u> <u>+ 936</u> ( <u>0</u>	.0141 $\mu$ Ci)
	of random counting of systematic error in
Calibrated by: ART REUST Reviewed by:	
Calibration Technician: Attent Q.A. Manager: Man	entschrenballer
Calibration Date: 4-17-2007 Reviewed Date:	4-18-2007



# CERTIFICATE OF CALIBRATION

### Electroplated Beta Standard

					.0.#6620
Description of	Standard:			Þ	.0.#_2007000355
Model No	DNS-14	Serial No	5781-07	Isotope	SrY-90
Electroplated	on polished	Ni	disc,	0.79	mm thick.
Total diameter	of 4.77	cm a	nd an active di	lameter of	4.45 cm.
	e material is p		xed to the dis	c by heat trea	tment without any
Measurement Me	thod:				
Absolute count verified by co	ing of beta part ounting above,	icles emitted below, and at	in the hemisph the operative	ere above the a	portional chamber. active surface was the calibration is 4002-02.
Measurement Re	sult:				
The observed localibration da		e from the su	arface of the	disc per min	ute (cpm) on the
	11,900	±	357		
The total dising the surface of	ntegration rate the disc, was:	(dpm) assumin	g <u>40</u> % bac	kscatter of be	ta particles from
	17,000	<u>+</u>	511	(0.00768	μCi)
The uncertainty at the 99% con measurement.	y of the measure fidence level,	ement is <u>3</u> and the estim	_%, which is t ated upper lim	he sum of rand it of systemat	om counting error
Calibrated by:_	ART REUST		keviewed l	oy: Stem Se	
Calibration Tec	chnician:	t Level	JrQ.A. Manag	ger: Yanen	schoer Colle
Calibration Dat	:e:4-17-20	107	Reviewed I	Date: 4-	18-2007

Attachment 8

STRUMENTATION OC CHECK LOC METER 43-89C DATE (MONO) July 2011

	TATION QC C	HECK LOG		METER:	<u>.</u>	43-89C		DATE (MO/YR):		2011
Met				ce Criteria	_				pha	<del></del>
Number	Cal. Due	Bkgrd. QC	(cpm) range	Source QC (	ncpm) range	Source Ty	pe :	Source Number	Inst. Efficiency	inst. Avg. Bkgro
202463	6/1/2012	Alpha	Beta	Alpha	Beta	Th - 230	1	SN-5777-07	14.0%	0.6
Dete	ctor	0.0	255	3506	1923			В	eta	
Number	Cal. Due	to	to	to	to	Source Ty	pe :	Source Number	Inst. Efficiency	Inst. Avg. Bkgro
199349	6/1/2012	1.2	323	5259	2884	SrY - 90		SN-5781-07	13.8%	289
Date	Time	Bkgrd. 0	C (cpm)	Source QC (	ncpm) range	Bat. Check	QC1	HPT	Comme	nt
		Alpha	Beta	Alpha	Beta	Sat/Unsat	Sat/Unsat			
7-11-11	1736	0.4	266	4613	2349	3/1	SAT	9		
7-13-11	סטרס	ها.0	>59	4544	<b>3</b> /1)2	SAT	SAT	2		
7-13-11	0645	0.6	165	4365	7337	SAT	SAT	2	•••	
7-14-11	0630	0.4	161	4479	7 474	SAT	3A5	7		
7-15-11	0630	0/3	157	4376	2569	SKT	SM	2 2		
7-16-11	0630	0.5	<i>)</i> L()	4313	>496	SAT	SAT	2		
7-17-11	0630	1.0	357	4577	1655	SXT	SM	2	<u>-</u>	
								7		
	Î									-
							_			
1		• •								
<del>- i</del>					NA	<u> </u>			<del></del>	
					44				·	
				<del></del>				+ + -		
-										
						<del> </del>		<del></del>		
									<del></del>	
		<del>.</del>		-				+ + -		
				<del>                                     </del>				+ +		
						<del> </del>	<b>———</b>		·	
						<b>—</b>				
<del></del>										

Reviewed By: Kninklehanken (RPM/Designee) Date: 7/24/11

# Initial Instrument Check In (4 Pi Eff.)

Meter Number:	202463	Detector Number:	<u>199349</u>
Meter Model:	<u>2360</u>	Detector Model:	43-89C
Cal. Due:	<u>6/1/2012</u>	Cal. Due:	<u>6/1/2012</u>

ALPHA	Source Type:	Th - 230	Threshold:	120		
ALPHA	Source #:	SN-5777-07	High Voltage:	535		
ALPHA	Source Activity:	31,199				
ALPHA	Source count time:	1	(min) Background count time:	10		(min)
ALPHA	Source GCPM	BKG CPM	Average Bkg. (CPM):	0.6		
ALPHA	4,038	0.7	Average Source (GCPM):	4,383		
ALPHA	4,048	0.7	Average Net Source (NCPM):	4,382		
ALPHA	4,011	0.3	Source Range (GCPM):	3,506	to	5,259
ALPHA	4,020	1	Background Range (CPM):	0.0	to	1.2
ALPHA	4,082	0.5	Determined Efficiency:	14.0%		
ALPHA	4,613	0.5				
ALPHA	4,774	0.5	20% of Bkg.	0.1		
ALPHA	4,802	0.4	1 Standard Deviation of Bkg.	0.2		
ALPHA	4,730	0.5	3 Standard Deviations of Bkg.	0.6		
ALPHA	4,710	0.6				

### Beta / Gamma (circle one)

BETA	Source Type:	SrY - 90	Threshold:	120		
BETA	Source #:	SN-5781-07	High Voltage:	535		
BETA	Source Activity:	15,362	] _	,		
BETA	Source count time:	1	(min) Background count time:	10		(min)
BETA	Source GCPM	BKG CPM	Average Bkg. (CPM):	289		
BETA	2,175	303	Average Source (GCPM):	2,403		
BETA	2,239	294	Average Net Source (NCPM):	2,115		
BETA	2,292	288	Source Range (GCPM):	1,923	to	2,884
BETA	2,236	310	Background Range (CPM):	255	to	323
BETA	2,373	293	Determined Efficiency:	13.8%		
BETA	2,389	282				
BETA	2,465	283	20% of Bkg.	58		
BETA	2,653	282	1 Standard Deviation of Bkg.	11		
BETA	2,551	2 <u>74</u>	3 Standard Deviations of Bkg.	34		
BETA	2,660	279				

Performed By:\_

Reviewed By:

\_\_\_\_\_ Dat

(RPM / Asst. RPM)

Date:

e: 7/24/11

# **ALPHA**

### PHA

# For Portable Counters:

Detector Area (cm2) =	125.0
Efficiency (%) =	0.1405
Surface Efficiency =	1.00
Background (cpm) =	0.6
Background count time =	10.0
Gross count time =	1.0
MDA (dpm/100cm2) =	31.9

Detector Area (cm2) =	125.0
Efficiency (%) =	0.1377
Surface Efficeincy =	1.00
Background (cpm) =	288.6
Background count time =	10.0
Gross count time =	1.0
11.1	
MDA (dpm/100cm2) =	358.1

**BETA** 

NCD = < 6.2

NCD = < 350.2

# 2 Pi Efficiency

# **ALPHA**

# **BETA**

# For Portable Counters:

Detector Area (cm2) =	125.0
Efficiency (%) =	2.8001
Surface Efficiency =	1.00
Background (cpm) =	0.6
Background count time =	10.0
Gross count time =	1.0
MDA (dpm/100cm2) =	1.6

# For Portable Counters:

Detector Area (cm2) =	125.0
Efficiency (%) =	0.2974
Surface Efficeincy =	1.00
Background (cpm) =	288.6
Background count time =	10.0
Gross count time =	1.0
MDA (dpm/100cm2) =	165.7

NCD = < 6.2

NCD = < 350.2

# Alpha Beta Calibration Report

			C
Date Calibrated: 06/02/201	1 10:23:11 AM Order I Customer: SAIC HAR	Number: SAIC HARRISBURG201 RISBURG	10602-002
Repair Instrument Serial Number: 199349 Reason for recalibration:	Manufacturer: Ludium  Oue for Calibration	Model: 43-89 Las	t Calibrated: 4/19/2010
Calibration Instrument Serial Number: 202463	Inst. Type: 23	Light Leak Test: Sat  60 Calibrat	ion Due: 6/1/2012
Alpha Source ID: SA	IC-0054 Isotope: SrY-90	Current Activity: 12953.47c  Current Activity: 10099.02c	lpm Assay Date: 11/6/2000 lpm Assay Date: 11/15/2000 lpm Assay Date: 11/6/2000 lpm Assay Date: 11/15/2000
Alpha as Found	Beta as Found	Alpha as Left	Beta as Left
Background 1 min. counts NA  Source 1 min. counts NA	Background 1 min. counts NA  Source 1 min. counts NA	Background 1 min. counts 1  Source 1 min. counts 2884	Background 1 min. counts 203  Source 1 min. counts 3137
$4\pi$ % efficiency: 0 $2\pi$ % efficiency: 0	$4\pi$ % efficiency: 0 $2\pi$ % efficiency: 0	$4\pi$ % efficiency: 14.2 $2\pi$ % efficiency: 28.55	$4\pi$ % efficiency: 22.65 $2\pi$ % efficiency: 32.61
Alpha Threshold: Beta Threshold:	120 mV High Voltage: 3.5 mV Beta Window:	535 V 30 mV Nex	t Calibration Due: 6/1/2012
Comments  HV set with probe attached			
Performed By:	Da Frank	Date: 6/2	2/11

Date: \_\_\_

iewed By

# Scaler/Ratemeter Calibration Report

	L.	Scalet/Itatemete	r Cambradon Re	port
Date Calibrated: 06/02/2011 10:18:57 AM Order Number: SAIC HARRISBURG20110602-001				
Technician: B. French Customer: SAIC HARRISBURG				
Temperature (F	): 72 Humidity (	(%): 31 Altit	ude (asl): 660	Barametric Pressure ("Hg): 29.53
Repair Instr	ument			
Serial Number:	202463	Manufacturer: Lud	um Model:	2360 Meterface: 202-855
Received: W	ithin 10%			
Last Calibrated:	4/19/2010	Calibration Inter	val: 1 yr. Nex	ct Calibration Due: 6/1/2012
Mechanical	OK Meter Zero	ped Batte	ery Ck Min. Volt.	Input Sens. Linearity
F/S Resp. C	K Reset OK	Geor	tropism	Window Operation
Audio OK	Alarm Sett	ing OK Back	ground Subtract	_
Voltage Set	535 V at (see co	mments)mV Det. Op.	535 V at (see commen	ts)mV Threshold Dial ratio: N/A
HV readout	Ref. 1 500V	olts Inst. 1 50	0Volts Ref. 2	2005Volts
Calibrated i	n accordance with ANSI	N323-1997 and the mar	nufacturer's procedure	
CTV* Analog R		· -·	<u>-</u>	
Multiplier	Ref. Cal Point	Inst. As Found	Inst. As Left	Multimeter ser. # 93470436
X 1000	400 K cpm	400 K cpm	400 K cpm	Oscilloscope ser. #
X 1000	100 K cpm	100 K cpm	100 K cpm	Oscinoscope sei. #
X 100	40 K cpm	40 K cpm	40 K cpm	m500 ser. # 201462
X 100	10 K cpm	10 K cpm	10 K cpm	Other ser. #
X 10	4 K cpm	4 K cpm	4 K cpm	
X 10	1 K cpm	1 K cpm	1 K cpm	1
X 1	400 cpm	400 cpm	400 cpm	*
X 1	100 cpm	100 cpm	100 cpm	
CTV* Digital				
Reference Pt.	Inst. as Found	Inst. as Left	Comments	
400 K cp	m 40007 (0) cpm	40025 (0) cpm	7.1	es, see detector calibration form
40 K cp	m 4002 (0) cpm	4001 (0) cpm		•
4 K cp	m 400 (0) cpm	400 (0) cpm	1	
400 cp	m 40 (0) cpm	40 (0) cpm	1	
40 cp	m 4 (0) cpm	4 (0) cpm	11	
* Conventionally T	rue Value	** Uncertainty wi	thin +/- 10%	All range(s) calibrated electronically
Performed By:	Da	Frank	Date:	6/2/11
Reviewed By	much V.	f	Date:	(2-2-1)

### Plateau Calibration

Model #\_ 43-89

Serial # /99349

Alpha Source I.D. SAIC - 0053 Beta Source I.D. SAIC - 0054

Alpha Input Senitivity 120mV Beta Input Senitivity 3.5mV

Beta Window 30mV

Distance Source to Detector source holder

High					r <u>source holder</u>	_
Voltage	l viere	ground		irce	Sou	ırce
400	Alpha	Beta	Alp	ha	Bet	
425				/		
450		<del> </del>			/	
475			<u> </u>		/	
			1		7	···
500	<u> </u>	89	1938		1928 1	2
525		147	2717		28761	
550		248	3141 1	848	3629 /	
575		300	3400 1	1579	3629 1	3
600			7		/	
625			7		<del></del>	
650			/		1	
675						
700						
725					<del></del>	<del></del>
750						
775			/		1	
800						
825					<del></del>	
850			/			
875			/		<del></del> ;	
900			1		<del></del>	
925					<del></del>	
950			/			
975			/		<del></del>	
1000			/			
1025						
1050			/		<del></del> /	
1075			/			
1100			/			
1125			/		<del></del>	
1150						
1175						
1200			1			
1225			1			<del></del>
1250			1			
1275			1		<del></del>	
1300			/			
1325			7			
1350			/	<del></del>		
13/5			<del>'</del>	<del></del>		
1400				<del></del>		
	-					1

High Voltage Set 5351/	
	*HV set with probe attached
Reviewed By Lind Vetu	•
to the terms of th	Date: 0-2-//

Source Alpha - 2884/689 Bota - 3137/2

43-89B **July 2011** INSTRUMENTATION QC CHECK LOG METER: DATE (MO/YR): Meter Acceptance Criteria Alpha Number Cal. Due Bkgrd. QC (cpm) range Source QC (ncpm) range Source Number Inst. Efficiency Inst. Avg. Bkgrd. Source Type 202423 9/2/2011 Th - 230 SN-5777-07 14.5% Alpha Beta Alpha Beta 1.6 Detector 0.3 209 3625 2240 Beta Number Cal. Due **Source Number** Inst. Efficiency inst. Avg. Bkgrd. to to to to Source Type 221834 9/2/2011 2.8 249 5438 3359 SrY - 90 SN-5781-07 16.7% 229 Date Time Bkgrd. QC (cpm) Source QC (ncpm) range Bat. Check QC1 HPT Comment Alpha Beta **Alpha** Beta Sat/Unsat Sat/Unsat Initial 4663 7888 SAT 7-11-11 1236 1.1 239 SAT 1871 7-12-11 0700 1.7 219 4705 SAT 7-13-11 0645 4783 2828 1.0 218 SAT SKT 7-14-11 0630 1.2 718 4696 عدود SKT SAT at of service Mylar pienal. 7-15-11 1.1 4319 0630 117 1767 SHT An unsatisfactory QC check requires recording the resplt in the confirment column and repeating the evaluation. Tag the instrument out of service and notify the HP Supervisor upon failing the QC check two times in succession.

Reviewed By:

(RPM/Designee)

# Initial Instrument Check In (4 Pi Eff.)

Meter Number: Meter Model: Cal. Due: 202423 Detector Number:
2360 Detector Model:
9/2/2011 Cal. Due:

221834 43-89B 9/2/2011

ALPHA	Source Type:	Th - 230	Threshold:	120		
ALPHA	Source #:	SN-5777-07	High Voltage:	690		
ALPHA	Source Activity:	31,199	1			
ALPHA	Source count time:	1	(min) Background count time:	10		(min)
ALPHA	Source GCPM	BKG CPM	Average Bkg. (CPM):	1.6		
ALPHA	4,663	1.5	Average Source (GCPM):	4,533		
ALPHA	4,675	1.7	Average Net Source (NCPM):	4,531		
ALPHA	4,612	1.8	Source Range (GCPM):	3,625	to	5,438
ALPHA	4,634	2.1	Background Range (CPM):	0.3	to	2.8
ALPHA	4,267	2.3	Determined Efficiency:	14.5%		
ALPHA	4,110	1.7				
ALPHA	4,263	1.1	20% of Bkg.	0.3		
ALPHA	4,707	1.2	1 Standard Deviation of Bkg.	0.4		
ALPHA	4,732	1.3	3 Standard Deviations of Bkg.	1.2		
ALPHA	4,666	1.1				

### Beta / Gamma (circle one)

BETA	Source Type:	SrY - 90	Threshold:	120		
BETA	Source #:	SN-5781-07	High Voltage:	690		
BETA	Source Activity:	15,362		W		
BETA	Source count time:	1	(min) Background count time:	10		(min)
BETA	Source GCPM	BKG CPM	Average Bkg. (CPM):	229		
BETA	2,857	221	Average Source (GCPM):	2,799		
BETA	2,909	224	Average Net Source (NCPM):	2,570		
BETA	2,958	228	Source Range (GCPM):	2,240	to	3,359
BETA	2,817	242	Background Range (CPM):	209	to	249
BETA	2,451	237	Determined Efficiency:	16.7%		
BETA	2,462	236				
BETA	2,513	225	20% of Bkg.	46		
BETA	3,055	228	1 Standard Deviation of Bkg.	7		
BETA	2,993	224	3 Standard Deviations of Bkg.	20		
BETA	2,979	226				

Performed By:\_

Date

Data.

Reviewed By:\_

(RPM / Asst. RPM)

# **ALPHA**

# **BETA**

### For Portable Counters:

Detector Area (cm2) =	125.0
Efficiency (%) =	0.1452
Surface Efficiency =	1.00
Background (cpm) =	1.6
Background count time =	10.0
Gross count time =	1.0
MDA (dpm/100cm2) =	40.4

For	Portable	Counters:
-----	----------	-----------

	·
Detector Area (cm2) =	125.0
Efficiency (%) =	0.1673
Surface Efficeincy =	1.00
Background (cpm) =	229.2
Background count time =	10.0
Gross count time =	1.0
	-
MDA (dpm/100cm2) =	264.1

NCD = < 8.9

NCD = < 284.4

### 2 Pi Efficiency

# **ALPHA**

# **BETA**

# For Portable Counters:

Detector Area (cm2) =	125.0
Efficiency (%) =	2.8954
Surface Efficiency =	1.00
Background (cpm) =	1.6
Background count time =	10.0
Gross count time =	1.0
MDA (dpm/100cm2) =	2.0

### For Portable Counters:

Detector Area (cm2) =	125.0
Efficiency (%) =	0.3615
Surface Efficeincy =	1.00
Background (cpm) =	229.2
Background count time =	10.0
Gross count time =	1.0
MDA (dpm/100cm2) =	122.2

NCD = < 8.9

NCD = < 284.4

8/298 Date Calibrated: 09/02/2010 2:47:17 PM Order Number: SAIC HARRISBURG20100902-006 Technician: B. French Customer: SAIC HARRISBURG Repair Instrument Serial Number: 221834 Manufacturer: Ludlum Model: 43-89 Last Calibrated: 9/24/2009 Reason for recalibration: **Due for Calibration** Calibration Instrument Light Leak Test: Sat Serial Number: 202423 Inst. Type: 2360 Calibration Due: 9/2/2011 Calibration Sources Alpha Source ID: SAIC-0002  $4\pi$ Isotope: Th-230 Current Activity: 22598.67dpm Assay Date: 4/6/2004 Beta Source ID: SAIC-0001 Isotope: SrY-90 Current Activity: 9845.92dpm Assay Date: 3/23/2004 Alpha Source ID: SAIC-0002 Isotope: Th-230 Current Activity: 11499.32dpm Assay Date: 4/6/2004 Beta Source ID: SAIC-0001 Isotope: SrY-90 Current Activity: 6892.14dpm Assay Date: 3/23/2004 Alpha as Found Beta as Found Alpha as Left Beta as Left Background 1 min. counts Background I min. counts Background 1 min. counts NA Background I min. counts NA 081 Source 1 min. counts Source 1 min. counts Source 1 min. counts NA Source 1 min. counts NA 3561 2674 4π % efficiency: 0  $4\pi$ % efficiency: 0  $4\pi$  % efficiency: 15.75 4π % efficiency: 25.33  $2\pi$  % efficiency: 0  $2\pi$ % efficiency: 0 2π % efficiency: 30.96 2π % efficiency: 36.19 Alpha Threshold: 120 mV High Voltage: 690 V Beta Threshold: 3.5 mV Beta Window: 30 mV Next Calibration Due: 9/2/2011 Comments HV set with probe attached

Performed By:

Reminwed By

Date: Date:

# Plateau Calibration

Model #\_ 43-89 Serial # 221834

Alpha Source I D SA-I C-0002 Beta Source ID SAIC-0001

Alpha Input Senitivity 120mV Beta Input Senitivity 3 5mV Beta Window 30mV

Distance Source to Detector source holder

	High			Distance Source to	Distance Source to Detector_source holder				
- 1	Voltage			Source	source holder				
<u> </u>	400	Alpha	Beta	Alpha	Source				
- 1-				~ipria	Beta				
-	425	- <del> </del> -		<u> </u>	/				
-	450			<del>/</del>	/				
<u> </u>	475	<b></b>		<del></del>					
	500			<del></del>	/				
<b>-</b>	525			<del></del>	/				
-	550			<del></del>					
-	575								
<b>-</b>	600		<del></del>						
<u> </u>	625	.2	67	/	<u>'</u>				
<u> </u>	650	<del>.</del> →	104	2627 1 45	(222				
	675	0		13/70 / 5	27 1933 16				
	700		162	13338 / 6	ex 2363 1 8				
	725	0	302	+ 3676 / /O'	19				
	750		286	13832/181	10				
	775	2	337	375/ 33					
	00		-35/_	3903 / G2					
	25				32 327216				
	50			/					
	75			/					
	00			/					
92	25	<del></del> +		/					
95				/					
97	5	·	<del></del>	/					
100				/	/				
102	5	<del></del>	<del></del>	/					
105				/	/				
107	5		<del></del>	/	/				
110	0			/	/				
1125	5			/					
1150	,			/	<del> </del>				
1175		<del></del>		/	<del> </del>				
1200					<del> </del>				
1225					<del> </del>				
1250		<del></del>			/				
1275					//				
1300					/				
1325	<del></del>			/	/				
1350	<del></del>				/				
1375	<del></del>			<del>,</del> ————————————————————————————————————	/				
400	<del></del>				/				
+00	_1	1		<del></del>	/				

High Voltage Set \*HV set with probe attached Date 9/9/10 Reviewed By

Alpha - 3561 /833 Beta - 2674 / 4

B 81214

	Date Calibra	ited: 09/02/2010		eter Calibration	Report			
	Technician:		2:43:26 PM Order Number: SAIC HARRISBURG20100902-005 Customer: SAIC HARRISBURG					
	Temperature		a maiorilett, Offi	C HARRISBURG				
	Repair Ins		lity (%): 35	Altitude (asl): 660	Barametric Pressure ("Hg): 29.21			
	Serial Number							
	- 1	Within 10%	Manufacturer: L	udlum Model:	2360 Meterface: 202-855			
	Last Calibrate		Calif. at a					
			Calibration In	terval: 1 yr. N	lext Calibration Due: 9/2/2011			
	Mechanic		eroed Ba	attery Ck Min. Volt.	I locat San Li			
	F/S Resp.		K 🛛 Ge	otropism	Input Sens. Linearity Window Operation			
	Audio OK		etting OK Ba	ckground Subtract				
	Voltage Se		comments)mV Det. Op	. 690 V at (see comme	nts)mV Threshold Dial ratio: N/A			
	HV readou		Volts Inst. 1 5	00Volte Dec 3	2000 Volts Inst. 2 2000 Volts			
	CTV* Analog I	In accordance with ANS	SI N323-1997 and the ma	anufacturer's procedure	2000 VOILS			
	Multiplier	Ref. Cal Point						
	X 1000	400 K cpm	Inst. As Found	Inst. As Left	Multimeter ser. # 93470436			
	X 1000	100 K cpm	400 K cpm	400 K cpm	Oscilloscope ser. #			
	X 100	40 K cpm	100 K cpm	100 K cpm	1=			
	X 100	10 K cpm	40 K cpm	40 K cpm	m500 ser. # 201462			
	X 10	4 K cpm	10 K cpm 4 K cpm	10 K cpm	Other ser. #			
	X 10	1 K cpm	1 K cpm	4 K cpm				
	X 1	400 cpm	400 cpm	1 K cpm				
L	X 1	100 cpm	100 cpm	400 cpm				
	CTV* Digital Reference Pt.			100 cpm				
F	400 K cpm	Inst. as Found	Inst. as Left	Comments				
$\vdash$	40 K cpm		39992 (0) cpm	1	s, see detector calibration form			
$\vdash$	4 K cpm		3999 (0) cpm		, see detector calibration form			
$\vdash$	400 cpm	(e) epin [	400 (0) cpm					
-	40 cpm	1 (,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	40 (0) cpm					
<b>!</b>	Conventionally True	(-, -, -, -, -, -, -, -, -, -, -, -, -, -	4 (0) cpm		1			
			** Uncertainty within	1 +/- 10%	All range(s) calibrated electronically			
Per	formed By:	カロファ	1					
	·····	11101 1	f	_	- / /			

Date:

Date:

Reviewed By

Attachment 8

STRUMENTATION OC CHECK LOC METER 43-89C DATE (MONO) July 2011

	TATION QC C	HECK LOG		METER:	<u>.</u>	43-89C		DATE (MO/YR):		2011
Met				ce Criteria	_				pha	<del></del>
Number	Cal. Due	Bkgrd. QC	(cpm) range	Source QC (	ncpm) range	Source Ty	pe :	Source Number	Inst. Efficiency	inst. Avg. Bkgro
202463	6/1/2012	Alpha	Beta	Alpha	Beta	Th - 230	1	SN-5777-07	14.0%	0.6
Dete	ctor	0.0	255	3506	1923			В	eta	
Number	Cal. Due	to	to	to	to	Source Ty	pe :	Source Number	Inst. Efficiency	Inst. Avg. Bkgro
199349	6/1/2012	1.2	323	5259	2884	SrY - 90		SN-5781-07	13.8%	289
Date	Time	Bkgrd. 0	C (cpm)	Source QC (	ncpm) range	Bat. Check	QC1	HPT	Comme	nt
		Alpha	Beta	Alpha	Beta	Sat/Unsat	Sat/Unsat			
7-11-11	1736	0.4	266	4613	2349	3/1	SAT	9		
7-13-11	סטרס	ها.0	>59	4544	<b>3</b> /1)2	SAT	SAT	2		
7-13-11	0645	0.6	165	4365	7337	SAT	SAT	2	•••	
7-14-11	0630	0.4	161	4479	7 474	SAT	3A5	7		
7-15-11	0630	0/3	157	4376	2569	SKT	SM	2 2		
7-16-11	0630	0.5	<i>)</i> L()	4313	>496	SAT	SAT	2		
7-17-11	0630	1.0	357	4577	1655	SXT	SM	2	<u>-</u>	
								7		
	Î									-
							_			
1		• •								
<del>- i</del>					NA	<u> </u>			<del></del>	
					44				·	
				<del></del>				+ + -		
-										
						<del> </del>		<del></del>		
									<del></del>	
		<del>.</del>		-				+ + -		
				<del>                                     </del>				+ +		
						<del> </del>	<b>———</b>		· · · · · · · · · · · · · · · · · · ·	
						<b>—</b>				
<del></del>										

Reviewed By: Kninklehanken (RPM/Designee) Date: 7/24/11

# Initial Instrument Check In (4 Pi Eff.)

Meter Number:	202463	Detector Number:	<u>199349</u>
Meter Model:	<u>2360</u>	Detector Model:	<u>43-89C</u>
Cal. Due:	6/1/2012	Cal. Due:	<u>6/1/2012</u>

ALPHA	Source Type:	Th - 230	Threshold:	120		
ALPHA	Source #:	SN-5777-07	High Voltage:	535		]
ALPHA	Source Activity:	31,199				
ALPHA	Source count time:	1	(min) Background count time:	10		(min)
ALPHA	Source GCPM	BKG CPM	Average Bkg. (CPM):	0.6		
ALPHA	4,038	0.7	Average Source (GCPM):	4,383		
ALPHA	4,048	0.7	Average Net Source (NCPM):	4,382		
ALPHA	4,011	0.3	Source Range (GCPM):	3,506	to	5,259
ALPHA	4,020	1	Background Range (CPM):	0.0	to	1.2
ALPHA	4,082	0.5	Determined Efficiency:	14.0%		
ALPHA	4,613	0.5				
ALPHA	4,774	0.5	20% of Bkg.	0.1		
ALPHA	4,802	0.4	1 Standard Deviation of Bkg.	0.2		
ALPHA	4,730	0.5	3 Standard Deviations of Bkg.	0.6		
ALPHA	4,710	0.6				

### Beta / Gamma (circle one)

BETA	Source Type:	SrY - 90	Threshold:	120		
BETA	Source #:	SN-5781-07	High Voltage:	535		
BETA	Source Activity:	15,362	] _	,		
BETA	Source count time:	1	(min) Background count time:	10		(min)
BETA	Source GCPM	BKG CPM	Average Bkg. (CPM):	289		
BETA	2,175	303	Average Source (GCPM):	2,403		
BETA	2,239	294	Average Net Source (NCPM):	2,115		
BETA	2,292	288	Source Range (GCPM):	1,923	to	2,884
BETA	2,236	310	Background Range (CPM):	255	to	323
BETA	2,373	293	Determined Efficiency:	13.8%		
BETA	2,389	282				
BETA	2,465	283	20% of Bkg.	58		
BETA	2,653	282	1 Standard Deviation of Bkg.	11		
BETA	2,551	2 <u>74</u>	3 Standard Deviations of Bkg.	34		
BETA	2,660	279				

Performed By:\_

Z Dai

Date:

Reviewed By:

.

Date: <u>2/5</u>

# **ALPHA**

### PHA

# For Portable Counters:

Detector Area (cm2) =	125.0
Efficiency (%) =	0.1405
Surface Efficiency =	1.00
Background (cpm) =	0.6
Background count time =	10.0
Gross count time =	1.0
MDA (dpm/100cm2) =	31.9

Detector Area (cm2) =	125.0
Efficiency (%) =	0.1377
Surface Efficeincy =	1.00
Background (cpm) =	288.6
Background count time =	10.0
Gross count time =	1.0
11.1	
MDA (dpm/100cm2) =	358.1

**BETA** 

NCD = < 6.2

NCD = < 350.2

# 2 Pi Efficiency

# **ALPHA**

# **BETA**

# For Portable Counters:

Detector Area (cm2) =	125.0
Efficiency (%) =	2.8001
Surface Efficiency =	1.00
Background (cpm) =	0.6
Background count time =	10.0
Gross count time =	1.0
MDA (dpm/100cm2) =	1.6

# For Portable Counters:

Detector Area (cm2) =	125.0
Efficiency (%) =	0.2974
Surface Efficeincy =	1.00
Background (cpm) =	288.6
Background count time =	10.0
Gross count time =	1.0
MDA (dpm/100cm2) =	165.7

NCD = < 6.2

NCD = < 350.2

# Alpha Beta Calibration Report

<del></del>	<u> </u>				
Date Calibrated: 06/02/2011 10:23:11 AM Order Number: SAIC HARRISBURG20110602-002					
echnician: B. French	Customer: SA	IC HARI	RISBURG		
Repair Instrument Serial Number: 199349 Reason for recalibration: Du	Manufacturer: Luc	lfum	Model: 43-89	Last	Calibrated: 4/19/2010
Calibration Instrument		<del></del> -	Light Leak Test: S	Sat	
Serial Number: 202463	Inst. Ty	pe: 236	50	Calibrati	on Due: 6/1/2012
Calibration Sources           4π         Alpha Source ID: SAIC-0053         Isotope: Th-230         Current Activity: 20298.03dpm Assay Date: 11/6/2000           Beta Source ID: SAIC-0054         Isotope: SrY-90         Current Activity: 12953.47dpm Assay Date: 11/15/2000           Alpha Source ID: SAIC-0053         Isotope: Th-230         Current Activity: 10099.02dpm Assay Date: 11/6/2000           2π         Beta Source ID: SAIC-0054         Isotope: SrY-90         Current Activity: 8997.62dpm Assay Date: 11/15/2000					
Alpha as Found	Beta as Found		Alpha as Left		Beta as Left
Background 1 min. counts NA  Source 1 min. counts NA	Background 1 min. co NA  Source 1 min. cour		Background 1 mi 1 Source 1 min. 2884		Background 1 min. counts 203  Source 1 min. counts 3137
4π % efficiency: 0 $2π$ % efficiency: 0	$4\pi$ % efficiency: 0 $2\pi$ % efficiency: 0		$4\pi$ % efficiency: $2\pi$ % efficiency:	14.2 28.55	$4\pi$ % efficiency: 22.65 $2\pi$ % efficiency: 32.61
Alpha Threshold: Beta Threshold:	120 mV High Volt 3.5 mV Beta Wind		535 V 30 mV	Next	Calibration Due: 6/1/2012
Comments  HV set with probe attached  Performed By:	Och ) Fra	ml	Date: Date:	6-2	<u>2 /11</u>

# Scaler/Ratemeter Calibration Report

	Scalet/Ratemeter Cambration Report			
Date Calibrated: 06/02/2011 10:18:57 AM Order Number: SAIC HARRISBURG20110602-001				
Technician: B. French Customer: SAIC HARRISBURG				
Temperature (F)	: 72 Humidity (	(%): 31 Altit	ude (asl): 660	Barametric Pressure ("Hg): 29.53
Repair Instr	ument			
Serial Number:	202463 Manufacturer: Ludlum Model: 2360 Meterface: 202-8			2360 Meterface: 202-855
Received: Wi	thin 10%			
Last Calibrated:	4/19/2010	Calibration Inter	val: 1 yr. Nex	kt Calibration Due: 6/1/2012
Mechanical	OK Meter Zero	ped Batte	ery Ck Min. Volt.	Input Sens. Linearity
F/S Resp. O	K Reset OK	Geot	ropism	Window Operation
Audio OK	Alarm Sett	ing OK Back	ground Subtract	_
Voltage Set	535 V at (see co	mments)mV Det. Op.	535 V at (see commen	ts)mV Threshold Dial ratio: N/A
HV readout	<b>Ref. 1</b> 500V	olts Inst. 1 50	0Volts Ref. 2	2005Volts
Calibrated in	n accordance with ANSI	N323-1997 and the man	nufacturer's procedure	
CTV* Analog R	eading			
Multiplier	Ref. Cal Point	Inst. As Found	Inst. As Left	Multimeter ser. # 93470436
X 1000	400 K cpm	400 K cpm	400 K cpm	Oscilloscope ser. #
X 1000	100 K cpm	100 K cpm	100 K cpm	Oscinoscope sei. #
X 100	40 K cpm	40 K.cpm	40 K cpm	m500 ser. # 201462
X 100	10 K cpm	10 K cpm	10 K cpm	Other ser. #
X 10	4 K cpm	4 K cpm	4 K cpm	1
X 10	1 K cpm	1 K cpm	1 K cpm	1
X 1	400 cpm	400 cpm	400 cpm	*
X 1	100 cpm	100 cpm	100 cpm	<u></u>
CTV* Digital				
Reference Pt.	Inst. as Found	Inst. as Left	Comments	
400 K cp	m 40007 (0) cpm	40025 (0) cpm	7.1	ies, see detector calibration form
40 K cp	m 4002 (0) cpm	4001 (0) cpm	11	
4 Кср	m 400 (0) cpm	400 (0) cpm	11	
400 ср	m 40 (0) cpm	40 (0) cpm	11	
40 cp	m 4 (0) cpm	4 (0) cpm	11	
* Conventionally Ti	ue Value	** Uncertainty with	thin +/- 10%	All range(s) calibrated electronically
Performed By:		7 <i>1</i> 1	Datas	e /
Reviewed By	Much 1.	French	Date:	<u>6/2/11</u>

### Plateau Calibration

Model #\_ 43-89

Serial # /99349

Alpha Source I.D. SAIC - 0053 Beta Source I.D. SAIC - 0054

Alpha Input Senitivity 120mV Beta Input Senitivity 3.5mV

Beta Window 30mV

Distance Source to Detector source holder

High					r <u>source holder</u>	_
Voltage	l viere	ground		irce	Sou	ırce
400	Alpha	Beta	Alp	ha	Bet	
425				/		
450		<del> </del>			/	
475			<u> </u>		/	
			1		7	···
500	<u> </u>	89	1938		1928 1	2
525		147	2717		28761	
550		248	3141 1	848	3629 /	
575		300	3400 1	1579	3629 1	3
600			7		/	
625			7		<del></del>	
650			/		1	
675						
700						
725					<del></del>	<del></del>
750						
775			/		1	
800						
825					<del></del>	
850			/			
875			/		<del></del> ;	
900			1		<del></del>	
925					<del></del>	
950			/			
975			/		<del></del>	
1000			/			
1025						
1050			/		<del></del> /	
1075			/			
1100			/			
1125			/		<del></del>	
1150						
1175						
1200			1			
1225			1			<del></del>
1250			1			
1275			1		<del></del>	
1300			/			
1325			7			
1350			1	<del></del>		
13/5			<del>'</del>	<del></del>		
1400				<del></del>		
	-					1

High Voltage Set 5351/	
	*HV set with probe attached
Reviewed By Lind Vetu	•
to the terms of th	Date: 0-2-//

Source Alpha - 2884/689 Bota - 3137/2

43-89B **July 2011** INSTRUMENTATION QC CHECK LOG METER: DATE (MO/YR): Meter Acceptance Criteria Alpha Number Cal. Due Bkgrd. QC (cpm) range Source QC (ncpm) range Source Number Inst. Efficiency Inst. Avg. Bkgrd. Source Type 202423 9/2/2011 Th - 230 SN-5777-07 14.5% Alpha Beta Alpha Beta 1.6 Detector 0.3 209 3625 2240 Beta Number Cal. Due **Source Number** Inst. Efficiency inst. Avg. Bkgrd. to to to to Source Type 221834 9/2/2011 2.8 249 5438 3359 SrY - 90 SN-5781-07 16.7% 229 Date Time Bkgrd. QC (cpm) Source QC (ncpm) range Bat. Check QC1 HPT Comment Alpha Beta **Alpha** Beta Sat/Unsat Sat/Unsat Initial 4663 7888 SAT 7-11-11 1236 1.1 239 SAT 1871 7-12-11 0700 1.7 219 4705 SAT 7-13-11 0645 4783 2828 1.0 218 SAT SKT 7-14-11 0630 1.2 718 4696 عدود SKT SAT at of service Mylar pienal. 7-15-11 1.1 4319 0630 117 1767 SHT An unsatisfactory QC check requires recording the resplt in the confirment column and repeating the evaluation. Tag the instrument out of service and notify the HP Supervisor upon failing the QC check two times in succession.

Reviewed By:

(RPM/Designee)

# Initial Instrument Check In (4 Pi Eff.)

Meter Number: Meter Model: Cal. Due: 202423 Detector Number:
2360 Detector Model:
9/2/2011 Cal. Due:

221834 43-89B 9/2/2011

ALPHA	Source Type:	Th - 230	Threshold:	120		
ALPHA	Source #:	SN-5777-07	High Voltage:	690		
ALPHA	Source Activity:	31,199	1			
ALPHA	Source count time:	1	(min) Background count time:	10		(min)
ALPHA	Source GCPM	BKG CPM	Average Bkg. (CPM):	1.6		
ALPHA	4,663	1.5	Average Source (GCPM):	4,533		
ALPHA	4,675	1.7	Average Net Source (NCPM):	4,531		
ALPHA	4,612	1.8	Source Range (GCPM):	3,625	to	5,438
ALPHA	4,634	2.1	Background Range (CPM):	0.3	to	2.8
ALPHA	4,267	2.3	Determined Efficiency:	14.5%		
ALPHA	4,110	1.7				
ALPHA	4,263	1.1	20% of Bkg.	0.3		
ALPHA	4,707	1.2	1 Standard Deviation of Bkg.	0.4		
ALPHA	4,732	1.3	3 Standard Deviations of Bkg.	1.2		
ALPHA	4,666	1.1				

### Beta / Gamma (circle one)

BETA	Source Type:	SrY - 90	Threshold:	120		
BETA	Source #:	SN-5781-07	High Voltage:	690		
BETA	Source Activity:	15,362		W		
BETA	Source count time:	1	(min) Background count time:	10		(min)
BETA	Source GCPM	BKG CPM	Average Bkg. (CPM):	229		
BETA	2,857	221	Average Source (GCPM):	2,799		
BETA	2,909	224	Average Net Source (NCPM):	2,570		
BETA	2,958	228	Source Range (GCPM):	2,240	to	3,359
BETA	2,817	242	Background Range (CPM):	209	to	249
BETA	2,451	237	Determined Efficiency:	16.7%		
BETA	2,462	236				
BETA	2,513	225	20% of Bkg.	46		
BETA	3,055	228	1 Standard Deviation of Bkg.	7		
BETA	2,993	224	3 Standard Deviations of Bkg.	20		
BETA	2,979	226				

Performed By:\_

Date

Data.

Reviewed By:\_

(RPM / Asst. RPM)

# **ALPHA**

# **BETA**

### For Portable Counters:

Detector Area (cm2) =	125.0
Efficiency (%) =	0.1452
Surface Efficiency =	1.00
Background (cpm) =	1.6
Background count time =	10.0
Gross count time =	1.0
MDA (dpm/100cm2) =	40.4

For	Portable	Counters:
-----	----------	-----------

	·
Detector Area (cm2) =	125.0
Efficiency (%) =	0.1673
Surface Efficeincy =	1.00
Background (cpm) =	229.2
Background count time =	10.0
Gross count time =	1.0
	-
MDA (dpm/100cm2) =	264.1

NCD = < 8.9

NCD = < 284.4

### 2 Pi Efficiency

# **ALPHA**

# **BETA**

# For Portable Counters:

Detector Area (cm2) =	125.0
Efficiency (%) =	2.8954
Surface Efficiency =	1.00
Background (cpm) =	1.6
Background count time =	10.0
Gross count time =	1.0
MDA (dpm/100cm2) =	2.0

### For Portable Counters:

Detector Area (cm2) =	125.0
Efficiency (%) =	0.3615
Surface Efficeincy =	1.00
Background (cpm) =	229.2
Background count time =	10.0
Gross count time =	1.0
MDA (dpm/100cm2) =	122.2

NCD = < 8.9

NCD = < 284.4

8/298 Date Calibrated: 09/02/2010 2:47:17 PM Order Number: SAIC HARRISBURG20100902-006 Technician: B. French Customer: SAIC HARRISBURG Repair Instrument Serial Number: 221834 Manufacturer: Ludlum Model: 43-89 Last Calibrated: 9/24/2009 Reason for recalibration: **Due for Calibration** Calibration Instrument Light Leak Test: Sat Serial Number: 202423 Inst. Type: 2360 Calibration Due: 9/2/2011 Calibration Sources Alpha Source ID: SAIC-0002  $4\pi$ Isotope: Th-230 Current Activity: 22598.67dpm Assay Date: 4/6/2004 Beta Source ID: SAIC-0001 Isotope: SrY-90 Current Activity: 9845.92dpm Assay Date: 3/23/2004 Alpha Source ID: SAIC-0002 Isotope: Th-230 Current Activity: 11499.32dpm Assay Date: 4/6/2004 Beta Source ID: SAIC-0001 Isotope: SrY-90 Current Activity: 6892.14dpm Assay Date: 3/23/2004 Alpha as Found Beta as Found Alpha as Left Beta as Left Background 1 min. counts Background I min. counts Background 1 min. counts NA Background I min. counts NA 081 Source 1 min. counts Source 1 min. counts Source 1 min. counts NA Source 1 min. counts NA 3561 2674 4π % efficiency: 0  $4\pi$ % efficiency: 0  $4\pi$  % efficiency: 15.75 4π % efficiency: 25.33  $2\pi$  % efficiency: 0  $2\pi$ % efficiency: 0 2π % efficiency: 30.96 2π % efficiency: 36.19 Alpha Threshold: 120 mV High Voltage: 690 V Beta Threshold: 3.5 mV Beta Window: 30 mV Next Calibration Due: 9/2/2011 Comments HV set with probe attached

Performed By:

Reminwed By

Date: Date:

# Plateau Calibration

Model #\_ 43-89 Serial # 221834

Alpha Source I D SA-I C-0002 Beta Source ID SAIC-0001

Alpha Input Senitivity 120mV Beta Input Senitivity 3 5mV Beta Window 30mV

Distance Source to Detector source holder

	High			Distance Source to	Detector source	holder
- 1	Voltage		Background	Source	- source	nolder
- F	400	Alpha	Beta	Alpho		Source
- H		<del></del>		Alpha		Beta
<b> </b> -	425			<del></del>		/
-	450			<del>/</del>		/
$\vdash$	475			<del>/</del>		
-	500			<del></del>		
-	525			<del></del>		
<b>-</b>	550			<del></del>		
-	575			<del></del>		<del>'</del>
<b>-</b>	600					<del></del>
<u> </u>	625	.2	67	1-2		<del></del>
<b>_</b>	650	1	104	2627 1 4	55 /333	
<u> </u>	675	0		3/70 / 5	27 193	16
<u> </u>	700	2	162	13338 / 6	68 236	
<u> </u>	725	0	302	+ 3676 / /O	49 2863	<del></del>
	750		286	13832/18	1 100	
	775	2	337	+-375½ / 33	4 / All	1 3
	800		1-35/	3903 / G2		1 6
	825		<del> </del>	<u> </u>	32 3272	1 6
	350		<del> </del>		<del></del>	
	375		<b></b>			/
	00		<u> </u>	/	<del></del>	/
9	25				<del></del>	/
	50			/	<del></del>	/
9	75		<del></del>	/	<del></del>	/
	00			/	<del></del>	/
10	25		<del></del>	/	<del></del>	/
10				/	<del></del>	/
107	75		<del></del>	/		/
110	00			/		
112	5			/		
115	0				<del></del>	
117	5			/	<del></del> /	
1200	0				· <del> </del> <u>/</u>	
1225	5				<del> </del> /	
1250	,	╼╼╼┼╼			<del> </del> /	
1275				/	//	7
1300					<del> </del> /	
1325	<del>-  </del>			/	/	
1350	<del></del>				/	
1375						
400	<del></del>			<del></del>	/	
-700		1		<del></del>	/	

High Voltage Set \*HV set with probe attached Date 9/9/10 Reviewed By

Alpha - 3561 /833 Beta - 2674 / 4

B 81214

	Date Calibra	ited: 09/02/2010		eter Calibration	Report
	Technician:		2:43:26 PM Or	rder Number: SAIC HAI C HARRISBURG	RRISBURG20100902-005
	Temperature		a material, SAI	C HARRISBURG	
	Repair Ins		lity (%): 35 A	Altitude (asl): 660	Barametric Pressure ("Hg): 29.21
	Serial Number				
	1	Within 10%	Manufacturer: L	udlum Model:	2360 Meterface: 202-855
	Last Calibrate		6.17		
			Calibration In	terval: 1 yr. N	lext Calibration Due: 9/2/2011
	Mechanic		eroed Ba	attery Ck Min. Volt.	I locat San Li
	F/S Resp.		K 🖸 Ge	otropism	Input Sens. Linearity Window Operation
	Audio OK		etting OK Ba	ckground Subtract	
- 1	Voltage Se		comments)mV Det. Op	. 690 V at (see comme	nts)mV Threshold Dial ratio: N/A
	HV readou		Volts Inst. 1 5	00Volte Dec 3	2000 Volts Inst. 2 2000 Volts
L	CTV* Analog F	In accordance with ANS	SI N323-1997 and the ma	anufacturer's procedure	2000 VOILS
Γ	Multiplier	Ref. Cal Point			
ı	X 1000	400 K cpm	Inst. As Found	Inst. As Left	Multimeter ser. # 93470436
	X 1000	100 K cpm	400 K cpm		Oscilloscope ser. #
	X 100	40 K cpm	100 K cpm	100 K cpm	1=
	X 100	lO K cpm	40 K cpm 10 K cpm	40 K cpm	
	X 10	4 K cpm	4 K cpm	10 K cpm	Other ser. #
$\perp$	X 10	1 K cpm	! K cpm	4 K cpm	
	X 1	400 cpm	400 cpm	1 K cpm 400 cpm	
_	X 1	100 cpm	100 cpm	100 cpm	
	CTV* Digital eference Pt.	I lost a E		100 CDIII	
H	400 K cpm	Inst. as Found	Inst. as Left	Comments	
$\vdash$	40 K cpm	(*) <b>*P</b> ***	39992 (0) cpm	1	s, see detector calibration form
$\vdash$	4 K cpm	(*, *p)	3999 (0) cpm		, see constant to the
-	400 cpm	(e) epin [	400 (0) cpm		
-	40 cpm	1 (,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	40 (0) cpm		Ì
• Co	onventionally True		4 (0) cpm		
				1 <del>1/-</del> 1976	All range(s) calibrated electronically
Perfo	ormed By:	7017	1		

Date:

Date:

Reviewed By

NSTRUM	ENTATION C	C CHECK LOG		METER:	44-1	10B 	DATE (MO/YR):	July	2011
Soi	ırce		Acceptan	ce Criteria			Model	Number	Cal. Due
Type	Cs-137	Bkgrd. QC (		Source QC	(cpm) range	Meter	2221	178108	4/1/2012
Number	SN-5780-07	6,106 to	10,803	225,455	to 338,182	Detector	44-10B	187432	4/1/2012
Date	Time	Pr≘-use Bkg cpm	Post Bkg cpm¹	Pre-use Source	Post Source cpm¹	Bat. Check	QC <sup>1</sup>	Pre-use HPT	Post HPT
				cpm		Sat/Unsat	Sat/Unsat	Initial	Initial
7-11-11	1736	8954	8868	180715	188807	SAT	SAT	72	7
7-4-11	0700	6585	6867	780131	182666	SAT	SAT	HUNNUNN	PA PA
7-13-11	0645	6801	6961	282173	783718	SAT	SKT	12	2
7-14-11	0630	9491	9262	286901	189101	SAT	SAT	2	R
7-15-11	0630	9108	NH	78,6789	NA	SM	SAT	2	
7-16-11	0630	9756	NA	282844	NA	SKT	SKT	72	ΝĄ
7-17-11	0630	9137	9243	190091	186769	S XT	SAT	2	72
<u> </u>									
					KA				
					70				
							<b>_</b>		
				ļ					
							1		
						<u></u>			
									_

Gamma scan Instruments used for confirmation or verification surveys require a post check-in.

Reviewed By :

(RPM/Designee)

Date : 2/24/11

		Initial Instru	ument Check In			
	Meter Number: Meter Model: Cal. Due:	178108 2221 4/1/2012	Detector Number: Detector Model: Cal. Due:	187432 44-10B 4/1/2012		
ALPHA ALPHA	Source Type: Source #: Source Astivity:		Threshold: High Voltage:			(min)
ALPHA ALPHA ALPHA ALPHA ALPHA ALPHA	Source COPM	ВКС СРМ	(min) Background count time: Average Bkg. (CPM): Average Source (GCPM): Average Net Source (NCPM): Source Range (GCPM): Background Range (CPM):	#DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!	to to	#DIV/0! #DIV/0!
ALPHA ALPHA ALPHA ALPHA ALPHA ALPHA			Determined Efficiency: 20% of Bkg. 1 Standard Deviation of Bkg. 3 Standard Deviations of Bkg.	#DIV/0! #DIV/0! #DIV/0!	_	

# Beta / Gamma (circle one)

			<u> </u>			
BETA	Source Type:	Cs-137	Threshold:	10		
BETA	Source #:	SN-5780-07	High Voltage:	1100		
BETA	Source Activity:	0.91 uCi	_			
BETA	Source count time:	1	(min) Background count time:	1		(min)
BETA	Source GCPM	BKG CPM	Average Bkg. (CPM):	8,455		
BETA	281,941	8872	Average Source (GCPM):	281,818		
BETA	281,661	8876	Average Net Source (NCPM):	273,364		
BETA	280,752	8598	Source Range (GCPM):	225,455	to	338,182
BETA	281,168	7348	Background Range (CPM):	6,106	to	10,803
BETA	281,285	7038	Determined Efficiency:	NA		
BETA	282,464	7758				
BETA	281,701	9100	20% of Bkg.	1691		
BETA	282,722	9311	1 Standard Deviation of Bkg.	783		
BETA	281,747	8778	3 Standard Deviations of Bkg.	2348		
BETA	282,742	8869	<u></u>			

Performed By:

Date

Reviewed By:

Data

(RPM Asst. RPM)



Designer and Manufacturer of Scientific and Industrial Instruments

# CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.

POST OFFICE BOX 810 PH. 325-235-5494 FAX NO. 325-235-4672

501 OAK STREET

Failed:

	_				SWEE	WATER, TEXAS	79556, U.S.A.
CUSTOM	IER SAIC					ORDER NO	20172746/361507
	Ludlum Measure	ments, Inc. Mo	del	2221	Seria	al No. 178/08	3
( ) –	Ludlum Measure		del	44-10		al No. PR 18	
0.1.0							
Cal. Date		<del></del>		1-Apr-12		1 Year Meter	face 202-159
Check mark	<ul> <li>✓applies to applica</li> </ul>	ible instr. and/or detecto	or IAW mfg. spec.	T7	<u>74</u> °FRH_	32 % A	lt694.8_ mm Hg
☐ New i	Instrument Instrum	ment Received 🔲 W	Vithin Toler. +-10%	] 10-20% 🗂 Out	of Tol. Requir	ing Repair 🦳 Otl	her-See comments
<b></b> Mech	anical ck.	Meter Zeroed		Background Sub	otract	Input Ser	ns Linearity
L.BL.	Resp. ck	Reset ck.	<u>[7</u>	Window Operation		✓ Geotropis	
Audio		Alarm Setting	ck.	•	olt)4.4_V[	_	
		h LMI SOP 14.8 rev 12/	05/89.			OP 14.9 rev 02/07/9	97.
Instrument \	See Commonts	_ V Input Sens.Comm	Hents my Dat One	Comments	V of commence	Threshold	m\
manument	Voit Get - Thingening	v imput delis.e.w.					
Δ H,	V Readout (2 points)	Ref./Inst. 5	500 //	495v	Ref./Inst.	2000 / /	1995 V
COMME	NTS.						
COMME	1110.	Peak Settings	Gros	s Counts			
	High Voltage:	904v	1100				
Thre	shold Setting:	642		10mv			
	indow Setting:	40	n/a				
Wi	ndow Position:	"in"	"out	TP			
resolut	ion for Cs137:	11.93%	n/a				
	Firmware:2	61027					
Calibra	tion performed	with 5' C cable	•				
	d checked but n						
		44-10 connected		et For Gr	1055 COUNT	<b>s</b> .	
Gamma Calib	ration: GM detectors posi	tioned perpendicular to sou	rce except for M 44-9 in w	nich the front of prob	e faces source.		
			ERENCE	_	MENT REC'D	INSTRUM	
6. 1	RANGE/MULTIP		. POINT	"AS FOU	JND READING'		
	x1K	400kcr			N/H	40	
	<u>x1K</u>	100kcr					0
	<u>x100</u>	40kcr				40	
	<u>x100</u>	10kcr					
	<u>x10</u>	4kcr		<del>-</del>		40	
	<u>x10</u> x1	1kcr		<del>-</del> ————————————————————————————————————	<del></del>		00 00
	x1						70
			)T(1	<u> </u>			
	<del></del>					-	
••	I have desired a substitution of dead	0.5 - 14-1 - 0.004			AL	1 Damma(a) Callib	ented Floring in ally
					: ::		orated Electronically
	REFERENCE	INSTRUMENT	INSTRUMENT	REFER		NSTRUMENT	INSTRUMENT
	CAL. POINT	RECEIVED	METER READING*	CAL. P	OINT	ECEIVED	METER READING*
Digital Readout	400kcpm	N/#	3995960	Log Scale 5	00kcpm	W/H	50011
	40kcpm		3995		50kcpm		591
	4kcpm		400		5kcpm		51K
	400cpm		40		500cpm		500
	40cpm		4		50cpm		5-0
udium Measure	ments, Inc. certifies that the al	bove instrument has been calib	rated by standards traceable	o the National Institute	of Standards and Techno	logy, or to the calibration	facilities of
ther internations	al Standards Organization mei	mbers, or have been derived from ments of ANSI/NCSL Z540-1-19	om accepted values of natural	physical constants or h	save been derived by the	ratio type of calibration te	chniques. on License No. LO-1963
-	Instruments and/o			781 059	280 60646	70897	711 21001100 1101 20 1000
		112 M565 5105		E552 E551	720 734		tron Am-241 Be S/N T-304
125.23						_ 1010 11ea	1011 A111-247 DE 3/14 1-304
Aipha	s/N	[] {	Beta S/N		🗹 Other	Am2	241:0.83uçi
500	0 S/N 9494	40 —	Oscilloscope S/N		Multir	neter S/N	78401031
					<b>X</b>	neter on -	10401001
Calibrated I	ву: _> \\	5-	4		Date /- //	PR-11	
			•	-			<u> </u>
Reviewed I	By: Alyan	1 Ham			Date \A	AII .	
This seatificate	ehall not be seen disc.	and the field and the same of	are all of the first	4. 1			
FORM C22A	03/11/2010 Page _	ept in full, without the written app	proval of Ludium Measuremen	its, Inc.	AC Inst. Pa	ssed Dielectric (Hi-Pot led:	) and Continuity Test



### Designer and Manufacturer of Scientific and Industrial Instruments

# **LUDLUM MEASUREMENTS, INC.**

POST OFFICE BOX 810 PH. 325-235-5494 **501 OAK STREET** 

FAX NO. 325-235-4672

SWEETWATER, TEXAS 79556, U.S.A.

# Bench Test Data For Detector

Detector	44-10	_ Serial No <i>PR137</i> !	132		
Customer				Order #.	20172746/361507
Counter	2221	Serial No. 178/08		Counter Input Sensitivity	mv
Count Time	6 Sec.			Distance Source to Detector	Suff-ale
Other	11.V- Set 1	v.Th 44-10	Connect	· D .	
High Voltage	Background	Isotope An 241 Size 20.83mp	Isotope	Isotope	Isotope
900	639	639			
950	674	4757			
1000	73/	11667			
1050	785	12399			
1100	787	12395	<del></del>		
1150	781	12487			
1200		15888			
125	s 818	14393			
					ļ <u> </u>
<del></del>					
			·		-
<del></del>					
	i				
A					
Signature	35	56		Date	- ABR-11

FORM C4A 03/11/2010

44-9 July 2011 INSTRUMENTATION OF CHECK LOG METER . DATE (MO/VP) .

INSTRUMENTATION QC CHECK LOG METER :		DATE (MO/YR) :								
Meter		Acceptance Criteria			Alpha					
Number	Cal. Due	Bkgrd. QC (	cpm) range	Source QC (	ncpm) range	Source Ty	/pe S	Source Number	Inst. Efficiency	Inst. Avg. Bkgrd
197790	3/28/2012	Alpha	Beta	Alpha	Beta	N/A		N/A	N/A	N/A
Dete	ctor	N/A	20	N/A	2366			E	Beta	
Number	Cal. Due	to	to	to	to	Source Ty	/pe S	Source Number	Inst. Efficiency	Inst. Avg. Bkgrd
212132	3/28/2012	N/A	75	N/A	3549	SrY - 90	)	SN-5781-07	18.9%	48
Date	Time	Bkgrd. C	(C (cpm)	Source C	(ncpm)	Bat. Check	QC1	HPT	Comme	nt
		Alpha	Beta	Alpha	Beta	Sat/Unsat	Sat/Unsat			
7-11-11	1236	NK	31	W	3091	SAT	SAT	2		
フールール	0700	NK	50	4N	3928	SAT	SAT	2		
7-13-11	10645	VΑ	47	NA	7490	SKT	SAT	2		_
7-14-11	0630	Λ¥	49	NA.	3028	SMT	SIT	2		
7-15-11	0630	NA	63	NA	2848	SAT	SAT			
7-16-11	0630	NA	41	NA.	3143	SAT	SAT	3		
7-17-11	0630	Nh	44	NA	2843	SAT	SAT	12		
									<del></del>	
					<del></del> _					
				<u> </u>		ļ				
								+		
			_							
							1			
					KA		ļ		· · · · · ·	
				<del>                                     </del>	140	-	-			
						<b>-</b>	-			
								+ -		··
						<del>                                     </del>				
				<del> </del>				$\leftarrow$		
	-		}	1		<del>                                     </del>	1			
			<del> </del>	<del>                                     </del>	<del> </del>	<del> </del>	+			
				<del>                                     </del>		1		<del>                                     </del>		
							<del>                                     </del>			
		.,,		1		1	1			
				1	<del>                                     </del>	<del>                                     </del>	1		<del></del>	
				1		1	· · · · · · · · · · · · · · · · · · ·		<del></del>	
				<b>†</b>		1	1			

An unsatisfactory QC check requires recording the result in the comment cortains and repeating the evaluation. Tag the instrument out of service and notify the HP Supervisor upon failing the QC check two times in succession.

Reviewed By:

j	nitial	Instrument Check I	n
- 1	11111111111	modularion Circon i	

212132 Meter Number: 197790 Detector Number: 2221 Detector Model: <u>44-9</u> Meter Model: 3/28/2012 3/28/2012 Cal. Due: Cal. Due:

ALPHA	Source Type:		Threshold:	
ALPHA	Source #:		High Voltage:	
ALPHA	Source Astivity:			
ALPHA	Source count time:		(min) Background count time:	(min)
ALPHA	Source GCPM	BKG CPM	Average Bkg. (CPM):	
ALPHA			Average Source (GCPM):	
ALPHA			Average Net Source (NCPM):	
ALPHA			Source Range (GCPM):	to
ALPHA			Background Range (CPM):	to
ALPHA			Determined Efficiency:	
ALPHA				_
ALPHA			20% of Bkg.	
ALPHA			1 Standard Deviation of Bkg.	
ALPHA			3 Standard Deviations of Bkg.	
ALPHA				

### Beta / Gamma (circle one)

BETA	Source Type:	SrY - 90	Threshold:	55		
BETA	Source #:	SN-5781-07	High Voltage:	900		
BETA	Source Activity:	15,362	_			•
BETA	Source count time:	1	(min) Background count time:	1		(min)
BETA	Source GCPM	BKG CPM	Average Bkg. (CPM):	48		
BETA	2,943	41	Average Source (GCPM):	2,957		
BETA	2,942	45	Average Net Source (NCPM):	2,910		
BETA	2,963	52	Source Range (GCPM):	2,366	to	3,549
BETA	2,906	48	Background Range (CPM):	20	to	75
BETA	2,969	41	Determined Efficiency:	18.9%		
BETA	2,875	39				
BETA	2,965	53	20% of Bkg.	10		
BETA	2,969	64	1 Standard Deviation of Bkg.	9		
BETA	3,079	58	3 Standard Deviations of Bkg.	27		
BETA	2,961	35				

Performed By:

Reviewed By:

(RPM Asst. RPM)

# ALPHA For Partable Counters: Detector Area (cm2) = 15.5 Efficiency (%) = 1.00 Background (opm) = 1.00 Background count time = 1.0 Gross count time = 1.0 MIDA (dpm/100cm2) = #DIV/0!

**BETA** 

For Portable Counters:

Detector Area (cm2) =	15.5
Efficiency (%) =	0.1894
Surface Efficeincy =	1.00
Background (cpm) =	47.6
Background count time =	1.0
Gross count time =	1.0
MDA (dpm/100cm2) =	1195.6

NCD = < 82.7

		beta Cambra	ation Report				
Date Calibrated: 03/29/	2011 1:3	0:35 PM Order	Number: SAIC HAI	RRISBURG20	0110329-002		
Technician: B. French	1	Customer: SAIC HA					
pair Instrument							
Serial Number: 212132		Manufacturer: Ludlı	ım M	lodel: 44-9	Last Calil	brated: 4/1/20	)10
Reason for recalibration	Due for Calib	eration					
Calibration Instru	nent						
Serial Number: 197790	Ins	t. Type: 2221	Calibra	ation Due: 3	3/28/2012		
Calibration Source	S						
4π Beta Sourc	e ID: SAIC-00	54 Isotope: SrY	-90 Current A	ctivity: 1	3009.13dpm Assay	v Date: 11/15/	/2006
		-		·	1	, =	
2π Beta Sourc	e ID: SAIC-00:	Isotope: SrY	-90 Current A	ctivity:	9036.28cpm Assay	y Date: 11/15/	2000
Seta as Found	_		Beta as Left	· · · · ·			
Background 1 min. coun	ts NA	-	Background 1 n				
	IVA			30			
Source 1 min. counts		· · · · · · · · · · · · · · · · · · ·	Source 1 min. co	ounts			
	NA		Bource 1 mm. et	310	04		
	4π % effic	eiency: 0			4π % efficie	ncy: 23.63	
	2π % effic	iency: 0			2π % efficie	ncy: 34.02	
Beta Threshold:	55mV	High Voltage:	900V	Next Cali	bration Due: 3/28/2	2012	
Comments					· · · · · · · · · · · · · · · · · · ·		
erformed By:	The :	Frence	<u></u>	Date:	3/29/11	,	
eviewed By	WM			Date:	3/30/11	•	
ι	ر د	/ /			¢ 7	·	

### Scaler/Ratemeter Calibration Report

					M1101 W11011	rtopor	•			
Date Calibrated	Date Calibrated: 03/29/2011 1:28:11 PM Order Number: SAIC HARRISBURG20110329-001									
Technician: B.	. French	Custo	mer:SAIC I	HARRISBU	JRG					
Temperature (F	): 70 I	łumidity (%	): 24	A	ltitude (asl):	660	Ba	rametric Pressi	ure ("Hg):	29.56
Repair Instr	ument			-			· · · · ·		<u>.</u>	
Serial Number:	197790		Manufacti	urer: Ludl	lum	Model: 2	2221	M	eterface: 20	2-159
Received: Within 10%										
Last Calibrated	Last Calibrated: 4/1/2010 Calibration Interval: 1 yr. Next Calibration Due: 3/28/2012									
Mechanica Mechanica	Mechanical OK Meter Zeroed Battery Ck Min. Volt. Input Sens. Linearity									
F/S Resp. (	ok 🔼	Reset OK		Geo1	tropism			Win	idow Operat	ion
Audio OK		Alarm Setti	ng OK	Back	cground Subtra	ct				
Voltage Se	t 900 '	V at	55 mV	Det. Op.	900 V at		55 mV	Threshold 1	Dial ratio: [	00 = 10
HV readou	Ref. 1	499 Volts	Inst. 1	500 V	olts R	ef. 2 2	002 V	olts Inst.	2 2000	Volts
Calibrated :	in accordance	with ANSI	N323A-199	7 and the m	anufacturers p	rocedure				
CTV* Analog R	Reading					1				
Multiplier	Ref. Cal	Poin	Inst. As	s Found	Inst. As	Left		Multimeter ser. #	02/70/26	
X 1000	400	K cpm	400	K cpm	400	K cpm	<u> </u>			
X 1000	100	K cpm	100	К срт	100	K cpm	] 🗆 ʻ	Oscilloscope ser.	#	
X 100	40	K cpm	40	K cpm	40	К срт		m500 ser. # 20	1462	
X 100	10	K cpm	10	K cpm	10	K cpm	<b>l</b> □ ,	Other ser. #		
X 10	4	K cpm	4	К срт	4	K cpm				
X 10	1	K cpm	1	K cpm	1	K cpm				
X 1	400	cpm	400	cpm	400	cpm				
X 1	100	cpm	100	cpm	100	cpm				
CTV* Digital Reference Pt.	Inst. as	Found	Inst. as	Left	CTV* Log S Reference	Scale Pt	Inst	as Found	Inst. as L	eft
400 K cr		(0) cpm	40013		500		500		500	
40 K cr		(0) cpm	4001	(0) cpm	50	K cpm	50	K cpm	50	K cpm
4 K cr	_	(0) cpm	400	(0) cpm	5	K cpm	5	K cpm	5	K cpm
400 cpm		(0) cpm	40	(0) cpm	500	cpm	500		500	
40 cpm	4	(0) cpm	4	(0) cpm	50	cpm	50	срт	50	cpm
* Conventionally	True Value		** Uncer	tainty within	+/- 10%	[_	A	All range(s) calib	l rated electron	ically
Comments					<u> </u>	<del></del>				
Comments										
	<i>~</i>		_	_				, ,		
Performed By:	720	6 7	door		]	Date:	3	129/11	•	

Date:



Calibration Date: 4-17-2007

	Gamma Standard	
		S.O.# 6620 P.O.# 20077000355
Description of Standard:		
Model No. CS-7D	Serial No <u>5780.07</u>	IsotopeCs-137
The source of gamma radiat	tion is mounted on a5.0	8cm diameterPLASTIC
disc, mm	m thick and sealed in aPLAS	STIC RESIN .
	$\mathcal{A}_{ij}$	
Measurement Method:	gra e	
by NIST S/N 2752-91	te was compared with a similar of the comparison of relation resolution gamma ray detector (height analyzer.	ve gama ray emission rates was
Measurement Result:		
The gamma ray activity of	the standard on4-17-2007	7 was 1.0 ci.
The uncertainty of the mea	asurement is 2.2 %, which is the	sum of the uncertainty
assigned to the NIST refer	sence (2.4%), random counting	error at the 99% confidence
11	upper limit of systematic errors	
rever, and the estimated u		4
Calibrated by: ART REU	Reviewed b	y: Stan South



16/32

# CERTIFICATE OF CALIBRATION

Electroplated Alpha Standard	
	S.O.#6620
	P.O.# <u>2007000355</u>
Description of Standard:	
Model No. DNS-4 Serial No. 5777-07 Isoto	opeTh-230
Electroplated on polished SS disc, 0.79	mm thick.
Total diameter of 2.23 cm and an active diameter of	1.91 cm.
The radioactive material is permanently fixed to the disc by heat covering over the active surface.	treatment without any
Measurement Method:	
The 2pi alpha emission rate was measured using an internal gas flochamber. Absolute counting of alpha particles emitted in the heminactive surface was verified by counting above, below, and at the calibration is traceable to NIST by reference to an NIST calibration $S/N = 4001-02$	isphere above the operative voltage.
Measurement Result:	
The observed alpha particles emitted from the surface of the disc the calibration date was:	per minute (cpm) on
<u>15,800</u> + <u>475</u>	
The total disintegration rate (dpm) assuming 1.5% backscatter of a the surface of the disc, was:	alpha particles from
<u>31,200</u> <u>+ 936</u> ( <u>0</u>	.0141 $\mu$ Ci)
	of random counting of systematic error in
Calibrated by: ART REUST Reviewed by:	
Calibration Technician: Attent Q.A. Manager: Man	entschrenballer
Calibration Date: 4-17-2007 Reviewed Date:	4-18-2007



### CERTIFICATE OF CALIBRATION

### Electroplated Beta Standard

					.0.#6620
Description of	Standard:			Þ	.0.#_2007000355
Model No	DNS-14	Serial No	5781-07	Isotope	SrY-90
Electroplated	on polished	Ni	disc,	0.79	mm thick.
Total diameter	of 4.77	cm a	nd an active di	iameter of	4.45 cm.
	e material is p		xed to the dis	c by heat trea	tment without any
Measurement Me	thod:				
Absolute count verified by co	ing of beta part ounting above,	icles emitted below, and at	in the hemisph the operative	ere above the a	portional chamber. active surface was the calibration is 4002-02.
Measurement Re	sult:				
The observed localibration da		e from the su	arface of the	disc per min	ute (cpm) on the
	11,900	±	357		
The total dising the surface of	ntegration rate the disc, was:	(dpm) assumin	g <u>40</u> % bac	kscatter of be	ta particles from
	17,000	<u>+</u>	511	(0.00768	μCi)
The uncertainty at the 99% con measurement.	y of the measure fidence level,	ement is <u>3</u> and the estim	_%, which is t ated upper lim	he sum of rand it of systemat	om counting error
Calibrated by:_	ART REUST		keviewed l	oy: Stem Se	
Calibration Tec	chnician:	t Level	JrQ.A. Manag	ger: Yanen	schoer Colle
Calibration Dat	:e:4-17-20	107	Reviewed I	Date: 4-	18-2007

Attachment 8

43-10-1 **July 2011** INSTRUMENTATION QC CHECK LOG **METER:** DATE (MO/YR): Meter Acceptance Criteria Number Cal. Due Bkgrd. QC (cpm) range Source QC (ncpm) range Inst. Avg. Bkgrd. Source Type Source Number Inst. Efficiency 166716 4/26/2012 Alpha Beta Alpha Th - 230 Beta SN-5777-07 37.2% 0.1 Detector 0.0 40 9290 3689 Beta Number Cal. Due to to to Source Type Source Number to Inst. Efficiency Inst. Avg. Bkgrd. 170380 4/26/2012 0.5 54 13935 5533 SrY - 90 SN-5781-07 29.7% 47 Date Source QC (ncpm) range Time Bkgrd. QC (cpm) Bat. Check QC1 HPT Comment Alpha Beta Alpha Beta Sat/Unsat Sat/Unsat Initial 41 7226 11227 4670 SAT SAT 0 0.3 0700 44 11294 4494 SAT SAT 0.1 41 0645 11636 4696 SKT SAT 0630 41 0.3 11442 4620 <u> SKT</u> SAT 11091 0630 0 47 4637 SAT SAT 0630 0 48 11300 4513 SAT SAT 0630 0.1 51 11431 4515 SKT SIT

An unsatisfactory QC check requires recording the result in the comment column and repeating the evaluation. Tag the instrument out of service and notify the HP Supervisor upon failing the QC check two times in succession.

Reviewed By:

(RPM/Designee)

### Initial Instrument Check In

Meter Number: Meter Model: Cal. Due:

166716 **Detector Number:** 2929 **Detector Model:** 4/26/2012 Cal. Due:

170380 43-10-1 4/26/2012

ALPHA	Source Type:	Th - 230	Threshold:	175		
ALPHA	Source #:	SN-5777-07	High Voltage:	825		
ALPHA	Source Activity:	31,199				
ALPHA	Source count time:	1	(min) Background count time:	10		(min)
ALPHA	Source GCPM	BKG CPM	Average Bkg. (CPM):	0.1		
ALPHA	11,675	0.0	Average Source (GCPM):	11,613		
ALPHA	11,650	0.1	Average Net Source (NCPM):	11,613		
ALPHA	11,604	0.2	Source Range (GCPM):	9,290	to	13,935
ALPHA	11,526	0.0	Background Range (CPM):	0.0	to	0.5
ALPHA	11,569	0.1	Determined Efficiency:	37.2%		
ALPHA	11,813	0.0				
ALPHA	11,386	0.1	20% of Bkg.	0.0		
ALPHA	11,716	0.1	1 Standard Deviation of Bkg.	0.1		
ALPHA	11,602	0.4	3 Standard Deviations of Bkg.	0.4		
ALPHA	11,589	0.0				

### Beta / Gamma (circle one)

BETA	Source Type:	SrY - 90	Threshold:	4		
BETA	Source #:	SN-5781-07	High Voltage:	825		
BETA	Source Activity:	15,362				
BETA	Source count time:	1	(min) Background count time:	10		(min)
BETA	Source GCPM	BKG CPM	Average Bkg. (CPM):	47		
BETA	4,660	49	Average Source (GCPM):	4,611		
BETA	4,661	49	Average Net Source (NCPM):	4,563		
BETA	4,616	46	Source Range (GCPM):	3,689	to	5,533
BETA	4,644	43	Background Range (CPM):	40	to	54
BETA	4,575	51	Determined Efficiency:	29.7%		
BETA	4,540	48				
BETA	4,581	49	20% of Bkg.	9		
BETA	4,667	48	1 Standard Deviation of Bkg.	2		
BETA	4,587	47	3 Standard Deviations of Bkg.	7		
BETA	4,576	45				

Performed By:

Date:\_

Reviewed By:

RPM / Asst. RPM)

### **ALPHA**

### MDA for Benchtop Counters:

Efficiency (%) =	0.3722
Background (cpm) =	0.1
Background count time =	10
Gross count time =	1.0
MDA (dpm/100cm2) =	11.0

NCD = < 4.2

### MDC for Air Samples:

Efficiency (%) =	0.3722
Background (cpm) =	0.1
Background count time =	720
Gross count time =	92
Volume =	720
Collection Efficiency =	0.99
MDC =	2.5E-13

MDC for AE Air Samples:

Efficiency (%) =	0.3722
Background (cpm) =	0.1
Background count time =	720
Gross count time =	60
Volume =	30000
Collection Efficiency =	0.99
MDC =	7.7E-15

### **BETA**

### MDA for Benchtop Counters:

Efficiency (%) =	0.2971
Background (cpm) =	47.3
Background count time =	10
Gross count time =	1.0
	-
MDA (dpm/100cm2) =	90.0

NCD = < 74.0

### MDC for Air Samples:

0.2971
47.3
720
60.0
720.00
0.99
6.6E-12

### MDC for AEAir Samples:

Efficiency (%) =	0.2971
Background (cpm) =	47.3
Background count time =	720
Gross count time =	60.0
Volume =	30000.00
Collection Efficiency =	0.99
MDC =	0.0

# **Alpha Beta Calibration Report**

"B"

Date Calibrated: 04/27/2011 1:49:40 PM Order Number: SAIC HARRISBURG20110427-004 Technician: B. French Customer: SAIC HARRISBURG Repair Instrument Serial Number: 170380 Manufacturer: Ludlum Model: 43-10-1 Last Calibrated: 1/25/2011 Reason for recalibration: Due for Calibration Calibration Instrument Serial Number: 166716 Inst. Type: 2929 Calibration Due: 4/26/2012 Calibration Sources Alpha Source ID: SAIC-0053 Isotope: Th-230 Current Activity: 20298.05 dpm Assay Date: 11/6/2000 Beta Source ID: SAIC-0054 Isotope: SrY-90 Current Activity: 12984.27 dpm Assay Date: 11/15/2000 Alpha as Foun Beta as Found Alpha as Left Beta as Left Background 1 min. counts Background 1 min. counts Background 1 min. counts Background 1 min. counts 37 Source 1 min. counts Source 1 min. counts Source 1 min. counts Source 1 min. counts NA NA 7464 5555 % efficiency: 0 % efficiency: % efficiency: 36.77 % efficiency: 42.5 Alpha Threshold: \* 175mV High Voltage: 825V Beta Threshold: \* 4mV Beta Window: \* 50mV Next Calibration Due: 4/26/2012 \* Recommended Manufacturer Value Comments Performed By: Date: Reviewed By Date:

		ler/Ratemeter C	alibration Repor	rt	
Date Calibrated: 0	·	:21 PM Order N	umber: SAIC HARRISE	BURG20110427-003	
Technician: B. Fre	ench	Customer: SAIC	HARRISBUI		
Temperature (F):	68 Humidity	<u>/ (%): 32</u>	Altitude (asl): 660	Barametric Pr	ressure ("Hg): 28.88
Repair Instrum	ent				
Serial Number: 16	56716	Manufacturer: Lud	lum Model:	2929 M	leterface: 202-014
Received: Within	10%				
Last Calibrated:	1/25/2011	Calibration Inte	rval: 1 yr.	Next Calibration Du	ne: 4/26/2012
Mechanical OK	Meter Zero	ed Batt	ery Ck Min. Volt.	[] Inp	ut Sens. Linearity
F/S Resp. OK	Reset OK		tropism	=	idow Operation
Audio OK	Alarm Setti	ing OK Bacl	cground Subtract	L., ''"	idow Operation
Voltage Set	825 V at (see con	<u> </u>	825 V at (see comme	nts)mV Threshold	Dial ratio: N/A
HV readout	Ref. 1 498Vol			2013Volts Inst.	
Calibrated in acc	cordance with ANSI		anufacturer's procedure	ZOIS VOILS FIIST.	2 2000 Volts
m500 ser. # 2014	162 Other ser. #	Multin	neter ser. # 93470436	Oscilloscope	ser. #
CTV* Digital Alpha Reference Pt.	Inst. as Found	Inst. as Left	CTV* Digital Beta	-	
400 K cpm			Reference Pt.	Inst. as Found	Inst. as Left
	399946 cpm	399988 cpm	400 K cpm	399920 cpm	400060 cpm
40 K cpm	39999 cpm	39993 cpm	40 K cpm	39990 cpm	40008 cpm
4 K cpm	4000 cpm	4000 cpm	4 K cpm	4000 cpm	4000 cpm
400 cpm	400 cpm	400 cpm	400 cpm	400 cpm	400 cpm
40 cpm	40 cpm	40 cpm	40 cpm	40 cpm	40 cpm
* Conventionally True V	alue ** Unce	ertainty within +/- 10%	*	All range(s) cali	brated electronically
Comments					·

Performed By:	Da Frend	Date:	4/27/11	
Reviewed By	The Man	Date:	4/27/11	
			4240	

### Plateau Calibration

Model #	43-10-1
Serial #	170380

Alpha Input Senitivity 175 NV

Beta Input Senitivity 4 NV

Beta Window 50 NV

Alpha Source I.D. <u>SAIC -0053</u> Beta Source I.D. <u>SAIC -0054</u>

Distance Source to Detector\_\_\_\_\_

High	Bac	kground	Source	T Saves	
Voltage	Aipha	Beta	•	Source	Pot
500	Alpha	Beta	Alpha	Beta	Setting
525		+		//	
550		<del> </del>	· <del>  - · · · - · · / - · · · · · · · · · · ·</del>	/	
575		<del> </del>		/	
		<u> </u>	/	/	
600		<del> </del>		//	
625			1	/	
650			1	/	
675		<u> </u>	1	/	
700	<u> </u>		/	/	
725			/	/	
750	0	34	70721 438	471214	2.94
775	_ 0	39	7410 1 460	535212	3.04
800	0	40	7500 / 534	5588 / 3	3.14
825	0	37	74641 678	555512	3.24
850	0	37	76171 806	5555 / 2 5735 / 7	1224
875	0	63	7718 / 976	5647 / 10	3.34
900	0	49	7578 1 1287	5647 1 10	3.54
925	/	88	7833 1 1600	5/67 / 46	3.64
950			/	/	3/67
975			1	/	<del> </del>
1000			/	/	-
1025			,	/	<del>                                     </del>
1050			/	· · · · · · · · · · · · · · · · · · ·	
1075			7	<del></del>	<del></del>
1100		· · · · · · · · · · · · · · · · · · ·	/		<del>   </del>
1125					
1150			7	<del>'</del> ,	<del> </del>
1175			1		+
1200			,		+
1225			· /	· · · · · · · · · · · · · · · · · · ·	<del> </del>
1250			,		<del>  </del>
1275			<del></del>		<del></del>
1300			<del></del>	<del></del>	<del> </del>
1325		<del></del>	<del>'</del>		<del>  </del>
1350			<del></del>		<del> </del>
1375		<del></del>			<b></b>
1400					
1425					
			/		
1450			/		
1475			/	/	
1500		1	/	/	

High Voltage Set\_

Reviewed By

Date: 4/27/11

Attachment 8

NSTRUM	ENTATION C	C CHECK LOG		METER:	44-	-62	DATE (MO/YR):	July	2011 
Soi	urce			ce Criteria			Model	Number	Cal. Due
Type	Cs-137	Bkgrd. QC (	cpm) range	Source QC	(cpm) range	Meter	2221	138377	7/7/2012
Number	SN-5780-07	745 to	870	43,286	to 64,929	Detector	44-62	260807	7/7/2012
Date	Time	Pre-use Bkg cpm	Post Bkg cpm¹	Pre-use Source	Post Source cpm¹	Bat. Check	QC1	Pre-use HPT	Post HPT
	<u> </u>			срт	_	Sat/Unsat	Sat/Unsat	Initial	Initial
7-11-11	1736	873	NA	5400g	1/h	SAT	SAT	72	yΑ
7-12-11	0 700	808	761	51968	53277	SHT	SAT	7	2 2 2
7-13-11	0645	842	799	27136	52496	SAT	SAT	2	2
7-14-11	0630	773	784	51657	51734	SIT	SAT	700 CA	2
7-15-11	0630	756	801	23 281	27848	SKT	SAT	2	2
7-16-11	0630	761	NA	52319	NH	SHT	SIAT	2	NA
7-17-11	0630	755	AVA	54876	NA	SAT	SAT	2	<i>N</i> A
	·								
			$\overline{}$						
					10.				
	<del></del>			<u> </u>					
	<del> </del>								
	<del>                                     </del>							10	
									<u> </u>
				1					
	1								

1 Gamma scan Instruments used for co-firmation or verification surveys require a post check-in

Reviewed By:

(RPM/Designee)

Date: 7/24/1

					Atti	achment 2
		Initial Instru	ument Check In			
	Meter Number: Meter Model: Cal. Due:	138377 2221 7/7/2012	Detector Number: Detector Model: Cal. Due:	260807 44-62 7/7/2012		
ALPHA ALPHA ALPHA	Source Type: Source #: Source Astivity:		Threshold: High Voltage:			
ALPHA	Source count time:		(min) Background count time:		(r	min)
ALPHA	Source GCPM	BKG CPM	Average Bkg. (CPM):	#DIV/0!		
ALPHA			Average Source (GCPM):	#DIV/0!		
ALPHA			Average Net Source (NCPM):	#DIV/0!		
ALPHA			Source Range (GCPM):	#DIV/0!		#DIV/0!
ALPHA			Background Range (CPM):	#DIV/0!	to	#DIV/0!
ALPHA			Determined Efficiency:	#DIV/0!		
ALPHA			_			
ALPHA			20% of Bkg.	#DIV/0!		
ALPHA			1 Standard Deviation of Bkg.	#DIV/0!		
ALPHA			3 Standard Deviations of Bkg.	#DIV/0!		_
ALPHA						

### Beta / Gamma (circle one)

BETA	Source Type:	Cs-137	Threshold:	10		
BETA	Source #:	SN-5780-07	High Voltage:	700		
BETA	Source Activity:	0.91 uCi				
BETA	Source count time:	1	(min) Background count time:	1	1	(min)
BETA	Source GCPM	BKG CPM	Average Bkg. (CPM):	807		
BETA	53,989	816	Average Source (GCPM):	54,108		
BETA	54,221	811	Average Net Source (NCPM):	53,300		
BETA	54,079	764	Source Range (GCPM):	43,286	to	64,929
BETA	54,241	795	Background Range (CPM):	745	to	870
BETA	53,817	840	Determined Efficiency:	NA		
BETA	54,137	809				
BETA	54,131	792	20% of Bkg.	161		
BETA	54,044	824	1 Standard Deviation of Bkg.	21		
BETA	54,275	820	3 Standard Deviations of Bkg.	62		
BETA	54,143	802				

Performed By:\_

Reviewed By:\_

Date:\_

Date:

(RPM / Asst. RPM)

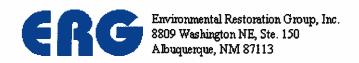
# **ERG**

# **Certificate of Calibration**

Calibration and Voltage Plateau

Environmental Restoration Group, Inc. 8809 Washington St NE, Suite 150 Albuquerque, NM 87113 (505) 298-4224 www.ERGoffice.com

	acturer: Ludlum	Model Number:	2221r	Serial Number:	138377
Detector: Manufa	acturer: Ludlum	Model Number:	44-62	Serial Number:	PR260807
Source Geometry: ✓ Threshold: 10 mV	neck Meter Zeroed Contact 6 inches	V Keset Check	HV Check (+/- 2.5%) Cable Length: 3	Battery Check (Mi 500 V 1000 V 9-inch 72-inch P F Relative Humidity 24.6 inches Hg	in 4.4 VDC) / V 1500 V
Range/Multiplier	Reference Setting	"As Found Reading	g" Meter Readin	Integrated g I-Min. Cou	nt Log Scale Coun
x 1000	400	400	400	399701	400
x 1000	100	100	100	322701	
x 100	40	400	400	39983	100
x 100	10	100	100	39983	400
x 10	4	400		b = -	100
x 10	1	100	400	399	400
x 1	400		100		100
x 1	100	400	400	400	400
	100	100	100		100
High Voltage	Source Counts	Backg	round	Voltage P	lateau
500 600 650 700 750 800 850 900	3512 5104 5207 5311 5300 5397 6731 16454	87		18000 16000 14000 12000 10000 8000 6000 4000 2000 0 0 0 0 0	850 800 800 900
eference Instruments udlum pulser serial nu	mber: 97743 2019 30 @f13,000 dpm (1/13/10	3? 9) sn: 4098-03 sn: 4099-03	Fluke multimeter se	rlal number: [ 8/4901] Cs-137 @ 5.37 uCi (1/1) Calibration Due:	3/10) sn: 4097-03



ph: 505.298.4224 fax: 505.797-1404

web: www.ERGOffice.com

# **EQUIPMENT PACKING SLIP**

Company Name:

**SAIC** 

Order Number: 2040

Contact Name:

**Bob French** 

P.O. or Reference Number:

Contact Telephone:

Date Ordered:

07/07/11

Shipping Method:

Date Shipped:

07/08/11

Shipping Number: ERG FedEx Number

Date of Delivery: 07/09/11

Ship To Information:

Billing Address:

**Bob French** 

SAIC - C.C.

SAIC

Candace Martinez

13397 Lakefront Dr.

Suite 100

Earth City, MO 63045

**Equipment Enclosed:** 

Instrument

Serial Number

Ludlum 2221r

138377

Ludlum 44-62

PR260807

Special Instructions:

None

Attachment 8

	k-In of Dose R		Acceptano	METER :			ATE (MO/YR):  Model	Number	Cal. Du
Туре	Cs-137	Source QC	(micro-R/hr)		ale	Meter	19	209723	5/17/201
Number	SN-5780-07		to 288		500	Detector	na	na	na
Date	Time	Reading	Pre-op Check	Bat Check	Initial			ments	
-11-11	1236	240	SAT	SKT	7	On contact.			
-12-11	0700	OYL	SAT	SAT	12	On contact.			_
-13-11	0645	J30	SAT	SAT	2	On contact.			•
-14-11	0630	290	SKT	SAT	2	On contact.			
-15-11	0630	790	SAT	SAT	2 2 2	On contact.			·
-16-11	0630	790	JAT	SAT	2	On wutact.		-	•
-17-11	0630	240	SAT	SAT	2	On contant.			
	lacksquare								
						_			
	<del>                                     </del>								
	<b></b>								
	<u> </u>					ļ			
	<del>                                     </del>						·-	<u> </u>	
	<del>-</del>								
	-				<del>A</del>				
	-								
	<u> </u>					-			
	<del>                                     </del>					<del>\</del>			
	<del>                                     </del>	<u> </u>	<u> </u>	<del></del>		$\vdash$			
	1					- <del></del>			
	<del>                                     </del>					1			
	<del>                                     </del>					-			
	<del>                                     </del>								
	ved By:	confirmation or Verifica	tion surveys require a post of		(RPM/Designee	)	Date :	2/24/1	
								-	

	E	xposure Rate Meter S	etup Record				
Date :	7/11/2011	Location : Staten Island					
nstrument Type: _	Mircro R	_ Instrument Serial I	Number :	209723			
Instrument Range	Source	Source Position	Observed Exposure Rate <sup>1</sup> mR/hr uR/hr	Acceptance Criteria¹¹ mR/hr uR/hi			
x25	BKG	na	10	8-12			
x500	SN-5780-07	contact	240	192-288			
		NA					
Circle correct units. ± 20% of observed exp	posure rate.						
Comments/Re	strictions:	NA	·				
		-					
July 6			_	7/11/11			
Calculated By:				Øate:			

### Scientific and Industrial Instruments

### CERTIFICATE OF CALIBRATION

LUDEUM MEMBUREMEITIS, 1110. POST OFFICE BOX 810 PH. 325-235-5494

501 OAK STREET FAX NO. 325-235-4672

					SWEETWATER, TEXAS	79556, U.S.A.	
CUSTOMER	SAIC				ORDER NO.	20176000	)/363307
Mfg.	Ludium Measurements, Inc	Model	1	9	Serial No. $2a$	09723	
<u> </u>		Model			Serial No		
Cal. Date	17-May-11	Cal Due Date	17-May	12 Cal. Inte	erval <u>1 Y</u> ear N	Neterface	202-1070
Check mark	applies to applicable inst	r. and/or detector IAV	V mfg. spec.	T73 °F	RH28_ %	Alt70	0.8 mm Hg
New Ins	trument Instrument Rece	ived Within Toler.	+-10% [] 10-20	% Out of Tol.	Requiring Repair	Other-See co	mments
✓ Mechai	nical ck. 😿 M	eter Zeroed	📝 Back	ground Subtract	[] Inpu	ut Sens. Linearit	У
	o. ck 📝 Re			ow Operation	<b>√</b> Ged	otropism	
📈 Audio c	ik. 🗌 A	larm Setting ck.	📈 Batt.	ck. (Min. Volt)	2.2 VDC		
	ed in accordance with LMIS				Thresho	old	m∨
nstrument Vo	olf Set 740 V Input	Sens. <u>30</u> mV	Det. Oper	V at	mV Dial Ra	tio	
☐ HV R	leadout (2 points) Ref./In:	st	./	V Ref./Inst.		/	v
COMMENT	'S:						

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source **INSTRUMENT** INSTRUMENT REC'D REFERENCE "AS FOUND READING" **METER READING\*** RANGE/MULTIPLIER CAL. POINT 4400 4000 4000 µR/hr 5000 1100 1000 5000 1000µR/hr 400 400 µR/hr = 75200 cp. 400 500 100 100 500 100 µR/hr 200 µR/hr = 38500 cm 210 200 250 105 100 250 100μR/hr 40 50 2520 cpm 40 10 10 50 1880 cpm 3850 cpm 25 962 cpm 5.a 25 Range(s) Calibrated Electronically \*Uncertainty within ± 10% C.F. within ± 20% INSTRUMENT INSTRUMENT INSTRUMENT REFERENCE REFERENCE INSTRUMENT **RECEIVED** RECEIVED METER READING\* METER READING\* CAL, POINT CAL. POINT Digital Log Scale Readout Ludium Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978

State of Texas Calibration Elective No. LO-19 State of Texas Calibration License No. LO-1963 Reference Instruments and/or Sources: 73410 1131 781 059 70897 Cs-137 Gamma S/N ☐ 1162 ☐ G112 ☑ M565 ☐ 5105 ☐ 11008 ☐ 1879 ☐ E552 ☐ E551 ☐ 720 Neutron Am-241 Be S/N T-304 734 1616 Other Beta S/N 🔄 Alpha S/N ✓ Multimeter S/N 86250390 ■ m 500 S/N Oscilloscope S/N Date Culibrated By: Date Reviewed By:

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

Page \_\_\_\_of \_\_\_

FORM C22A 03/11/2010

AC Inst.

Only

Failed:

Passed Dielectric (Hi-Pot) and Continuity Test

Attachment 8

43-10-1 **July 2011** INSTRUMENTATION QC CHECK LOG **METER:** DATE (MO/YR): Meter Acceptance Criteria Number Cal. Due Bkgrd. QC (cpm) range Source QC (ncpm) range Inst. Avg. Bkgrd. Source Type Source Number Inst. Efficiency 166716 4/26/2012 Alpha Beta Alpha Th - 230 Beta SN-5777-07 37.2% 0.1 Detector 0.0 40 9290 3689 Beta Number Cal. Due to to to Source Type Source Number to Inst. Efficiency Inst. Avg. Bkgrd. 170380 4/26/2012 0.5 54 13935 5533 SrY - 90 SN-5781-07 29.7% 47 Date Source QC (ncpm) range Time Bkgrd. QC (cpm) Bat. Check QC1 HPT Comment Alpha Beta Alpha Beta Sat/Unsat Sat/Unsat Initial 41 7226 11227 4670 SAT SAT 0 0.3 0700 44 11294 4494 SAT SAT 0.1 41 0645 11636 4696 SKT SAT 0630 41 0.3 11442 4620 <u> SKT</u> SAT 11091 0630 0 47 4637 SAT SAT 0630 0 48 11300 4513 SAT SAT 0630 0.1 51 11431 4515 SKT SIT

An unsatisfactory QC check requires recording the result in the comment column and repeating the evaluation. Tag the instrument out of service and notify the HP Supervisor upon failing the QC check two times in succession.

Reviewed By:

(RPM/Designee)

### Initial Instrument Check In

Meter Number: Meter Model: Cal. Due:

166716 **Detector Number:** 2929 **Detector Model:** 4/26/2012 Cal. Due:

170380 43-10-1 4/26/2012

ALPHA	Source Type:	Th - 230	Threshold:	175		
ALPHA	Source #:	SN-5777-07	High Voltage:	825		
ALPHA	Source Activity:	31,199				
ALPHA	Source count time:	1	(min) Background count time:	10		(min)
ALPHA	Source GCPM	BKG CPM	Average Bkg. (CPM):	0.1		
ALPHA	11,675	0.0	Average Source (GCPM):	11,613		
ALPHA	11,650	0.1	Average Net Source (NCPM):	11,613		
ALPHA	11,604	0.2	Source Range (GCPM):	9,290	to	13,935
ALPHA	11,526	0.0	Background Range (CPM):	0.0	to	0.5
ALPHA	11,569	0.1	Determined Efficiency:	37.2%		
ALPHA	11,813	0.0				
ALPHA	11,386	0.1	20% of Bkg.	0.0		
ALPHA	11,716	0.1	1 Standard Deviation of Bkg.	0.1		
ALPHA	11,602	0.4	3 Standard Deviations of Bkg.	0.4		
ALPHA	11,589	0.0				

### Beta / Gamma (circle one)

BETA	Source Type:	SrY - 90	Threshold:	4		
BETA	Source #:	SN-5781-07	High Voltage:	825		
BETA	Source Activity:	15,362				
BETA	Source count time:	1	(min) Background count time:	10		(min)
BETA	Source GCPM	BKG CPM	Average Bkg. (CPM):	47		
BETA	4,660	49	Average Source (GCPM):	4,611		
BETA	4,661	49	Average Net Source (NCPM):	4,563		
BETA	4,616	46	Source Range (GCPM):	3,689	to	5,533
BETA	4,644	43	Background Range (CPM):	40	to	54
BETA	4,575	51	Determined Efficiency:	29.7%		
BETA	4,540	48				
BETA	4,581	49	20% of Bkg.	9		
BETA	4,667	48	1 Standard Deviation of Bkg.	2		
BETA	4,587	47	3 Standard Deviations of Bkg.	7		
BETA	4,576	45				

Performed By:

Date:\_

Reviewed By:

RPM / Asst. RPM)

### **ALPHA**

### MDA for Benchtop Counters:

Efficiency (%) =	0.3722
Background (cpm) =	0.1
Background count time =	10
Gross count time =	1.0
MDA (dpm/100cm2) =	11.0

NCD = < 4.2

### MDC for Air Samples:

Efficiency (%) =	0.3722
Background (cpm) =	0.1
Background count time =	720
Gross count time =	92
Volume =	720
Collection Efficiency =	0.99
MDC =	2.5E-13

MDC for AE Air Samples:

0.3722
0.1
720
60
30000
0.99
7.7E-15

**BETA** 

### MDA for Benchtop Counters:

Efficiency (%) =	0.2971
Background (cpm) =	47.3
Background count time =	10
Gross count time =	1.0
MDA (dpm/100cm2) =	90.0

NCD = < 74.0

### MDC for Air Samples:

Efficiency (%) =	0.2971
Background (cpm) =	47.3
Background count time =	720
Gross count time =	60.0
Volume =	720.00
Collection Efficiency =	0.99
MDC =	6.6E- <u>12</u>

### MDC for AEAir Samples:

Efficiency (%) =	0.2971
Background (cpm) =	47.3
Background count time =	720
Gross count time =	60.0
Volume =	30000.00
Collection Efficiency =	0.99
MDC =	0.0

# **Alpha Beta Calibration Report**

"B"

Date Calibrated: 04/27/2011 1:49:40 PM Order Number: SAIC HARRISBURG20110427-004 Technician: B. French Customer: SAIC HARRISBURG Repair Instrument Serial Number: 170380 Manufacturer: Ludlum Model: 43-10-1 Last Calibrated: 1/25/2011 Reason for recalibration: Due for Calibration Calibration Instrument Serial Number: 166716 Inst. Type: 2929 Calibration Due: 4/26/2012 Calibration Sources Alpha Source ID: SAIC-0053 Isotope: Th-230 Current Activity: 20298.05 dpm Assay Date: 11/6/2000 Beta Source ID: SAIC-0054 Isotope: SrY-90 Current Activity: 12984.27 dpm Assay Date: 11/15/2000 Alpha as Foun Beta as Found Alpha as Left Beta as Left Background 1 min. counts Background 1 min. counts Background 1 min. counts Background 1 min. counts 37 Source 1 min. counts Source 1 min. counts Source 1 min. counts Source 1 min. counts NA NA 7464 5555 % efficiency: 0 % efficiency: % efficiency: 36.77 % efficiency: 42.5 Alpha Threshold: \* 175mV High Voltage: 825V Beta Threshold: \* 4mV Beta Window: \* 50mV Next Calibration Due: 4/26/2012 \* Recommended Manufacturer Value Comments Performed By: Date: Reviewed By Date:

		ler/Ratemeter C	alibration Repor	rt	
Date Calibrated: 0	·	:21 PM Order N	umber: SAIC HARRISE	BURG20110427-003	
Technician: B. Fre	ench	Customer: SAIC	HARRISBUI		
Temperature (F):	68 Humidity	<u>/ (%): 32</u>	Altitude (asl): 660	Barametric Pr	ressure ("Hg): 28.88
Repair Instrum	ent				
Serial Number: 16	56716	Manufacturer: Lud	lum Model:	2929 M	leterface: 202-014
Received: Within	10%				
Last Calibrated:	1/25/2011	Calibration Inte	rval: 1 yr.	Next Calibration Du	ne: 4/26/2012
Mechanical OK	Meter Zero	ed Batt	ery Ck Min. Volt.	[] Inp	ut Sens. Linearity
F/S Resp. OK	Reset OK		tropism	=	idow Operation
Audio OK	Alarm Setti	ing OK Bacl	cground Subtract	L., ''"	idow Operation
Voltage Set	825 V at (see con	<u> </u>	825 V at (see comme	nts)mV Threshold	Dial ratio: N/A
HV readout	Ref. 1 498Vol			2013Volts Inst.	
Calibrated in acc	cordance with ANSI		anufacturer's procedure	ZOIS VOILS FIIST.	2 2000 Volts
m500 ser. # 2014	162 Other ser. #	Multin	neter ser. # 93470436	Oscilloscope	ser. #
CTV* Digital Alpha Reference Pt.	Inst. as Found	Inst. as Left	CTV* Digital Beta	-	
400 K cpm			Reference Pt.	Inst. as Found	Inst. as Left
	399946 cpm	399988 cpm	400 K cpm	399920 cpm	400060 cpm
40 K cpm	39999 cpm	39993 cpm	40 K cpm	39990 cpm	40008 cpm
4 K cpm	4000 cpm	4000 cpm	4 K cpm	4000 cpm	4000 cpm
400 cpm	400 cpm	400 cpm	400 cpm	400 cpm	400 cpm
40 cpm	40 cpm	40 cpm	40 cpm	40 cpm	40 cpm
* Conventionally True V	alue ** Unce	ertainty within +/- 10%	*	All range(s) cali	brated electronically
Comments					·

Performed By:	Da Frend	Date:	4/27/11	
Reviewed By	The Man	Date:	4/27/11	
			4240	

### Plateau Calibration

Model #	43-10-1
Serial #	170380

Alpha Input Senitivity 175 NV

Beta Input Senitivity 4 NV

Beta Window 50 NV

Alpha Source I.D. <u>SAIC -0053</u> Beta Source I.D. <u>SAIC -0054</u>

Distance Source to Detector\_\_\_\_\_

High	Background		Source	T Saves	
Voltage	Aipha	Beta	•	Source	Pot
500	Alpha	Beta	Alpha	Beta	Setting
525		+		//	
550		<del> </del>	· <del>  - · · · - · · / - · · · · · · · · · · ·</del>	/	
575		<del> </del>		/	
		<u> </u>	/	/	
600		<del> </del>		//	
625			1	/	
650			1	/	
675		<u> </u>	1	/	
700	<u> </u>		/	/	
725			/	/	
750	0	34	70721 438	471214	2.94
775	_ 0	39	7410 1 460	535212	3.04
800	0	40	7500 / 534	5588 / 3	3.14
825	0	37	74641 678	555512	3.24
850	0	37	76171 806	5555 / 2 5735 / 7	1224
875	0	63	7718 / 976	5647 / 10	3.34
900	0	49	7578 1 1287	5647 1 10	3.54
925	/	88	7833 1 1600	5/67 / 46	3.64
950			/	/	3/67
975			1	/	<del> </del>
1000			/	/	-
1025			,	/	<del>                                     </del>
1050			/	· · · · · · · · · · · · · · · · · · ·	
1075			7	<del></del>	<del></del>
1100		· · · · · · · · · · · · · · · · · · ·	/		<del>   </del>
1125					
1150			7	<del>'</del> ,	<del> </del>
1175			1		+
1200			,		+
1225			· /	· · · · · · · · · · · · · · · · · · ·	<del> </del>
1250			,		<del>  </del>
1275			<del></del>		<del></del>
1300			<del></del>	<del></del>	<del> </del>
1325		<del></del>	<del>'</del>		<del>  </del>
1350			<del></del>		<del> </del>
1375		<del></del>			<b></b>
1400					
1425					
			/		
1450			/		
1475			/	/	
1500		1	/	/	

High Voltage Set\_

Reviewed By

Date: 4/27/11

Attachment 8

NSTRUM	ENTATION C	C CHECK LOG		METER: 44-62			DATE (MO/YR): July 2011		
Soi	urce			ce Criteria			Model	Number	Cal. Due
Type	Cs-137	Bkgrd. QC (	cpm) range	Source QC	(cpm) range	Meter	2221	138377	7/7/2012
Number	SN-5780-07	745 to	870	43,286	to 64,929	Detector	44-62	260807	7/7/2012
Date	Time	Pre-use Bkg cpm	Post Bkg cpm¹	Pre-use Source	Post Source cpm¹	Bat. Check	QC1	Pre-use HPT	Post HPT
	<u> </u>			срт	_	Sat/Unsat	Sat/Unsat	Initial	Initial
7-11-11	1736	873	NA	5400g	1/h	SAT	SAT	72	yΑ
7-12-11	0 700	808	761	51968	53277	SHT	SAT	7	2 2 2
7-13-11	0645	842	799	27136	52496	SAT	SAT	2	2
7-14-11	0630	773	784	51657	51734	SIT	SAT	700 CA	2
7-15-11	0630	756	801	23 281	27848	SKT	SAT	2	2
7-16-11	0630	761	NA	52319	NH	SHT	SIAT	2	NA
7-17-11	0630	755	AVA	54876	NA	SAT	SAT	2	<i>N</i> A
	·								
			$\overline{}$						
					10.				
	<del></del>			<u> </u>					
	<del> </del>								
	<del>                                     </del>							10	
									<u> </u>
				1					
	1								

1 Gamma scan Instruments used for co-firmation or verification surveys require a post check-in

Reviewed By:

(RPM/Designee)

Date: 7/24/1

					Atti	achment 2
		Initial Instru	ument Check In			
	Meter Number: Meter Model: Cal. Due:	138377 2221 7/7/2012	Detector Number: Detector Model: Cal. Due:	260807 44-62 7/7/2012		
ALPHA ALPHA ALPHA	Source Type: Source #: Source Astivity:		Threshold: High Voltage:			
ALPHA	Source count time:		(min) Background count time:		(r	min)
ALPHA	Source GCPM	BKG CPM	Average Bkg. (CPM):	#DIV/0!		
ALPHA			Average Source (GCPM):	#DIV/0!		
ALPHA			Average Net Source (NCPM):	#DIV/0!		
ALPHA			Source Range (GCPM):	#DIV/0!		#DIV/0!
ALPHA			Background Range (CPM):	#DIV/0!	to	#DIV/0!
ALPHA			Determined Efficiency:	#DIV/0!		
ALPHA			_			
ALPHA			20% of Bkg.	#DIV/0!		
ALPHA			1 Standard Deviation of Bkg.	#DIV/0!		
ALPHA			3 Standard Deviations of Bkg.	#DIV/0!		_
ALPHA						

### Beta / Gamma (circle one)

BETA	Source Type:	Cs-137	Threshold:	10		
BETA	Source #:	SN-5780-07	High Voltage:	700		
BETA	Source Activity:	0.91 uCi				
BETA	Source count time:	1	(min) Background count time:	1	1	(min)
BETA	Source GCPM	BKG CPM	Average Bkg. (CPM):	807		
BETA	53,989	816	Average Source (GCPM):	54,108		
BETA	54,221	811	Average Net Source (NCPM):	53,300		
BETA	54,079	764	Source Range (GCPM):	43,286	to	64,929
BETA	54,241	795	Background Range (CPM):	745	to	870
BETA	53,817	840	Determined Efficiency:	NA		
BETA	54,137	809				
BETA	54,131	792	20% of Bkg.	161		
BETA	54,044	824	1 Standard Deviation of Bkg.	21		
BETA	54,275	820	3 Standard Deviations of Bkg.	62		
BETA	54,143	802				

Performed By:\_

Reviewed By:\_

Date:\_

Date:

(RPM / Asst. RPM)

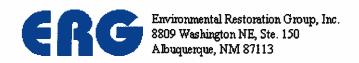
# **ERG**

# **Certificate of Calibration**

Calibration and Voltage Plateau

Environmental Restoration Group, Inc. 8809 Washington St NE, Suite 150 Albuquerque, NM 87113 (505) 298-4224 www.ERGoffice.com

	acturer: Ludlum	Model Number:	2221r	Serial Number:	138377
Detector: Manufa	acturer: Ludlum	Model Number:	44-62	Serial Number:	PR260807
Source Geometry: ✓ Threshold: 10 mV	neck Meter Zeroed Contact 6 inches	V Keset Check	HV Check (+/- 2.5%) Cable Length: 3	Battery Check (Mi 500 V 1000 V 9-inch 72-inch P F Relative Humidity 24.6 inches Hg	in 4.4 VDC) / V 1500 V
Range/Multiplier	Reference Setting	"As Found Reading	g" Meter Readin	Integrated g I-Min. Cou	nt Log Scale Coun
x 1000	400	400	400	399701	400
x 1000	100	100	100	322701	
x 100	40	400	400	39983	100
x 100	10	100	100	39983	400
x 10	4	400		b = -	100
x 10	1	100	400	399	400
x 1	400		100		100
x 1	100	400	400	400	400
	100	100	100		100
High Voltage	Source Counts	Backg	round	Voltage P	lateau
500 600 650 700 750 800 850 900	3512 5104 5207 5311 5300 5397 6731 16454	87		18000 16000 14000 12000 10000 8000 6000 4000 2000 0 0 0 0 0	850 800 800 900
eference Instruments udlum pulser serial nu	mber: 97743 2019 30 @f13,000 dpm (1/13/10	3? 9) sn: 4098-03 sn: 4099-03	Fluke multimeter se	rlal number: [ 8/4901] Cs-137 @ 5.37 uCi (1/1) Calibration Due:	3/10) sn: 4097-03



ph: 505.298.4224 fax: 505.797-1404

web: www.ERGOffice.com

# **EQUIPMENT PACKING SLIP**

Company Name:

**SAIC** 

Order Number: 2040

Contact Name:

**Bob French** 

P.O. or Reference Number:

Contact Telephone:

Date Ordered:

07/07/11

Shipping Method:

Date Shipped:

07/08/11

Shipping Number: ERG FedEx Number

Date of Delivery: 07/09/11

Ship To Information:

Billing Address:

**Bob French** 

SAIC - C.C.

SAIC

Candace Martinez

13397 Lakefront Dr.

Suite 100

Earth City, MO 63045

**Equipment Enclosed:** 

Instrument

Serial Number

Ludlum 2221r

138377

Ludlum 44-62

PR260807

Special Instructions:

None

Attachment 8

	k-In of Dose R		Acceptano	METER :			ATE (MO/YR):  Model	Number	Cal. Du
Туре	Cs-137	Source QC	(micro-R/hr)		Scale		19	209723	5/17/201
Number	SN-5780-07		to 288		x 500		na	na	na
Date	Time	Reading	Pre-op Check	Bat Check	Initial			ments	
-11-11	1236	240	SAT	SKT	7	On contact.			
-12-11	0700	OYL	SAT	SAT	12	On contact.			_
-13-11	0645	J30	SAT	SAT	2	On contact.			•
-14-11	0630	290	SKT	SAT	2	On contact.			
-15-11	0630	790	SAT	SAT	2 2 2	On contact.			·
-16-11	0630	790	JAT	SAT	2	On wutact.		-	•
-17-11	0630	240	SAT	SAT	2	On contant.			
	lacksquare								
						_			
	<del>                                     </del>								
	<b></b>			<del></del>					
	<u> </u>					ļ			
	<del>                                     </del>						·-	<u> </u>	
	<del>-</del>								
	-				<del>A</del>				
	-								
	<u> </u>					-			
	<del>                                     </del>					<del>\</del>			
	<del>                                     </del>	<u> </u>	<u> </u>	<del></del>		$\vdash$			
	1					- <del></del>			
	<del>                                     </del>					1			
	<del>                                     </del>					-			
	<del>                                     </del>								
	ved By:	confirmation or Verifica	tion surveys require a post of		(RPM/Designee	)	Date :	2/24/1	
								-	

	E	xposure Rate Meter S	etup Record			
Date :	7/11/2011	Location :	taten Island			
nstrument Type: _	Mircro R	_ Instrument Serial I	Number :	209723		
Instrument Range	Source	Source Position	Observed Exposure Rate <sup>1</sup> mR/hr uR/hr	Acceptance Criteria¹¹ mR/hr uR/hi		
x25	BKG	na	10	8-12		
x500	SN-5780-07	contact	192-288			
		NA				
Circle correct units. ± 20% of observed exp	posure rate.					
Comments/Re	strictions:	NA	·			
		-				
July 6			_	7/11/11		
Calculated By:				Øate:		

### Scientific and Industrial Instruments

### CERTIFICATE OF CALIBRATION

LUDEUM MEMBUREMEITIS, 1110. POST OFFICE BOX 810 PH. 325-235-5494

501 OAK STREET FAX NO. 325-235-4672

					SWEETWATER, TEXAS	79556, U.S.A.	
CUSTOMER	SAIC				ORDER NO.	20176000	)/363307
Mfg.	Ludium Measurements, Inc	Model	1	9	Serial No. $2a$	09723	
<u> </u>		Model			Serial No		
Cal. Date	17-May-11	Cal Due Date	17-May	12 Cal. Inte	erval <u>1 Y</u> ear N	Neterface	202-1070
Check mark	applies to applicable inst	r. and/or detector IAV	V mfg. spec.	T73 °F	RH28_ %	Alt70	0.8 mm Hg
New Ins	trument Instrument Rece	ived Within Toler.	+-10% [] 10-20	% Out of Tol.	Requiring Repair	Other-See co	mments
✓ Mechai	nical ck. 😿 M	eter Zeroed	📝 Back	ground Subtract	[] Inpu	ut Sens. Linearit	У
	o. ck 📝 Re			ow Operation	<b>√</b> Ged	otropism	
📈 Audio c	ik. 🗌 A	larm Setting ck.	📈 Batt.	ck. (Min. Volt)	2.2 VDC		
	ed in accordance with LMIS				Thresho	old	m∨
nstrument Vo	olf Set 740 V Input	Sens. <u>30</u> mV	Det. Oper	V at	mV Dial Ra	tio	
☐ HV R	leadout (2 points) Ref./In:	st	./	V Ref./Inst.		/	v
COMMENT	'S:						

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source **INSTRUMENT** INSTRUMENT REC'D REFERENCE "AS FOUND READING" **METER READING\*** RANGE/MULTIPLIER CAL. POINT 4400 4000 4000 µR/hr 5000 1100 1000 5000 1000µR/hr 400 400 µR/hr = 75200 cp. 400 500 100 100 500 100 µR/hr 200 µR/hr = 38500 cm 210 200 250 105 100 250 100μR/hr 40 50 2520 cpm 40 10 10 50 1880 cpm 3850 cpm 25 962 cpm 5.a 25 Range(s) Calibrated Electronically \*Uncertainty within ± 10% C.F. within ± 20% INSTRUMENT INSTRUMENT INSTRUMENT REFERENCE REFERENCE INSTRUMENT **RECEIVED** RECEIVED METER READING\* METER READING\* CAL, POINT CAL. POINT Digital Log Scale Readout Ludium Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978

State of Texas Calibration Elective No. LO-19 State of Texas Calibration License No. LO-1963 Reference Instruments and/or Sources: 73410 1131 781 059 70897 Cs-137 Gamma S/N ☐ 1162 ☐ G112 ☑ M565 ☐ 5105 ☐ 11008 ☐ 1879 ☐ E552 ☐ E551 ☐ 720 Neutron Am-241 Be S/N T-304 734 1616 Other Beta S/N 🔄 Alpha S/N ✓ Multimeter S/N 86250390 ■ m 500 S/N Oscilloscope S/N Date Culibrated By: Date Reviewed By:

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

Page \_\_\_\_of \_\_\_

FORM C22A 03/11/2010

AC Inst.

Only

Failed:

Passed Dielectric (Hi-Pot) and Continuity Test

### F1G190456

Project Manager: LMF

### **CLIENT ANALYSIS SUMMARY**

Quote #: 89198

SDG:

Storage Loc: Date Received:

2011-07-19

RAD

**Expanded Deliverable** 

Analytical Due Date:

2011-08-09

Report Due Date:

2011-08-10

Project:

Staten Island, NY FUSRAP Site

PO#: Client:

509018

GEO Consultants LLC

Report to: Barry Kinsall

#SMPS in LOT: 14

EDD Code: 00

Report Type: D

CRM DOE #6d Rev 1

SAIVIE	LE#	CLIE	NT SAMP	LE ID Site	ID	Client Matrix D	ATE/T	IME SAMPLED	WORKORDER	R A
1		SIW-S	SS-DUP-00	 )1		20	11-07-	15 / 0	MK1PV	SOLID
•	LE C	OMME				20	11-01	107 0		002,2
	ZV		RAD	SOLID, RAD SCREEN, RAD	RA	IN-HOUSE RAD	01	STANDARD TEST SET	PROT: A WR	00
xx	0B	EML	SCREEN GA-01-R	SCREEN, Special L SOLID, GA-01-R MOD, Gamma	J9	SCREEN  Dry, Grind, and Fill Geometry -> 21	01	STANDARD TEST SET	PROT: C WR	
		EML	MOD A-01-R	Ra-226 & Hits SOLID, A-01-R MOD, Iso U	•	day in-growth Extraction Chromatography -		STANDARD TEST SET	PROT: C WR	C
XX	2M	LIVIL	MOD	(LONG CT)	J2	Sequential Actinides	01	STANDARD TEST SET	LOC	
SAME	LE#	CLIE	NT SAMPL	LE ID Site	ID	Client Matrix D	ATE/T	IME SAMPLED	WORKORDER	<u> </u>
2		SIW-S	SS-DUP-00	)2		20	11-07-	16 / 0	MK1PX	SOLID
SAMF	LE C	<u> DMME</u>	NTS:							
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WR	
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21	01	STANDARD TEST SET	PROT: C WR	K 06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	day in-growth Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WR	K 06
SAMF	LE#	CLIE	NT SAMPL	LE ID Site	ID	Client Matrix D	ATE/T	IME SAMPLED	WORKORDER	<u> </u>
3		SIW-S	SS-DUP-00	)3		20	11-07-	16 / 0	MK1P1	SOLID
SAME	LE CO	OMME	NTS:							
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WR	
XX	0B	EML	GA-01-R	SOLID, GA-01-R MOD, Gamma	J9	Dry, Grind, and Fill Geometry -> 21	01	STANDARD TEST SET	PROT: C WR	K 06
XX	2M	EML	MOD A-01-R	Ra-226 & Hits SOLID, A-01-R MOD, Iso U	J2	day in-growth Extraction Chromatography -	01	STANDARD TEST SET	PROT: C WR	K 06
			MOD	(LONG CT)		Sequential Actinides			LOC	
SAMF	LE#	CLIE	NT SAMPL	LE ID Site	<u>ID</u>	Client Matrix D	ATE/T	IME SAMPLED	WORKORDER	<u> </u>
4			SS-DUP-00	)4		20	11-07-	16/0	MK1P3	SOLID
		<u> DMME</u>								
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WR	
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WR	
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WR	K 06
SAMF	LE#	CLIE	NT SAMPL	LE ID Site	ID	Client Matrix D	ATE/I	IME SAMPLED	WORKORDER	<u>A</u>
5		SIW-S	SS-DUP-00	)5		20	11-07-	17/0	MK1P7	SOLID
SAMF	LE C	<u>OMME</u>	NTS:							
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WR	
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma	J9	Dry, Grind, and Fill Geometry -> 21	01	STANDARD TEST SET	PROT: C WR	K 06
XX	2M	EML	A-01-R MOD	Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	J2	day in-growth Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WR	K 06
SAME	LE#	CLIE	NT ŞAMPI	LE ID Site	<u>ID</u>	Client Matrix D	ATE/T	IME SAMPLED	WORKORDER	<u>A</u>
SAIVIE		SIW-S	SS-037P-0.	.0-2.0		20	11-07-	17 / 925	MK1P8	SOLID
6			NTS:							
6	LE C									
6 SAMF	ZV	JIVIIVIE	RAD SCREEN	SOLID, RAD SCREEN, RAD	RA	IN-HOUSE RAD	01	STANDARD TEST SET		K 06
6 SAMF XX		EML	RAD SCREEN GA-01-R MOD	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits		IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth	01 01	STANDARD TEST SET STANDARD TEST SET	PROT: A WR LOO PROT: C WR LOO	K 06

### F1G190456

Project Manager: LMF

### **CLIENT ANALYSIS SUMMARY**

Quote #: 89198

SDG:

Storage Loc: Date Received: **RAD** 2011-07-19

Analytical Due Date:

2011-08-09

2011-08-10

Report Due Date:

Project: PO#:

Client:

Report to: Barry Kinsall

Staten Island, NY FUSRAP Site

Report Type: D EDD Code: 00

**Expanded Deliverable** 

509018

GEO Consultants LLC

#SMPS in LOT: 14

CRM DOE #6d Rev 1

3	<u>SAMP</u>	LE #		<u>NT SAMPL</u>		<u>D</u>	Client Matrix	DATE/	IME SAMPLED	WORKORD	<u>ER</u>	<u>A</u>	
	7			SS-038P-0.	0-2.0		:	2011-07	17 / 947	MK1P9	SC	OLID	
3	XX XX		<u> </u>	NTS: RAD	SOLID, RAD SCREEN, RAD	RA	IN-HOUSE RAD	01	STANDARD TEST SET	PROT: A	NRK	06	
	XX	0B	EML	SCREEN GA-01-R	SCREEN, Special L SOLID, GA-01-R MOD, Gamma		SCREEN Dry, Grind, and Fill Geometry ->		STANDARD TEST SET	1	LOC	06	
			EML	MOD A-01-R	Ra-226 & Hits SOLID, A-01-R MOD, Iso U	J9	day in-growth	•	STANDARD TEST SET	l	LOC		
	XX	2M	LIVIL	MOD	(LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01			LOC	06	
3	SAMP	LE #	CLIE	NT SAMPL	E ID Site I	<u>D</u>	Client Matrix	DATE/	IME SAMPLED	WORKORD	<u>ER</u>	<u>A</u>	
8	8		SIW-S	S-039P-0.0	0-2.0		;	2011-07	17 / 1240	MK1QA	SC	OLID	
3	SAMP	LE C	<u> DMME</u>										
	XX	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		WRK LOC	06	
	XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> day in-growth	21 01	STANDARD TEST SET		WRK LOC	06	
	XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		WRK LOC	06	
D	XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> day in-growth	<sup>21</sup> <b>01</b>	STANDARD TEST SET	PROT: C	WRK LOC	06	
S	XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> day in-growth	<sup>21</sup> <b>01</b>	STANDARD TEST SET	PROT: C	WRK LOC	06	
X	XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK LOC	06	
-	SAMP	LE#	CLIE	NT SAMPL	EID Site I		Client Matrix	DATE/	IME SAMPLED	WORKORD	ER	Α	
	9			SS-040P-0.0		_		2011-07	-17 / 1140	MK1QC	_ _s(	_ OLID	
3	SAMP	LE C	ОММЕ										
	XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		WRK LOC	06	
	XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> day in-growth	21 01	STANDARD TEST SET	PROT: C	WRK LOC	06	
	ХХ	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK LOC	06	
- 3	SAMP	LE #	CLIE	NT SAMPL	E ID Site I	 D	Client Matrix	DATE/	IME SAMPLED	WORKORD	<u>ER</u>	A	
	10		SIW-S	S-041P-0.	0-2.0		:	2011-07	17 / 1120	MK1QD	SC	OLID	
3	SAMP	LE C	OMME	NTS:									
	XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		WRK LOC	06	
	XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> day in-growth	21 01	STANDARD TEST SET		WRK LOC	06	
	XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK LOC	06	
3	SAMP	LE#	CLIE	NT SAMPL	E ID Site I	<u>D</u>	Client Matrix	DATE/	IME SAMPLED	WORKORD	<u>ER</u>	<u>A</u>	
	11		SIW-S	SS-042P-0.	0-2.0		:	2011-07	-17 / 1013	MK1QE	S	OLID	
3	SAMP	LE C	OMME	NTS:									
	XX	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		WRK LOC	06	
	XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> day in-growth	<sup>21</sup> <b>01</b>	STANDARD TEST SET		WRK LOC	06	
	XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK LOC	06	
3	SAMP	LE#	CLIE	NT SAMPL	E ID Site I	<u>D</u>	Client Matrix	DATE/	IME SAMPLED	WORKORD	ER	A	
	12		SIW-S	SS-043P-0.	0-2.0			2011-07	-17 / 1200	MK1QF	S	OLID	
3	SAMP	LE C	<u>OMME</u>	NTS:									

F1G190456

Project Manager: LMF

509018

**CLIENT ANALYSIS SUMMARY** 

Quote #: 89198

SDG:

Storage Loc:

RAD

Date Received:

2011-07-19 2011-08-09

Analytical Due Date:

Report Due Date:

PO#: Client:

2011-08-10

Project:

Staten Island, NY FUSRAP Site Report to: Barry Kinsall

**GEO Consultants LLC** 

#SMPS in LOT: 14

Report Type: D EDD Code: 00 Expanded Deliverable

CRM DOE #6d Rev 1

SA	AMP	LE#	CLIE	NT SAMP	PLE ID Site I	 D	Client Matrix	DATE/TI	ME SAMPLED	WORKOR	DER	Α
_	XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK	06
	XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	<b>J9</b>	Dry, Grind, and Fill Geometry -> 2 day in-growth	21 01	STANDARD TEST SET	PROT: C	WRK	06
	XX	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK	06

XX 2M	EML	MOD A-01-R MOD	Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	J2	day in-growth Extraction Chromatography - Sequential Actinides	01		PROT: C	LOC WRK LOC	06
SAMPLE#	CLIE	NT SAMPL	E ID Site I	D	Client Matrix	DATE/	TIME SAMPLED	WORKOR	DER	A
13	SIW-S	SS-044P-0.0	0-2.0		2	011-07	<i>'</i> -17 / 1230	MK1QG	S	OLID
SAMPLE C	OMME	NTS:								
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	1 01	STANDARD TEST SET	PROT: C	WRK	06
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK	06
SAMPLE#	CLIE	NT SAMPL	E ID Site II	<u>D</u>	Client Matrix	DATE/	TIME SAMPLED	WORKORI	DER	<u>A</u>
14	SIW-S	SS-045P-0.0	0-2.0		29	011-07	'-17 / 1155	MK1QH	S	OLID
SAMPLE C	OMME!	NTS:								
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2' day in-growth	1 01	STANDARD TEST SET	PROT: C	WRK LOC	06
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK LOC	06

### Chain of Custody Record

Temperature on Receipt \_\_\_\_\_



Drinking Water? Yes□ Not THE LEADER IN ENVIRONMENTAL TESTING

AL-4124 (1007)																									
Client		Project Manager													Date						hain of C <b>1</b>				
G-60 Consultante UC				Telephone Number (Area Code)/Fax Number											Lab Number						+		394	79	
375 Kentucky Arx											2	87										Page	1	_ of	2
City State Zip Code									2704623887 Lab Contact										lysis (Attach list if						
Kevil Ky 42053			2 - 144 - 144 - 1												more			e space is needed)							
Project Name and Location (State)				Carrier/Waybill Number																		_			
SIW-Staten/Sland, New York Contract/Purchase Order/Quote No.									Containers &													Special Instructions/ Conditions of Receipt			
				Matrix				Preservatives					<	RAD											7.
Sample I.D. No. and Description Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HC	NaOH	ZnAc/ NaOH	C	<u> </u>											A
SIW-55-037P-0.0-2.0	7-17-11	0925				X	×	_						<b>X</b>								1)	(50	100	ر 
SIW-55-038P-0.0-2.0	7-17-11	0947				$ \chi $	X						<u> </u> >	(					$\perp$						
SIW- SS-039P-0.0-2.0	7-17-11	1240				x	X	_						(					$\perp$				$\perp$		
SIW-55-040P-00 -2.0	7-17-11	1140		Ш		X	X						$\rfloor$	<b>\</b>		$\perp \perp$	$\perp$		$\perp$		$\perp$		$\perp$	/	
SIW-SS-041P-0.0-2.0	7-17-11	1120				X	X	_					χ										-V		
SIW-55-042P-0-0-26	7-17-11	1013				X	$\times$						X	-		$\perp$	,					1x	<u> Sic</u>	<b>1</b>	
SIN-55-043P-0.0-2.0	7-17-11	1200				X	X						X	C		Ш	$\perp$					14	5X	2P	
SIW-SS-044P-0.0-2.0	7-17-11	1230				X	X	_					X									1 X	500	9	
SIW-55-045P-0-0-2.0	7-17-11	1				X							$\lambda$									/x.	500	P	
						×	<b>X</b>						Ø												
						X	E	3					<b>X</b>	3											
						*	<b>%</b>	2					18												
Possible Hazard Identification	_	- 1	,		isposal	, , , ,		_									(A fee may be ass			ssess	essed if samples are retained			 1	
	Poison B	☐ Unknowi	,   [	] Re	eturr	n To Cli	ient							chive i	or		Monti	hs lo	nger	than 1 m	onth)				
Tum Around Time Required  3 24 Hours	ave	rs 🗆 Oti	her					$ ^{\alpha c}$	Heq	uiren	nent	s (Spec	ity)												
1. Relinquished By		Date			, 7/	ime		1. 1	Rede	ived .	#ÿ	7		6)		_						Date	//,	Time	
							<	+	1/c	K	4	<u> </u>	)(	ľ		<b>)</b>						7/19		09	720
2. Relinquished By				Date				1. Aeceived By														Date /		Time	
B. Relinquished By				Date				3. Received By													<u> </u>	Date		Time	
Comments	_																					_			

We VI

Temperature on Receipt \_\_\_\_\_



Drinking Water? Yes□ No□

THE LEADER IN ENVIRONMENTAL TESTING

L-4124 (1007)																								
Client			Projec	ct Ma	nage	ar											Da	te				of Custody		
Iddress			Tolon	<b>6</b>	A /	-5/4		- d- 1/5	A/-								1,-	. 41				189	480	
ladiress			Telep.	none	NUM	nber (A.	rea Ci	oaej/r	ax ivu	mber							Lat	Numt	ver		Page	2	of	2
Dity	State	Zip Code	Site C	Conta	ct			La	b Con	tact									ch list neede					
Project Name and Location (State)			Carrie	er/Wa	ybill .	Numbe	er															Spacie	l Inctr	uctions/
Contract/Purchase Order/Quote No.			1			Matrix	,			Conta Prese														Receipt
Sample I.D. No. and Description		line) Date	Time	Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	НИОЗ	HC	NaOH Zn4c/	NaOH	XPAD										
<u>51w-55-025M5-0.0</u>	-2.0	7-16-11	1645	-	_	+ +	X	X						-1' -1	$\perp$	$\perp \downarrow$	$\perp$					X5	00	OP
SIW-53-025MSD-0.	0-2	0 7-16-11	1645	5	$\perp$	<del>                                     </del>	X	_χ						X	$\perp$	$\perp$							1	
51W-SS-033MS-0.	0-2.	0 7-16-11	1422	,			<b>X</b>	X						X									<u>L</u>	
om-ss-033MSD-0.	0-2.	0 7-16-11	1422	<u>'</u>			X.	X						X		Ш								
11W-55-039 MS-00	- 2.0		1240			+ +	×	X						X										
51W-SS -039 MSD-0.	.0-2	.0 7-67-11	1240				<b>Υ</b>	$\chi$		$\perp$				X			$\perp$							
1W-55- DUP-001		7-15-11		L		<u> </u>	<b>χ</b>  _	X		$\perp$				X		Ш								
51W-SS-DUP-002		7-16-11					ΧL	X			$\perp$			X										
512-55- Dup-003		7-16-11					X	$\times$			$\perp$			X								$\bot$		
SIW-SS-DUP-004		7-16-11					X	X						X									$\angle$	
JW-SS-DUP-005		7-17-11		L			<u> </u>	X						X		Ш						1450	06	,
				L				ľ																
lossible Hazard Identification  Non-Hazard	in Irritant	Poison B	☐ <i>Unknow</i>	Ι.	_ ′	ole Disp Return T		ant.		Disposi	al Ru	l oh	П	1 Amb	ive For		11	onths		e may be a		samples a	re retain	ed
urn Around Time Required				"									Specif						lorige	Tulan i				
] 24 Hours 🔲 48 Hours 🔲 7 Days	· 🗆 :	14 Days 🔲 21 Day	s 🗆 Oi	ther_						,				,	_									
Relinquished By			Date			Tim	e		1. Fi	ecelle	ed By	0/		$\sum_{l}$	Ph		$\overline{\mathcal{L}}$				Date	19/11	Time	920
Relinquished By			Date			Tim	e		2. F	ceive	ed By										Date	411	Time	, /20
Relinquished By			 Date			Tim	е		3. Fi	eceive	ed By	,									Date		Time	,
Comments																								

TestAme	erica	Lot #(s):	FIL	19141	61. 473	
THE LEADER IN ENVIRONME	ENTAL TESTING CUR Form #:	247/	FIG	19845	6,479	
Quote No:	89198 SEE BELOW			479		
Initiated By:	0			7/18/11	Time:	0920
Ohimman (F	III III DIII C	Shipping			M. W. L. D.	- Jan
•	edEx UPS DHL Co	urier Client	Other: _		-	
Shipping # (s):* 1. <u>1973 127</u>	7/ ~4970 6.	na (12 100	71 57		ample Temperature	
1		<u> 1973 127</u>			1	6. AUBIENT
2.	<u>4672</u> 7. 4937 8.	<del></del>		59/ 709	2.	7.
3.	<u> </u>	1/1	,	1812	3.	- 8. <del>- y</del>
4.	1 1/0			012	4. 5	9
3. <b>V</b>	<b>700</b> / 10.					10
*Numbered shipping lines	correspond to Numbered Sample Te		riance does rchlorate	NOT affect the foll	lowing: Metals-Liquid;	Rad tests- Liquid or Solids;
Condition (Circle "Y"	for yes, "N" for no and "N/A" for no					
1. (Y) N	Are there custody seals prescooler?	ent on the	8.	Y(N)	Are there custody	seals present on bottles?
2. Y N/A	Do custody seals on cooler a tampered with?	appear to be	9.	Y N N/A	Do custody seals of tampered with?	on bottles appear to be
3. N	Were contents of cooler frist opening, but before unpacki		10.	Y N N/A	not, make note below)	ved with proper pH¹? (If
4. Ø N	Sample received with Chain	_	11.	Y N NA		4, H-3 & I-129/131 Not Preserve" label?
5. N N/A	Does the Chain of Custody ID's on the container(s)?	match sample	12.	Ø N	Sample received in	n proper containers?
6. Y N	Was sample received broker	1?	13.	Y N N/A	Headspace in VOA	A or TOX liquid samples? D's below)
7. (Y) N	Is sample volume sufficient		14.	Y N N/A		/Workshare received?
/	ANL. Sandia) sites, pH of ALL conta					
Notes: 197114		189480 <sub>,</sub> 19			189478, 189	1477, 187981
189474 <sub>)</sub> 1894	<sup>175</sup> , 189476, 199717	, 197121,	1894	<u>83, 18948</u>	32, 197123	197119 197116
NE 1500		() () (				
UT = UTIT	cherect +=	= tuter	ect.	24	· ·	
14 - O, -1	02,-03-04.	- The		are TV	re sou	mepli-
Totally	4 Wers.	JMB	15	acro	so the	10000001
> - Direct	my, 7, USA	MSD Qu	re.	Boine	Sary	ll.
010-60	eyethe sa	me :	poc	nole.		
	ULF MIG	<u> </u>		511 GW	- 05T-02	15 unfittened
Corrective Action: Client Contact N	(ame	ν.	Inf	med by:	diment in	aftered on
Sample(s) proces	ssed "as is"		11110111	+nc	BACK LI	MF TIRILI
Sample(s) on ho		Ifr	eleased,		2 -117111	1 1 1/2
	APLETED AT THE TIME THE ITEMS A ED TO APPLY THEIR INITIAL AND TH	HE DATE NEXT TO TH	MAT ITEM		TED BY SOMEONE OTHI	ER THAN THE INITIATOR, THEN
	,					- · · · · · · ·

Project Manager: LMF

## **CLIENT ANALYSIS SUMMARY**

Quote #: 89198

SDG:

Storage Loc: Date Received: R139/144 2011-07-19

Expanded Deliverable

Analytical Due Date:

2011-08-09

Project:

0#:

Staten Island, NY FUSRAP Site Report to: Barry Kinsall

Report Due Date:

2011-08-10

Client:

509018

GEO Consultants LLC

Report Type: D

EDD Code: 00 #SMPS in LOT: 14

CRM	DOE	#6d	Rev	1

*******	*******	***************************************	-			and the control of th	·	**************************************		
SAMP	LE#	CLIE	NT SAMPL	E ID Site	a ID	Cilent Matrix	DATE/TI	ME SAMPLED	WORKORDE	EB 1
1		SIW-G	9W-16F				2011-07-1	7 / 1345	MK1P4	WATER
SAMP	LE C	OMME	NTS:							, , , , , , , , , , , , , , , , , ,
XX	ΖV	•	RAD SCREEN	WATER, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01 -	STANDARD TEST SET		VRK 06
XX	2M	EML	A-01-R MOD	WATER, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: B	vrk 06
XX	Y9	EPA	900.0 MQD	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B V	oc VRK 06
XX	<b>Z</b> 4	EPA	904 MOD	WATER, 904 MOD, Radium 228	<b>G2</b>	Precipitate, Separation - 21 day Ingrowth	01	STANDARD TEST SET	PROT: B	oc VRK 06
XX	ZY	EPA	903.0 MOD	WATER, 903.0 MOD, Radium 226	G2	Precipitate, Separation - 21 day Ingrowth	01	STÄNDARD TEST SET	PROT: B V	oc Vrk 06 oc
SAMP	LE#	CLIE	NT SAMPL	E ID Site	e ID	Client Matrix	DATE/TI	ME SAMPLED	WORKORDE	<u>R</u> [
2		SIW-C	3W-16UF				2011-07-1	7 / 1345	MK1QJ	WATER
SAMP	LE C	OMME	NTS:							
XX	ZV		RAD SCREEN	WATER, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		VRK 06 .oc
· XX	2M	EML	A-01-R MOD	WATER, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: B V	VRK 06
XX	Y9	EPA	900.0 MOD	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B	VRK 06 .oc
XX	<b>Z</b> 4	EPA	904 MOD	WATER, 904 MOD, Radium 228	G2	Precipitate, Separation - 21 day ingrowth	01	STANDARD TEST SET	PROT: B V	VRK 06
XX	ZY	EPA	903.0 MOD	WATER, 903.0 MOD, Radium 226	G2	Precipitate, Separation - 21 day Ingrowth	01	STANDARD TEST SET	PROT: B V	VRK 06 .oc
SAMP	LE#	CLIE	NT SAMPL	E ID Sit	e ID	Client Matrix	DATE/T	ME SAMPLED	WORKORDI	ER <u>I</u>
3		SIW-C	3W-FDUP				2011-07-	17/0	MK1QK	WATER
SAMP	LE C	OMME	NTS:		ń					
XX	ΖV		RAD SCREEN	WATER, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		VRK 06
XX	2M	EML	A-01-R MOD	WATER, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: B	NRK 06
XX	Y9	EPA	0.00e COM	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B	NRK 06
XX	<b>Z</b> 4	EPA	904 MOD	WATER, 904 MOD, Radium 228	G2	Precipitate, Separation - 21 day ingrowth	01	STANDARD TEST SET	PROT: B	VRK 06
XX	ZY	EPA	903.0 MOD	WATER, 903.0 MOD, Radium 226	G2	Precipitate, Separation - 21 day Ingrowth	01	STANDARD TEST SET	PROT: B	NRK 06
SAME	LE#	CLIE	NT SAMPL	E ID Sit	e ID	Client Matrix	DATE/T	IME SAMPLED	WORKORD	ER L
4		SIW-0	GW-UFDUF	•			2011-07-	17/0	MK1QR	WATER
SAME	LE C	OMME	NTS:							
XX	ΖV		RAD SCREEN	WATER, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		WRK 06
XX	2M	EML	A-01-R MOD	WATER, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: B	LOC WRK 06
XX	Y9	EPA	900.0 MOD	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B	LOC WRK 06
XX	<b>Z4</b>	EPA	904 MOD	WATER, 904 MOD, Radium 228	G2	Precipitate, Separation - 21 day ingrowth	01	STANDARD TEST SET	PROT: B	LOC WRK 06
XX	ZY	EPA	903.0 MOD	WATER, 903.0 MOD, Radium 226	G2	Precipitate, Separation - 21 day Ingrowth	01	STANDARD TEST SET	PROT: B	roc Muk 06 Toc
SAME	LE#	CLIE	NT SAMPL	E ID Sit	e ID	Client Matrix	DATE/T	IME SAMPLED	WORKORD	ER <u>l</u>
5		SIW-0	3W-026UF				2011-07-	17 / 1046	MK1QT	WATER
AME	LE C	OMME	NTS:							•
XX	ΖV		RAD SCREEN	WATER, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK 06 LOC

### **CLIENT ANALYSIS SUMMARY**

Project Manager: LMF

Quote #: 89198

SDG:

Storage Loc:

R139/144

Date Received:

2011-07-19

Analytical Due Date:

2011-08-09

Barry Kinsali

Staten Island, NY FUSRAP Site

Report Due Date:

2011-08-10

7#: Client:

Project:

509018

Report to:

GEO Consultants LLC

#SMPS In LOT: 14

Report Type: D EDD Code: 00 Expanded Deliverable

CRM DOE	q 164	ev 1				T A IA	11" Q 111 LC			
Actores program	. 6 a.N. (2	<b>71</b> 1								ļ
										; ;
XX	446	EML	A-01-R	WATER, A-01-R MOD, Iso U	10	Extraction Chromatography -		STANDARD TEST SET	P4 879 69 300 . P3 14 3 14 3 14 3 14 3 14 3 14 3 14 3 1	
			MOD	(LONG CT)	J2	Sequential Actinides	01		PROT: B WRK	06
XX	Y9	EPA	900.0 MOD	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B WRK	06
XX	<b>Z</b> 4	EPA	904 MOD	WATER, 904 MOD, Radium 228	G2	Precipitate, Separation - 21 day Ingrowth	01	STANDARD TEST SET	PROT: B WRK	06
XX	ZY	EPA	903.0 MOD	WATER, 903.0 MOD, Radium 226	G2	Precipitate, Separation - 21 day	01	STANDARD TEST SET	PROT: B WRK	Q6
		ineidones de l'éta	Alchia	440		ingrowth	and the state of the state of the state of	and the second section of the second section section sections and the second section sections and the second section sections and the second sections are also sections as the second section	LOC	indexes and sometimes are supplied to the second se
SAMP	LE#	CLIE	<u>NT SAMPL</u>	E ID Site	<u>ID</u>	Client Matrix	DATE/TI	ME SAMPLED	WORKORDER	1
6		SIW-C	3W-026F			2	011-07-1	17 / 1058	MK1QW	WATER
SAMP	LE C	DMME	NTS:							
XX	Z٧		RAD SCREEN	WATER, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK	06
XX	2M	EML.	A-01-R	WATER, A-01-R MOD, Iso U	J2	Extraction Chromatography 🦗	01	STANDARD TEST SET	LOC PROT: B WRK	06
XX	Y9	EPA	MOD 900.0	(LONG CT) WATER, 900.0 MOD, Gross	FR	Sequential Actinides Evaporative Preparation,	01	STANDARD TEST SET	LOC PROT: B WRK	
XX	<b>Z</b> 4	EPA	MÓD 904	A/B WATER, 904 MOD, Radium	G2	Total Precipitate, Separation - 21 day	01	STANDARD TEST SET	LOC PROT: B WRK	<b>7.</b>
XX		EPA	MOID 903.0	228 WATER, 903.0 MOD, Radium	,	Ingrowth	* -		LOG	**
^^	Æ T	>- F1	MOD	226	G2	Precipitate, Separation - 21 day Ingrowth	01	STANDARD TEST SET	PROT: B WRK	06
SAMP	LE#	CLIF	NT SAMPL	E ID Site	ID	Client Matrix	ריי ביי	ME SAMPLED	WORKORDER	1
7	, <u>,</u> ,,		3W-023UF	one one	<del>1 %,</del>					1 A A STEERE FO
	LEC	OMME				4	2011-07-1	17 / 955	MK1Q0	NATER
XX		× IAIIAIP.	RAD	WATER, RAD SCREEN, RAD	RA	IN-HOUSE RAD	01	STANDARD TEST SET	PROT: A WRM	' 08 ·
XX		EML	SCREEN A-01-R	SCREEN, Special L WATER, A-01-R MOD, Iso U	•	SCREEN Extraction Chromatography			LOC	
			MOD	(LONG CT)	J2	Sequential Actinides	01	STANDARD TEST SET	PROT: B WRK	
XX	Y9	EPA	900.0 MQD	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B WRK	06
XX	<b>Z4</b>	EPA	904 MOD	WATER, 904 MOD, Radium 228	G2	Precipitate, Separation - 21 day Ingrowth	01	STANDARD TEST SET	PROT: B WRK	06
XX	ZY	EPA	903.0 MQD	WATER, 903.0 MOD, Radium 226	G2	Precipitate, Separation - 21 day	01	STANDARD TEST SET	LOC PROT: B WR	06
<del></del>	***************************************				·	Ingrowth	<del>and the second </del>		LOC	The charles are not the property of the charles are also an experience of the charles are also as the
SAMP	LE#	CLIE	<u>NT SAMPL</u>	E ID Site	ID :	Client Matrix	DATE/T	IME SAMPLED	WORKORDER	1
8		SIW-0	3W-023F		4		2011-07-1	17 / 1018	MK1Q1	WATER
SAMP	LE C	OMME	NTS:							
XX	ΖV		RAD SCREEN	WATER, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRI	06
XX	2M	EML	A-01-R	WATER, A-01-R MOD, Iso U	J2	Extraction Chromatography -	01	STANDARD TEST SET	LOQ PROT: B WR	S 06
XX	Y9	EPA	MOD 900.0	(LONG CT) WATER, 900.0 MOD, Gross	FR	Sequential Actinides Evaporative Preparation,	01	STANDARD TEST SET	LOC PROT: B WR	06
XX		EPA	MOD 904	A/B WATER, 904 MOD, Redium	G2	Total Precipitate, Separation - 21 day	01	STANDARD TEST SET	LOC PROT: B WR	
		EPA	MOD 903.0	228 WATER, 903.0 MOD, Radium		Ingrowth			LOC	***
XX	4.1	H1 /1	MOD	226	G2	Precipitate, Separation - 21 day ingrowth	01	STANDARD TEST SET	PROT: B WRI	
SAMP	LF#	CLIE	NT SAMPL	E ID Site	חו	Client Matrix	ጋልጥይ/ጥ	IME SAMPLED	///CDI/AMAP	
	te br. II				<u> </u>				WORKORDER	1
9 SAMD	( E C	SIW-0 OMME	3W-05UF NTS:			;	2011-07-	177 900	MK1Q2	WATER
<u>SAMP</u>		KIMIME	NIS: RAD	WATER, RAD SCREEN, RAD	ďΩΛ	IN-HOUSE RAD	64	STANDARD TEST SET	BBOA: V man	( 00
		CA M	SCREEN	SCREEN, Special L	RA	SCREEN	01	STANDARD TEST SET	PROT: A WRI	4.0
XX	2M	EML	A-01-R MOD	WATER, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: B WRI	
XX	Y9	epa	0.000 MQD	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B WRI	< 06
XX	<b>Z</b> 4	EPA	904 MOD	WATER, 904 MOD, Radium	G2	Precipitate, Separation - 21 day	01	STANDARD TEST SET	PROT: B WRI	<b>C</b> 06
XX	ZY	EPA	903.0	228 WATER, 903.0 MOD, Radium	G2	Ingrowth Precipitate, Separation - 21 day	01	STANDARD TEST SET	LOC PROT: B WRI	
			MOD	226		Ingrowth	7 1		LOC	

Project Manager: LMF

509018

### **CLIENT ANALYSIS SUMMARY**

Storage Loc:

R139/144

Date Received:

2011-07-19

2011-08-09

Project:

Quote #: 89198

Staten Island, NY FUSRAP Site

SDG:

Analytical Due Date:

Report Due Date:

2011-08-10

)#: :lient

Report to: Barry Kinsall

GEO Consultants LLC

#SMPS in LOT: 14

Report Type: D EDD Code: 00 Expanded Deliverable

PHIND	LE#	CLIE	NT SAMPL	EID Sit	e ID	Client Matrix	DATE/TI	ME SAMPLED	WORKORDE	≣R	<u>I</u>
10		SIW-C	9W-05F			. 2	011-07-1	7 / 916	MK1Q3	W	ATER
SAMP	LE CO	<b>OMME</b>	VTS:								
XX	ΖV		RAD SCREEN	WATER, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		VRK .oc	06
XX	2M	EML	A-01-R MOD	WATER, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: B V		06
XX	Y9	EPA	900.0 MOD	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B V		06
XX	<b>Z</b> 4	EPA	904 MOD	WATER, 904 MOD, Radium 228	GŞ	Precipitate, Separation - 21 day Ingrowth	01	STANDARD TEST SET	PROT: B V		06
XX	ZY	EPA	903.0 MOD	WATER, 903.0 MOD, Radium 226	G2	Precipitate, Separation - 21 day ingrowth	01	STANDARD TEST SET	PROT: B V		06
SAMP	LE#	CLIE	NT SAMPL	E ID Sit	e ID	Client Matrix	DATE/TI	ME SAMPLED	WORKORDI	EB	1
11		SIW-C	9W-09F			2	011-07-1	7 / 1415	MK1Q4	W	ATER
<u>SAMP</u>	LE C	OMME	NTS:								
XX	ZV		RAD SCREEN	WATER, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		VRK LOC	06
XX	2M	EML	A-01-R MOD	WATER, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromategraphy - Sequential Actinides	01	STANDARD TEST SET	PROT: B V	NRK LOC	06
XX	Y9	EPA	900.0 MOD	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B V	WRK LOC	06
XX	<b>Z</b> 4	EPA	904 MOD	WATER, 904 MOD, Radium 228	G2	Precipitate, Separation - 21 day Ingrowth	01	STANDARD TEST SET	PROT: B V	NRK LOC	06
XX	ZY	EPA	903.0 MOD	WATER, 903.0 MOD, Radium 226	G2	Precipitate, Separation - 21 day Ingrowth	01	STANDARD TEST SET	PROT: B	WRK LOC	06
SAMP	LE#	CLIE	NT SAMPL	EID Sit	e ID	Client Matrix	DATE/TI	ME SAMPLED	WORKORD	ER	1
12		SIW-0	9W-09UF			2	2011-07-1	7 / 1415	MK1Q8	W	ATER
SAMP	LE CO	OMME	NTS:								
XX	ΖV		RAD SCREEN	WATER, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		WRK LOC	06
XX	2M	EML	A-01-R MOD	WATER, A-Q1-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Şequential Actinides	01	STANDARD TEST SET	PROT: B	WRK	06
XX	Y9	EPA .	900.0 MOD	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B	WRK LOC	06
XX	<b>Z4</b>	EPA	904 MOD	WATER, 904 MOD, Radium 228	G2	Precipitate, Separation - 21 day ingrowth	01	STANDARD TEST SET	PROT: B	WRK LOC	06
XX	ZY	EPA	903.0 MOD	WATER, 903.0 MOD, Radium 226	G2	Precipitate, Separation - 21 day Ingrowth	01	STANDARD TEST SET	PROT: B	WRK LOC	06
SAMP	LE#	CLIE	NT SAMPL	.E.ID Sit	e ID	Client Matrix	DATE/TI	ME SAMPLED	WORKORD	ER	Ţ
13		SIW-0	3W-010UF		ę.	2	2011-07-1	7 / 1205	MK1Q9	W	ATER
SAMP	LE C	OMME	NTS:								
XX	Z۷		RAD SCREEN	WATER, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		WRK LOC	06
XX	2M	EML,	A-01-R MOD	WATER, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: B	WRK LOC	06
	3/0	EPA	900.0 MOD	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B	WRK	06
XX	19		904	WATER, 904 MOD, Radium	G2	Precipitate, Separation - 21 day	01	STANDARD TEST SET		WRK	06
XX XX		EPA	MOD	228	بدب	Ingrowth				LOG	
XX		EPA EPA				Ingrowth Precipitate, Separation - 21 day Ingrowth	01	STANDARD TEST SET	PROT: B	LOC WRK	06
XX XX	Z4 ZY		MOD 903.0 MOD 900.0	228 WATER, 903.0 MOD, Radium		Precipitate, Separation - 21 day Ingrowth Evaporative Preparation,	01 01	STANDARD TEST SET STÅNDARD TEST SET	PROT: B	WRK LOC WRK	06 06
xx xx xx	Z4 ZY	EPA	MOD 903.0 MOD 900.0 MOD 904	228 WATER, 903.0 MOD, Radium 226 WATER, 900.0 MOD, Gross A/B WATER, 904 MOD, Radium	G2	Precipitate, Separation - 21 day Ingrowth Evaporative Preparation, Total Precipitate, Separation - 21 day	* -		PROT: B PROT: B PROT: B	WRK LOC WRK LOC WRK	
xx xx xx	Z4 ZY Y9 Z4	EPA EPA	MOD 903.0 MOD 900.0 MOD 904 MOD 903.0	228 WATER, 903.0 MOD, Radium 226 WATER, 900.0 MOD, Gross A/B WATER, 904 MOD, Radium 228 WATER, 903.0 MOD, Radium	G2 FR G2	Precipitate, Separation - 21 day Ingrowth Evaporative Preparation, Total Precipitate, Separation - 21 day Ingrowth Precipitate, Separation - 21 day	01	STÄNDARD TEST SET	PROT: B PROT: B PROT: B PROT: B	WRK LOC WRK LOC WRK LOC WRK	06
XX XX XX XX	Z4 ZY Y9 Z4 ZY	EPA EPA EPA	MOD 903.0 MOD 900.0 MOD 904 MOD	228 WATER, 903.0 MOD, Radium 226 WATER, 900.0 MOD, Gross A/B WATER, 904 MOD, Radium 228	G2 FR G2	Precipitate, Separation - 21 day Ingrowth Evaporative Preparation, Total Precipitate, Separation - 21 day Ingrowth	01 01	STÄNDARD TEST SET STANDARD TEST SET	PROT: B PROT: B PROT: B PROT: B PROT: B	WRK LOC WRK LOC WRK LOC	06 06 06

#### IENT ANALYSIS SUMMARY

Storage Loc:

R139/144

Date Received:

2011-07-19

Analytical Due Date:

2011-08-09

Report Due Date:

2011-08-10

Project Manager: Project:

#:

بilent:

LMF

Quote #: 89198

SDG:

Staten Island, NY FUSRAP Site

Barry Kinsall

Report Type: D

Expanded Deliverable

509018

Report to: GEO Consultants LLC

#SMP8 in LOT: 14

EDD Code: 00

Š	XX	ZY	EPA	903.0 MOD	WATER, 903.0 MOD, Radium 226	G2	Precipitate, Separation - 21 day ingrowth	Q1	STANDARD TEST SET	PROT: B	WRK LOC	06
X	XX	2M	EML	A-01-R MOD	WATER, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: B	WRK LOC	06
	SAMP	LE#	CLIE	NT SAMPL	EID Site I	D	Client Matrix	DATE/T	ME SAMPLED	WORKORI	DER	
	14		SIW-0	9W-010F			:	2011-07-	17 / 1206	MK1RD	W	ATER
	SAME	LEC	OMME	NTS:								
	XX	ΖV		RAD SCREEN	WATER, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	2M	EML	A-01-R MOD	WATER, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: B	WRK	06
	XX	Y9	EPA	900.0 MQD	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B	WRK	06
	XX	<b>Z4</b>	EPA	904 MOD	WATER, 904 MOD, Radium 228	Q2	Precipitate, Separation - 21 day ingrowth	01	STANDARD TEST SET	PROT: B	WRK	06
	XX	ZY	EPA	903.0 MOD	WATER, 903.0 MQD, Radium 226	Ģ2	Precipitate, Separation - 21 day Ingrowth	01	STANDARD TEST SET	PROT: B	WRK	06
D	XX	Y9	EPA	900.0 MOD	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B	WRK	06
D	XX	Z4	EPA	904 MOD	WATER, 904 MOD, Radium 228	G2	Precipitate, Separation - 21 day ingrowth	01	STANDARD TEST SET	PROT: B	WRK LOC	06
D	XX	ZY	EPA	903.0 MQD	WATER, 903.0 MOD, Radium 226	G2	Precipitate, Separation - 21 day ingrowth	01	STANDARD TEST SET	PROT: B	WRK	06
S	XX	Y9	EPA	900.0 MQD	WATER, 900.0 MOD, Gross A/B	FR	Evaporative Preparation, Total	01	STANDARD TEST SET	PROT: B	WRK	06
S	XX	<b>Z</b> 4	EPA	904 MOD	WATER, 904 MOD, Radium 228	G2	Precipitate, Separation - 21 day ingrowth	01	STANDARD TEST SET	PROT: B	WRK	06
	XX	ZY	EPA	903,0 MOD	WATER, 903.0 MOD, Radium 226	G2	Precipitate, Separation - 21 day ingrowth	01	STANDARD TEST SET	PROT: B	WRK LOC	06
Х	XX	2M	EML	A-01-R MOD	WATER, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: B	WRK LOC	06

13715 Rider Trial North Earth City, MO 63045

Customer Information	Pr	roject Information			Taylor (all tarristants	Anal	yses	/ Method F	Requested	
Project Name Staten Island Wavehouse	Purchase Order		Д	1. QA	<i>I</i> V			·		
PM/ Quote#	Work Order		E	3.						
Company GEO Consultants LK	Bill To		C	<u>.                                    </u>					<del></del>	
Send Report To: Todd Buchanen	Invoice Attn									
Address: 325 Kentucky Ave	Address:	or o	E	<del></del>						
			F		· · · · · · · · · · · · · · · · · · ·					
City/State/Zip Keuil KN 42053	City/State/Zip		G							
Phone 270 462 3882	Phone		F	1						
Fax 270 462 3987	Fax		19498248	সাক্ষা	<u>ा इस्ताहर</u>	<u> इस्त</u> ाल		िस्ट्राप्टर १ ५		The second second
Sx Sample Description Sample Date	Sample Sample Time Matrix	Container Type Preservative	No. of Bottles	а в с	DE	FG	Ų.		Comments	
15W-GW-016FP-02 7-17-11	1345 Water	IL Plashe HNOS	1 2							
2 SIW-C-W-FDUP-08	-			<b>Υ</b>						
351W-GW-UFDIP-04				<u>d L</u>						
451W-GW-FDUP-07		and the same of th								
5 SIW- GW-FDUP-05	-									
6 SIW- GW- FDUP-OCO										
7510-6W-4FD4P-01	<del></del>			x						
8 SIW-GW-UFDUP-02										
95W-C-W-UFDUP-03				1		ŀ				
10 Siw- (-W-05 UFP-04)	0900		14 1	X		\$** -				
Ship	ment Method:	•	ill No.:				Requ	uorsmuT bariu	nd:	
Relinquished		nquished by:		Da	ite	Relinq	uished	by:		Date
Company Name:	Time Com	ipany Name:		Tir	ne	Compa	ny Na	me:		Time
C-ED Cours that K LCC. Received by:	Oタかの Date Recs	eived by:		Da	ite	Recent		112	~	Page 19.1
Company Name:	Time Com	npany Name:		Tin	ne	Compe	ay Ne	77		Timery,

13715 Rider Trial North Earth City, MO 63045

Cu	stomer Information	en in the second	19 15 W 19 19 19 19 19 19 19 19 19 19 19 19 19	P	roject Inform	nation		* 12					An	aly	ses	11	/lethod	Reque	ested		e espesive eguak <del>espesije u espesi</del>
Project Name	Staten Island We	يميولوه فبرجه	Purchas	se Order				A.	1	A	<u> </u>										
PM/ Quote#			Work	Order		· · · · · · · · · · · · · · · · · · ·		В.								y.					
Company	GEO Consulto	ints LUC	811	То				C.												<u></u>	
Send Report To:	Toold Buchanan		Invoic	e Attn				D.									·		<del>-</del>		
Address:	325 Kentucky 1	que	Add	ress:				E.			<del></del>								·		
								F.								<del></del>					· · · · · · · · · · · · · · · · · · ·
City/State/Zip		42053	City/St	ate/Zip		·		G.				- ,					<del>, ,</del>				
Phone	270 462 39	382	Ph	one		<del></del>		H.	····			····					<del></del>				<del></del>
Fax	270 462 36	387		ax			<b>.</b>	1.	1000	1,400	ia.			344	31.1	3974		<del>द्वारासम्बद्धाः</del>	(grossyr	<i>्रिक्ट</i>	ora igna
Sx No. Sam	ple Description	Sample Date	Sample Time	Sample Matrix	Container Type	Preservative	No. of Bottles	Ą	В	Ċ	D	E	F	G	Н	1		Co	mme	nts	
	1-005UFP-03	7-17-11	0900	Water	12 Plaste	HN03	1	X		L											
•	-005UFP-01		0900	Ì				X					_								
	-005 FP-06		0916					X		Ŀ											
	J-005 UFP-02		0900					X		<u> </u>							<del></del>				
	0-005FP-07		0916					X													
	1-005 P-08		0916					X													
	N-005 FP-05		0916	.				X		_											
	W-016 EP-01	6	1345	<b>V</b>	Į.	6	<u>.</u>	X		<u> </u>					_						<del> </del>
9								L					_			_					
10	and the second s																			<del></del>	
	. /	Ship	ment Meth	nod:	\ <i>6</i> -\	Alrbi	II No.:							- 1			d Turnarou	ına:			
Relinquished by	<del>J</del> A	1	Date 7-/8-	- / / Relin	rquished by:	***************************************				Det	e		Relir	nguis	shec	by:					ite
Company Name:	- thuk LC		Time	Com	pany Name:					Tim	e	Ī	Com	pan	y N	me:	1-0			Tir	me
<u>(子ど) Couse</u> Received by:	i-thuts (LC		Date		sived by:					Dat	е	Ī	Rece	No.	M	1	MB			Da	4.19.1
Company Name:		:	Time	Com	pany Name:	<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>	· · · · · · · · · · · · · · · · · · ·			Tim	<b>6</b> :	1	Com	P	7	-e-	7/			Tir	3928

13715 Rider Trial North Earth City, MO 63045

Cus	stomer Inf	ormation			P	roject	Infor	mation				3_ (   <b>3</b> _		1	ınal	/se	s / I	/lethoc	i Rec	juest	ed		
Project Name	Staten	Island	Navelious	Purcha	se Order					A.	2	AD											
PM/ Quote#				Work	Order	ļ				B.												<del></del>	
Company			fants LIC	Bil	То					C.								.,					
Send Report To:	Toold B	nchana	<u> </u>	Invoid	e Attn					D.													
Address:	325 K	infucky	Ave	Add	ress:					E.				····						<u> </u>			
City/State/Zip	Keuil	Κv	42053	CitviS	ate/Zip	ļ	·			G.					·	·	<del></del>					4	
Phone		462 3			one					H.													
Fax	270	462 3	3387	F	ax					1.													
Sx No. Sami	ole Descripti		Sample	Sample: Time	Sample Matrix	Contai	ner Type	Preservative	No. of Bottles	Α	В	C	D		G	Н			•	Comi	nents		
1Siw-GW	-0096	IFP- C				· · · · · · · · · · · · · · · · · · ·	Lajiz	HN03	1	χĢ				1									
2 SIW-GW					MA	1			İ	」					1_								
3 SIW-Gh			I .	1345	Water					تعز													
451W-G-W										X		-									(		
5 51w- Gu										X													
6 9 W-Gh				1206	Water	1				X													
751W-Gh										X					_				······				
8 SIW-GL	J- 009	UFP-C	3 7-17-11	1415	Water					X													
9 Sin - Gi	N-009	UFP-C	2 1-17-11	1415	Water			TELLIA MARIANTE MARIA	- Paracelarian	X				1				-					
10 SIW-GW					. 3	1 .1		业	78	X		$\bot$		i									
7			Ship	ment Meth	od:	\ <i>E</i> }	٠.	Airbi	I No.:							Req	uired	! Tumaro	ound:				
Relinquished by	T J			Date 7-/8-	Relir	nguishe	d by:				ľ	ate		Re	lingu	shec	by:					Date	
Company Name:	16.4	110		Time	Com	pany N	ame:	· · · · · · · · · · · · · · · · · · ·			Ī	me			mpar	_		/	1_			Time	
Received by:	T. 16 TH U. 1.			Date		eived by	/ <u>;</u>	er e e e e e e e e e e e e e e e e e e	·········		C	ate		Re	ceive	SPY.	0	AL	1	_		Dale	7.//
Company Name:				Time	Com	pany N	ame:		····		Ţ	ime		Co	mpar	7		7		·· ,		Times	$ \mathcal{L} $

13715 Rider Trial North Earth City, MO 63045

Customer Information:		roject Inform	nation	e de e <sub>e</sub> speriet.		1989 183 1			An	alys	ses i	Method	l Reques	sted	
Project Name Staten Island Wavelion St	Purchase Order				A.	Pu	∅					·			
PM/ Quote#	Work Order				В.					<del></del>				······	
Company GOO Consultants LC	Bill To				C.										
Send Report To: Toold Bulleman	Invoice Attn				D.		·								
Address: 325 Kentucky Ave	Address:				E.		<del></del> -	· · · · · ·	<del></del>						
					F.				,						
City/State/Zip Kevil Ky 42053	City/State/Zip				G.					<del></del>				- A - A - A - A - A - A - A - A - A - A	
Phone 270 462 3882	Phone		·····		Н.										
Fax 270 462 3487	Fax	1 C. 1 C. 1 C. 1 C. 1 C. 1 C. 1 C. 1 C.	MADER SUSPENSION	\"\"\"\"\"\"\"\"\"\"\"\"\"\"\"\"\"\"\"	1.	> . " \$1 <b>]</b>	S 1933	T COL	FEG.	F # 7 .	रसक्त	TO PROPRIES OF			
Sx Sample Description Date:	Sample Sample Time Matrix		Preservative	No. of Bottles	A	В (	D	E.	F	G	肝 」		Con	nments	
	1415 Water	12 Plastie	HNO3	]	x										
25w-GW-009 FP-01	1415	•			X										
3 SIW-GW-016 UFP-02	1345	# H		design to the second	χ					$\perp$					
451W-GW-010 FMSD-01	1206				Χ̈́		1			1			·		
551W-C-W-01DFMSD-04	1706				X										
651W-GW-016UFP-01	1345				X					_					
751W-CW-010 FMSD-03	1206				X										
851W-GW-016UFP-03	1345 4	4	4	4	X				1						
07						$\Rightarrow$	_			1					
10 1/8/15/1										4		<u> </u>			
Ship	ment Method:	SEX	Airbi	l No.:						ľ	Requi	red Turnar	ound:		
Relinquished	Date   Relii	nquished by:	<del></del>			D	ate		Relin					,	Date
Company Name:	Time Con	npany Name:				Ti	me		Com	pany	Nan	ne:			Time
CPD Course houts LCC Received by:	Date Reco	eived by:		* 1		D	ate		Rece	ed	boff	Wg.			Date 9.11
Company Name:	Time Com	npany Name:			<del>,</del>	<del> </del>	me		Com	pany	1	57			Time 72/

13715 Rider Trial North Earth City, MO 63045

Cu	stomer Inform			त्र र प्रदेशकः व्यक्ताः	P	roject Inform	nation				2 6 7 2 1 2 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	-	An	alys	es/	Met	hod F	Reque	sted		university <u>America</u>
Project Name	Staten Isla	nd Wa	velacise	Purchas	e Order				A.	<u> </u>	49										
PM/ Quote#				Work	Order				B.								<del></del>				
Сотрапу	GEO Co	rsulta:	its LCC	Bill	То				C.		,										<del>, ,</del>
Send Report To:	Toold Buch	anan		Invoic	e Attn				D.											<del>,</del>	
Address:	3205 Kentu	cky A	42	Add	(ess:	A. Service A. Service			E. F.						-	<del>, , , , , , , , , , , , , , , , , , , </del>					
City/State/Zip	Kevil K	24 6	12053	City/St	ate/Zip				G.												,
Phone	270 46	2 38	82	Pho	опе				H.												
Fax	270 46	2 38	87		ax				I.			Sale sud	erozza.	S. 10.		101 T S		120, 240,	3 - <del>4</del> '4 '5 '-	************	0 N 487
Sx No. Sam	ple Description		Sample Date	Sample Time	Sample Matrix	Container Type	Preservative	No. of Bottles	A	В	ם	ε	F	G	н			Cor	nmen	ts	
1 51W-Gh	1-026FA-0	8	7-17-11	l058	Water	12 Picshiz	HNO3		x												
	-026UFP-		İ	1046	Î		1		X					_		<u> </u>	. 4			<del>.,</del>	
- 1	1-023FP-0			1018					$\chi$			_									
,	J-023FP-1		The state of the s	1018					x						_	_					
7 1	U-023FP-			1018		-			X			1:									
	)-026FP			1058					X								-, <del>,</del>	<del></del>			<del></del>
- · ·	J-026 FP-1			(058					X												
	1-026UFP			lo46					X												<del></del>
	U-023FP-			10/8			i i		x								,				
	3-023UFF		4	201-1	W	J	4	<u>ا</u> ل	X							_L_					
101 JUN 0 0		<del></del>	Ship	meni Meth	od:	~ ~~~	Airb	il No.:						F	egui	red Ti	ımarou	nd;			
Relinquished	<del>/</del> 8		<u></u>	Date 7-/8-	Reli	nquished by:				D	ate		Relin							Date	
Company Name:	- 16, 616	دم	<del></del>	Time	Con	ipany Name:				T	ime	:	Com	1	Nam	ne:	1-			Tim	<u> </u>
Received by:	2 2 23 24 2 2 2 2 2			Date	Rec	eived by:				D	ale		Reco	II.	1	H /	13			1991	19.
Company Name:		<del></del>	<u>-</u>	Time	Con	ipany Name;	<del></del>	<del></del>		T	ime		Com	pany	Man	K	17			Time	192

13715 Rider Trial North Earth City, MO 63045

	stomer Information	ſ			<del>                                     </del>	nation		A.		4 1						Requested	
Project Name	Staten Island War	velion St						<del> </del>	1-1/	70	<del></del>	<del></del>					
PM/ Quote#		E Fra		Order		.,		B.			<del></del>	<del></del>				<del> </del>	
Company	GOO Consulta.	ats LUC	Bill	То		····		C.			·		<del></del>				
end Report To:	Told Buchenan		Invoid	e Attn				D.			<del>.</del>				·····		
Address:	3205 Kentucky A	-ve	Add	ress:	Addition of the state of the st			<u>E.</u> F.			<del></del>		<del></del>				
City/State/Zip	Kevil Ky	12053	City/St	tate/Zip				G.									
Phone	270 462 38	୫ଅ	Ph	one				Н.									
Fax	270.462 38	87	f	ах			···	1.				****		1775 <b>4</b>		<del>(2019) S</del> ON SON SON SON SON SON SON SON SON SON S	
X Sam	ple Description	Sample Date	Sample Time	Sample Matrix		Preservative	No. of Bottles	A	В	Ċ E	E	F	G	.H.		Comment	<b>S</b> .
1 SIW-G	W-023UFP-03	7-17-11	0955	Wata	16 Plants	HN03	ţ	X				-		_			
2 SIW-GL	u-023UFP-01		0955	Ì			-	X		_	-	ļ		_			,
3 SIW-GW	1-0234FP-02		0955					X			+						
1	0-026UFP-04		1046					X			_	<u> </u>					<del></del>
	J-026UFP-02		1046					X				<u> </u>		_			
	N-010FMS-03		1706					X									
	N-026FP-07	V	/058	4	D d	4	بز	X				_			***************************************		
8	•							\									
9	- Barth	1		/					1								
0										1							
<u> </u>		Ship	ment Met	nod:	SEX.	Airb	II No.:				76				uired Turnard	und:	· · · · · · · · · · · · · · · · · · ·
linquished (4)		1	Date 7-18	- / / Reli	nquished by:					Date		1	inquis				Date Time
mpany Name:	sithets LCC		Time ()タカ	0	ipany Name:					ime		1	npan	2	inie:	<u></u>	Time
ceived by:		.,	Date		eived by:					Date		1 ,	elve	6	NID		7.19
mpany Name:			Time	Com	npany Name:				Ī	ime		Co	npan	1	951/		109

13715 Rider Trial North Earth City, MO 63045

Cü	stomer Informat	ion		Tagar Va		P	roject Inform	nation			*****	orest tour		77-1919; 	An	alys	es	ľΜ	lethod Re	equeste	d	an ta yan aharid Safati da a
Project Name	Staten Islan	d Wa	ہولرہ	u Se	Purcha	se Order					A.				<u>.</u>							
PM/ Quote#					Work	Order					B.											
Company	G50 Con	salle.	<u>.ts</u>	LIC	Bil	То		<del>- 44</del>			C.								· · · · · · · · · · · · · · · · · · ·		<u></u>	
Send Report To:	Todd Buche	nan				e Attn					D.	······									<del></del> ;	
Address:	325 Kenfue	.ky A	ve		Add	ress:	***************************************				E.	<del></del>	+		· · · · · ·			<u>-</u>	<del></del>	<del></del>		
								·····			F.	. ,										
City/State/Zip	Kevil K		120			ate/Zip	<u> </u>				G.						<del></del>					
Phone	270 462	38	<u>82</u>	,		опе			<del></del>		Н.							-		64 (*)		
Fax	270 462	_ 58 	San	m)a'	F Sample	ax Sample				No. of		<u> </u>	134				3.15		organizacija Solodi i sel	Comp	onto	
Sx No. Sam	ple Description		. Da		Time	Matrix	Container Type	Preserva	itive	Bottles	Α	вс	D	Ŀ	F	G	H			COMM	IEIKS	
1 Slw-6-6	J-010 FMS	02	7-17	I-11	1206	Water	11 Plastiz	HNO	3 .	1	X					$\bot$	_	1	· · · · · · · · · · · · · · · · · · ·			<del></del>
	)-016UFM	3 to "			1						X					_						
	J-010UFMS										X					_		1				
	J-DIDUFMS		-						.,,		X					_	_ -	_				
1.	-olohFP-i										X					$\perp$		1			···	
	-010UFP-01	1									$ \mathbf{x} $							_				
	o-oldu FMS-										X											
	)-010/1FM4										X										<del></del>	
	D-010FMSD										X					.						
	-010FMS-1		,	ارا	3	J.	1	4	·	الم	X											
1012(M) GW	OIOFIC	<u> </u>	L	Ship	ment Met	od:		1	Airbi	ll No.:						1	₹equ	ired	i Turnaroun	d:		
Relinquished (1975)			!		Date 7-/%	Rel	7∆ ∈ X inquished by:		1			Da	te		Relin	nquis	hed	by:				Date
2 2					Time	lCor	mpany Name:					Tir	ne		Com	pany	Nar	ne:				Time
	sabut 10				090	OL	ceived by:	<del> </del>				Da	ite.		Rece	Vez	byi	1	MX			Data 19
Received by:					Date		-		· 							24		10	o ja		· · · · · · · · · · · · · · · · · · ·	11/4/ Time 200
Сотрапу Nате:			********		Time	Cor	npany Name:					Tir	ne		Com	Pan	1	<b>J</b> /				072

13715 Rider Trial North Earth City, MO 63045

Custome	Information		en signada. No la per	P	roject Inform	nation		F, 11 17			agraphic Service	Α	nal	yses	s / N	/lethoc	Requ	iested		originario Non como
	n Island Wa							A.	Pu	40									·	· · · · · · · · · · · · · · · · · · ·
PM/ Quote#			Work	Order				B.										<del></del>	<u></u>	
Company GG	D Consulta	uts LCC	Bill	То				C.				· · · · · · · · ·		<del></del>	<del>,</del>					
Send Report To: Toolo	Buchanan		Invoic	e Attn				D.			<del></del>									
Address: 325	Kentucky A	lve	Add	ress:		• •		E.									- m.:	<del></del>		,
***								F.											<del> </del>	
City/State/Zip Keur	L KY	42053	City/St	ate/Zip				G.	بحديدس											
Phone 27	0 462 38	82	Pho	one				Н.												og Sagara
Fax 270	5 462 38	87		ax				I.	بوجودي				<b>क</b> टर र	T 1.1. 1	era era			*_************	ing segal	
Sx Sample Desc		Sample Date	Sample Time	Sample Matrix		Preservative	No. of Bottles	A	B.	c i	D. E	F	G	H	·I		C	omme	nts	
1 SW-GW-010	FA-04	7-17+11	1206	1 No fee	- 12 Plastic	11NO2	ļ	x												
251W-GW-010		1		1	1		1	X												· · · · · · · · · · · · · · · · · · ·
i i								X												
351W-G-W-010								$ \mathbf{x} $			1									
4 SIW- GW-01								X		1	1	7	1							
5 SIW-6W-01	b 4H-01								+	$\dashv$	+	1	1							
64W-CM-01	ourms-or	<del>                                     </del>						<del>[                                    </del>		+	+		-						<del></del>	
751W-6W-010	ufmso-04	<u> </u>						X	_		+	-	+	-						
851W-6-W-016	FP-01				<u> </u>			X		_	_	4	-							
9 SIW-6-W-D	10 FP-03	1	6	4	1 6	4	مل ا	X				1				0.7	<u> </u>			
10		1								上	上	上	上			1 /	3/15/	11		
		Ship	ment Meth	nod:	N 57	Airb	ll No.:								•	d Turnar	ouna:			
Relinquished/69	<del>B</del>		Date 7-/8-	Reli	inquished by:					ate		Re	linqu	ished	d by:		<u> </u>			ate
Company Name:	1-110		Time	Con	npany Name:				7	ime		Co	mpa	ny Na <b>7</b>	ame:			, ".	T	ime
Received by:			Date		ceived by:					ate		Re	N/	ed by	H	18			0	219
Company Name:			Time	Con	npany Name:	and the same			Ī	ime	<del></del>	Co	mpa	17	5	7			T	772

TactAme	rica	Lot #(s):					
			<u> </u>	19049	01, 473		
THE LEADER IN ENVIRONME	NTAL TESTING CUR Form #:	<u> 247</u> *	-/G	140404	0,479	·	
CONDITION U	PON RECEIPT FORM	CONTRACT OF THE PARTY OF THE PA		<u> </u>	<u> </u>		
Client:	~	作		474			
Quote No:	Q9199	هرا					
•	SEE BELOW						
	1			7/0/4		AQDA	
Initiated By: W	0		Date:	7/18/11	Tim	e: <u>0920</u>	<del></del>
		Shipping I					<b>.</b>
• • • • • • • • • • • • • • • • • • • •	edEx UPS DHL Courier	Client	Other: _		-	Packages: Y	N
Shipping # (s):*	· · · · · · · · · · · · · · · · · · ·	ma 100	الرسالع الم		ample Temperati		
1. <u>7973 127</u>		13 127	<u> </u>	72	(	T 6. Außie	<u>:N1</u>
2.	4672 7.			59/	2.	1	
3.	4937 8.		<del></del>	709	3.	— 8. — <b>—</b>	
4.	4558 9. V	$\angle$ $V$		1812	4.	9, 1	······································
5.	<u> </u>	***	Sample m	ust he received at 4°	5,	10. contents below. Temp	verature
*Numbered shipping lines	correspond to Numbered Sample Temp li	nes var	iance doe			uid; Rad tests- Liquid o	
Condition (Circle "Y"	for yes, "N" for no and "N/A" for not appl		chlorate				
I (Y) N	Are there custody seals present of		8.	Y (N)	Are there custo	dy seals present on	bottles?
	cooler?  Do custody seals on cooler appe	ar to be				ils on bottles appea	
2. Y N/A	tampered with?		9.	Y N (N/A)	tampered with?	}	
3. N .	Were contents of cooler frisked opening, but before unpacking?	after	10.	Y N N/A	not, make note bel		
4. Ø N	Sample received with Chain of C		11.	Y N N/A		C-14, H-3 & I-129 Do Not Preserve" l	
5. Ŷ N N/A	Does the Chain of Custody mate ID's on the container(s)?	h sample	12.	Ø N	Sample receive	ed in proper contair	ners?
6, Y N	Was sample received broken?		13.	Y N N/A	Headspace in \ (If Yes, note sam)	VOA or TOX liquio ple ID`s below)	d samples?
7. (Y) N	Is sample volume sufficient for	· •	14.	Y N N/A	·	COC/Workshare rec	eived?
For DOE-AL (Pantex, L Notes: 1971/14	ANL. Sandia) sites, pH of ALL containers 197115, 189478, 18	received must			OX, Oil & Grease a		481
189474 1891	475 189476 197117	197121	1894	183 1894	92 19712	3 197119 10	37/1/2
12/1/10/1	1.2,1011,0,00011,	11100)		reg wire	)		7
DF=Un=	utered ===	Fulter	rect.				
09F-01-	02,-03-04-	the	Se . 1	oure to	ne 31	ownered	<u> </u>
totally	4 liters 5	1/15	1.	muss c	500 th	e vou	2
Danna	and P.USAM	SDA	100	garne	- VB &	e do	
6400	Arotho any	NO	77 \	M Dla	2001	7	
	III DONING	1	Carpellar Can	au Su	J- NEF- 17	D IS UNE	Hood
Corrective Action:	DUT HIGH	<u> </u>	4	100 S	edument	in the bot	the F
Client Contact ?			Info	med by:	5945	unfittere	<u>a on</u>
Sample(s) proce Sample(s) on ho		Ιf	released	l, notify:	ebacks,	MATICA	/ 11
Project Managemen			10104500	Date:			
THIS FORM MUST BE CO		BEING CHECKE	DIN. IF A	NY ITEM IS COMPL	ETED BY SOMEONE	OTHER THAN THE INI	MATOR, THEN

THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM
ADMIN-0004 rev13, REVISED 05/27/11 \\Sisvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin-0004 CUR.doc

## **CLIENT ANALYSIS SUMMARY**

Storage Loc:

RAD

Expanded Deliverable

Date Received:

2011-07-19

Project:

Project Manager: LMF

Quote #: 89198 SIW Staten Island, NY SDG: 08302011

Analytical Due Date: Report Due Date:

2011-08-09

PO#:

20110007

Report to: Todd Buchanan

Report Type: D

2011-08-10

Client:

509018

GEO Consultants LLC

#SI

00

	MPS in LOT:	36	EDD Code:	C
--	-------------	----	-----------	---

CRM	DOE	#6d	Rev

SAMPLE#	CLIE	ENT SAMPI	LE ID Site	<u>ID</u>	Client Matrix	DATI	E/TI	ME SAMPLED	WORKORDE	<u>R</u>	Δ
1	SIW-	SS-001P-0	.0-2.0 7973	12714	1591	2011-	07-	16 / 838	MK1RJ	SC	LID
SAMPLE C	OMME	NTS:								-	, , , ,
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	1	01	STANDARD TEST SET	PROT: A WI	RK OC	06
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry - day in-growth	> 21	01	STANDARD TEST SET	PROT: C WI	RK	06
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	ı	01	STANDARD TEST SET	PROT: C WI	RK	06
SAMPLE#	CLIE	ENT SAMPI	LE ID Site	<u>ID</u>	Client Matrix	DATI	E/TI	ME SAMPLED	WORKORDE	R	A
2	SIW-	SS-002P-0	.0-2.0 7973	12714	1591	2011-	07-	16 / 900	MK1RK	SC	DLID
SAMPLE C	OMME	NTS:									
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	1	01	STANDARD TEST SET			06
XX 0B	EML	GA-01-R	SOLID, GA-01-R MOD, Gamma	J9	Dry, Grind, and Fill Geometry -	> 21	01	STANDARD TEST SET		RK	06
XX 2M	EML	MOD A-01-R	Ra-226 & Hits SOLID, A-01-R MOD, Iso U	J2	day in-growth Extraction Chromatography -		01	STANDARD TEST SET	PROT: C WI		06
		MOD	(LONG CT)		Sequential Actinides			THE STATE OF THE S	LC		
SAMPLE #	CLIE	ENT SAMPI	_E ID Site	<u>ID</u>	Client Matrix	DAT	E/T	ME SAMPLED	WORKORDE	<u>R</u>	Α
}	SIW-	SS-003P-0	.0-2.0 7973	31271	4591	2011-	07-	15 / 1810	MK1RL	SC	DLID
SAMPLE C	OMME										
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN		01	STANDARD TEST SET	PROT: A WI		06
XX 0B	EML	GA-01-R	SOLID, GA-01-R MOD, Gamma	J9	Dry, Grind, and Fill Geometry -	> 21	01	STANDARD TEST SET	PROT: C W	RK	06
XX 2M	EML	MOD A-01-R MOD	Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	J2	day in-growth Extraction Chromatography - Sequential Actinides		01	STANDARD TEST SET	PROT: C WI	RK	06
SAMPLE#	CLIE	NT SAMPL	_E ID Site	<u>ID</u>	Client Matrix	DAT	E/T	ME SAMPLED	WORKORDE	<u>R</u>	Α
1	SIW-	SS-004P-0.	.0-2.0 7973	12714	1591	2011-	07-	15 / 1600	MK1RM	SC	DLID
SAMPLE C	OMME	NTS:									
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD	RA	IN-HOUSE RAD		01	STANDARD TEST SET			06
XX 0B	EML	GA-01-R	SCREEN, Special L SOLID, GA-01-R MOD, Gamma	J9	SCREEN Dry, Grind, and Fill Geometry -	> 21	01	STANDARD TEST SET		RK	06
XX 2M	EML	MOD A-01-R MOD	Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	J2	day in-growth Extraction Chromatography - Sequential Actinides		01	STANDARD TEST SET	PROT: C W	DC RK	06
SAMPLE#	CLIE	NT SAMPL	_E ID Site	ID	Client Matrix	DAT	E/T	IME SAMPLED	WORKORDE		Δ
i	SIW-	SS-005P-0.	.0-2.0 7973	12714	1591	2011-	07-	16 / 840	MK1RN	 _sc	_ DLID
SAMPLE C			7070		· <del></del> ·	~011	J1 -	.0, 010	MIXITAL	50	, ., .,
XX ZV		RAD	SOLID, RAD SCREEN, RAD	RA	IN-HOUSE RAD		01	STANDARD TEST SET	PROT: A W	RK	06
XX 0B	EML	SCREEN GA-01-R	SCREEN, Special L SOLID, GA-01-R MOD, Gamma	JΩ	SCREEN  Dry, Grind, and Fill Geometry -		01	STANDARD TEST SET	LC	DC RK	
	EML	MOD A-01-R	Ra-226 & Hits		day in-growth		-		LC	C	
XX 2M	LIVIL	MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides		01 ——	STANDARD TEST SET		RK	06
SAMPLE #	CLIE	NT SAMPL	_E ID Site	<u>ID</u>	Client Matrix	DAT	E/T	IME SAMPLED	WORKORDE	R	<u>A</u>
<b>3</b>		SS-006P-0.	.0-2.0 7973	31271	4591	2011-	07-	15 / 1606	MK1RP	SC	DLID
SAMPLE C	OMME	<u> </u>									
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN		01	STANDARD TEST SET		RK DC	06
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry - day in-growth	> 21	01	STANDARD TEST SET	PROT: C W	RK	06
XX 2M	EML	A-01-R	SOLID, A-01-R MOD, Iso U	J2	Extraction Chromatography -		01	STANDARD TEST SET	PROT: C W		06
		MOD	(LONG CT)		Sequential Actinides					oc	

## **CLIENT ANALYSIS SUMMARY**

Storage Loc:

**RAD** 

Project Manager: LMF

Quote #: 89198

SDG: 08302011

Date Received: Analytical Due Date:

Report Due Date:

2011-07-19 2011-08-09

Project: PO#:

20110007

SIW Staten Island, NY

Report to: Todd Buchanan

Report Type: D

2011-08-10 Expanded Deliverable

Client:

509018

GEO Consultants LLC

#SMPS in LOT: 36

EDD Code: 00

SAMPLE #	CLIE	NT SAMPI	<u>EID</u> S	ite ID	Client Matrix	DATE/T	IME SAMPLED	WORKORDE	R A
7	SIW-S	SS-007P-0.	.0-2.0 7	9731271	4591	2011-07-	15 / 1802	MK1RR	SOLID
SAMPLE (	COMME	NTS:							
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L		IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	LC	
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gam Ra-226 & Hits	ma <b>J9</b>	Dry, Grind, and Fill Geometry - day in-growth	> 21 01	STANDARD TEST SET	PROT: C WI	RK 06
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C W	RK 06
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gam Ra-226 & Hits	ma <b>J9</b>	Dry, Grind, and Fill Geometry - day in-growth	> 21 01	STANDARD TEST SET	PROT: C WI	RK 06
SAMPLE #	CLIE	NT SAMPL	<u>EID</u> <u>S</u>	ite ID	Client Matrix	DATE/T	IME SAMPLED	WORKORDE	R A
8	SIW-S	SS-008P-0.	.0-2.0 7	9731271	4591	2011-07-	16 / 1050	MK1RT	SOLID
SAMPLE O	OMME	NTS:							
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		RK 06
XX 0B	EML	GA-01-R	SCREEN, Special L SOLID, GA-01-R MOD, Gam	ma <b>J9</b>	Dry, Grind, and Fill Geometry -	> 21 01	STANDARD TEST SET		RK 06
XX 2M	EML	MOD A-01-R MOD	Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	J2	day In-growth  Extraction Chromatography -	01	STANDARD TEST SET		RK 06
CAMDIE			- Military described in the second se	Ho ID	Sequential Actinides	DATE /T		LO	
SAMPLE #	• •	NT SAMPL		ite ID	<u>Client Matrix</u>		IME SAMPLED	WORKORDE	
9		SS-009P-0.	.0-2.0 7	9731271	4591	2011-07-	16 / 1105	MK1RV	SOLID
SAMPLE C	COMME	NTS: RAD	COLID DAD CODEEN DAD		IN HOLIOC DAD		OTANDADD TEST SET	nno- · · · · ·	nu oc
XX ZV		SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	10.1	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	LC	RK 06
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gam Ra-226 & Hits	ma <b>J9</b>	Dry, Grind, and Fill Geometry - day in-growth	> 21 01	STANDARD TEST SET	PROT; C W	RK 06
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		RK 06
SAMPLE #	CLIE	NT SAMPL	_E ID S	ite ID	Client Matrix	DATE/T	IME SAMPLED	WORKORDE	<u>R</u> <u>A</u>
10	SIW-S	SS-010P-0.	.0-2.0 7	9731271	4591	2011-07-	15 / 1745	MK1RW	SOLID
SAMPLE C	OMME	NTS:							
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		RK 06
XX 0B	EML.	GA-01-R	SOLID, GA-01-R MOD, Gam	ma <b>J9</b>	Dry, Grind, and Fill Geometry -	> 21 01	STANDARD TEST SET		rk 06
XX 2M	EML	MOD A-01-R MOD	Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	J2	day in-growth Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		RK 06
					Codacilia Vollilace			LC	,
SAMPLE #	CLIE	<u>NT SAMPL</u>	<u>EID</u> <u>S</u>	ite ID	Client Matrix	DATE/T	IME SAMPLED	WORKORDE	<u>R</u> A
11	SIW-S	SS-011P-0.	0-2.0 7	9731271	4591	2011-07-	16 / 815	MK1RX	SOLID
SAMPLE C									
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A W	RK 06
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gam Ra-226 & Hits	ma <b>J9</b>	Dry, Grind, and Fill Geometry - day in-growth	> 21 <b>01</b>	STANDARD TEST SET		rk 06
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		rk 06
SAMPLE #	CLIE	NT SAMPL	EID S	ite ID	Client Matrix	DATE/I	IME SAMPLED	WORKORDE	R A
12	SIW-S	SS-012P-0.	0-2.0 7	9731271	4591	2011-07-	16 / 825	MK1R0	SOLID
SAMPLE C									
XX ZV		RAD	SOLID, RAD SCREEN, RAD	RA	IN-HOUSE RAD	01	STANDARD TEST SET		RK 06
XX 0B	EML	SCREEN GA-01-R	SCREEN, Special L SOLID, GA-01-R MOD, Gam	ma <b>J9</b>	SCREEN  Dry, Grind, and Fill Geometry -	> 21 <b>01</b>	STANDARD TEST SET		ос RK 06
VV AD	<b></b>	MOD	Ra-226 & Hits	- 09	day in-growth	01			OC OB

## **CLIENT ANALYSIS SUMMARY**

SDG: 08302011

Storage Loc: RAD

Date Received:

2011-07-19

Analytical Due Date: 2011-08-09

Report Due Date: 2011-08-10

Expanded Deliverable

Project: PO#:

Client:

20110007

509018

Project Manager: LMF Quote #: 89198 SIW Staten Island, NY

GEO Consultants LLC

Report to: Todd Buchanan

#SMPS in LOT: 36

Report Type: D EDD Code: 00

SAMPLE COMMENTS:   SALID RAD SOIGEN, RAD   IGEN, RAD SOIGEN, RAD														
SAMPLE COMMENTS:   SOLID RAD SCREEN, RAD	XX	2M	EML			U	J2			01	STANDARD TEST SET			06
SAMPLE COMMENTS:   SAMPLE   SOLID, AD STREEN RAD   SCREEN RAD   SCR	SAME	LE#	CLIE	NT SAMPL	<u>E ID</u>	Site ID		Client Matrix	DA	TE/TI	ME SAMPLED	WORKORE	ER	A
XX	13		SIW-S	SS-013P-0.	0-2.0	79731	271	4591	201	1-07-	16 / 1030	MK1R1	S	OLID
SCREEN   SCREEN	SAMP	LE C	OMME	NTS:										
XX	XX	ΖV				AD	RA			01	STANDARD TEST SET			06
XX	XX	0B	EML	GA-01-R	SOLID, GA-01-R MOD, G	amma	J9	Dry, Grind, and Fill Geometry -	> 21	01	STANDARD TEST SET	PROT: C	WRK	06
XX	XX	2M	EML	A-01-R	SOLID, A-01-R MOD, Iso	U	J2	Extraction Chromatography -		01	STANDARD TEST SET			06
MOD	ХХ	2M	EML			U	.12	•		01	STANDARD TEST SET			
AMPLE COMMENTS:				MOD	(LONG CT)			Sequential Actinides						
SAMPLE COMMENTS:   XX ZV	SAMP	LE#	CLIE	NT SAMPL	<u>.E ID</u>	Site ID		Client Matrix	DA	TE/T	ME SAMPLED	WORKORE	<u>ER</u>	A
XX	14		SIW-S	SS-014P-0.	0-2.0	797312	2714	591	201	1-07-	16 / 850	MK1R5	S	OLID
SCREEN Special L   SCREEN SPECIAL SPECIA	SAMP	LE C	OMME	NTS:										
XX   0B   EML   Ad-I = Ad-I = Ad-I = Ad-I = ADD   AD	XX	Z۷				AD	RA			01	STANDARD TEST SET			06
XX	XX	0B	EML	GA-01-R	SOLID, GA-01-R MOD, G	amma .	J9	Dry, Grind, and Fill Geometry -	> 21	01	STANDARD TEST SET	PROT: C	WRK	06
SIW-SS-015P-0.0-2.0	XX	2M	EML	A-01-R	SOLID, A-01-R MOD, Iso	U .	J2	Extraction Chromatography -		01	STANDARD TEST SET	PROT: C	WRK	06
SAMPLE COMMENTS:   SOLID, RAD SCREEN, RAD   SCREEN, Special L   SCREEN	SAMP	LE#	CLIE	NT SAMPL	<u>E ID</u>	Site ID		Client Matrix	DA	TE/T	IME SAMPLED	WORKORE	<u>)ER</u>	Α
XX	15		SIW-S	SS-015P-0.	0-2.0	79731	271	4591	201	1-07-	16 / 1045	MK1R6	S	OLID
XX	SAMP	LE C	OMME											
XX   QB   EML   A-01-R   SOLID, GA-01-R MOD, Iso U   J2   Sequential Actinides   SAMPLE #   CLIENT SAMPLE ID   Site ID   Site ID   Client Matrix   DATE/TIME SAMPLED   WORKORDER   A   SOLID A-01-R MOD, Iso U   J2   Sequential Actinides   SAMPLE #   CLIENT SAMPLE ID   Site ID   Client Matrix   DATE/TIME SAMPLED   WORKORDER   A   SCREEN   SOLID, RAD SCREEN, RAD   SCREEN   MOD   MOD   SOLID, RAD SCREEN, RAD   SCREEN   MOD   SAMPLE #   CLIENT SAMPLE ID   Site ID   Client Matrix   DATE/TIME SAMPLED   WORKORDER   A   SAMPLE #   CLIENT SAMPLE ID   Site ID   Client Matrix   DATE/TIME SAMPLED   WORKORDER   A   SAMPLE #   CLIENT SAMPLE ID   Site ID   Client Matrix   DATE/TIME SAMPLED   WORKORDER   A   SCREEN   SAMPLE #   CLIENT SAMPLE ID   Site ID   Client Matrix   DATE/TIME SAMPLED   WORKORDER   A   SCREEN   SAMPLE #   CLIENT SAMPLE ID   Site ID   Client Matrix   DATE/TIME SAMPLED   WORKORDER   A   SAMPLE #   CLIENT SAMPLE ID   Site ID   Client Matrix   DATE/TIME SAMPLED   WORKORDER   A   SAMPLE #   CLIENT SAMPLE ID   Site ID   Client Matrix   DATE/TIME SAMPLED   WORKORDER   A   SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad SCREEN   Social Rad Screen   Social Ra	XX	ΖV				AD	RA			01	STANDARD TEST SET			06
XX	XX	0B	EML			amma .	J9	Dry, Grind, and Fill Geometry -	> 21	01	STANDARD TEST SET	PROT: C	WRK	06
SIW-SS-016P-0.0-2.0	XX	2M	EML	A-01-R	SOLID, A-01-R MOD, Iso	U	J2	Extraction Chromatography -		01	STANDARD TEST SET	PROT: C	WRK	06
SAMPLE COMMENTS:	SAMP	LE #	CLIE	NT SAMPL	<u>E ID</u>	Site ID		Client Matrix	DA	TE/T	IME SAMPLED	WORKORE	<u>)ER</u>	<u>A</u>
XX   ZV	16		SIW-S	S-016P-0.	0-2.0	797312	2714	591	201	1-07-	16 / 1038	MK1R7	S	OLID
SCREEN   SCREEN   SCREEN   Special L   SCREEN	SAMP	LE C	OMME	NTS:										
XX 0B         EML MOD         GA-01-R MOD, Ga-01-R MOD, Gamma Ra-226 & Hilts         J9 Grind, and Fill Geometry → 21 01 STANDARD TEST SET MOD (aly In-growth Gay	XX	ΖV				AD	RA			01	STANDARD TEST SET	PROT: A		06
XX   2M   EML   A-01-R   SOLID, A-01-R MOD, Iso U   J2   Extraction Chromatography-Sequential Actinides   O1   STANDARD TEST SET   PROT: C   WRK   O6   WORKORDER   A   O7   SIW-SS-017P-0.0-2.0   797312714591   2011-07-16 / 910   MK1R8   SOLID   SAMPLE COMMENTS:   XX   ZV   RAD   SOLID, RAD SCREEN, RAD   RAD   SOLID, GA-01-R MOD, Iso U   J2   Extraction Chromatography-Sequential Actinides   O1   STANDARD TEST SET   PROT: A   WRK   O6   WORKORDER   A   WRK   O6   WORKORDER   A   WRK   O6   WORKORDER   A   WRK   O6   WORKORDER   A   WRK   O6   WORKORDER   A   WRK   O6   WORKORDER   A   WRK   O6   WORKORDER   A   WRK   O6   WORKORDER   A   WORKORDE	XX	0B	EML	GA-01-R	SOLID, GA-01-R MOD, G	amma	J9	Dry, Grind, and Fill Geometry -	> 21	01	STANDARD TEST SET	PROT: C	WRK	06
SIW-SS-017P-0.0-2.0	ХХ	2M	EML	A-01-R	SOLID, A-01-R MOD, Iso	U .	J2	Extraction Chromatography -		01	STANDARD TEST SET	PROT: C	WRK	06
SAMPLE COMMENTS:  XX ZV RAD SOLID, RAD SCREEN, RAD SCREEN, RAD SCREEN, Special L SCREEN SCREEN, Special L SCREEN SCREEN, Special L SCREEN SCRE	SAMP	LE#	CLIE	NT SAMPL	<u>.E ID</u>	Site ID		Client Matrix	DA	TE/T	IME SAMPLED	WORKORE	DER	Α
SAMPLE COMMENTS:  XX ZV RAD SOLID, RAD SCREEN, RAD SCREEN, RAD SCREEN, Special L SCREEN SCREEN, Special L SCREEN SCREEN, Special L SCREEN SCRE	17		SIW-S	S-017P-0.	0-2.0	797312	2714	591	201	1-07-	16/910	MK1R8	s	OLID
SCREEN SCREEN, Special L  XX 0B EML GA-01-R SOLID, GA-01-R MOD, Gamma Ra-226 & Hilts  XX 2M EML A-01-R SOLID, A-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, A-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, A-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, A-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, A-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, A-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, A-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, A-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, A-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, A-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, A-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U (LONG CT)  XX 2M EML A-01-R SOLID, GA-01-R MOD, Iso U	SAMP	LE C	OMME	NTS:										
XX         0B         EML MOD Ra-226 & Hits MOD Ra-226 & Hits         J9 SOLID, A-01-R MOD, Iso U J2         Dry, Grind, and Fill Geometry -> 21 O1 STANDARD TEST SET MOD         PROT: C WRK LOC WRK LOC WRK LOC WRK LOC         06 LOC WRK LOC WRK LOC           XX         2M         EML A-01-R MOD SOLID, A-01-R MOD, Iso U (LONG CT)         J2         Extraction Chromatography Sequential Actinides         01 STANDARD TEST SET         PROT: C WRK LOC WRK LOC         06           SAMPLE #         CLIENT SAMPLE ID         Site ID         Client Matrix         DATE/TIME SAMPLED         WORKORDER A         A           I8         SIW-SS-018P-0.0-2.0         797312714591         2011-07-16 / 1112         MK1R9 SOLID         SOLID RAD SCREEN, RAD RA         IN-HOUSE RAD         01 STANDARD TEST SET         PROT: A WRK 06	XX	ΖV				AD	RA			01	STANDARD TEST SET	PROT: A		06
XX 2M EML A-01-R MOD SOLID, A-01-R MOD, Iso U J2 Extraction Chromatography-Sequential Actinides 01 STANDARD TEST SET PROT: C WRK LOC W	XX	0B	EML	GA-01-R	SOLID, GA-01-R MOD, G	amma	J9	Dry, Grind, and Fill Geometry -	-> 21	01	STANDARD TEST SET	PROT: C	WRK	06
8	ХХ	2M	EML	A-01-R	SOLID, A-01-R MOD, Iso	U	J2	Extraction Chromatography -		01	STANDARD TEST SET	PROT: C	WRK	06
8 SIW-SS-018P-0.0-2.0 797312714591 2011-07-16 / 1112 MK1R9 SOLID SAMPLE COMMENTS:  XX ZV RAD SOLID, RAD SCREEN, RAD RA IN-HOUSE RAD 01 STANDARD TEST SET PROT: A WRK 06	SAMP	LE#	CLIE	NT SAMPL	E ID	Site ID		Client Matrix	DA	TE/T	IME SAMPLED	WORKORI	DER	Α
SAMPLE COMMENTS:  XX ZV RAD SOLID, RAD SCREEN, RAD RA IN-HOUSE RAD 01 STANDARD TEST SET PROT: A WRK 06	18		SIW-S	S-018P-0.	0-2.0	797312	714	591	201	1-07-	16/ 1112	MK1R9	s	OLID
ODEEN CORES OF THE CONTRACT OF	SAMP	LE C											_	
	ХХ	ΖV				AD	RA			01	STANDARD TEST SET	PROT: A		06

## **CLIENT ANALYSIS SUMMARY**

Storage Loc: Date Received:

2011-07-19

RAD

Expanded Deliverable

Project Manager: LMF

Quote #: 89198

GEO Consultants LLC

SDG: 08302011

2011-08-09

Project:

20110007

SIW Staten Island, NY

Analytical Due Date: Report Due Date:

2011-08-10

PO#: Client:

509018

Report to: Todd Buchanan

Report Type: D

#SMPS in LOT: 36

EDD Code: 00

		`		Politonionius MMO		#S	MPS in L	OT: 36 EDD Co	ode: 00		
RM DOI	E #6d F	Rev 1									
XX	0B	EML	GA-01-R	SOLID, GA-01-R MOD, Gamr	na <b>J9</b>	Dry, Grind, and Fill Geometry -	> 21 <b>01</b>	STANDARD TEST SET	PROT: C	WRK	06
XX		EML	MOD A-01-R	Ra-226 & Hits SOLID, A-01-R MOD, Iso U	J2	day in-growth  Extraction Chromatography -	01	STANDARD TEST SET	PROT: C	LOC	06
XX	2M	EML	MOD A-01-R	(LONG CT) SOLID, A-01-R MOD, Iso U		Sequential Actinides Extraction Chromatography -		STANDARD TEST SET		LOC	
		EML	MOD A-01-R	(LONG CT) SOLID, A-01-R MOD, Iso U	J2	Sequential Actinides Extraction Chromatography -	01		PROT: C	WRK LOC	06
XX	2M		MOD	(LONG CT)	J2	Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK LOC	06
XX		EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK LOC	06
XX		EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK LOC	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK LOC	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK LOC	06
SAMP	LE#	CLIE	NT SAMPI	_E ID Sit	te ID	Client Matrix	DATE/T	IME SAMPLED	WORKORE	<u>DER</u>	A
19			SS-019P-0	.0-2.0 79	7312714	1591	2011-07-	15 / 1800	MK1TA	S	OLID
		OMME		COLID DAD CODERN DATE		IN HOUSE DAS	_	OWALINA DO 1			
XX			RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX		EML.	GA-01-R MOD	SOLID, GA-01-R MOD, Gamn Ra-226 & Hits	na <b>J9</b>	Dry, Grind, and FIII Geometry -> day in-growth	<sup>21</sup> <b>01</b>	STANDARD TEST SET	PROT: C	WRK LOC	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK LOC	06
SAMP	LE#	CLIE	NT SAMPI	_E ID Sit	te ID	Client Matrix	DATE/T	IME SAMPLED	WORKORI	DER.	Δ
20		SIW-S	SS-020P-0	.0-2.0 797	312714	591	2011-07-	16 / 830	MK1TC	S	OLID
		<u>OMME</u>									
ХХ	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamn Ra-226 & Hits	na <b>J9</b>	Dry, Grind, and Fill Geometry -: day in-growth	> 21 01	STANDARD TEST SET	PROT: C	WRK	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT; C	WRK LOC	06
SAMP	LE#	CLIE	NT SAMPI	_E_ID Sit	te ID	Client Matrix	DATE/T	IME SAMPLED	WORKORI	<u>DER</u>	<u>A</u>
21		SIW-S	SS-021P-0	0-2.0 79	7312714	l591	2011-07-	15 / 1650	MK1TF	S	OLID
		OMME									
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamn Ra-226 & Hits	na <b>J9</b>	Dry, Grind, and Fill Geometry -: day in-growth	> 21 01	STANDARD TEST SET	PROT: C	WRK	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK LOC	06
SAMP	LE#	CLIE	NT SAMPL	.E.ID Sit	te ID	Client Matrix	DATE/T	IME SAMPLED	WORKORI	DER	Α
22		SIW-S	SS-022P-0.	.0-2.0 797	312714	591	2011-07-	16 / 815	MK1TG	S	OLID
SAMP	LE C	OMME	NTS:								
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamn Ra-226 & Hits	na <b>J9</b>	Dry, Grind, and Fill Geometry -	> 21 01	STANDARD TEST SET	PROT: C	WRK	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	LOC WRK LOC	06
SAMP	LE #	CLIE	NT SAMPL	_E ID Sit	e ID	Client Matrix	DATE/T	IME SAMPLED	WORKORI		Α
23		SIW-S	SS-023P-0.	0-2.0 797	312714	591	2011-07-	16 / 900	MK1TH	- Si	_ OLID
SAMP	LE C	ОММЕ	NTS:							•	
XX	Z۷		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06

## **CLIENT ANALYSIS SUMMARY**

Storage Loc: Date Received:

RAD 2011-07-19

Expanded Deliverable

Project Manager: LMF Project:

Quote #: 89198

SDG: 08302011

Analytical Due Date:

Report Due Date:

2011-08-09 2011-08-10

PO#:

20110007

SIW Staten Island, NY Report to: Todd Buchanan

Report Type: D

Client:

509018

GEO Consultants LLC

#SMPS in LOT: 36

EDD Code: 00

CDM D	JE #04 P	) ou 4				#S	MPS in Lo	OT: 36 EDD C	Code: 00	
OKM D(	DE #6d F	vev 1								
ХХ	0B	EML.	GA-01-R	SOLID, GA-01-R MOD, Gamma	J9	Dry, Grind, and Fill Geometry ->	21 01	STANDARD TEST SET	PROT: C WRK	06
ХХ	2M	EML	MOD A-01-R	Ra-226 & Hits SOLID, A-01-R MOD, Iso U	J2	day in-growth Extraction Chromatography -	01	STANDARD TEST SET	LOC PROT: C WRK	06
			MOD	(LONG CT)		Sequential Actinides	<u> </u>		LOC	00
SAM	PLE#	CLIE	NT SAMPI	_E ID Site	ID	Client Matrix	DATE/T	IME SAMPLED	WORKORDER	Α
24		SIW-	SS-024P-0.	.0-2.0 7973	12714	591	2011-07-	16 / 1100	MK1TJ S	OLID
SAM	PLE C	OMME	NTS:						-	
ХХ	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK	06
ХХ	0B	EML	GA-01-R	SOLID, GA-01-R MOD, Gamma	J9	Dry, Grind, and Fill Geometry ->	21 01	STANDARD TEST SET	PROT: C WRK	06
ХХ	2M	EML	MOD A-01-R	Ra-226 & Hits SOLID, A-01-R MOD, Iso U	J2	day in-growth Extraction Chromatography -	01	STANDARD TEST SET	LOC PROT: C WRK	06
			MOD	(LONG CT)		Sequential Actinides			LOC	
SAM	PLE#	CLIE	NT SAMPL	_E ID Site	<u>ID</u>	Client Matrix	DATE/T	IME SAMPLED	WORKORDER	Α
25		SIW-	SS-025P-0.	.0-2.0 7973	312714	591	2011-07-	16 / 1645	MK1TK S	OLID
SAM	PLE C	OMME	NTS:							
XX	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK	06
ХХ	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> day in-growth	21 01	STANDARD TEST SET	PROT: C WRK	06
ХХ	2M	EML	A-01-R	SOLID, A-01-R MOD, Iso U	J2	Extraction Chromatography -	01	STANDARD TEST SET	LOC PROT: C WRK	06
ХХ	2M	EML	MOD A-01-R	(LONG CT) SOLID, A-01-R MOD, Iso U	J2	Sequential Actinides Extraction Chromatography -	01	STANDARD TEST SET	LOC PROT: C WRK	06
			MOD	(LONG CT)		Sequential Actinides			LOC	
SAM	PLE#	CLIE	NT SAMPL	_E ID Site	<u>ID</u>	Client Matrix	DATE/T	IME SAMPLED	WORKORDER	A
26		SIW-	SS-026P-0.	.0-2.0 7973	312714	591	2011-07-	15 / 1740	MK1TM S	OLID
SAM	PLE C	OMME	NTS:							
ХХ	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK	06
ХХ	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> day in-growth	21 <b>01</b>	STANDARD TEST SET	PROT: C WRK	06
ХХ	2M	EML	A-01-R	SOLID, A-01-R MOD, Iso U	J2	Extraction Chromatography -	01	STANDARD TEST SET	PROT: C WRK	06
			MOD	(LONG CT)		Sequential Actinides			LOC	
SAM	PLE#	CLIE	NT SAMPL	_E ID Site	<u>ID</u>	Client Matrix	DATE/T	IME SAMPLED	<b>WORKORDER</b>	A
27		SIW-S	SS-027P-0.	0-2.0 7973	312714	591	2011-07-	15 / 1625	MK1TR S	OLID
		OMME								
ХХ	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> day in-growth	21 01	STANDARD TEST SET	PROT: C WRK	06
ХХ	2M	EML	A-01-R	SOLID, A-01-R MOD, Iso U	J2	Extraction Chromatography -	01	STANDARD TEST SET	PROT: C WRK	06
ХХ	0B	EML	MOD GA-01-R	(LONG CT) SOLID, GA-01-R MOD, Gamma	J9	Sequential Actinides Dry, Grind, and Fill Geometry ->	21 01	STANDARD TEST SET	LOC PROT: C WRK	06
			MOD	Ra-226 & Hits		day in-growth			LOC	
SAM	PLE#	CLIE	NT SAMPL	_E ID Site	<u>ID</u>	Client Matrix	DATE/T	IME SAMPLED	<b>WORKORDER</b>	А
28		SIW-S	SS-028P-0.	0-2.0 7973	312714	591	2011-07-	15 / 1640	MK1TT S	OLID
SAM	PLE C	OMME	NTS:							
ХХ	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK	06
ХХ	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry ->	21 01	STANDARD TEST SET	PROT: C WRK	06
ХХ	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	day In-growth  Extraction Chromatography -	01	STANDARD TEST SET	PROT: C WRK	06
						Sequential Actinides			LOC	<del></del>
<u>3AM</u>	<u> PLE#</u>	<u>CLIE</u>	NT SAMPL	<u>EID</u> <u>Site</u>	<u>ID</u>	Client Matrix	DATE/T	IME SAMPLED	<u>WORKORDER</u>	Α

## **CLIENT ANALYSIS SUMMARY**

#SMPS in LOT: 36

Storage Loc: Date Received: RAD 2011-07-19

Project Manager: LMF

Quote #: 89198

GEO Consultants LLC

SDG: 08302011

Analytical Due Date: 2011-08-09

Project:

20110007

SIW Staten Island, NY

Report Due Date:

2011-08-10

PO#: Client:

509018

Report to: Todd Buchanan

Report Type: D

EDD Code: 00

Expanded Deliverable

I										
29		SIW-9	SS-029P-0.	N-2 N 79	97312714	1501	2011-07-	16 / 1640	MK1TV S	OLID
	PLE C			0 2.0	7701271-	1001	2011-07-	107 1040	WINTER S	OLID
	( ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK	06
ХХ	( 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gam Ra-226 & Hits	ma <b>J9</b>	Dry, Grind, and Fill Geometry -> day in-growth	21 01	STANDARD TEST SET	PROT: C WRK	06
ХХ	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	LOC PROT: C WRK LOC	06
SAM	PLE#	CLIE	NT SAMPL	.E ID SI	ite ID	Client Matrix	DATE/T	IME SAMPLED	WORKORDER	Α
30		SIW-S	SS-030P-0.	0-2.0 7	9731271	4591	2011-07-	16 / 1715	MK1TW S	OLID
SAM	PLE C	OMME								
ХХ	( ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	11/1	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK LOC	06
ХХ	( 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gam Ra-226 & Hits	ma <b>J</b> 9	Dry, Grind, and Fill Geometry -> day in-growth	21 01	STANDARD TEST SET	PROT: C WRK	06
XX 	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK	06
<u>SAM</u>	PLE#	CLIE	NT SAMPL	E ID Si	ite ID	Client Matrix	DATE/T	IME SAMPLED	WORKORDER	Α
31		SIW-S	SS-031P-0.	0-2.0 7	9731271	4591	2011-07-	16 / 1725	MK1T0 S	OLID
	PLE C	<u>OMME</u>								
ХХ	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	IVA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK LOC	06
ХХ	( 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gam Ra-226 & Hits	ma <b>J9</b>	Dry, Grind, and Fill Geometry -> day in-growth	• 21 01	STANDARD TEST SET	PROT: C WRK	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK LOC	06
SAM	PLE#	CLIE	NT SAMPL	<u>E ID</u> <u>Si</u>	ite ID	Client Matrix	DATE/T	IME SAMPLED	WORKORDER	Α
32			SS-032P-0.	0-2.0 79	7312714	591	2011-07-	-16 / 1240	MK1T1 S	OLID
	PLE C	OMNE	NIS: RAD	SOLID, RAD SCREEN, RAD	RA	IN-HOUSE RAD	01	STANDARD TEST SET	PROT: A WRK	06
XX		EML	SCREEN GA-01-R	SCREEN, Special L SOLID, GA-01-R MOD, Gam	IXA	SCREEN Dry, Grind, and Fill Geometry ->		STANDARD TEST SET	LOC PROT: C WRK	06
	2M	EML	MOD A-01-R	Ra-226 & Hits SOLID, A-01-R MOD, Iso U	0.5	day In-growth Extraction Chromatography -	•	STANDARD TEST SET	LOC	
	Z   V	LIVIL	MOD	(LONG CT)	J2	Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK LOC	06
SAM	PLE#	CLIE	NT SAMPL	<u>EID</u> <u>S</u>	te ID	Client Matrix	DATE/1	IME SAMPLED	WORKORDER	A
33	m		SS-033P-0.	0-2.0 79	97312714	1591	2011-07	-16 / 1422	MK1T2 S	OLID
	PLE C	OMME	NTS: RAD	SOLID, RAD SCREEN, RAD	n.	IN-HOUSE RAD	0.4	STANDADD TEST SET	DDOT: A MOSE	0.0
	ZV	EVAL	SCREEN	SCREEN, Special L	INA	SCREEN	01	STANDARD TEST SET	PROT: A WRK	06
ХХ	( OB	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gam Ra-226 & Hits	ma <b>J9</b>	Dry, Grind, and Fill Geometry -> day in-growth	<sup>21</sup> <b>01</b>	STANDARD TEST SET	PROT: C WRK	06
		E 5 41					4 .			
	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK	06
XX < XX		EML EML			J2 J2	Extraction Chromatography - Sequential Actinides Extraction Chromatography - Sequential Actinides	01 01	STANDARD TEST SET STANDARD TEST SET		06 06
( XX		EML	MOD A-01-R	(LONG CT) SOLID, A-01-R MOD, Iso U (LONG CT)		Sequential Actinides Extraction Chromatography -	01		LOC PROT: C WRK	
( XX	2M	EML CLIE	MOD A-01-R MOD	(LONG CT) SOLID, A-01-R MOD, Iso U (LONG CT)  E ID SI	J2	Sequential Actinides Extraction Chromatography - Sequential Actinides  Client Matrix	DATE/I	STANDARD TEST SET	PROT: C WRK LOC WORKORDER	06
SAM 34 SAM	Z 2M PLE# PLE C	CLIE SIW-S	MOD A-01-R MOD NT SAMPL SS-034P-0. NTS:	(LONG CT) SOLID, A-01-R MOD, Iso U (LONG CT)  E ID  0-2.0  79	<b>J2</b> ite ID 97312714	Sequential Actinides Extraction Chromatography - Sequential Actinides  Client Matrix	DATE/I	STANDARD TEST SET  TIME SAMPLED  -16 / 1548	PROT: C WRK LOC WORKORDER MK1T3 S	O6  A OLID
SAM 34 SAM	<b>2M</b> PLE#	EML CLIE SIW-S	MOD A-01-R MOD  NT SAMPL SS-034P-0.  NTS: RAD SCREEN	(LONG CT)	<b>J2</b> ite ID 97312714 RA	Sequential Actinides Extraction Chromatography - Sequential Actinides  Client Matrix  4591  IN-HOUSE RAD SCREEN	01 DATE/1 2011-07	STANDARD TEST SET	PROT: C WRK Loc	O6  A OLID
SAM 34 SAM XX	Z 2M PLE# PLE C	CLIE SIW-S	MOD A-01-R MOD NT SAMPL SS-034P-0. NTS: RAD	(LONG CT) SOLID, A-01-R MOD, Iso U (LONG CT)  E ID Si 0-2.0  SOLID, RAD SCREEN, RAD	<b>J2</b> ite ID 97312714 RA	Sequential Actinides Extraction Chromatography - Sequential Actinides  Client Matrix  4591  IN-HOUSE RAD	01 DATE/1 2011-07	STANDARD TEST SET  TIME SAMPLED  -16 / 1548	PROT: C WRK LOC  WORKORDER  MK1T3 S  PROT: A WRK	O6  A OLID

**CLIENT ANALYSIS SUMMARY** 

Storage Loc: Date Received:

RAD 2011-07-19

Project Manager: LMF

Quote #: 89198

SDG: 08302011

Analytical Due Date:

2011-08-09

Project:

20110007

SIW Staten Island, NY

Report Due Date:

2011-08-10

PO#:

Report to: Todd Buchanan

Report Type: D

Expanded Deliverable

Client:

509018

GEO Consultants LLC

#SMPS in LOT: 36

EDD Code: 00

SAMP	LE #	CLIE	<u>NT SAMPL</u>	E ID	Site II	2	Client Matrix D	DATE	E/TII	ME SAMPLED	WORKOR	DER	A
35		SIW-S	SS-035P-0.0	0-2.0	797312	2714	591 20	011-0	07-1	6 / 1705	MK1T5	S	OLID
SAMP	LE C	OMME	NTS:										
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, SCREEN, Special L	RAD	RA	IN-HOUSE RAD SCREEN	C	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Ra-226 & Hits	Gamma	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	1 (	01	STANDARD TEST SET	PROT: C	WRK	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Is (LONG CT)	٥U	J2	Extraction Chromatography - Sequential Actinides	C	01	STANDARD TEST SET	PROT: C	WRK	06
SAMP	LE #	CLIE	NT SAMPL	<u>E ID</u>	Site II	<u> </u>	Client Matrix E	DATE	=/T	ME SAMPLED	WORKOR		<u>A</u>
	LE#		NT SAMPL 6S-036P-0.0		Site II 797312	_				ME SAMPLED 7 / 935	WORKOR MK1T6	DER	<u>A</u> OLID
36			SS-036P-0.0			_						DER	_
36	LE C	SIW-S	SS-036P-0.0		797312	_		011-0				DER S WRK	_
36 SAMP	LE C	SIW-S	SS-036P-0.0 NTS: RAD	0-2.0 SOLID, RAD SCREEN,	797312 RAD	_ 2714	591 20	011-0	07-1	7 / 935	MK1T6	<u>DER</u>	OLID

202 V4

STRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Temperature on Receipt \_\_\_\_\_



Drinking Water? Yes □ No ☑

THE LEADER IN ENVIRONMENTAL TESTING

L-4124 (1007)								•														
Zlient		Projec		<u>,                                     </u>	0	,									Date	<b>.</b>		C	hain of Co			
TO Consultants UC			<u>do</u>		15re						_				7-19		(		_18	<u> 194</u>	<u>81                                    </u>	
, , , , / /		1 '			er (Area		, ,				_			·	Lab Nun	nber				į.		2
325 Kentucky Tree		27	04	62	38	38;	2/	27	040	52	388	7						<i>P</i>	age	<u> </u>	_ of	<u> </u>
Keyil Ky	<sup>Code</sup> 42053	Site Co	ontaci	t .			Lab C	Contac	ct ,						sis (Att space is							
Project Name and Location (State)		Carrier	Way	bill Nu	mber																	
SIW - Staten Island, 1	Vew Yor	<u>k</u>	,									_									Instruction	
Contract/Purchase Order/Quote No.	, -			Mã	atrix				ntain eserv			ş							Co	nditioi	ns of Re	ceipt
Sample I.D. No. and Description Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.		Unpres.	HZSO4	HC.	NaOH	Zn4c/ NaOH	82									,	1
SIW-55-001P-0-0-7.0		0838			X		X					X							lx	15	X) +	<del>)                                    </del>
5[w-45-002P-0.0-2.0	7-16-11	0900			X		X					$ \lambda $										
Sw-35-003P-0.0-2.0	7-15-11				X		X	$\perp$				X										
31W-SS-004P-0.0-2.0	7-15-11	11,00			X		$\chi$					X										
SIW-55-005P-0.0-2.0		0840			X		X					X										
SIW -65-006P-0.0-2.0	7-15-11	Hoole			X		$\chi$					$\times$										
SIW-55-007P-00.2.0	7-15-11	1802			X		X					X										
SIW-59-008P-0.0-2.0	7-16-11	6050			X		X					X					$\perp \downarrow \downarrow$			$\perp$		
SIW-S5-009P-00-20	7-16-11	1105			X		X					X								$\perp$		
SIW-SS-010P-0.0-2.0	7-15-11	1745	-		X		X					X						-		$\perp$		
SIW-55-011P-0.0-2.0	7-16-11	-			χ		X					X			$\sqcup$					$\downarrow \downarrow$	$-\!\!\!/-$	
Slw-55-0128-0.0-2.0	7-16-11	0825		Ļ			X					X								$\mathcal{L}$		
	Poison B	Unknown		_ ′	Disposa um To C		, Z	Disp	oosal I	By Lá	ab [	Archiv	e For _		Months		ee may be o er than 1 n		ed if samp	oles are	retained	
um Around Time Required							٦,	C Re	quirer	ment.	s (Spec	ify)										
24 Hours	ys 🗌 21 Days		ner				_		1	0		$\overline{}$										
. Reling shed By		Date 7-1	8-1	u	Time OU U	20	-	. Ret	eived (		2	A	lu		>			-	Date   7	//	Time 092	20
P. Relinquished By		Date			Time		4	. Flec	eived	Ву		<i>u</i>						1	gate /	•	Time	
P. Relinquished By		Date			Time		3	i. Rec	eived	Ву									Date		Time	
Comments																						

Temperature on Receipt \_\_\_\_\_



Drinking Water? Yes□ No□ THE LEADER IN ENVIRONMENTAL TESTING

AL-4124 (1007)				_																	
Client			Projec	t Mana	ager					,				Dá	ate				Custody		
Address			T-11		t	/4 0	- 1-1/5	44						<u> </u>					894	- [ [	
Address			Teleph	one N	lumber	(Area Co	ide)/Fax	Numb	er					Lá	b Numi	ber		Page _	2	_ of	3_
City	State	Zip Code	Site Co	ontact	:		Lab 0	Contac	t ,							ch list i needel					
Project Name and Location (State)			Carrier	/Wayt	bill Num	ber															
Contract/Purchase Order/Quote No.					Mat	nix			ntaine										•	Instruction	
Sample I.D. No. and Description  Containers for each sample may be combined.		line) Date	Time	Air	Aqueous Sed.	Soil	Unpres.	HZSC4 HNO3	HCI	NaOH	ZnAc/ NaOH	Page									
51W-55-013P-00-2.0		7-16-11	1030			X	X					$\mathcal{X}$						()	(50	0-P	
51W-SS-014P-0.0-2-0		7-16-11	0850			X	X					$\mathcal{N}$							1		
51W-55-015P-0.0-2-1	0	7-16-11	1045			X	X					$ \infty $									
SW-55-016P-0.0-2.	<i></i> Ο	7-16-11	1038			X	X					<b>1</b>									
SIW-55-017P-0.0-2	.0	7-16-11	0910			X	义					X									
51w- 55-018P-0.0-1	2.0	7-16-11	1112			X	X					X									
51W-53-019P-0.0	-2,0	715-11	1800			X	义					χ									
51W-55-020-0.0-2.		1	0830			X	X					X									
SIW 55-021-0.0-2		7-15-11	1650			X	又					X									
SIW-SS-022-0.0-2	6.1	7-16-11	0815			X	X					X							İ	,	
51W-55-023-0.0-	7.0	7-16-11	09 00			X	X					X						,		/	
SAW - SS-024-0.0 -	2.0	7-16-11	1100			X	X					X							$\mathcal{N}$		
Possible Hazard Identification  Non-Hazard	in Irritani	Poison B	Unknowi	1	•	isposal n To Clie	nt 🗷	Disp	osal E	y Lat	→ □	Archive F	or	A	Aonths	(A fee longel	may be a	ssessed if sa onth)	mples are	retained	
Turn Around Time Required				. 1				C Rec	guiren	nents	(Specil										
🗌 24 Hours 🔲 48 Hours 🔲 7 Days		14 Days 🗌 21 Day	s 🗌 Ott	her					,				$\sim$					,			
I. Relinfujched By			Date 7-/	2-1		ime 090		. Rece	piyled L	9) (			1		<u> </u>			Date 7/10	/11	Time 191	<u></u>
P. Relinquished By			Date	<u> </u>	17	ime		. Hace	ived I	3y			<u>~</u>					Pate	/ / /	Time	<u> </u>
3. Relinguished By			. Date			ime	3	. Rece	Pived L	3v								Date		Time	
Commente																					

Temperature on Receipt \_\_\_\_\_



Drinking Water? Yes □ Not THE LEADER IN ENVIRONMENTAL TESTING

AL-4124 (1007)																							
Client			Projec	t Mana	ager					,						Date				Ι.	Custody I		
Address			Telenh	one N	lumhi	er (Area	Code	)/Fav /	Viimhai	-						Lab Nui	mhor			1	894	<del>-/8</del>	
			Γοιορί	0110 11		,	0000)	,, ,,	•======================================						- 1	Lapivai	noor			   Page _	3	_ of <u></u>	
City	State	Zip Code	Site Co	ontact			1	Lab C	ontact							sis (At							=
Project Name and Location (State)			Carrier	-///	L:// A/.										more s	space i	s need	lea)		-			
TOJECT Name and Location (State)			Carrier	/vvayL	)111 /42	imber															Canalal	/m a t m . a t i a m	/
Contract/Purchase Order/Quote No.					M	atrix			Cont				\$									Instruction ns of Rece	
Sample I.D. No. and Description	30				જ	$\overline{}$	$\vdash$	8 8					5	1 1									
Containers for each sample may be combined		line) Date	Time	¥	Aqueo	Soil		Unpres. H2SO4	HNO3	HC/	NaOH	NaOF										•	
SIW-55-025P-0.0-Z.	0					X		x			$\Box$		X							1	ΥŚ	SOP	
SIW -55-626P-0.0-7.	0				_	<b>X</b>	-	<b>X</b>  _			_		X	Ш			$\perp$				$\perp$		
SIW-SS-027P-00-7	2.0					X	}	<b>X</b>					X										
SIW-SS-078P-0.0-	2.0					X		<u> </u>	Ш				X	Ш									
SIW-SS-029P-0.0-	2.0					X	2	<u> </u>	Ш				X								$\perp$		
SIW-58-030P-0.0-	2.0					X	;	x		_			X_	Ш							$\perp$		
S1W-S5-031A-00-	7.0					X		<					X	Ш							$\perp$		
SIW-SS-032P-0.0-	2.0					X	;	<b>&lt;</b>		1			X	Ш									
SIW-SS-033P-0.0-	2.0	,				_X	L!	Χ					X	Ш									
51W-55-034P-0.0-	2.0					χ		<b>x</b>					X	Ш									
51W-55-035P-0.0	-2.0					X	l '	X_					X							\			
SIW-SS-036P-0.0.	-7.0					X		<u> </u>					X								V		
Possible Hazard Identification  Non-Hazard	in Irritant	☐ Poison B ☐	Unknown		,	Disposa um To C		PF	Dispos	al Bu	/ Lab	Ī	Archive i	For		Months	(A f	ee may	be asse	essed if sai	mples are	retained	
um Around Time Required												(Specify					, 10/19	jer triar		'"			—
🛮 24 Hours 🔲 48 Hours 🔲 7 Days		4 Days 🗌 21 Days	☐ Ott	ner				-	,														
. Relinguished By			Date 7-1	0	,,	Time 690	200	1.	Refeiv	ed]B	0	$\mathcal{D}_{i}$	Chi		>					Date /	Su	Time	_
P. Relinquished By			Date	0 1	<u>'(</u>	Time		1	Receiv	ed B	r	(								bate /	///	Time	<u>,                                    </u>
. Relinquished By			Date			Time		3.	Receiv	ed B	r									Date		Time	_
Comments																							

TestAme	erica Lot #(s)	): ELC 19	<u> </u>	
THE LEADER IN ENVIRONME	ENTAL TESTING CUR Form #: 247	F/G/77	0461, 47	7
	247	175/90	700,91	1
CONDITION U	UPON RECEIPT FORM		<b>6</b> 5	
Client:	SEO CONSULTANTS		474	
Quote No:		,		
COC/RFA No:	SEE BELOW			
Initiated By:	,	Date: 7/18/	/11	Time: 0920
initiated by. 740		Information	<i>''</i>	Time
Shipper: Fe			Mu	Itinle Packages: (V) N
Shipping # (s):*	or of Differ Courter Chem	Other.		perature (s):**
1. <u>1973 127</u>	71 4970 6. <u>1973</u> 12	01 27171	· .	_
1			I. Audi	ENT 6. AUBIENT
2.	4672 7.	459/	2	7.
3.	4937 8.	4709	3	8.
4.	<u>7558</u> 9. V	1 4812	4.	9
5.	<i>) '480 </i> 10		5,	10.
*Numbered shipping lines	s correspond to Numbered Sample Temp lines v			t, note contents below. Temperature s-Liquid; Rad tests- Liquid or Solids;
Condition (Circle "Y"	for yes, "N" for no and "N/A" for not applicable):	cicilorate		
1. (Y) N	Are there custody seals present on the cooler?	8. Y N		custody seals present on bottles?
2. Y N/A	Do custody seals on cooler appear to be tampered with?	9. Y N	tampered v	
3. N	Were contents of cooler frisked after opening, but before unpacking?	10. Y N	not, make not	
4. 🕥 N	Sample received with Chain of Custody?	11. Y N	N3/A 1	for C-14, H-3 & I-129/13 I th "Do Not Preserve" label?
5. N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. N	Sample rec	eeived in proper containers?
6. Y N	Was sample received broken?	13. Y N		in VOA or TOX liquid samples? sample ID's below)
7. Y N	Is sample volume sufficient for analysis?	14. Y N	N/A Was Intern	al COC/Workshare received?
/	ANL. Sandia) sites, pH of ALL containers received mus	t be verified, EXCEPT	VOA, TOX, Oil & Gre	ase and soils.
Notes: 197114	19/113, 107479, 189489 1	97120, 197	118 189478	8, 189477, 187901 <sub>)</sub>
189474 1894	<del>175, 189476, 197117, 197121,</del>	189483, 1	89482, 197	123 197/19 197/16
DF-INE	ato cont	20.5		<u> </u>
01 - 014	Convict 7= Tule	real.		
44-01,-	02,-03-04-1 he	se are	-The	samepli-
totatly	4 Wars. Jhis	12 or	uross T	ne boord.
- Dung	any P. USAMSD a	ne son	me sa	ride.
010-6	Are the same	ram Dl	0	
	WF MIGHT	Siv	GW-057-	02 15 unfutand
Corrective Action: Client Contact N	James	Informed by:	> Sedimen	puritive better &
Sample(s) proces		informed by:	the back	5 WINGE
Sample(s) on ho		released, notify:		
Project Management THIS FORM MUST BE COM	The state of the s	Date:		ONLY OTHER THAN THE BUTTONES
	MPLETED AT THE TIME THE ITEMS ARE BEING CHECKE ED TO APPLY THEIR INITIAL AND THE DATE NEXT TO ADMIN-0004 rev13, REVISED 05/27/11	THAT ITEM		

Project Manager: LMF

### **CLIENT ANALYSIS SUMMARY**

Quote #: 89198 SI

Project:

SIW Staten Island, NY

PO#: Report to: Barry Kinsall

Client:

509018

GEO Consultants LLC

SDG:

Storage Loc:

**ENCORE,1-103**: 2011-07-19

Date Received:

2011-08-09

Analytical Due Date:

2011-08-10

Report Due Date:

2011.00

Report Type: D

Expanded Deliverable

#SMPS in LOT: 5 EDD Code: 00

				Marie Salaringa arangan ang						A. A. C. C. C. C. C. C. C. C. C. C. C. C. C.			
<u>s/</u>	AMP	LE#	CLIE	NT SAMPL	<u>E ID</u>	Site ID	Client Matrix	DATE/T	IME SAMPLED	WORKOR	DER	A	
1				S-043PC-0	0.0-2.0			2011-07-	17 / 1200	MK1∨C	S	OLID	
			OMME		MITED VOLUME				07410400 7507 057	SDOT 4	MARK		
	XX	QH	SW846	8082	SOLID, 8082, PCBs	71	SONICATION W/ACID STRIP (PCB)	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
	XX	QJ	SW846	8081A	SOLID, 8081A, Pesticides	13	SONICATION - Low Level	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
	XX	QS	SW846	\$151A	SOLID, 8151A, Herbicides	0V	SONICATION -> DERIVATIZATION	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
	AS	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
	ВА	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
	CD	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
	CR	1&	SW846	6020A	SOLID, 6020 RCRA	GK	METALS, TOTAL - 2%	01	STANDARD TEST SET	PROT: A	WRK	06	
	РВ	1&	SW846	6020A	METALS SOLID, 6020 RCRA	GK	HCL METALS, TOTAL - 2%	01	STANDARD TEST SET	PROT: A	LOC WRK	06	
	SE	1&	SW846	6020A	METALS SOLID, 6020 RCRA	GK	HCL METALS, TOTAL - 2%	01	STANDARD TEST SET	PROT: A	LOÇ WRK	06	
	AG	1&	SW846	6020A	METALS SOLID, 6020 RCRA	GK	HCL METALS, TOTAL - 2%	01	STANDARD TEST SET	PROT: A	LOC WRK	06	
	HG	09	SW846	7471A	METALS SOLID, RCRA	70	HCL METALS, TOTAL (Method		STANDARD TEST SET	PROT: A	LOÇ WRK	06	
			SW846		MERCURY		Exclusive) - Solids	01		•	LOC		TIC: N
	XX	QL			SOLID, 8270C, SVOC	13	SONICATION - Low Level	01	STANDARD TEST SET	PROT: A	LOC	06	TIC: N
	XX	QK	SW846		SOLID, 8260B, DI 2 OF 2	4P	ENCORE (COLD PRESERVATION)	01	STANDARD TEST SET	PROT: A	WRK LOC	06	TIC: N
	XX	QK	SW846	8260B	SOLID, 8260B, MEOH 1	OF 4B	PURGE AND TRAP - Lab MEOF Ext. (Solids or Wastes)	1 01	STANDARD TEST SET	PROT: A	WRK LOÇ	06	TIC: N
	XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, R SCREEN, Special L	AD RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOÇ	06	
	XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Pero Moisture	ent 88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06	
D	XX	QH	SW846		SOLID, 8082, PCBs	71	SONICATION WACID STRIP (PCB)	01	STANDARD TEST SET	PROT: A	WRK	06	
D	XX	QJ	SW846	8081A	SOLID, 8081A, Pesticides	13	SONICATION - Low Level	01	STANDARD TEST SET	PROT: A	WRK	06	
D	XX	QS	SW846	8151A	SOLID, 8151A,	0V	SONICATION ->	01	STANDARD TEST SET	PROT: A	WRK	06	
D	ΡВ	1&	SW846	6020A	Herbicides SOLID, 6020 RCRA	GK	DERIVATIZATION METALS, TOTAL - 2%	01	STANDARD TEST SET	PROT: A	WRK	06	
D	AS	1&	SW846	6020A	METALS SOLID, 6020 RCRA	GK	HCL METALS, TOTAL - 2%	01	STANDARD TEST SET	PROT: A	LOC WRK	06	
	AG	1&	SW846	6020A	METALS SOLID, 6020 RCRA	GK	HCL METALS, TOTAL - 2%	01	STANDARD TEST SET	PROT: A	LOC WRK	06	
_	CD	1&	SW846		METALS SOLID, 6020 RCRA		HCL METALS, TOTAL - 2%		STANDARD TEST SET	PROT: A	LOC WRK	06	
_					METALS	GK	HCL	01			LOC		
_	SE	1&	SW846		SOLID, 6020 RCRA METALS	GK	HCL	01	STANDARD TEST SET	PROT: A	LOC	06	
D	BA	1&	SW846		SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
D	CR	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
D	HG	Ο9	SW846	7471A	SOLID, RCRA MERCURY	70	METALS, TOTAL (Method Exclusive) - Solids	01	STANDARD TEST SET	PROT: A	WRK LOÇ	06	
D	XX	QL	SW846	8270C	SOLID, 8270C, SVOC	13	SONICATION - Low Level	01	STANDARD TEST SET	PROT: A	WRK LOC	06	TIC: N
D	XX	QK	SW846	8260B	SOLID, 8260B, MEOH 1	OF 4B	PURGE AND TRAP - Lab MEOR Ext. (Solids or Wastes)	1 01	STANDARD TEST SET	PROT: A	WRK	06	TIC: N
D	ХX	QK	SW846	8260B	SOLID, 8260B, DI 2 OF	4P	ENCORE (COLD	01	STANDARD TEST SET	PROT: A	WRK	06	TIC: N
s	ХХ	QH	SW846	8082	SOLID, 8082,	71	PRESERVATION) SONICATION WACID STRIP	01	STANDARD TEST SET	PROT: A	WRK	06	
s	хх	QJ	SW846	8081A	PCBs SOLID, 8081A,	13	(PCB) SONICATION - Low	01	STANDARD TEST SET	PROT: A	WRK	06	
_	хх	QS	SW846	8151A	Pesticides SOLID, 8151A,	0V	Level SONICATION ->	01	STANDARD TEST SET	PROT: A	LOC	06	
	PB	1&	SW846	6020A	Herbicides SOLID, 6020 RCRA	GK	DERIVATIZATION METALS, TOTAL - 2%	01	STANDARD TEST SET	PROT: A	LOC	06	
-		,			METALS	GK.	HCL	01			LOC	-	

Project Manager: LMF

## **CLIENT ANALYSIS SUMMARY**

Quote #: 89198

SDG:

Date Received:

2011-07-19

2011-08-09

Analytical Due Date: Report Due Date:

2011-08-10

Project: SIW Staten Island, NY PO#:

Report to: Barry Kinsall

Report Type: D

Storage Loc:

**Expanded Deliverable** 

**ENCORE,1-103** 

EDD Code: 00 #SMPS in LOT: 5

CRM DOE #6d Rev 1

Client: 509018 **GEO Consultants LLC** 

1													
S	ВА	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	,
S	SE	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
S	CD	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
S	AS	1&	SW846	6020A	SOLID, 6020 RCRA METALS	ĢΚ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
S	AG	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
S	CR	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
S	HG	09	SW846	7471A	SOLID, RCRA MERCURY	70	METALS, TOTAL (Method Exclusive) - Solids	01	STANDARD TEST SET	PROT: A	WRK	06	
S	XX	QL	SW846	8270C	SOLID, 8270C, SVOC	13	SONICATION - Low Level	01	STANDARD TEST SET	PROT: A	WRK	06	TIC: N
S	XX	QK	SW846	8260B	SOLID, 8260B, MEOH 1 OF 2	4B	PURGE AND TRAP - Lab MEOH Ext. (Solids or Wastes)	01	STANDARD TEST SET	PROT: A	WRK	06	TIC: N
S	XX	QK	SW846	8260B	SOLID, 8260B, DI 2 OF	4P	ENCORE (COLD	01	STANDARD TEST SET	PROT: A	WRK	06	TIC: N

SAMPLE#	CLIENT SAM	MPLE ID	Site ID	Client Matrix	DATE/T	IME SAMPLED	WORKOR	DER	A	
2	SIW-SS-041F	PC-0.0-2.0		:	2011-07-	17 / 1120	MK1VQ	S	OLID	
SAMPLE C	OMMENTS:	LIMITED VOLUME								
XX QH	SW846 8082	SOLID, 8082, PCBs	71	SONICATION w/ACID STRIP (PCB)	01	STANDARD TEST SET	PROT: A	WRK	06	
XX QJ	SW846 8081A	SOLID, 8081A, Pesticides	13	SONICATION - Low Level	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX QS	SW846 8151A	SOLID, 8151A, Herbicides	0V	SONICATION -> DERIVATIZATION	01	STANDARD TEST SET	PROT: A	WRK	06	
SE I&	SW846 6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
AS I&	SW846 6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	•
BA I&	SW846 6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
CD 1&	SW846 6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
CR I&	SW846 6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
PB I&	SW846 6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
AG I&	SW846 6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
HG O9	SW846 7471A	SOLID, RCRA MERCURY	70	METALS, TOTAL (Method Exclusive) - Solids	01	STANDARD TEST SET	PROT: A	WRK	06	
XX QL	SW846 8270C	SOLID, 8270C, SVOC	13	SONICATION - Low Level	01	STANDARD TEST SET	PROT: A	WRK	06	TIC: N
XX QK	SW846 8260B	SOLID, 8260B, MEOH 1	OF 4B	PURGE AND TRAP - Lab MEOH Ext. (Solids or Wastes)	01	STANDARD TEST SET	PROT: A	WRK	06	TIC: N
XX QK	SW846 8260B	SOLID, 8260B, DI 2 OF 2	4P	ENCORE (COLD PRESERVATION)	01	STANDARD TEST SET	PROT: A	WRK	06	TIC: N
XX ZV	RAD SCREEN	SOLID, RAD SÇREEN, RA	AD RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK	06	
XX WM		SOLID, 160.3 MOD, Perce Moisture	ent <b>88</b>	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06	
SAMPLE#	CLIENT SAM	MPLE ID	Site ID	Client Matrix	DATE/T	IME SAMPLED	WORKORI	DER	Α	

SAMPL	LE#	CLIENT SAI	MPLE ID	Site ID	Client Matrix	DATE/T	ME SAMPLED	WORKOR	DER	Δ
3		SIW-SS-044	PC-0.0-2.0			2011-07-	17 / 1230	MK1V0	) SC	DLID
SAMP	LE C	OMMENTS:	LIMITED VOLUME							
XX	QH	SW846 8082	SOLID, 8082, PCBs	71	SONICATION w/ACID STRIP (PCB)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	QJ	SW846 8081A	SOLID, 8081A, Pesticides	13	SONICATION - Low Level	01	STANDARD TEST SET	PROT: A	WRK	06
XX	QS	SW846 8151A	SOLID, 8151A, Herbicides	0V	SONICATION -> DERIVATIZATION	01	STANDARD TEST SET	PROT: A	WRK LOC	06
AG	1&	SW846 6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06
РВ	1&	SW846 6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06

Project Manager: LMF

509018

### **CLIENT ANALYSIS SUMMARY**

Quote #: 89198

ŞDG:

Storage Loc: **ENCORE,1-103** 

Date Received:

2011-07-19

Analytical Due Date:

2011-08-09

Report Due Date:

2011-08-10

Expanded Deliverable

SIW Staten Island, NY

Report to: Barry Kinsall

**GEO Consultants LLC** 

Report Type: D

#SMPS in LOT: 5

EDD Code: 00

ÇRM	DOE	#6d	Rev	1
1				

Project:

PO#:

Client:

												:
SE	1&	SW846	6020A	SOLID, 6020 RCRA	ĢK	METALS, TOTAL - 2%	01	STANDARD TEST SET	PROT: A	WRK	06	A
ВА	1&	SW846	6020A	METALS SOLID, 6020 RCRA METALS	GK	HCL METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
CR	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
AS	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
CD	1&	SW846	6020A	SOLID, 8020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
HG	09	SW846	7471A	SOLID, RCRA MERCURY	70	METALS, TOTAL (Method Exclusive) - Solids	01	STANDARD TEST SET	PROT: A	WRK	06	
XX	QĻ	SW846	8270C	SOLID, 8270C, SVOC	13	SONICATION - Low Level	01	STANDARD TEST SET	PROT: A	WRK	06	TIC: N
XX	QK	\$W846	8260B	SOLID, 8260B, MEOH 1 OF	4B	PURGE AND TRAP - Lab MEOH Ext. (Solids or Wastes)	01	STANDARD TEST SET	PROT: A	WRK	06	TIC: N
XX	QK	SW846	8260B	SOLID, 8260B, DI 2 OF 2	4P	ENCORE (COLD PRESERVATION)	01	STANDARD TEST SET	PROT: A	WRK	06	TIC: N
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK	06	
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06	
SAMP	LE#	CLIE	NT SAMPL	E ID Site	ıD :	Client Matrix	DATE/TI	ME SAMPLED	WORKORI	DER	Α	-
4			S-042PC-0		,			17 / 1013	MK1V4	_	OLID	
SAMP	LE CO	OMME		MITED VOLUME		_		,				
XX	QH	SW846	8082	SOLID, 8082, PCBs	71	SONICATION WACID STRIP	01	STANDARD TEST SET	PROT: A	WRK LQC	06	
XX	QJ	<b>SW</b> 846	8081A	SOLID, 8081A,	13	(PCB) SONICATION - Low	01	STANDARD TEST SET	PROT: A	WRK	06	
XX	QS	SW846	8151A	Pesticides SOLID, 8151A, Herbicides	0V	Level SONICATION -> DERIVATIZATION	01	STANDARD TEST SET	PROT: A	WRK	06	
PB	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
AG	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
SE	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
CR	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
CD	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
AS	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
BA	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	\$TANDARD TEST SET	PROT: A	WRK	06	
HG	09	SW846	7471A	SOLID, RCRA MERCURY	70	METALS, TOTAL (Method Exclusive) - Solids	01	STANDARD TEST SET	PROT: A	WRK	06	
XX	QĻ	SW846	8270C	SOLID, 8270C, SVOC	13	SONICATION - Low Level	01	STANDARD TEST SET	PROT: A	WRK	06	TIC: N
XX	QK	\$W846	8260B	SOLID, 8260B, MEOH 1 OF 2	4B	PURGE AND TRAP - Lab MEOH Ext. (Solids or Wastes)	01	STANDARD TEST SET	PROT: A	WRK	06	TIC: N
XX	QK	8W846	82608	SOLID, 8260B, DI 2 OF	4P	ENCORE (COLD PRESERVATION)	01	STANDARD TEST SET	PROT: A	WAK	06	TIÇ: N
XX	Z۷		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK	06	
XX	WM	MCAW W		SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK	06	
SAMP	LE#	CLIE	NT SAMPL	E ID Site	e ID	Client Matrix	DATE/TI	ME SAMPLED	WORKORI	DER	A	
5			S-CDUP-0				2011-07-		MK1V6		OLID	
	LE C			MITED VOLUME		•	· · · ·	- · · · <del>-</del>		_		

Project Manager: LMF

509018

## **CLIENT ANALYSIS SUMMARY**

SDG:

Storage Loc:

**ENCORE,1-103** 

Date Received:

2011-07-19

2011-08-09

Analytical Due Date:

Report Due Date:

2011-08-10

Quote #: 89198

Project: PO#:

Client:

SIW Staten Island, NY

GEO Consultants LLC

Report to: Barry Kinsall

#SMPS in LOT: 5

Report Type: D EDD Code: 00 **Expanded Deliverable** 

SE	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
BA	1&	\$W846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK	06	
CD	1&	\$W846	6020A	SOLID, 6020 RCRA METALS	ĢΚ	METALS, TOTAL - 2% HCl.	01	STANDARD TEST SET	PROT: A	WRK	06	
AS	1&	\$W846	6020A	SOLID, 6020 RCRA METALS	ĢΚ	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
AG	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
CR	1&	SW846	6020A	SOLID, 6020 RCRA METALS	GK	METALS, TOTAL - 2% HCL	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
HG	O9	SW846	7471A	SOLID, RCRA MERCURY	70	METALS, TOTAL (Method Exclusive) - Solids	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	QL	SW846	8270C	SOLID, 8270C, SVOC	13	SONICATION - Low Level	01	STANDARD TEST SET	PROT: A	WRK LOC	06	TIC: N
XX	QK	SW846	8260B	SOLID, 8260B, MEOH 1 OF 2	4B	PURGE AND TRAP - Lab MEOH Ext. (Solids or Wastes)	01	STANDARD TEST SET	PROT: A	WRK LOC	06	TIC: N
XX	QK	SW846	8260B	SOLID, 8260B, DI 2 OF 2	4P	ENCORE (COLD PRESERVATION)	01	STANDARD TEST SET	PROT: A	WRK LOC	06	TIC: N
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	LOC	06	
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06	

13715 Rider Trial North Earth City, MO 63045

Customer Information						P	roject Inforn	nation		Analyses / Method Requested													
Project Name	Staten	Island	hia	ولره يدجج	Purchas	e Order				A.	V	00	ح (										
PM/ Quote#					Work	Order				В.	B. Suocs						_						
Company	600	Cansa	1 Le u	to LUC	Bill	То								id	2 ع								
Send Report To:	Toold P.	ache	12 hr		Invoic	e Attn				D.	17	er	hic	cid	ى ب							2010	
Address: 325 Kentucky Ave					Address: E			E. PCBs F. RCRA Matals															
City/State/Zip	Keuil	Ky	ز	12053	City/St	ate/Zip			, and the second second	G.		<u> </u>					·			.,,			
Phone		462	386	82	Pho	опе				Н.													
Fax	270	442	348	37	Fa					l.													
Sx No. Sam	ple Descripti	ġŋ.		Sample Date	Sample Time	Sample Matrix	Container Type	Preservative	No. of Bottles	Α	В	¢	D	Ē	F	G	н	ı		,	Comme	ents	
1 SIW-55	-043PC	-0.0-2	2.0	7-17-11	0925	Soil	Multiple	Multiple	4	X	X	X	X	X	X				Other	<b>,</b> - }	reser	vative	٠.
2 SIW-SS					1120	1		1		X	X	X	X	X	X				Met	he.	lan		
35W-S5-	044PC-	0.0-6	2.0		1230					X	X	X	X	X	X				Sod				
4 Sw-55-					1013					X	X	X	X	x	X				B:	sul	Cate		
5 Sw - SS-					1200	7				X	X	X	X	X	X					1			
6 SIW-55-					1200					X	χ	$\overline{}$	X	X	X					7			
7 SIW-SS-				J	_	T	4	J.	J		X	X	X	$\times$	X					4		,,	
8	\				DX	. \		\		1													
9					0/2	)																	
10					8/	15/11							Y		1				`	$\angle$		· · · · · · · · · · · · · · · · · · ·	
/		The second second	1	Ship	ment Meth	od.	>EX	Airbi	II No.:	1 1		1 1	1			-	Req	uire	d Turnard	ound:			
Relinquished 1	18				Date 7-18 -	i i Relir	iquished by:					Date	9		Reli	nquis	shed	l by:				Date	а
		LLC			Time <u>○920</u>	Com	pany Name:					Tim	е		Com	pan	y Na	ame	:			Tim	е
Received by:					Date	Rece	eived by:					Date	9		Rec	eived	d by	74	In.	æ	2	Dat	.19.
Company Name:					Time	Com	pany Name:					Tim	е		Сол	pan	y N	77	1		_	10	92

<u>iestAme</u>	erica	Lot #(s):	FIC	71914	61.47	3		
THE LEADER IN ENVIRONME	ENTAL TESTING CUR Form #:	247	FIG	19045	6,479			
CONDITION U	JPON RECEIPT FORM			46	5			
Client:	SEO CONSULTANTS			47	<u>†                                    </u>			
Quote No:	29199	مرا <u></u>						
COC/RFA No:	SEE BELOW							
Initiated By:	`		Date: _	7/18/11		Time:(	0920	
	_	Shipping	Informa	ition '			_	_
Shipper: Fe	edEx UPS DHL Courier	Client	Other:		Mul	tiple Packa	ages:	Y) N
Shipping # (s):*				S	ample Temp	erature (s)	**	-
1. 1973 127	1 4970 6. 791	73 127	71 50	72	1. AurBit	ENT	6. Auß	ENT
2.	4672 7.		4	59/	2.		7.	
3.	4937 8.		4	709	3.		8.	
4.	7558 9. V		,	1812	4.		9. 2	,
5.	1 4801 10.			<u> </u>	5.	_	10.	
*Numbered shipping lines	correspond to Numbered Sample Temp lin	es vai	riance doe	ust be received at 4° s NOT affect the fol				
Condition (Circle "Y"	for yes, "N" for no and "N/A" for not appli		rchlorate					
1. 🛛 N	Are there custody seals present or cooler?		8.	Y (N)	Are there cu	ustody sea	s present o	on bottles?
2. Y N/A	Do custody seals on cooler appea tampered with?		9.	Y N N/A	Do custody tampered w	ith?		
3. (Y) N	Were contents of cooler frisked a opening, but before unpacking?	fter	10.	Y N N/A	Was sample	below)	<u> </u>	
4. 🕥 N	Sample received with Chain of C	ustody?	11.	Y N N/A	Containers marked with			
5. N N/A	Does the Chain of Custody match ID's on the container(s)?	sample	12.	$\bigcirc$ N	Sample rece	eived in pr	oper conta	iners?
6. Y N	Was sample received broken?		13.	Y N N/A	Headspace (If Yes, note s			id samples?
7. Y N	Is sample volume sufficient for a	nalysis?	14.	Y N N/A	Was Interna	al COC/W	orkshare re	eceived?
/	ANL. Sandia) sites, pH of ALL containers r						·	0.1021
Notes: 197114	<u> 197115, 189479, 189</u>			197118	189478	1894	72, 18	1481
189474 <sub>)</sub> 1894	175, 189476, 199417, 1	97/21,	1894	<u>183, 18948</u>	32 <u>, 1971</u>	23 19	17/19 1	97/16
UF = UNF	utered F= f	uter	rect					
09F-01,-	02,-03-04-	The:	١٤ (	are th	2	3 OUN	eal	
totally	4 liters	1015	10	arm	500 t	~ \	$\infty$	100
Drange - C	My PIKAM	50 B	no	Sound	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	المريا	)	
24-010	Are the som	0	TY V	M DIA	× Joe			
	111 2 201	1	<u>un</u>	S. GII	- NET	<u>an</u> 14	3,00	Hood
Corrective Action:	my High	<del>                                     </del>	-tr	SIN 15 M	dimen	FINA	of pot	HI L
Client Contact N			Infor	ned by:	SAZ	5 Un	fitero	d on
Sample(s) proces				the	back	J. WI	7716	<u>                                     </u>
Sample(s) on ho		If 1	released,	<del>- 11-</del>	1-1-		•	
Project Management THIS FORM MUST BE CONTINUED THAT PERSON IS REQUIRED.		ING CHECKED	OIN. IF AN	Date: \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	TED BY SOMEO	NE OTHER T	HAN THE INI	TIATOR, THEN

ADMIN-0004 rev13, REVISED 05/27/11 \\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin-0004 CUR.doc

Project Manager: LMF

### **CLIENT ANALYSIS SUMMARY**

Quote #: 89198 SDG: Storage Loc:

**RAD** 

Date Received:

2011-07-19

Analytical Due Date:

2011-08-09

SIW Staten Island, NY

Report Due Date:

2011-08-10

Project: PO#:

Report Type: D

**Expanded Deliverable** 

Client:

509018

Report to: Todd Buchanan GEO Consultants LLC

EDD Code: 00

#SMPS in LOT: 36

SAMPLE#	CLIE	NT SAMPL	E ID Site	e ID	Client Matrix D	ATE/T	IME SAMPLED	WORKORDER A
1		SB-001P-0.0			20	11-07-	12 / 1400	MK1VG SOLID
SAMPLE C								
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06
XX 0B	EML	GA-01-R	SOLID, GA-01-R MOD, Gamm	a <b>J9</b>	Dry, Grind, and Fill Geometry -> 21	01	STANDARD TEST SET	PROT: C WRK 06
XX 2M	EML	MOD A-01-R MOD	Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	J2	day in-growth Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
SAMPLE #	CLIE	NT SAMPL	<u>.E ID</u> <u>Site</u>	e ID	Client Matrix D	ATE/T	IME SAMPLED	WORKORDER A
2	SIW-S	SB-001P-5.	0-10.0		20	11 <b>-</b> 07-	12 / 1400	MK1VJ SOLID
SAMPLE C	<u>OMME</u>							
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamm Ra-226 & Hits	a <b>J9</b>	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK 06 LOC
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
SAMPLE #	CLIE	NT SAMPL	E ID Site	e ID	Client Matrix D	ATE/T	IME SAMPLED	WORKORDER A
3	SIW-S	SB-002P-0.	0-5.0		20	)1 <b>1-</b> 07-	12 / 1430	MK1VK SOLID
SAMPLE C	<u>OMME</u>							
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamm Ra-226 & Hits	a <b>J9</b>	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK 06
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
SAMPLE #	CLIE	NT SAMPL	E ID Site	e ID	Client Matrix D	ATE/T	IME SAMPLED	WORKORDER A
4	SIW-	SB-003P-0.	0-5.0		20	11-07-	12 / 1508	MK1VM SOLID
SAMPLE C	<u>OMME</u>							
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamm Ra-226 & Hits	a <b>J9</b>	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK 06
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
SAMPLE #	CLIE	NT SAMPL	<u>E ID</u> <u>Sit</u>	e <u>ID</u>	Client Matrix <u>E</u>	DATE/T	IME_SAMPLED	WORKORDER A
5	SIW-S	SB-003P-5.	0-8.0		20	)11 <b>-</b> 07-	12 / 1508	MK1VN SOLID
SAMPLE C	OMME	NTS:						
XX ZV		RAD	SOLID, RAD SCREEN, RAD	RA	IN-HOUSE RAD	01	STANDARD TEST SET	PROT: A WRK 06
XX 0B	EML	SCREEN GA-01-R	SCREEN, Special L SOLID, GA-01-R MOD, Gamm	a <b>J9</b>	SCREEN Dry, Grind, and Fill Geometry -> 21	01	STANDARD TEST SET	PROT: C WRK 06
XX 2M	EML	MOD A-01-R MOD	Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	J2	day in-growth Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06 LOC
	CLIE	NT SAMPL	_E ID Sit	e ID	Client Matrix [	DATE/T	IME SAMPLED	WORKORDER A
SAMPLE #		SB-004P-0.	0-5.0		20	011-07-	12 / 1530	MK1VP SOLID
	SIW-	<b>55</b> 00 11 0.						
6								
6		NTS: RAD	SOLID, RAD SCREEN, RAD	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06
SAMPLE # 6 SAMPLE C XX ZV XX 0B		NTS:	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamm Ra-226 & Hits		IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth	-	STANDARD TEST SET	PROT: A WRK 06 LOC PROT: C WRK 06 LOC

## **CLIENT ANALYSIS SUMMARY**

Storage Loc:

**RAD** 

Date Received:

2011-07-19

2011-08-09

Analytical Due Date:

Report Due Date:

2011-08-10

Project Manager: LMF

Quote #: 89198

SDG:

Project: PO#:

SIW Staten Island, NY

Report Type: D

Expanded Deliverable

Client:

509018

Report to: Todd Buchanan **GEO Consultants LLC** 

#SMPS in LOT: 36

EDD Code: 00

CRM DOE #6d Rev 1

	PLE#	CLIE	<u>NT SAMPI</u>	LE ID Site I	<u>D</u>	Client Matrix	DATE/T	<u>IME SAMPLED</u>	WORKORDE	<u>:R</u>	<u>A</u>
7		SIW-S	B-004P-5	.0-10.0		20	011-07-	12 / 1530	MK1VT	S	OLID
<u>SAMI</u>	PLE C	<u>OMMEI</u>	NTS:								
XX	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		/RK OC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	1 01	STANDARD TEST SET		/RK OC	06
XX	2 <b>M</b>	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C W	/RK OC	06
<u>SAM</u>	PLE#	CLIE	NT SAMP	LE ID Site I	D	Client Matrix	DATE/T	IME SAMPLED	WORKORDE	<u>R</u>	A
8		SIW-S	B-005P-0	.0-5.0		2	0 <b>1</b> 1-07-	13 / 1031	MK1VW	S	OLID
		<u>OMME</u>									
XX	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	L	/RK OC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	1 01	STANDARD TEST SET		/RK OC	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		/RK OC	06
SAM	PLE#	CLIE	NT SAMP	LE ID Site I	D	Client Matrix	DATE/T	IME SAMPLED	WORKORDE	<u>R</u>	Α
9			B-005P-5	.0-8.0		2	01 <b>1</b> -07-	13 / 1036	MK1VX	S	OLID
		OMME									
XX	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	L	/RK OC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	1 01	STANDARD TEST SET		/RK OC	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		/RK OC	06
SAM	PLE#	CLIE	NT SAMP	LE ID Site I	D	Client Matrix	DATE/I	IME SAMPLED	WORKORDE	<u>R</u>	<u>A</u>
10		SIW-S	B-006P-0	.0-5.0		2	011-07-	-13 / 1410	MK1V2	S	OLID
		OMME									
XX	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		/RK OC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	1 01	STANDARD TEST SET		VRK OC	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		VRK OC	06
SAM	PLE#	CLIE	NT SAMP	LE ID Site I	D	Client Matrix	DATE/I	IME SAMPLED	WORKORDE	<u> R</u>	A
11			B-006P-5	0.8-0.		2	011-07	-13 / 1410	MK1V3	S	OLID
-		<u>OMME</u>									
XX	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET		/RK OC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	1 01	STANDARD TEST SET		VRK OC	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C V	VRK OC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2	1 01	STANDARD TEST SET	PROT: C V	VRK OC	06
XX	0B	EML	GA-01-R	SOLID, GA-01-R MOD, Gamma	J9	day in-growth  Dry, Grind, and Fill Geometry -> 2	1 01	STANDARD TEST SET	PROT: C V	VRK	06
XX	2M	EML	MOD A-01-R MOD	Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	J2	day in-growth Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C V	OC VRK OC	06
SAM	PLE#	CLIE	NT SAMP	LE ID Site I	D	Client Matrix	DATE/I	IME SAMPLED	WORKORDE	<u> R</u>	<u>A</u>
<u> </u>											

**SAMPLE COMMENTS:** 

### **CLIENT ANALYSIS SUMMARY**

Storage Loc:

**RAD** 

Date Received:

2011-07-19

2011-08-09

Analytical Due Date: Report Due Date:

Project Manager: LMF

Quote #: 89198

SIW Staten Island, NY

Report to: Todd Buchanan

SDG:

2011-08-10

Expanded Deliverable

PO#: Client:

Project:

509018

GEO Consultants LLC

Report Type: D

Client:		5	09018	GEO Consultants LLC		#SMI	PS in L	OT: 36 EDD C	ode: 00	
CRM DO	E #6d F	Rev 1								
ХХ	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK	06
SAME	LE#	CLIE	NT SAMP	LE ID Site I	<u>D</u>	Client Matrix [	DATE/T	IME SAMPLED	WORKORDER	Α
13		SIW-	SB-007P-5	.0-8.0		20	011-07-	13 / 1345	MK1V7 SC	DLID
SAME	LE C	OMME								
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK LOC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK LOC	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		06
SAMP	LE#	CLIE	NT SAMP	LE ID Site I	<u>D</u>	Client Matrix [	DATE/T	IME SAMPLED	WORKORDER	<u>A</u>
14		SIW-S	SB-008P-0	.0-5.0		20	011-07-	14 / 1450	MK1V9 SC	DLID
SAMP	LE C	<u>OMME</u>								
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK LOC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK LOC	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK	06
D <b>XX</b>	0B	EML	GA-01-R	SOLID, GA-01-R MOD, Gamma	J9	Dry, Grind, and Fill Geometry -> 21	01	STANDARD TEST SET	PROT: C WRK	06
s xx	0B	EML	MOD GA-01-R	Ra-226 & Hits SOLID, GA-01-R MOD, Gamma	J9	day in-growth Dry, Grind, and Fill Geometry -> 21	01	STANDARD TEST SET	PROT: C WRK	06
<b>x x x</b>	2M	EML	MOD A-01-R MOD	Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	J2	day in-growth Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK	06
SAMP	LE #	CLIE	NT SAMP	LE ID Site I	 D	Client Matrix [	DATE/T	IME SAMPLED	WORKORDER	<u>A</u>
15		SIW-S	SB-008P-5	.0-8.0		20	011-07-	14 / 1450	MK1WD SO	OLID
SAMP	LE C	OMME	NTS:							
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK LOC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK	06
SAMP	LE#	CLIE	NT SAMP	LE ID Site I	<u>D</u>	Client Matrix [	DATE/T	IME SAMPLED	WORKORDER	A
16		SIW-	SB-009P-0	.0-5.0		20	011-07-	14/ 1605	MK1WF SC	DLID
SAMP	LE C	<u>OMME</u>								
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK LOC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		06
SAMP	LE #	CLIE	NT SAMP	LE ID Site I	<u> </u>	Client Matrix [	DATE/T	IME SAMPLED	WORKORDER	Α
17		SIW-	SB-009P-5	.0-8.0		20	011 <b>-</b> 07-	14 / 1605	MK1WG SC	DLID
		OMME								
XX	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	LOC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK LOC	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK	06

## **CLIENT ANALYSIS SUMMARY**

Storage Loc: Date Received: **RAD** 2011-07-19

Project Manager: LMF

Quote #: 89198

SDG:

Analytical Due Date:

2011-08-09

Project:

SIW Staten Island, NY

Report Due Date:

2011-08-10

PO#:

Report to: Todd Buchanan

Report Type: D

Expanded Deliverable

Client:

509018

GEO Consultants LLC

#SMPS in LOT: 36

EDD Code: 00

CRM DOE #6d Rev	1
-----------------	---

:								
SAMPLE #	CLIE	NT SAMPL	E ID Site	D	Client Matrix I	DATE/T	IME_SAMPLED	WORKORDER A
18	SIW-S	B-010P-0.	0-5.0		2	011-07-	15 / 1115	MK1WH SOLID
SAMPLE CO	OMME	NTS:						
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	1 01	STANDARD TEST SET	PROT: C WRK 06
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
SAMPLE #	CLIE	NT SAMPL	E ID Site	D	Client Matrix	DATE/I	IME SAMPLED	WORKORDER A
19	SIW-S	B-010P-5.	0.8-0		2	011-07-	15 / 1115	MK1WJ SOLID
SAMPLE CO	<u>DMME</u>	NTS:						
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	1 01	STANDARD TEST SET	PROT: C WRK 06
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
SAMPLE #	CLIE	NT SAMPL	E ID Site	D	Client Matrix	DATE/T	IME SAMPLED	WORKORDER A
20	SIW-S	B-011P-0.	0-5.0		2	011-07-	13 / 1105	MK1WK SOLID
SAMPLE CO	<u>IBMMC</u>							
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	1 01	STANDARD TEST SET	PROT: C WRK 06
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
SAMPLE #	CLIE	NT_SAMPL	E ID Site	D	Client Matrix	DATE/T	IME SAMPLED	WORKORDER A
21	SIW-S	B-011P-5.	0.8-0		2	011 <b>-</b> 07-	13 / 1105	MK1WM SOLID
SAMPLE CO	<u>IBMMC</u>							
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	1 01	STANDARD TEST SET	PROT: C WRK 06 LOC
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
SAMPLE #	CLIE	NT SAMPL	E ID Site	D	Client Matrix	DATE/T	IME SAMPLED	WORKORDER A
22	SIW-S	B-012P-0.0	0-5.0		2	011-07-	13 / 1140	MK1WN SOLID
SAMPLE CO	<u>IBMMC</u>							
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	1 01	STANDARD TEST SET	PROT: C WRK 06
XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
SAMPLE#	CLIE	NT SAMPL	E ID Site	D	Client Matrix	DATE/T	IME SAMPLED	WORKORDER A
23		B-012P-5.	0.8-0		2	011-07-	13 / 1140	MK1WP SOLID
SAMPLE CO	<u>IBMMC</u>							
XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC
XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	1 01	STANDARD TEST SET	PROT: C WRK 06
XX 2M	EML	A-01-R	SOLID, A-01-R MOD, Iso U	J2	Extraction Chromatography -	01	STANDARD TEST SET	PROT: C WRK 06

## **CLIENT ANALYSIS SUMMARY**

SDG:

Storage Loc:

**RAD** 

Date Received:

2011-07-19

Analytical Due Date:

2011-08-09

EDD Code: 00

2011-08-10

Report Due Date:

Report Type: D Expanded Deliverable

Project Manager: LMF

509018

Quote #: 89198

SIW Staten Island, NY

Report to: Todd Buchanan GEO Consultants LLC

#SMPS in LOT: 36

CRM DOE #6d Rev 1

Project:

PO#:

Client:

SAMP	LE#	CLIE	NT SAMPL	E ID Site I	<u>D</u>	Client Matrix	DATE/T	IME SAMPLED	WORKORDER	A
24		SIW-S	B-013P-0.0	0-5.0		2	2011-07-	14 / 1110	MK1WQ	SOLID
SAMP	LE CO	OMME	NTS:							
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WR	
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2	21 <b>01</b>	STANDARD TEST SET	PROT: C WR	K 06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	day in-growth Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WR	K 06
SAMP	LE #	CLIE	NT SAMPL	E ID Site I	D	Client Matrix	DATE/T	IME SAMPLED	WORKORDER	<u> </u>
25		SIW-S	B-013P-5.0	0.8-0		2	2011-07-	14 / 1110	MK1WR	SOLID
SAMP	LE CO	OMME	NTS:							
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WR	
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	21 <b>01</b>	STANDARD TEST SET	PROT: C WR	K 06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WR	K 06
SAMP	LE #	CLIE	NT SAMPL	E ID Site I	D	Client Matrix	DATE/T	IME SAMPLED	WORKORDER	A
26		SIW-S	SB-014P-0.0	0-5.0		2	2011-07-	13 / 1555	MK1WT	SOLID
SAMP	LE C	OMME	NTS:							
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WR	
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	21 <b>01</b>	STANDARD TEST SET	PROT: C WR	K 06
xx	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WR	K 06
SAMP	<u>LE #</u>	CLIE	NT SAMPL	E ID Site I	D	Client Matrix	DATE/T	IME SAMPLED	WORKORDER	<u>A</u>
27		SIW-S	B-014P-5.	0-8.0		2	2011-07 <b>-</b>	13 / 1555	MK1WV	SOLID
SAMP	LE C	OMME	NTS:							
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WR	
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	21 <b>01</b>	STANDARD TEST SET	PROT: C WR	- 00
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WR	
SAMP	LE #	CLIE	NT SAMPL	E ID Site I	D	Client Matrix	DATE/T	IME SAMPLED	WORKORDER	<u> A</u>
28		SIW-S	SB-015P-0.	0-5.0		2	2011-07-	14 / 1500	MK1WW	SOLID
SAMP	LE C	OMME								
XX	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WR	
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> : day in-growth	21 <b>01</b>	STANDARD TEST SET	PROT: C WR	
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WR	
SAMP	LE #	CLIE	NT SAMPL	E ID Site	D	Client Matrix	DATE/T	IME SAMPLED	WORKORDER	R A
29		SIW-S	SB-016P-0.	0-5.0		2	2011-07-	14 / 1200	MK1WX	SOLID
SAMP	LE C	<u>OMME</u>								
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WR	
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> : day in-growth	21 <b>01</b>	STANDARD TEST SET	PROT: C WR	
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WR	<b>к</b> 06

printed on: Monday, July 25, 2011 10:00 AM

Project Manager: LMF

**CLIENT ANALYSIS SUMMARY** 

Quote #: 89198 SDG: Date Received:

2011-07-19

Analytical Due Date:

2011-08-09

Report Due Date:

2011-08-10

Project:

SIW Staten Island, NY

Storage Loc:

**RAD** 

PO#:

Report to: Todd Buchanan

GEO Consultants LLC

Report Type: D

**Expanded Deliverable** 

Client:

509018

#SMPS in LOT: 36

EDD Code: 00

CRM DOE #6d Rev 1

SAMP	LE#	CLIE	NT SAMPL	_E ID Site I	D	Client Matrix	DATE/T	IME SAMPLED	WORKOR	DER A
36		SIW-S	SB-020P-5.	.0-8.0		2	2011-07-	14 / 1015	MK1W6	SOLID
SAMP	LE C	OMME	NTS:							
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK 06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	21 01	STANDARD TEST SET	PROT: C	WRK 06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK 06

Temperature on Receipt \_\_\_\_\_



Drinking Water? Yes □ No □

THE LEADER IN ENVIRONMENTAL TESTING

AL-4124 (1007)																			_				
Client		Project								,						Date		Ę.		Chain of Cus	stody Nu	mber	
GOO CONSULTANTS LLC		to	) DP£	<u> 5</u>	uci	12L	264	)									18-1	1		18	947	7.4	
A		Teleph							,							Lab Nu	mber					'	
325 Kentucky /tVE		7	70	> L	162	<u>2                                    </u>	3,89	2/	2-	101	16	23	887							Page		of	_
City State Zip	Code	Site Co	ontac	t :			Lat	Côn	tact								tach lis is need						
	12053												$\bot$				is rieeu	<i>EU)</i>	ТТ	-			
Project Name and Location (State)		Carrier	/Way	vbill N	lumbei	_																	
SIN STATEN GLAND,	Now Yo	al											_									struction	
Contract/Purchase Order/Quote No.				N	atrix				Cont				1							Con	ditions	of Rece	<i>ipt</i>
				1 . 1			ļ.,		Pres	1			PA PA										
Sample I.D. No. and Description Containers for each sample may be combined on one line)	Date	Time	Αiř	Aqueous	Sed.	100	Unpres.	H2SO4	HNO3	HCI	МаОН	ZnAc/ NaOH	$ \mathcal{A} $										
SIW-SB-001P-0.0-5.0	7-12-11	1400				<b>/</b>	X						X							1 X	50x	OP	
31W-9B-001P-5.0-B.0	7-12-11	1400				۲_	X						X			Ш			Ш	,	1		
51W-SB-002p-0.0-5.0	7-12-11	1430			;	X'	X						X			Ш							
SIW-SB-003P-0.0-5.0	7-12-11	1508			7	ς	X						X										
01W - SB-003P-5.0-8.0	7-12-11	1508			;	Υ	×						X										
11W-SB-004P-0.0-5.0	7-12-11	1530			>	۲_	X						X								1		_
51W-SB-004P-5.0-10.0	7-12-11	1530			メ	$\downarrow$	X				$\Box$		X	$\perp \downarrow$					Ш				_
SIW-SB-005P-0.0-5.0	7-13-11	1031			)	<b>(</b>	X				$\perp$	$\perp$	X				$\perp$				$\perp$		
SIW-SB-005P-5.0-8.0	7-13-11	1036			رر	<u> </u>	$\chi$						X								$\bot$		_
SW-SB-006P-0,0-5.0	7-13-11	1410				Ø	Ø						x			Ш							
51W-SB-606.P-5.0-8.0	7-13-11	1410			?	<b>Y</b> _	X						X			Ш				<u> </u>			
SIW - 6B - 007 P- 0.0 - 5.0 Possible Hazard Identification	7-13-11	1345		i amnu	e Disp	<b>X</b>	X						X								V		
	Poison B	Unknown		_ ′	etum To		nt	×ε	Dispo.	sal B	y La	<i>b</i> [	Archive	For _		Month	(A fe			essed if sample h)	es are re	etained	
Turn Around Time Required								QC.	Requ	iirem	ents	(Spec	ify)										_
🗌 24 Hours 🔲 48 Hours 🔲 7 Days 🔲 14 De	ays 🗌 21 Day	s 🗌 Ott	her_						1			_	~ ^										
1. Relinglished By		Date 7-(1	R-1	i (	Time	, 9 c	) )	1. Fi	refei	redit	U		P	<u>,                                    </u>		)				Date [ 7/[9/		11me 1920	
2. Relinquished By		Date	_		Time			2.6	Recei	ved E	y .									pate /		Time	
3. Relinquished By		Date			Time	,		3. A	Recei	ved E	By									Date		Time	
Comments																							_

Temperature on Receipt \_\_\_\_\_

Drinking Water? Yes □ Noy



THE LEADER IN ENVIRONMENTAL TESTING

AL-4124 (1007)									,								_				_			
Client			Projec	ct Mai	nage	r						,					Date	7			Chair	1 8		
Address			Telepi	hone	Num	ber (	Area C	ode)/I	Fax N	lumbe	r						Lab	Numbe	er		Pag			of 3
City	State	Zip Code	Site C	Contac	ct			Lá	ab Co	ntact								(Attaci						
Project Name and Location (State)			Carrie	r/Wa	ybill l	Numb	ber			_				1								Sne	ocial I	nstructions/
Contract/Purchase Order/Quote No.					/	Matri	ix			Con				RAD										s of Receipt
Sample I.D. No. and Description Containers for each sample may be combined of		ne) Date	Time	Air	Aqueous	Sed.	Soil	Unores.		HNO3	HCI	NaOH	ZnAc/ NaOH	2										
SIW-9B-007P-5-0-8	.0	7-13-11	1345	_			X	X						x								1 X3	50	<u>op</u>
SIW-SB-008P-0.0-5	5.0	7-14-11	1450				X	·	′	Ш				X									1	
JW-SB-008P-5.0-8		7-14-11	1450	,			X	X	·					X										
SIW - SB-009P-0.0-5		7-14-11	1605				X	X	1					X										
SIW - SB-009P-5.0-	8.0	7-14-11	1405	1			X	X	_					X		$\sqcup$	_		$\perp$					
SIW-SB-010P-0.0-	5, C	7-15-11	1115				X	A		Ш		$\dashv$		X	$\perp$		$\perp$	$\perp \perp$	$\perp$					
SIW-SB-010P-5.0-	8.0	7-15-11	1115	_			X	$\perp \chi$	1_					X				$\perp \downarrow$						
SIW-SB-011P-0.0-	5.6	0 7-13-11	1105		L		X	X	_					$\times$										
SIW-SB-011P-5,0-	8.0	7-13-11	1105	-			X	>	1					X		$\perp \perp$								
SIN-5B-012 P-0.0-5	<u>5.0</u>	7-13-11	1140				X	2	_					X					$\perp$					
Sm-SB-012P-5.0-	8.0	7-13-11	1140	_			X	X	$\overline{}$	Ш				X				$\coprod$	$\perp$			$\mathcal{A}$	$\angle$	
SIW - SB - 613P - 0-0 - Possible Hazard Identification	5.0	7-14-11	1110		-	10 06	Sposal	<u></u> λ						X								_\V		
Possible Hazard identification 			Unknow		,		sposai To Cli		Ø.	Dispo	sal E	y La	<i>b</i> $\square$	Archiv	e For		мо	nths		may be as than 1 mo		f sample	es are i	retained
Turn Around Time Required									100	Req	uiren	ents	(Specit	V)										
☐ 24 Hours ☐ 48 Hours ☐ 7 Days  1. Relinquistred By		1 Days 21 Day	S O	ther_			me			R <b>á</b> cei	<b>4</b>	201		<u> </u>							Da	· / /		Time
7. Heilinguistied by			7-	(8-	11		290	00	17	lus		2	((	In	$\leq$	>					Da	19/1	/	0920
2. Relinquished By			Date			77	me		12	Recei	ved L	By									Pai	e/		Time
3. Relinquished By			Date			Til	me		3. /	Recei	ved L	3y									Dai	'e		Time
Comments																								

# **CLIENT ANALYSIS SUMMARY**

SDG:

Storage Loc:

2011-07-19

Project Manager: LMF

Quote #: 89198

Analytical Due Date:

Date Received:

2011-08-09

Project:

SIW Staten Island, NY

Report Due Date:

2011-08-09

PO#:

Report to: Todd Buchanan

Report Type: D

Expanded Deliverable

**RAD** 

Client:

509018 GEO Consultants LLC

#SMPS in LOT: 36

EDD Code: 00

CRM DOE #6d Rev 1

J/ (1411	LE#	CLIE	NT SAMP	LE ID Site	D	Client Matrix D	ATE/T	IME SAMPLED	WORKORDER A	
30		SIW-	SB-016P-5	5.0-8.0		20	11-07-	14 / 1200	MK1W0 SOLIE	D
SAME	LE C	OMME	NTS:							
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06	
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK 06	
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06	
<u>SAM</u>	PLE#	CLIE	NT SAMP	LE ID Site	D	Client Matrix D	ATE/T	IME SAMPLED	WORKORDER A	
31		SIW-	SB-017P-0	0.0-5.0		20	11-07-	14 / 1240	MK1W1 SOLIE	D
SAME	LE C	OMME								
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC	
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK 06	
ХХ	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06	
SAME	LE#	CLIE	NT SAMP	LE ID Site	D	Client Matrix D	ATE/T	IME SAMPLED	WORKORDER A	
32		SIW-	SB-018P-0	0.0-5.0		20	11-07-	14 / 1525	MK1W2 SOLIE	D
		OMME								
XX	ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC	
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK 06	
ХХ	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06	
SAME	LE#	CLIE	NT SAMP	LE ID Site I	D	Client Matrix D	A <u>TE/T</u>	IME_SAMPLED	WORKORDER A	
33		SIW-	SB-019P-0		<u>D</u>			IME SAMPLED 13 / 1520	<u>WORKORDER</u> <u>A</u> MK1W3 SOLID	D
33 <u>SAM</u> F	LE C		SB-019P-0 :NTS:	0.0-5.0	_	20	11-07-	13 / 1520	MK1W3 SOLIE	
33 <u>SAMF</u> <b>XX</b>	PLE C	SIW-	SB-019P-0 NTS: RAD SCREEN	0.0-5.0 SOLID, RAD SCREEN, RAD SCREEN, Special L	- RA	20 IN-HOUSE RAD SCREEN	11-07- <b>01</b>	13 / 1520 STANDARD TEST SET	MK1W3 SOLIE	
33 <u>SAM</u> F	LE C	SIW- OMME	SB-019P-0 ENTS: RAD SCREEN GA-01-R MOD	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	_	20	11-07-	13 / 1520	MK1W3 SOLIE  PROT: A WRK 06 LOC  PROT: C WRK 06 LOC	
33 SAMF XX XX	PLE C	SIW-	SB-019P-0 ENTS: RAD SCREEN GA-01-R	0.0-5.0 SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma	- RA	in-House RAD SCREEN Dry, Grind, and Fill Geometry -> 21	11-07- <b>01</b>	13 / 1520 STANDARD TEST SET	MK1W3 SOLIE  PROT: A WRK 06 LOC  PROT: C WRK 06	
33 SAMF XX XX	PLE C ZV 0B 2M	SIW- OMME EML EML	SB-019P-0 ENTS: RAD SCREEN GA-01-R MOD A-01-R	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	RA J9 J2	IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides	01 01 01 01	13 / 1520 STANDARD TEST SET STANDARD TEST SET	PROT: A WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06	
33 SAMF XX XX XX	PLE C ZV 0B 2M	SIW-OMME  EML  EML  CLIE	SB-019P-0 ENTS: RAD SCREEN GA-01-R MOD A-01-R MOD	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	RA J9 J2	in-House RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D	01 01 01 01 01	13 / 1520  STANDARD TEST SET  STANDARD TEST SET  STANDARD TEST SET	PROT: A WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC	
33 SAMF XX XX XX SAMF	ZV 0B 2M	SIW-OMME  EML  EML  CLIE	SB-019P-0 ENTS: RAD SCREEN GA-01-R MOD A-01-R MOD ENT SAMP SB-019P-5	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	RA J9 J2	in-House RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D	01 01 01 01 01	13 / 1520  STANDARD TEST SET  STANDARD TEST SET  STANDARD TEST SET	PROT: A WRK 06 PROT: C WRK 06 LOC PROT: C WRK 06 LOC WORKORDER A	
33 SAMF XX XX XX SAMF 34 SAMF	ZV 0B 2M	SIW- OMME  EML  EML  CLIE  SIW-	SB-019P-0 ENTS: RAD SCREEN GA-01-R MOD A-01-R MOD ENT SAMP SB-019P-5 ENTS: RAD	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)  SEE ID Site   5.0-8.0	RA J9 J2	in-House RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D IN-HOUSE RAD	01 01 01 01 01	13 / 1520  STANDARD TEST SET  STANDARD TEST SET  STANDARD TEST SET	MK1W3 SOLIE  PROT: A WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC  WORKORDER A MK1W4 SOLIE  PROT: A WRK 06	D
33 SAMF XX XX XX SAMF 34 SAMF XX	ZV OB 2M PLE#	SIW- OMME  EML  EML  CLIE  SIW-	SB-019P-0 ENTS: RAD SCREEN GA-01-R MOD A-01-R MOD ENT SAMP SB-019P-5 ENTS: RAD SCREEN GA-01-R	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GAO1-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)  LE ID Site   5.0-8.0  SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma	RA J9 J2	IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D  IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21	01 01 01 01 01 0ATE/T	STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET  STANDARD TEST SET  IME SAMPLED  13 / 1520	MK1W3 SOLIE  PROT: A WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC WORKORDER A MK1W4 SOLIE  PROT: A WRK 06 PROT: C WRK 06	D
33 SAMF XX XX XX SAMF 34 SAMF XX XX	PLE C ZV 0B 2M PLE #	SIW- OMME  EML  CLIE  SIW- OMME	SB-019P-0 ENTS: RAD SCREEN GA-01-R MOD A-01-R MOD ENT SAMP SB-019P-5 ENTS: RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)  LE ID Site   5.0-8.0  SOLID, RAD SCREEN, RAD SCREEN, SPECIAL L	RA J9 J2 D	IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D IN-HOUSE RAD SCREEN	01 01 01 01 0ATE/T 111-07-	STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET  STANDARD TEST SET  IME SAMPLED  13 / 1520  STANDARD TEST SET	PROT: A WRK 06 PROT: C WRK 06 LOC PROT: C WRK 06 LOC WORKORDER A MK1W4 SOLIE PROT: A WRK 06 LOC	D
SAMF XX XX XX SAMF 34 SAMF XX XX	PLE C ZV 0B 2M PLE # PLE C ZV 0B	SIW- OMME  EML  EML  CLIE  SIW- OMME	SB-019P-0 ENTS: RAD SCREEN GA-01-R MOD A-01-R MOD ENT SAMP SB-019P-5 ENTS: RAD SCREEN GA-01-R MOD	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)  SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Iso U (LONG CT)  SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)	RA J9 J2 D RA J9 J2	IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides	01 01 01 01 01 0ATE/T 11-07- 01 01	STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET  STANDARD TEST SET  IME SAMPLED  13 / 1520  STANDARD TEST SET STANDARD TEST SET	MK1W3 SOLIE  PROT: A WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC  WORKORDER A MK1W4 SOLIE  PROT: A WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06	D
SAMF XX XX XX SAMF 34 SAMF XX XX	DEE C ZV 0B 2M DEE# ZV 0B 2M	SIW- OMME  EML  CLIE SIW- OMME  EML  EML  CLIE  CLIE	SB-019P-0 ENTS: RAD SCREEN GA-01-R MOD A-01-R MOD SB-019P-5 ENTS: RAD SCREEN GA-01-R MOD A-01-R MOD	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)  SILE ID Site I SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)  LE ID Site I	RA J9 J2 D RA J9 J2	IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D Client Matrix	01 01 01 01 01 01-07- 01 01 01	STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET  STANDARD TEST SET  IME SAMPLED  13 / 1520  STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET	PROT: A WRK 06 PROT: C WRK 06 LOC PROT: C WRK 06 LOC WORKORDER A MK1W4 SOLIE  PROT: A WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC	D
33 SAMF XX XX SAMF XX SAMF XX XX XX SAMF XX XX	PLE C ZV OB ZM PLE # OB ZV OB ZV OB	SIW- OMME  EML  CLIE SIW- OMME  EML  EML  CLIE  CLIE	SB-019P-0 ENTS: RAD SCREEN GA-01-R MOD A-01-R MOD ENT SAMP SB-019P-5 ENTS: RAD SCREEN GA-01-R MOD A-01-R MOD A-01-R MOD A-01-R MOD A-01-R MOD SCREEN GA-01-R MOD A-01-R MOD	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)  SILE ID Site I SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)  LE ID Site I	RA J9 J2 D RA J9 J2	IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D Client Matrix	01 01 01 01 01 01-07- 01 01 01	STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET  STANDARD TEST SET  IME SAMPLED  STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET	PROT: A WRK 06 PROT: C WRK 06 LOC PROT: C WRK 06 LOC WORKORDER A MK1W4 SOLIE  PROT: A WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC WORKORDER A	D
33 SAMF XX XX SAMF XX SAMF XX XX SAMF XX SAMF XX SAMF XX SAMF XX SAMF	PLE C ZV OB ZM PLE # OB ZV OB ZV OB	SIW- OMME  EML  CLIE SIW- OMME  EML  CLIE SIW-	SB-019P-0 ENTS: RAD SCREEN GA-01-R MOD A-01-R MOD ENT SAMP SB-019P-5 ENTS: RAD SCREEN GA-01-R MOD A-01-R MOD A-01-R MOD A-01-R MOD A-01-R MOD SCREEN GA-01-R MOD A-01-R MOD	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)  SILE ID Site I SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)  LE ID Site I	RA J9 J2 D RA J9 J2	IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D Client Matrix	01 01 01 01 01 01-07- 01 01 01	STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET  STANDARD TEST SET  IME SAMPLED  STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET	PROT: A WRK 06 PROT: C WRK 06 LOC PROT: C WRK 06 LOC WORKORDER A MK1W4 SOLIE  PROT: A WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC WORKORDER A	D D
33 SAMF XX XX SAMF XX SAMF XX XX SAMF XX SAMF XX SAMF XX SAMF XX SAMF	PLE C ZV OB ZM PLE # OB ZM PLE #	SIW- OMME  EML  CLIE SIW- OMME  EML  CLIE SIW-	SB-019P-0 ENTS: RAD SCREEN GA-01-R MOD A-01-R MOD ENT SAMP SCREEN GA-01-R MOD A-01-R MOD A-01-R MOD SCREEN GA-01-R MOD A-01-R MOD ENT SAMP SRED SCREEN GA-01-R MOD A-01-R MOD ENT SAMP SB-020P-0 ENTS: RAD	SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)  SOLID, RAD SCREEN, RAD SCREEN, Special L SOLID, GA-01-R MOD, Gamma Ra-226 & Hits SOLID, A-01-R MOD, Iso U (LONG CT)  SOLID, RAD SCREEN, SOLID, A-01-R MOD, Iso U (LONG CT)  LE ID Site ID Site ID SOLID, A-01-R MOD, Iso U (LONG CT)	RA J9 D J2	IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D IN-HOUSE RAD SCREEN Dry, Grind, and Fill Geometry -> 21 day in-growth Extraction Chromatography - Sequential Actinides  Client Matrix D IN-HOUSE RAD Client Matrix D IN-HOUSE RAD	01 01 01 01 01 01 01 01 01 01 01 01	STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET  STANDARD TEST SET  IME SAMPLED  13 / 1520  STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET STANDARD TEST SET	PROT: A WRK 06 PROT: C WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC WORKORDER A MK1W4 SOLIE PROT: A WRK 06 LOC PROT: C WRK 06 LOC PROT: C WRK 06 LOC WORKORDER A MK1W5 SOLIE PROT: A WRK 06	D

Temperature on Receipt \_\_\_\_\_



Drinking Water? Yes □ No □

THE LEADER IN ENVIRONMENTAL TESTING

AL-4124 (1007)																									
Client			Projec	t Mai	nage	r		,				*					D	ate				1	of Custoo	•	
Address			Telepi	hone .	Num	ber (/	Area C	ode)/i	Fax N	lumbe	er						L	ab Nu	mber			Page			of 3
City	State .	Zip Code	Site C	ontac	ct	_		L.	ab Co	ntact							nalys ore sp								
Project Name and Location (State)			Carrie	r/Waj	ybill l	Numb	per																Cnaci	al In	structions/
Contract/Purchase Order/Quote No.		_			/	Matri	;x			Con Pres				CATO											of Receipt
Sample I.D. No. and Description Containers for each sample may be combined of		ne) Date	Time	Air	Aqueous	Sed.	Soil	Januar	H2SO4	НМОЗ	HCI	NaOH	ZnAc/ NaOH	8											
SIW-5B-013P-5.0-8.	0	7-14-11	1110				X	_\>	<b>(</b>					X									1 KS	50	of_
SIW-SB-014P-0.0-5.	D	7-13-11	1555	_			X	4	़	$\perp$				X			$\sqcup$	$\perp$			$\perp \perp$	$\perp$			
SIW-SB-014P-5.0-8	.0	7-13-11	1553	+			X	$\lambda$	(					X			Ш	_							
SIW-SB-0158-0.0-5.	0	7-14-11	1500				χ	_ >	<u> </u>					X				$\perp$						$\perp$	
SIW-SB-0169-0-0-5	.0	7-14-11	1200				X	×	2					X										L	
SIW-SB-016P-5-0-8	3-0	7-14-11	1200	)			X	X	<u> </u>					X											
SIW - SB- OMP-0.0-C		7-14-11	1240				X	X	(					X										L	
51W-5B-018P-0-0-5	0.0	7-14-11	1525				X	X	1					x										L	
51W-SB-019P-0.0-5	-0	7-13-11	1520				×	×	٥					X										L	
SIW-SB-019P-5-0-8	3.0	7-13-11	1520				X	_\ <i>X</i>	^					X											
SIW-SB-1000P-0-0-		7-14-11	1015				X	X	7					Ø											/
SIW-5B-020P-5.0-9		7-14-11	1015	L,			X	)	7					x									V	_	
Non-Hazard 🗌 Flammable 🗌 Skin		Poison B	Unknow	1	_ ′		sposal To Clie	ent	1/20						ive Fo	or	/	Month	(A s loi	fee ma ger tha	y be asse n 1 mont	essed if s th)	samples a	are re	tained
Turn Around Time Required  24 Hours   48 Hours   7 Days	□ 1 <i>4</i>	Days 🗌 21 Days	s 🗆 OI	har					100	C Req	uiren	nents	(Speci	ify)						`					
1. Relinguished By			Date 7-		- [ [	(	ne SUC	> D		Region	k	1	2	)(	De la		$\overline{\geq}$					Date	19/11		ime 0 920
2. Relinquished By			Date			"	ne		2.7	Recei	ved i	sy										Date	/	'	Time
3. Relinquished By			Date			Tin	пе		3. 1	Recei	ived i	<i>By</i>			_							Date		7	Time
Comments				-																					

TestAme	erica L	ot #(s):	<u> </u>		
THE LEADER IN ENVIRONME	ENTAL TESTING CUR Form #: 247		2/707	61, 473	
	247	/ <u>7</u> G	42	9,419	
CONDITION U	JPON RECEIPT FORM		76	<del>}</del>	
Client:	SEO CONSULTANTS		477	7	
Quote No:	89198				
COC/RFA No:	SEE BELOW		( (		
Initiated By:	·	Date:	7/18/11	Time:	0920
	<u>Sh</u>	ipping Inforn	nation '		
	edEx UPS DHL Courier C	Client Other:		Multiple P	
Shipping # (s):*				Sample Temperature	_
1. 7973 127		1271 5		1. AUBIENT	_ 6. AubienT
2.	4672 7.		159/	2.	7.
3.	4937 8.		1709	3.	_ 8
4.	4558 9. V		4812	4.	9
5. <u>- V</u>	/ 480/ 10	**Sample	must be received at 4°	5. 2°C - If not, note co	10. ontents below. Temperature
*Numbered shipping lines	s correspond to Numbered Sample Temp lines		oes NOT affect the fo		; Rad tests- Liquid or Solids;
Condition (Circle "Y"	for yes, "N" for no and "N/A" for not applicable	e):			
1. (Y) N	Are there custody seals present on the cooler?	8.	Y (N)		seals present on bottles?
2. Y N/A	Do custody seals on cooler appear to tampered with?	9.	Y N N/A	tampered with?	on bottles appear to be
3. N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N N/A	not, make note below)	
4. N	Sample received with Chain of Custo		Y N N/A		14, H-3 & 1-129/131 Not Preserve" label?
5. <u>Y</u> N N/A	Does the Chain of Custody match sar ID's on the container(s)?	mple 12.	<b>O</b> N	Sample received i	n proper containers?
6. Y N	Was sample received broken?	13.	Y N N/A	Headspace in VO (If Yes, note sample I	A or TOX liquid samples?  (D's below)
7. Y N	Is sample volume sufficient for analy	sis? 14.	Y N N/A	Was Internal COC	C/Workshare received?
For DOE-AL (Pantex, LANOtes: 197114	ANL. Sandia) sites, pH of ALL containers received	ved must be verifi	ed, EXCEPT VOA, T	OX, Oil & Grease and s	soils.
1891174 mg	17113, 1014/1, 101/10	10 17/12	102 1001	107410,10	17/1/10/10h
10/4/1/1077	<u> </u>	121,107	405, 1874	BL, 17/123	17/11/2 17/116
DF= Dn=	ctoroc F= Fi	storect			
09F-01 -1	02 -03-0x0 - T	hov	are th	70 , 704	meal 1 -
totathe	4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	15 1	3000	so the	man
-Dring	in P. Kansr	) a no	Soume	- NO 1	do
010-6	Are the some	30	m Dla	- Que	<del>                                     </del>
<u> </u>	WE MIGHT		Sup file	>- DET- 02	15 unfiltered
Corrective Action:		. 7	rune 15 3	ediment is	the better +
Client Contact N Sample(s) proces		_ Info	rmed by:	backs !	ANTUNYOL ON
Sample(s) on ho	ld until:	If release	d, notify:	11.	<u>~1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 </u>
Project Management		CHECKED IN IF	Date: 12	TED BY SOMEONE OTH	HER THAN THE INITIATOR, THEN
	ED TO APPLY THEIR INITIAL AND THE DATE NO ADMIN-0004 rev13, REVISED 0:	EXT TO THAT ITE	M		

Project Manager: LMF

## **CLIENT ANALYSIS SUMMARY**

SDG:

Storage Loc:

RAD 2011-07-19

Expanded Deliverable

Date Received:

Analytical Due Date:

2011-08-09

Report Due Date:

2011-08-10

SIW Staten Island, NY

Quote #: 89198

GEO Consultants LLC

Report to: Barry Kinsall

509018

Report Type: D EDD Code: 00

#SMPS in LOT: 14

CRM DOE #6d Rev 1

Project:

PQ#:

Client:

SAMP	<u>LE #</u>	CLIE	NT SAMPL	_E ID Site	<u>ID</u>	Client Matrix [	DATE/T	ME SAMPLED	WORKORDER A
l		SIW-	SB-021P-0.	.0-5.0		20	011-07-	15 / 1210	MK1XF SOLID
SAMP	LE C	<u>OMME</u>							
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	19	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK 06 LOC
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
SAMP	<u>LE #</u>	CLIE	NT SAMPL	_E ID Site	ID	Client Matrix [	DATE/T	ME SAMPLED	WORKORDER A
2		SIW-S	SB-021P-5.	0.8-0.		20	011-07-	15 / 1210	MK17H SOLID
SAMP	LE C	<u>OMME</u>	NTS:						
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	1 01	STANDARD TEST SET	PROT: C WRK 06 LOC
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
SAMP	LE #	CLIE	NT SAMPL	_E ID Site	!D	Client Matrix [	DATE/TI	ME SAMPLED	WORKORDER A
3		SIW-S	SB-022P-0.	0-5.0		20	011-07-	14 / 1035	MK17J SOLID
SAMP	LE C	<u>OMME</u>							
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK 06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
SAM <u>P</u>	LE#	CLIE	NT SAMPL	_E ID Site	<u>ID</u>	Client Matrix D	DATE/TI	ME SAMPLED	WORKORDER A
1		SIW-S	SB-022P-5.	0-8.0		20	011-07-1	14 / 1035	MK17K SOLID
		<u>OMME</u>							
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK 06 LOC
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
SAMP	LE#	CLIE	NT SAMPL	_E ID Site	ID	Client Matrix D	DATE/TI	ME SAMPLED	WORKORDER A
5		SIW-S	SB-023P-0.	0-5.0		20	011-07-	15 / 950	MK17M SOLID
SAMP	LE C	<u> </u>	NTS:						
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	<b>J</b> 9	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C WRK 06
ХХ	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C WRK 06
	LE#	CLIE	NT_SAMPL	_E ID Site	<u>ID</u>	Client Matrix D	DAT <u>E/</u> TI	ME SAMPLED	WORKORDER A
SAMP		SIW-S	SB-023P-5.	0-8.0		20	)11-07-1	15 / 950	MK17N SOLID
			NTC.						
6	LE C	<u>OMME</u>	<u>N15:</u>						DDOT: A WOL OC
SAMP SAMP XX		<u>OMME</u>	RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RΑ	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WRK 06 LOC
6 SAMP		OMME EML	RAD		RA J9		-	STANDARD TEST SET STANDARD TEST SET	PROT: A WRK 06 LOC PROT: C WRK 06 LOC

Project Manager: LMF

509018

## **CLIENT ANALYSIS SUMMARY**

SDG:

Quote #: 89198

GEO Consultants LLC

SIW Staten Island, NY

Report to: Barry Kinsall

Storage Loc:

RAD

Expanded Deliverable

Date Received:

2011-07-19

Analytical Due Date:

2011-08-09

2011-08-10

Report Due Date:

EDD Code: 00

Report Type: D

#SMPS in LOT: 14

CRM DOE #6d Rev 1

Project:

PO#:

Client:

Į										
SA	MPLE #	# CLIE	NT SAMPL	_E ID Site	<u>D</u>	Client Matrix	DATE/T	ME SAMPLED	WORKORDE	<u>R</u> A
7		SIW-	SB-024P-0.	0-5.0		2	2011-07-	15 / 1030	MK17P	SOLID
SA	MPLE (	СОММЕ	NTS:							
	xx zv		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WI	RK 06
2	XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	21 01	STANDARD TEST SET		rk 06
;	XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		rk 06
SA	MPLE #	# CLIE	NT SAMPL	_E ID Site	D	Client Matrix	DATE/T	ME SAMPLED	WORKORDE	R A
8		SIW-	SB-025P-0.	0-5.0		2	2011-07-	15 / 1135	MK17Q	SOLID
SA	MPLE (	COMME	NTS:							
2	xx zv		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WI	RK 06
2	XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	21 <b>01</b>	STANDARD TEST SET	PROT: C W	RK 06
	XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		rk 06
SA	MPLE #	# CLIE	NT SAMPI	_E ID Site	D	Client Matrix	DATE/T	ME SAMPLED	WORKORDE	<u>R A</u>
9		SIW-	SB-026P-0	0-5.0		2	2011-07-	15 / 1230	MK17R	SOLID
SA	MPLE (	COMME	NTS:							
2	xx zv		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WI	RK 06
2	XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	21 <b>01</b>	STANDARD TEST SET		rk 06
:	XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		rk 06
D :	XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	21 <b>01</b>	STANDARD TEST SET		rk 06
S	XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fili Geometry -> 2 day in-growth	21 <b>01</b>	STANDARD TEST SET		rk 06
X	XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		rk 06
SA	MPLE #	# CLIE	NT SAMPL	_E ID Site	D	Client Matrix	DATE/T	ME SAMPLED	WORKORDE	<u>R A</u>
10		SIW-	SB-DUP-00	1		2	2011-07-	12 / 0	MK17V	SOLID
SA	MPLE (	COMME	NTS:							
2	xx zv		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WI	RK 06 DC
2	XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	21 <b>01</b>	STANDARD TEST SET	PROT: C WI	RK 06
	XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		rk 06
SA	MPLE #	# CLIE	NT SAMPL	_E ID Site	D	Client Matrix	DATE/T	ME SAMPLED	WORKORDE	<u>R</u> <u>A</u>
11		SIW-	SB-DUP-00	)2		2	2011-07-	13 / 0	MK17W	SOLID
SA	MPLE (	COMME	NTS:							
2	XX ZV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A WI	RK 06 DC
2	XX 0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> 2 day in-growth	21 <b>01</b>	STANDARD TEST SET	PROT: C WI	RK 06 DC
	XX 2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET		rk 06
SA	MPLE #	# CLIE	NT SAMPL	_E ID Site	ID	Client Matrix	DATE/T	ME SAMPLED	WORKORDE	<u>R A</u>
12		SIW-	SB-DUP-00	)3		2	2011-07-	14 / 0	MK170	SOLID
	MPLE (									

Project Manager: LMF

## **CLIENT ANALYSIS SUMMARY**

SDG:

Quote #: 89198

SIW Staten Island, NY

Report to: Barry Kinsall

Site ID

J2

SOLID, A-01-R MOD, Iso U (LONG CT)

Storage Loc:

Date Received:

2011-07-19

RAD

Expanded Deliverable

Analytical Due Date:

2011-08-09

Report Due Date:

WORKORDER

PROT: C

WRK

LOC

06

2011-08-10

Report Type: D

PO#: Client:

Project:

**GEO Consultants LLC** 

509018

SAMPLE # CLIENT SAMPLE ID

EML

A-01-R

MOD

XX 2M

#SMPS in LOT: 14

DATE/TIME SAMPLED

01 STANDARD TEST SET

EDD Code: 00

CRM DOE #6d Rev 1

XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	0	)1	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J9	Dry, Grind, and Fill Geometry -> day in-growth	21 0	1	STANDARD TEST SET	PROT: C	WRK	06
XX	2M	EML	A-01-R <b>M</b> OD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	0	)1	STANDARD TEST SET	PROT: C	WRK LOC	06
SAMP	LE#	CLIE	NT SAMPL	E ID Site	ID	Client Matrix	DATE	<u> </u>	ME SAMPLED	WORK <u>OR</u>	RDER	A
13		SIW-S	B-DUP-00	4			2011-0	)7-1	5 / 0	MK171	S	OLID
SAMP	LE CO	<b>OMME</b>	NTS:									

XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	19	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C	WRK LOC	06
XX	2M	EML	A-01-R MOD	SOLID, A-01-R MOD, Iso U (LONG CT)	J2	Extraction Chromatography - Sequential Actinides	01	STANDARD TEST SET	PROT: C	WRK LOC	06

Client Matrix

14		SIW-	SB-DUP-00	05		201	1-07-	15 / 0	MK172	S	OLID
SAMP	LE C	<u>OMME</u>	NTS:								
XX	ΖV		RAD SCREEN	SOLID, RAD SCREEN, RAD SCREEN, Special L	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	0B	EML	GA-01-R MOD	SOLID, GA-01-R MOD, Gamma Ra-226 & Hits	J <del>9</del>	Dry, Grind, and Fill Geometry -> 21 day in-growth	01	STANDARD TEST SET	PROT: C	WRK LOC	06

Extraction Chromatography -

Sequential Actinides

791

Temperature on Receipt \_\_\_\_\_



Drinking Water? Yes □ No ☐ THE LEADER IN ENVIRONMENTAL TESTING

124 (1007)																						
Client		Projec	_	_	0									- 1	ate			Cf	ain of Cu			
GPO CONSALTANTS LLC	-		O O		Buc	HA	ν <u>Α</u> -	٧						——,`	7-18	1-11			<u> 18</u>	948	3.J	
		'		Numbe	•					~ 6.	·- <b>-</b>				ab Numb	er			age		of _	7
325 Kentucky Ave State Zip	Code	Site Co		el?	255		Lab Co			20 7				Analys	is (Attac	ch list il	<i>f</i>	<b>       </b>	age		<u>or</u>	=
KEUL- KY L	12053														nace is i							
Project Name and Location (State)		Carrier	/Way	bill Nu	mber																	
SIW STATEN BLAND, NEW Y	cer_		1									4									structio	
Contract/Purchase Order/Quote No.				Má	atrix				itaine serva			0							Cor	ditions	of Rec	9ipt
Sample I.D. No. and Description  Containers for each sample may be combined on one line)	Date	Time	lir.	Aqueous	Soil		Unpres. H2SO4	HNO3		Ŧ	-	RAD										
51W-SB-021P-0.0-5-0	7-15-11	1210			X	_	ζ _				.42	X		11					/ V	50	OP.	
SIW-SB-021P-5-0-8-0	7-15-11				X	1 1	(					×							_ · ^			
SIW-SB-022P-0.0-5-0	7-14-11	1035			X		X					X								$\perp$		
SW-SB-022P-50-8.0	7-14-11	1035			X	}	<u> </u>	$\perp$				X										
DIW-SB-023P-0-0-5-0	7-15-11	0950			$\chi$	>	<u> </u>					X										
SIW-SB-023P-5.0-8.0	7-15=11	0950			$\mathcal{X}$	2	<u> </u>					X					14					
SIW-SB-024P-0.0-5.0	7-15-11	1030			X	/	ζ.				_	X										
SIW-SB-025P-0-0-5-0	7-15-11	1135			X		× _				$\perp$	x						$\perp$		1		
SIW-SB-026P-00-5.0	7-15-11	1230			X	/	(	-			_	XX	$\perp \perp$					$\perp$		<u>/</u>		
5W-SB-006MS-5-0-8:0	7-13-11	1410			X							X								<b>_</b>	/	
31W-SB-006MSD-520-8.0	7-13-11	1410			X			_			$\perp$	X								1/		
SIW-SB-008MS-0-0-5-0 Possible Hazard Identification	7-14-11	1450	5	ample .	Dispos							X								<b>V</b> _		
Non-Hazard	Poison B	Unknown	- 1	] Retu	,			Dispo				Archive	For	/	Months		may be a than 1 m		d if sampl	es are re	etained	
Turn Around Time Required							Q	C Req	uiren	nents	(Specil	fy)										
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Da 1. Relinguished By	nys 🗀 21 Day	S Ott	er		Time		- 1	Rece	April 1			76	<del></del>						Pate 1		Time	
1/2/2		7-1	8 -	- 1	09	DC					()_	20	m		>			5	7/19	111	092	0
2. Relinquished By		Date			Time		2.	Flede	ived I	Ву									ale /		Time	
3. Relinquished By		Date			Time		3.	Recei	ived L	3y		_							Pate		Time	
Comments																						

Temperature on Receipt \_\_\_\_\_



Drinking Water? Yes ☐ No ☐ THE LEADER IN ENVIRONMENTAL TESTING

AL-4124 (1007)								_						_				_					
Client			Project	t Mai	nager										D	ate				I .	of Custody		
																				1	89.	182	
Address			Teleph	one i	Numbe	er (A	rea C	ode)/Fax	Numb	ber					Lá	ab Num	ber			Page	2	of _	2
City	State	Zip Code	Site Co	ontac	rt			Lab C	Contac	ct					Analys nore sp								
Project Name and Location (State)	<u> </u>		Carrier	/Way	ybill Nu	ımbe	er																,
Contract/Purchase Order/Quote No.					M	atrix				ntain eserv			2									I Instruc ons of Fi	
Sample I.D. No. and Description  Containers for each sample may be combine		Date	Time	Air	Aqueous	Sed.	Soil	Unpres.	HZSC4	HCI	NaOH	ZnAc/ NaOH	1240										
51W-5B-008MSD-00.	- 000	7-14-11	1450				X	X	1				X								1/5	201	
SIW-SB-026MS-0-0	5.0	7-15-11	1230			_	X	X	$\perp$				X								/		
SIW-SB-026MSD-000	3000 B	7-15-11	1230		Ш		X	X					X										
51W-SB-DUP-001		7-12-11					X	X					$\times$								$\perp$		
51W-SB-DUP-002		7-13-11	_				$\lambda$	X					X								$\perp$		
SIW-SB- DUP-003		7-14-11	1				X	X		$\perp$			X										
SIW-SB-DUP-004		7-15-11					X	X					X								$\mathcal{A}_{\mathcal{A}}$		
SIW-SB-DUP-005		7-15-11	_				Х	X					X								V		
	_														$\perp$		$\sqcup$						
					Ш		$\perp$			1											_		
Possible Hazard Identification  Non-Hazard  Flammable  Sk	kin Irritan	t 🗆 Poison B	Unknown		Sample ] Ret	,		ent 🔽	Disi	oosal	Rv I	ah [	Archive	For	,	Months			be asso		samples a	e retaineo	1
Turn Around Time Required							70 0	_				ts (Spec						· mai					
24 Hours	, 🗆	14 Days 🔲 21 Day	s 🗌 Ott	her_							_												
1. Relingfished By	_		7-(	8-	-(1	Tin	90	•	. Ref	eivea	B)		)( ))		>	_				Date	[19][[	Time	720
2. Relinquished By			Date			Tin			P. FREC	eived	Ву								_	Date	7"	Time	
3. Relinquished By			Date			Tin	ne	3	R. Rec	eivea	By									Date		Time	
Comments											_												

TestAme	erica Lot #(s)	): E/C /Q / /	1/. / . / . / . /
THE LEADER IN ENVIRONME	ENTAL TESTING CUR Form #: 247	F15,1914	61, 473
CONDITION		4%	5 11
	PON RECEIPT FORM	117	4
Client	SEO CONSULTANTS	47	
Quote No:	89198		
COC/RFA No:	SEE BELOW		
Initiated By:	<i>√</i> ∂	Date: 7/19/1/	Time:
_	Shipping	<u>Information</u>	
•	edEx UPS DHL Courier Client	Other:	
Shipping # (s):*			Sample Temperature (s):**
1 1973 127	11 4970 6. <u>7973 12</u>	71 5072	1. Aubient 6. Aubient
2.	4672 7.	459/	2 7
3,	4937 8.	4709	3. 8.
4.	7558 9. V	1 4812	4
5.	1 4801 10.	7012	5.
	*		°C ± 2°C- If not, note contents below. Temperature
	P	ariance does NOT affect the for erchlorate	ollowing: Metals-Liquid; Rad tests- Liquid or Solids;
Condition (Circle "Y"	for yes, "N" for no and "N/A" for not applicable):		
1. (Y) N	Are there custody seals present on the cooler?	8. Y N	Are there custody seals present on bottles?
2. Y N/A	Do custody seals on cooler appear to be tampered with?	9. Y N N/A	Do custody seals on bottles appear to be tampered with?
3. (Y) N	Were contents of cooler frisked after opening, but before unpacking?	10. Y N N/A	Was sample received with proper pH <sup>1</sup> ? (If not, make note below)
4. Ø N	Sample received with Chain of Custody?	11. Y N N/A	Containers for C-14, H-3 & I-129/131 marked with "Do Not Preserve" label?
5. N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12. N	Sample received in proper containers?
6. Y N	Was sample received broken?	13. Y N N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7. Y N	Is sample volume sufficient for analysis?	14. Y N N/A	Was Internal COC/Workshare received?
/	ANL. Sandia) sites, pH of ALL containers received must	be verified, EXCEPT VOA,	FOX, Oil & Grease and soils.
Notes: 197114	197115, 189479, 189480, 1	97120, 197118,	189478, 189477, 189481,
189474, 1894	<sup>175</sup> , 189476, 199/17, 197/21,	189483, 1894	182, 197123, 197119, 197116
DECIME	entoped I - I stor	Cec L	
FO G - O -	03 - 53 - 50 - 57 - 57 - 57	14 0 100 -1	-1 -00-01-01
<del></del>	00, 05, 04 - 11, 12	se ove i	ne surreplie
of Otally	4 wars. Jhis	12 and	so we poould.
5- Duna	my, V, USAMSD a	ne Some	- sande.
010 + O1	Are the same	sam Do	1
Compating Action	WF MIGHT	5 m 60	- DET-02 15 unfiltered
Corrective Action: Client Contact N	ame:	Informed by:	SOLE LIGHT DOTTU TO
Sample(s) proces		- Ho	Chack INTOLOUR
Sample(s) on ho	ld until: OG If	released, notify:	and the second of the second o
Project Management		Date:	C[] []
THAT PERSON IS REQUIR	ED TO APPLY THE TIME THE FIEMS ARE BEING CHECKE ED TO APPLY THEIR INITIAL AND THE DATE NEXT TO ADMIN-0004 rev13, REVISED 05/27/11	ГНАТ ГТЕМ	ETED BY SOMEONE OTHER THAN THE INITIATOR, THEN DUIS\ADMIN\Admin-0004 CUR.doc

**APPENDIX B** 

**BORING LOGS** 



HTRW DRILLING	LOG	i		DISTRICT: C	ENWK		HOLE NUMBER 001				
1. COMPANY NAME: GEO Consu	Itants, LLC			2. DRILL SUB	CONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>		
3. PROJECT: Staten Island Warel	nouse				4. LOCA	TION: Sta	ten Island, NY				
5. NAME OF DRILLER: Howard Ha	ımmel				6. MANU	FACTURE	RS DESIGNATION OF D	RILL: Geoprobe 6610 D	10 DT		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	RILLING liners					LOCATIO	N: See aerial photo below	,			
			9. SURF	9. SURFACE ELEVATION: 5.55 ft (msl)							
			10. DATE	STARTE	D: 7/12/11	11. DATE COMPLET	ED: 7/12/11				
12. OVERBURDEN THICKNESS: I	N/A				15. DEP	TH GROU	NDWATER ENCOUNTER	ED: 4.2 ft (estimated)			
13. DEPTH DRILLED INTO ROCK	N/A				16. DEP	E AFTER DRILLING CO	DMPLETED: N/A				
14. TOTAL DEPTH OF HOLE: 10 f	t				17. OTH	ER WATE	R LEVEL MEASUREMEN	TS (SPECIFY): N/A			
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS VOC ME				ALS	OTHER (SP RAD	ECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 47%		
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	TORING -	OTHER (SP	ECIFY)	23. SIGNATURE OF IN	ISPECTOR	ı		



		HTRV	V DRILLING LO	OG			HOLE N	UMBI	ER: 001	
PROJECT:	Staten	Island Warehouse	INSPECTOR:	BG			SHEET	2	OF	2
ELEV. [	DEPTH (B)	DESCRIPTI	ON OF MATERIALS (C)	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		RE	MARKS (G)	
5.20	0.00	[\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	clayey, sandy, silt brown, dry, with ttered small gravel				Back Core	= 58	id = 38 cpm ( <sup>*</sup> can)	cpm, I min
4.40	- 1.00		clayey, sandy, silt , black, dry, with cinder				Sample collected at 1			at 1.2' -
3.60	- 2.00	ML, fill	clayey, sandy, silt rust brown, dry, crystals					1	1.6'	
3.20		// // // // // // // // // // // // //	clayey, sandy, silt		66% (3.3' of 5.0')					
2.40	- 3.00		fill, dark gray, anular, scattered cinder							
1.60	- 4.00	ML,	clayey, sandy, silt , dark gray, wet, granular	√ 4.2						
0.80	- 5.00	ML,	clayey, sandy, silt ill, dark, moist,				Back	groun	ıd = 38	cpm,
-0.00			granular				Core		cpm ( <i>*</i> can)	l min
-0.40	- 6.00									
-0.80			clayey, sandy, silt dark brown, wet,		28% (1.4' of 5.0')					
-1.60	7.00		muddy							
-2.00										
2.40	8.00	1								

HTRW DRILLING	LOG	i		DISTRICT: C		HOLE NUMBER 002					
1. COMPANY NAME: GEO Consu	Itants, LLC			2. DRILL SUB	CONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>		
3. PROJECT: Staten Island Wareh	nouse				4. LOCA	TION: Sta	ten Island, NY				
5. NAME OF DRILLER: Howard Ha	ımmel				6. MANU	FACTURE	RS DESIGNATION OF D	RILL: Geoprobe 6610 D	310 DT		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	RILLING liners					LOCATIO	N: See aerial photo belo	wo			
			9. SURF	9. SURFACE ELEVATION: 6.982 ft (msl)							
						STARTE	D: 7/12/11	11. DATE COMPLET	_ETED: 7/12/11		
12. OVERBURDEN THICKNESS: N	N/A				15. DEP	TH GROU	NDWATER ENCOUNTER	ED: NA			
13. DEPTH DRILLED INTO ROCK	N/A				16. DEP	TH TO WA	E AFTER DRILLING CO	OMPLETED: N/A			
14. TOTAL DEPTH OF HOLE: 5 ft					17. OTH	ER WATE	R LEVEL MEASUREMEN	TS (SPECIFY): N/A			
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS VOC ME				ALS	OTHER (SP	ECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 70%		
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	TORING -	OTHER (SP	ECIFY)	23. SIGNATURE OF IN	ISPECTOR	1		



		HTR		HOLE NUM	IBER: 002	2			
PROJECT:	Staten	Island Warehouse	INSPECTOR:	BG			SHEET 2	OF	2
ELEV. I	DEPTH (B)	DESCRIPT	TION OF MATERIALS (C)	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		REMARKS (G)	
6.80 — — — — — — — — — — — — — — — — — — —	0.00	ML // // ML	, clayey, sandy, silt I, brown, dry, hard				Backgro Core =	ound = 38 40 cpm (1 scan)	cpm, 1 min
5.20 —	- 2.00	ML fill	., clayey, sandy, silt , brown/black, dry, hard	-	70% (3.5' of 5.0')		Sample c	allacted s	ot 2 O'
4.00 —	- 3.00	0000	, clayey, sandy, silt fill, brown/black, moist, soft	-	01 3.0 )		Затріе С	3.3'	at 2.0
3.20 —	- 4.00	lo 0 d	, large gravel, grey, brown fill, moist						
2.40 —									
2.00	- 5.00	0000		-					

HTRW DRILLING	LOG	i		DISTRICT: 0	ENWK				HOLE NUMBER 003		
1. COMPANY NAME: GEO Consu	iltants, LLC			2. DRILL SUE	BCONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>		
3. PROJECT: Staten Island Warel	nouse				4. LOCA	TION: Sta	ten Island, NY				
5. NAME OF DRILLER: Howard Ha	ammel				6. MANU	FACTURE	RS DESIGNATION OF D	ORILL: Geoprobe 6610 D	6610 DT		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	RILLING					LOCATIO	N: See aerial photo bel	ow			
						ACE ELEV					
						STARTE	D: 7/12/11	11. DATE COMPLET	LETED: 7/12/11		
12. OVERBURDEN THICKNESS:	N/A				15. DEPT	TH GROU	NDWATER ENCOUNTER	RED: NA			
13. DEPTH DRILLED INTO ROCK	: N/A				16. DEPT	E AFTER DRILLING CO	DMPLETED: N/A				
14. TOTAL DEPTH OF HOLE: 8 ft					17. OTHE	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A					
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	URBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS VOC META				ALS	OTHER (SPI	ECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 63%		
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	TORING -	OTHER (SPI	ECIFY)	23. SIGNATURE OF IN	ISPECTOR			
BENTONITE											



		HT	RW DRILLING L	OG			HOLE NUM	BER: 003	3
PROJECT	: Staten	Island Warehous	e INSPECTOR:	BG			SHEET 2	OF	2
ELEV. (A)	DEPTH (B)	DESCR	IPTION OF MATERIALS (C)	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		REMARKS (G)	
6.00	0.00		ML/topsoil, clayey, sandy, silt fill, brown, organic				Backgro Core = (	und = 38 62 cpm (* scan)	cpm, 1 min
5.20	1.00     								
4.40	2.00	N	ML, clayey, sandy, silt fill, brown/tan, fine, dry, hard		50% (2.5' of 5.0')				
3.60	3.00				,				
2.40	4.00		ML, clayey, sandy, silt fill, red, dry, soft, with brick	-			Sample c	ollected a 5.0'	at 3.6' -
1.60	- - - - -		ML, clayey, sandy, silt fill, brown, moist, soft					0.0	
1.20	5.00    	N. // I.	ML, clayey, sandy, silt fill, brown, dry, soft	-				und = 38 62 cpm (1 scan)	
0.80	6.00		ML, clayey, gravelly, silt fill, dark brown, moist		83% (2.5' of 3.0')				
-0.40	7.00		ML, clayey, gravelly, silt fill, black, wet, soft	-	,		Strong d Appeared diesel f		aked in
-1.20 -1.60	- - - - 8.00						Sample c	ollected a 8.0'	at 7.3' -

HTRW DRILLING	LOG	i		DISTRICT: C	ENWK				HOLE NUMBER 004		
1. COMPANY NAME: GEO Consu	ıltants, LLC			2. DRILL SUE	CONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>		
3. PROJECT: Staten Island Warel	nouse				4. LOCA	TION: Sta	ten Island, NY				
5. NAME OF DRILLER: Howard Ha	ammel				6. MANU	FACTURE	ERS DESIGNATION OF D	ORILL: Geoprobe 6610 D	610 DT		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	RILLING liners					LOCATIO	N: See aerial photo bel	ow			
			9. SURF	9. SURFACE ELEVATION: 7.480 ft (msl)							
						STARTE	D: 7/12/11	11. DATE COMPLET	LETED: 7/12/11		
12. OVERBURDEN THICKNESS:	N/A				15. DEP	TH GROU	NDWATER ENCOUNTER	RED: 8.8 ft (estimated)			
13. DEPTH DRILLED INTO ROCK	: N/A				16. DEP	TH TO WA	IE AFTER DRILLING CO	OMPLETED: N/A			
14. TOTAL DEPTH OF HOLE: 10 to	ft				17. OTH	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A					
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS VOC ME				ALS	OTHER (SP	ECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 40%		
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	TORING -	OTHER (SP	ECIFY)	23. SIGNATURE OF IN	I NSPECTOR	1		



		HTR	W DRILLING LO	OG			HOLE N	UMBEI	R: 004	
PROJECT:	Staten	Island Warehouse	INSPECTOR:	BG			SHEET	2	OF	2
ELEV. (A)	DEPTH (B)	DESCRIPT	ION OF MATERIALS (C)	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)			ARKS G)	
7.00 —	0.00							ground = 66 c sca	pm (1	
5.50	2.00		, clayey, sandy, silt brown, moist, soft							
4.50	3.00				34% (1.7' of 5.0')		tł	ole colle ne entir	e core	).
3.50	4.00	fill	, clayey, sandy, silt , tan, dry, medium , clayey, sandy, silt					eted fro		
2.50	5.00		I, brown/red, dry, ard, with brick and concrete				Back Core	ground = 51 c	= 38 pm (1	cpm, min
1.50	6.00		, clayey, sandy, silt l, brown, dry, hard					sca	in)	
0.50	7.00		, clayey, sandy, silt fill, tan, dry, hard							
0.00	- - - - -	17:17: \fill,	, clayey, sandy, silt red, dry, with brick /		46% (2.3' of 5.0')					
-1.00	8.00		black/brown, dry, hard							
-1.50	9.00	(1.77) fill,	, clayey, sandy, silt red, dry, hard, with brick	8.9			Sampl	e collec 10.		t 8.3' -
-2.00	10.00	fill,	, clayey, sandy, silt brown/black, wet, soft, with cinder							

HTRW DRILLING	LOG	ì		DISTRICT: 0	CENWK				HOLE NUMBER 005		
1. COMPANY NAME: GEO Consu	Iltants, LLC			2. DRILL SUE	BCONTRACTO	R: Envir	oprobe Services Inc		SHEET 1 OF 2		
3. PROJECT: Staten Island Warel	nouse				4. LOCAT	ION: Sta	ten Island, NY				
5. NAME OF DRILLER: Howard Ha	ammel				6. MANUI	FACTURE	RS DESIGNATION OF D	RILL: Geoprobe 6610 D	т		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	5' Geopro	bbe DPT soil sampler wi	th aceta	te	8. HOLE	LOCATIO	N: See aerial photo bel	ow			
							SURFACE ELEVATION: 5.263 ft (msl)				
						STARTE	D: 7/13/11	11. DATE COMPLET	ETED: 7/13/11		
12. OVERBURDEN THICKNESS:	N/A				15. DEPT	H GROU	NDWATER ENCOUNTER	RED: 4.3 ft (estimated)			
13. DEPTH DRILLED INTO ROCK	: N/A				16. DEPT 4.05 ft (7/		E AFTER DRILLING CO	OMPLETED:			
14. TOTAL DEPTH OF HOLE: 9 ft					17. OTHE	R WATE	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A			
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	URBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS VOC META				ALS	OTHER (SPE	CIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 60%		
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	ITORING L	OTHER (SPE	ECIFY)	IFY) 23. SIGNATURE OF INSPECTOR				
TEMPOR/ INSTALLE				ORARY MW							



		H	TRW D	RILLING LO	OG			HOLE N	UMBER:	005							
PROJECT:	Staten	Island Warehou	use	INSPECTOR:	BG			SHEET	2 (	F	2						
ELEV. (A)	DEPTH (B)	DESC	CRIPTION OF (C)	MATERIALS	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		REMA (G								
5.00	0.00							Back Core	ground = e = 58 cp scan	m (1	cpm, min						
4.50	- - - - - 1.00		ML alove	ov condu cilt													
4.00	- - - -		fill, brow	ey, sandy, silt n, dry, loose, ith organics													
3.50	2.00																
3.00	- - - -					58% (2.9' of 5.0')											
2.50	3.00																
2.00	- - - -		fill, red,	ey, sandy, silt dry, loose, th brick													
1.00	4.00							Sampl	le collect 5.0'	ed a	t 3.4'						
0.50	- - - -		ML, clayey, sandy, silt fill, brown, wet, rusty								4.5				0.0		
0.00	5.00		ML, claye	ey, sandy, silt bwn/black, loose, fine													
0.50	- - - - - - - 6.00	0.00															
1.00	- - - -	0.00															
1.50	7.00	0.000	GM s	ilty, sandy		63% (2.5' of 4.0')											
2.00	- - - -	0.0.0	GM, silty, sandy, gravel fill, brown, wet, loose					San	nples col 5.8'-	ecte )'	d at						
2.50	8.00	0.0.0															
3.50	- - - - - - - - 9.00	0.00						Back Core	ground = e = 53 cp scan	m (1	cpm, min						

12. OVERBURDEN THICKNESS: N/A  15. DEPTH GROUNDWATER ENCOUNTERED: N/A  16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING  14. TOTAL DEPTH OF HOLE: 8 ft  17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	Enviroprobe Services Inc SHEET 1 OF 2
5. NAME OF DRILLER: Howard Hammel  7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT  5' Geoprobe DPT soil sampler with acetate liners  8. HOLE LOCATION: See aerial photo below  9. SURFACE ELEVATION: 6.470 ft (msl)  10. DATE STARTED: 7/13/11  11. DATE COMPL  12. OVERBURDEN THICKNESS: N/A  15. DEPTH GROUNDWATER ENCOUNTERED: N/A  13. DEPTH DRILLED INTO ROCK: N/A  14. TOTAL DEPTH OF HOLE: 8 ft  17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT  5' Geoprobe DPT soil sampler with acetate liners  8. HOLE LOCATION: See aerial photo below  9. SURFACE ELEVATION: 6.470 ft (msl)  10. DATE STARTED: 7/13/11  11. DATE COMPL  12. OVERBURDEN THICKNESS: N/A  15. DEPTH GROUNDWATER ENCOUNTERED: N/A  13. DEPTH DRILLED INTO ROCK: N/A  14. TOTAL DEPTH OF HOLE: 8 ft  17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	: Staten Island, NY
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT    See aerial photo below	TURERS DESIGNATION OF DRILL: Geoprobe 6610 DT
10. DATE STARTED: 7/13/11  11. DATE COMPL  12. OVERBURDEN THICKNESS: N/A  15. DEPTH GROUNDWATER ENCOUNTERED: N/A  13. DEPTH DRILLED INTO ROCK: N/A  16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING  14. TOTAL DEPTH OF HOLE: 8 ft  17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	ATION: See aerial photo below
12. OVERBURDEN THICKNESS: N/A  15. DEPTH GROUNDWATER ENCOUNTERED: N/A  16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING  14. TOTAL DEPTH OF HOLE: 8 ft  17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	ELEVATION: 6.470 ft (msl)
13. DEPTH DRILLED INTO ROCK: N/A  16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING  14. TOTAL DEPTH OF HOLE: 8 ft  17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	ARTED: 7/13/11 11. DATE COMPLETED: 7/13/11
14. TOTAL DEPTH OF HOLE: 8 ft 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	ROUNDWATER ENCOUNTERED: N/A
	O WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A
40 OF OTF CHINICAL CAMPLES	/ATER LEVEL MEASUREMENTS (SPECIFY): N/A
18. GEOTECHNICAL SAMPLES DISTURBED UNDISTURBED 19. TOTAL NUMBER OF CORE BOXES: N/A	9. TOTAL NUMBER OF CORE BOXES: N/A
20. SAMPLES FOR CHEMICAL ANALYSIS VOC METALS OTHER (SPECIFY) OTHER (SPECIFY) OTHER (SPECIFY) OTHER (SPECIFY)	OTHER (SPECIFY) OTHER (SPECIFY) 21. TOTAL CORE RECOVERY 84%
22. DISPOSITION OF HOLE BACKFILLED MONITORING WELL OTHER (SPECIFY) 23. SIGNATURE OF INSPECTOR	Y) 23. SIGNATURE OF INSPECTOR



		H	TRW DI	RILLING I	LOG			HOLE NUMBER: 006			
PROJECT:	Staten	Island Wareho	use	INSPECTOR	R: BG			SHEET	2	OF	2
ELEV. (A)	DEPTH (B)	DESC	CRIPTION OF (C)	MATERIALS	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		RE	EMARKS (G)	
6.40	0.00							Back Core	grour = 65	nd = 44 5 cpm (*	cpm, 1 min
6.00									S	can) `	
5.60	<b>–</b> 1.00		as	sphalt							
5.20											
4.80											
4.40	- 2.00										
4.00			CL, clay, with	brown, wet, gravel		74% (3.7' of 5.0')					
3.60	- 3.00										
3.20											
2.80	4.00		asphali	t, brn/black							
2.40	- 4.00			.,,				Strong diese Appeared to b		be so	aked in
2.00			moist, I	nd, brown, loose, with ıravel				dies	el fue	l (3.6' -	8.0').
1.60	- 5.00		<u>9</u>		_			Back	grour	nd = 44	cpm,
1.20								Core		can)	1 min
0.80	<b>—</b> 6.00										
0.40	0.00	SP sand brown	40054 (5-5)								
0.00			moist, l	loose, with ravel		100% (3.0' of 3.0')		MS/M	SD pa	air take	n from
0.40	<b>7.00</b>							this core.			
0.80											
1.20	8.00										

1. COMPANY NAME: GEO Consultant	s, LLC		DISTRICT: CENWK					HOLE NUMBER 007	
			2. DRILL SUB	CONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>	
PROJECT: Staten Island Warehouse	Э			4. LOCA	TION: Sta	ten Island, NY			
5. NAME OF DRILLER: Howard Hamm	el			6. MANU	FACTURE	RS DESIGNATION OF D	RILL: Geoprobe 6610 D	Т	
7. SIZES AND TYPES OF	Geoprobe DPT soil sampler ers	with aceta	ate	8. HOLE	LOCATIO	N: See aerial photo belo	wo		
			9. SURFACE ELEVATION: 5.381 ft (msl)						
		10. DATE	10. DATE STARTED: 7/13/11 11. DATE COMPLETED: 7						
12. OVERBURDEN THICKNESS: N/A				15. DEP	TH GROUN	NDWATER ENCOUNTER	ED: N/A		
13. DEPTH DRILLED INTO ROCK: N/	A.			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILL				MPLETED: N/A	
14. TOTAL DEPTH OF HOLE: 8 ft				17. OTH	ER WATE	R LEVEL MEASUREMEN	TS (SPECIFY): N/A		
18. GEOTECHNICAL SAMPLES	DISTURBE	D	UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A		
20. SAMPLES FOR CHEMICAL ANALYSIS VOC METALS OTHER (						OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 50%	
22. DISPOSITION OF HOLE	IITORING L	OTHER (SPECIFY)		23. SIGNATURE OF INSPECTOR					



		Н	TRW DI	RILLING L	OG			HOLE NUMBER: 007				
PROJECT:	Staten	Island Wareho	use	INSPECTOR	: BG			SHEET	2	OF	2	
ELEV. (A)	DEPTH (B)	DES	CRIPTION OF (C)	MATERIALS	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		RE	MARKS (G)		
5.20	0.00							Back Core	= 64	id = 44 cpm (1 can)	cpm, min	
4.40	— 1.00		fill, brow	ey, sandy, silt n/black, dry asphalt						,		
4.00												
3.60	_ 2.00		a	sphalt								
3.20					_	60% (3.0' of 5.0')						
2.40	— 3.00		SP, sand moist,	, dark brown, with gravel		,						
2.00			GP, grav	el, dry, loose	_							
1.60	<b>-</b> 4.00		timl	oer, wet	_			Sampl	e coll	ected a 5.0'	t 3.3' -	
0.80			timl	oer, wet								
0.40	<b>-</b> 5.00				_			Appea diese	red to el fuel	sel fuel be soa l (4.2' -	ked in 8.0').	
-0.40								Back Core	= 73	id = 44 cpm (1 can)	cpm, min	
-0.80	— 6.00											
-1.20			timber, wet			33% (1.0' of 3.0')						
-1.60	<b>7.00</b>							Sampl	e coll	ected a	t 5.0' -	
-2.00									8	3.0'		
2.40	8.00											

COMPANY NAME: GEO Consultants,     PROJECT: Staten Island Warehouse	LLC		0 0011 0110	DISTRICT: CENWK				HOLE NUMBER 008	
			2. DRILL SUBCONTRACTOR: Enviroprobe Services Inc					SHEET <u>1</u> OF <u>2</u>	
				4. LOCA	ΓΙΟΝ: Sta	ten Island, NY			
5. NAME OF DRILLER: Howard Hammel				6. MANU	FACTURE	RS DESIGNATION OF D	RILL: Geoprobe 6610 D	Т	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT  5' G liner	eoprobe DPT soil sampler w s	vith aceta	te	8. HOLE	LOCATIO	N: See aerial photo belo	wo		
			9. SURF	ACE ELEV	ATION: 5.781 ft (msl)				
		10. DATE	ED: 7/14/11						
12. OVERBURDEN THICKNESS: N/A				15. DEP	TH GROUN	NDWATER ENCOUNTER	ED: N/A		
13. DEPTH DRILLED INTO ROCK: N/A				16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILL				MPLETED: N/A	
14. TOTAL DEPTH OF HOLE: 8 ft				17. OTH	ER WATE	R LEVEL MEASUREMEN	TS (SPECIFY): N/A		
18. GEOTECHNICAL SAMPLES	DISTURBED		UNDIST	JRBED	19. TO	AL NUMBER OF CORE	BOXES: N/A		
20. SAMPLES FOR CHEMICAL ANALYS	s voc	META	ALS	OTHER (SP	ECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 63%		
22. DISPOSITION OF HOLE	BACKFILLED	MONI WELL	TORING -	OTHER (SPECIFY)		23. SIGNATURE OF INSPECTOR			



		HTR	W DRILLING L	OG			HOLE N	UMBER	: 008	
PROJECT:	Staten	Island Warehouse	INSPECTOR:	BG			SHEET	2	OF	2
ELEV. (A)	DEPTH (B)	DESCRIPT	TION OF MATERIALS (C)	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		REMA	ARKS G)	
5.60 —	0.00						Back Core	ground = 51 cp sca	om (1	cpm, min
4.80 —	1.00									
4.00	2.00	ML	, clayey, sandy, silt							
3.20	- - - - -		fill, brown, dry		70% (3.5' of 5.0')					
2.40	3.00						MS/M	SD pair this co	taker ore.	n from
2.00	4.00									
1.20	- - - -			-						
0.40	5.00	CL	, clayey fill, brown, dry, plastic				Back Core	ground = 64 cp scal	om (1	cpm, min
-0.00	6.00	       		-						
-0.40	- - - - -				50% (1.5' of 3.0')					
-1.20	7.00	ML fil	, clayey, sandy, silt I, black, wet, with gravel							
-2.00	8.00									

HTRW DRILLING	LOG	i		DISTRICT: 0	ENWK				HOLE NUMBER 009
1. COMPANY NAME: GEO Consu	ıltants, LLC			2. DRILL SUE	BCONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>
3. PROJECT: Staten Island Warel	house				4. LOCA	TION: Sta	iten Island, NY		
5. NAME OF DRILLER: Howard Ha	ammel				6. MANU	FACTURE	ERS DESIGNATION OF D	ORILL: Geoprobe 6610 D	т
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	5' Geopro	bbe DPT soil sampler wi	th aceta	te	8. HOLE	LOCATIO	N: See aerial photo bel	ow	
							9. SURFACE ELEVATION: 4.958 ft (msl)		
	10. DATE STARTED: 7/14/1						D: 7/14/11	11. DATE COMPLET	ED: 7/14/11
12. OVERBURDEN THICKNESS:	N/A				15. DEPT	TH GROU	NDWATER ENCOUNTER	RED: 7.5 ft (estimated)	
13. DEPTH DRILLED INTO ROCK	: N/A					TH TO WA /17/11 – 1	TER AND ELAPSED TIM	E AFTER DRILLING CO	OMPLETED:
14. TOTAL DEPTH OF HOLE: 7.5	ft				17. OTHE	ER WATEI	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A	
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	URBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A	
20. SAMPLES FOR CHEMICAL AN	NALYSIS	VOC	META	ALS	OTHER (SPECIFY) OTHER (SPECIFY) OTHER (SPECIFY) 21. T REC 44%				
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	ITORING -	OTHER (SPI	ECIFY)	23. SIGNATURE OF IN	ISPECTOR	•
TEMPORARY MW INSTALLED									



		Н	TRW DI	RILLING L	OG			HOLE N	UMBE	ER: 009	
PROJECT:	Staten	Island Wareho	use	INSPECTOR:	BG			SHEET	2	OF	2
ELEV. (A)	DEPTH (B)	DESC	CRIPTION OF (C)	MATERIALS	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		RE	MARKS (G)	
4.40	0.00		sandy, s	soil, clayey, ilt fill, brown, organic				Back Core	= 385	d = 46 cpm ( <sup>s</sup> can)	cpm, 1 min
3.60	<b>- 1.00</b>				-						
3.20	- 2.00		as	sphalt							
2.40					-	52% (2.6' of 5.0')					
2.00	- 3.00										
1.20	- <b>4.00</b>										
0.40											
0.00	- 5.00		ML, claye	ey, gravel fill, red			-	Back	groun	d = 46	cpm,
0.40		3 0 0 0						Core	e = 71 sc	cpm (1 an)	min
0.80	- 6.00	)   0   0   0									
1.20						28% (0.7' of 2.5')					
2.00	<b>-</b> 7.00										
2.40					_		-				

HTRW DRILLING	LOG	i		DISTRICT: 0	ENWK				HOLE NUMBER 010		
1. COMPANY NAME: GEO Consu	iltants, LLC			2. DRILL SUE	BCONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>		
3. PROJECT: Staten Island Warel	nouse				4. LOCA	TION: Sta	ten Island, NY				
5. NAME OF DRILLER: Howard Ha	ammel				6. MANU	FACTURE	RS DESIGNATION OF D	ORILL: Geoprobe 6610 D	)T		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	5' Geopro	bbe DPT soil sampler wi	th aceta	te	8. HOLE	LOCATIO	N: See aerial photo bel	ow			
		9. SURFACE ELEVATION: 3.246 ft (msl)									
	10. DATE STARTED: 7/15/						D: 7/15/11	11. DATE COMPLET	ED: 7/15/11		
12. OVERBURDEN THICKNESS:	N/A				15. DEPT	15. DEPTH GROUNDWATER ENCOUNTERED: 0.0 ft					
13. DEPTH DRILLED INTO ROCK	: N/A					ΓΗ ΤΟ WA /17/11 – 1	TER AND ELAPSED TIM	E AFTER DRILLING CO	OMPLETED:		
14. TOTAL DEPTH OF HOLE: 8 ft					17. OTH	ER WATE	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A			
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	URBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A			
20. SAMPLES FOR CHEMICAL AN	IALYSIS	VOC	META	ALS	OTHER (SPECIFY) OTHER (SPECIFY) OTHER (SPECIFY)  RAD  OTHER (SPECIFY) OTHER (SPECIFY)  REC 58%						
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	ITORING -	OTHER (SPI	ECIFY)	23. SIGNATURE OF IN	ISPECTOR	1		
	ORARY MW LLED										



		HTRW	DRILLING L	OG			HOLE N	UMBE	ER: 010	)
PROJECT:	Staten	Island Warehouse	INSPECTOR	: BG			SHEET	2	OF	2
ELEV. (A)	DEPTH (B)	DESCRIPTIO	ON OF MATERIALS (C)	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		REI	MARKS (G)	
2.80	0.00			0.0			Back Core	= 43	d = 44 cpm (′ :an)	cpm, I min
2.00	<b>- 1.00</b>	SC COS	C, clayey sand, arse, wet, brown						·DUP-( om this	005 s core.
1.20	- 2.00				32% (1.6' of 5.0')					
0.40 -0.00 -	— 3.00			_	,					
-0.40 ———————————————————————————————————	<b>-</b> 4.00		silty sand, brown, wet, organic							
-1.60	- 5.00			_			Back	groun	d = 44	cpm,
-2.40 -2.80 -2.80	<b>—</b> 6.00						Core	= 57	cpm (′ can)	l min
-3.20 -3.60 -3.60		SM,	silty sand, black, wet		100% (3.0' of 3.0')		Strong diesel fuel odd Appeared to be soaked diesel fuel (5.0' - 8.0'		aked in	
-4.40	<b>-</b> 7.00								(	/.
	8.00									

HTRW DRILLING	LOG	i		DISTRICT: C	ENWK				HOLE NUMBER 011	
1. COMPANY NAME: GEO Consu	ıltants, LLC			2. DRILL SUE	SCONTRACT(	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>	
3. PROJECT: Staten Island Ware	house				4. LOCA	TION: Sta	ten Island, NY			
5. NAME OF DRILLER: Howard Ha	ammel				6. MANU	FACTURE	ERS DESIGNATION OF D	ORILL: Geoprobe 6610 D	T	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	DRILLING liners						N: See aerial photo bel	ow		
		9. SURFACE ELEVATION: 5.565 ft (msl)								
						10. DATE STARTED: 7/13/11 11. DATE COMPLETED: 7/13/11				
12. OVERBURDEN THICKNESS:	N/A				15. DEP	TH GROU	NDWATER ENCOUNTER	RED: 4.2 ft (estimated)		
13. DEPTH DRILLED INTO ROCK	:: N/A				16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLI				OMPLETED: N/A	
14. TOTAL DEPTH OF HOLE: 8 ft					17. OTHI	ER WATE	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A		
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A		
20. SAMPLES FOR CHEMICAL AN	NALYSIS	VOC	META	ALS	OTHER (SP RAD	ECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 64%		
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	TORING -	OTHER (SPECIFY)		23. SIGNATURE OF INSPECTOR			



		HTR	W DRILLING L	OG			HOLE N	UMBER	: 011	
PROJECT:	Staten	Island Warehouse	INSPECTOR:	BG			SHEET	2	OF	2
ELEV. (A)	DEPTH (B)	DESCRIP	TION OF MATERIALS (C)	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		REMA	ARKS 3)	
5.20 — — — — — — — — — — — — — — — — — — —	0.00	MI fill	L, clayey, sandy, silt I, brown, dry, loose, organic				Back, Core	ground = 70 cp scar	om (1	cpm, min
3.60 — — — — — — — — — — — — — — — — — — —	<ul><li>2.00</li><li>3.00</li><li>4.00</li></ul>	MI fi	L, clayey, sandy, silt ll, black/brown/red, dry, loose		66% (3.3' of 5.0')		Po	ssible a	sh la	yer
1.20 —				4.1			Sample	e collec 5.0	ted a	t 3.8' -
-0.00	<b>- 5.00</b>						Back Core	ground = 54 cp scai	om (1	cpm, min
-0.40	- 6.00	c	CL, clay, brown/red, plastic, moist		60% (1.8' of 3.0')					
-1.20 ————————————————————————————————————	<b>-</b> 7.00									
-2.40	8.00									

COMPANY NAME: GEO Consultants,     PROJECT: Staten Island Warehouse     NAME OF DRILLER: Howard Hammel	LC		2. DRILL SUB		DISTRICT: CENWK					
5. NAME OF DRILLER: Howard Hammel			2. DRILL SUBCONTRACTOR: Enviroprobe Services Inc					SHEET <u>1</u> OF <u>2</u>		
				4. LOCA	ΓΙΟΝ: Sta	ten Island, NY				
				6. MANU	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 6610 DT					
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT  5' Ge liners	oprobe DPT soil sampler w	ith acetat	te	8. HOLE	LOCATIO	N: See aerial photo bel	wo			
				9. SURFACE ELEVATION: 5.421 ft (msl)						
				10. DATE	STARTE	11. DATE COMPLETE	ED: 7/13/11			
12. OVERBURDEN THICKNESS: N/A				15. DEP	TH GROUN	NDWATER ENCOUNTER	ED: 5.5 ft (estimated)			
13. DEPTH DRILLED INTO ROCK: N/A				16. DEP	H TO WA	TER AND ELAPSED TIM	E AFTER DRILLING CC	MPLETED: N/A		
14. TOTAL DEPTH OF HOLE: 8 ft				17. OTH	ER WATE	R LEVEL MEASUREMEN	TS (SPECIFY): N/A			
18. GEOTECHNICAL SAMPLES	DISTURBED		UNDIST	JRBED	19. TO	AL NUMBER OF CORE	BOXES: N/A			
20. SAMPLES FOR CHEMICAL ANALYSI:	S VOC	META	ALS	OTHER (SP	ECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 55%		
22. DISPOSITION OF HOLE	BACKFILLED	MONI	TORING -	OTHER (SP	ECIFY)	23. SIGNATURE OF IN	SPECTOR	1		



		H'	TRW DRILLING L	OG			HOLE N	UMBI	ER: 012	2
PROJECT:	Staten	Island Warehou	use INSPECTOR:	BG			SHEET	2	OF	2
ELEV. (A)	DEPTH (B)	DESC	CRIPTION OF MATERIALS (C)	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		RE	MARKS (G)	
5.20 —	0.00		ML, clayey, sandy, silt fill, brown, dry, organic				Back Core	= 48	d = 44 cpm ( <i>*</i> can)	cpm, I min
4.40	- 1.00		ML clavov sandy silt	-						
3.60			ML, clayey, sandy, silt fill, tan, dry, loose  ML, clayey, sandy, silt	-						
3.20	- 2.00		fill, dark brown, dry, loose	-						
2.80					46% (2.3' of 5.0')					
2.40	- 3.00		ML, clayey, sandy, silt fill, tan/brown/black,				Po	ssible	ash la	ıyer
2.00			dry, loose							
1.20	- 4.00			-						
0.80							Sampl	e colle	ected a 5.0'	at 3.3' -
0.40	5.00						Back Core	= 62	d = 44 cpm ( <i>*</i> can)	cpm, I min
0.00								30	AII)	
0.80	- 6.00		CL, clay, red, moist, with cinder	6.0	700/ /0.41					
1.20					70% (2.1' of 3.0')					
2.00	7.00						Sampl	e colle	ected a	at 6.9' -
2.40							2	8	3.0'	

HTRW DRILLING	LOG	i		DISTRICT: C	ENWK				HOLE NUMBER 013			
1. COMPANY NAME: GEO Consu	ıltants, LLC			2. DRILL SUE	CONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>			
3. PROJECT: Staten Island Warel	nouse				4. LOCA	TION: Sta	ten Island, NY					
5. NAME OF DRILLER: Howard Ha	NAME OF DRILLER: Howard Hammel						6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 6610 DT					
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	bbe DPT soil sampler wi	ith aceta	te	8. HOLE	LOCATIO	N: See aerial photo bel	ow					
					9. SURFACE ELEVATION: 5.336 ft (msl)							
				10. DATE STA			D: 7/14/11	11. DATE COMPLET	ED: 7/14/11			
12. OVERBURDEN THICKNESS:	N/A				15. DEP	TH GROU	NDWATER ENCOUNTER	RED: 4.8 ft (estimated)				
13. DEPTH DRILLED INTO ROCK	: N/A				16. DEP	TH TO WA	TER AND ELAPSED TIM	IE AFTER DRILLING CO	OMPLETED: N/A			
14. TOTAL DEPTH OF HOLE: 8 ft					17. OTH	ER WATE	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A				
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A				
20. SAMPLES FOR CHEMICAL AN	NALYSIS	voc	META	ALS	OTHER (SP RAD	ECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 41%			
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	TORING -	OTHER (SP	ECIFY)	23. SIGNATURE OF IN	I NSPECTOR	1			



		HTRW I	DRILLING L	OG			HOLE N	UMBEI	R: 013	· · · · · · · · · · · · · · · · · · ·
PROJECT:	Staten	Island Warehouse	INSPECTOR:	BG			SHEET	2	OF	2
ELEV. (A)	DEPTH (B)		OF MATERIALS	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)	REMARKS (G)			
5.20 — — — — — — — — — — — — — — — — — — —	2.00	fill, darl	yey, sandy, silt k brown, moist, se, organic		40% (2.0' of 5.0')		Back Core	l = 46 cpm ( an)	1 min	
1.60 —	4.00	ML, cla fill, ta	yey, sandy, silt ın/gray, moist							
-0.00 -0.40 -0.40	5.00			5.0			Back	/ed ~4" top of ground = 118	core l = 46	ough at cpm, 1 min
-0.80	6.00	SP car	nd, wet, brown,		43% (1.3'		20.0	sca	an)	
-1.60	7.00	scatter	ed gravel/brick		of 3.0')		Sampl	e colle 7.	cted a 3'	t 5.0' -
-2.40	8.00									

1. COMPANY NAME: GEO Consultants, LLC 2. DRILL SUBCONTRACTOR: Enviroprobe Services Inc	HTRW DRILLING	LOG	<b>i</b>		DISTRICT: C	ENWK				HOLE NUMBER 014		
5. NAME OF DRILLER: Howard Harmel  7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT  10. DATE STARTED: 7/13/11  11. DATE COMPLETED: 7/13/11  12. OVERBURDEN THICKNESS: N/A  15. DEPTH DRILLED INTO ROCK: N/A  16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A  18. GEOTECHNICAL SAMPLES  DISTURBED  UNDISTURBED  UNDISTURBED  UNDISTURBED  6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 6610 DT  8. HOLE LOCATION: See aerial photo below  9. SURFACE ELEVATION: 5.650 ft (msl)  11. DATE COMPLETED: 7/13/11  11. DATE COMPLETED: 7/13/11  12. OVERBURDEN THICKNESS: N/A  15. DEPTH GROUNDWATER ENCOUNTERED: 6.7 ft (estimated)  16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A  17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A  18. GEOTECHNICAL SAMPLES  DISTURBED  UNDISTURBED  UNDISTURBED  19. TOTAL NUMBER OF CORE BOXES: N/A  20. SAMPLES FOR CHEMICAL ANALYSIS  VOC  METALS  OTHER (SPECIFY)  OTHER (SPECIFY)  OTHER (SPECIFY)  OTHER (SPECIFY)  AND MONITORING	1. COMPANY NAME: GEO Consu	ultants, LLC			2. DRILL SUB	CONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT  5' Geoprobe DPT soil sampler with acetate liners  8. HOLE LOCATION: See aerial photo below  9. SURFACE ELEVATION: 5.650 ft (msl)  10. DATE STARTED: 7/13/11  11. DATE COMPLETED: 7/13/11  12. OVERBURDEN THICKNESS: N/A  15. DEPTH GROUNDWATER ENCOUNTERED: 6.7 ft (estimated)  13. DEPTH DRILLED INTO ROCK: N/A  16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A  14. TOTAL DEPTH OF HOLE: 8 ft  17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A  18. GEOTECHNICAL SAMPLES  DISTURBED  UNDISTURBED  UNDISTURBED  19. TOTAL NUMBER OF CORE BOXES: N/A  20. SAMPLES FOR CHEMICAL ANALYSIS  VOC  METALS  OTHER (SPECIFY)  OTHER (SPECIFY)  OTHER (SPECIFY)  OTHER (SPECIFY)  OTHER (SPECIFY)  OTHER (SPECIFY)  MONITORING	3. PROJECT: Staten Island Warel	I. PROJECT: Staten Island Warehouse						ten Island, NY				
7. SIZES AND TYPES OF DRILLING POLICING AND SAMPLING EQUIPMENT  8. HOLE LOCATION: See aerial photo below  9. SURFACE ELEVATION: 5.650 ft (msl)  10. DATE STARTED: 7/13/11  11. DATE COMPLETED: 7/13/11  12. OVERBURDEN THICKNESS: N/A  15. DEPTH GROUNDWATER ENCOUNTERED: 6.7 ft (estimated)  16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A  14. TOTAL DEPTH OF HOLE: 8 ft  17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A  18. GEOTECHNICAL SAMPLES  DISTURBED  UNDISTURBED  UNDISTURBED  19. TOTAL NUMBER OF CORE BOXES: N/A  20. SAMPLES FOR CHEMICAL ANALYSIS  VOC  METALS  OTHER (SPECIFY)  OTHER (SPECIFY)  OTHER (SPECIFY)  OTHER (SPECIFY)  ANONITORING	5. NAME OF DRILLER: Howard Ha	ammel				6. MANU	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 6610 DT					
10. DATE STARTED: 7/13/11  11. DATE COMPLETED: 7/13/11  12. OVERBURDEN THICKNESS: N/A  15. DEPTH GROUNDWATER ENCOUNTERED: 6.7 ft (estimated)  16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A  16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A  17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A  18. GEOTECHNICAL SAMPLES  DISTURBED  UNDISTURBED  UNDISTURBED  19. TOTAL NUMBER OF CORE BOXES: N/A  20. SAMPLES FOR CHEMICAL ANALYSIS  VOC  METALS  OTHER (SPECIFY)  OTHER (SPECIFY)  OTHER (SPECIFY)  AMONITORING  OTHER (SPECIFY)  MONITORING	DRILLING	obe DPT soil sampler w	ith aceta	te	8. HOLE	LOCATIO	N: See aerial photo bel	ow				
12. OVERBURDEN THICKNESS: N/A  15. DEPTH GROUNDWATER ENCOUNTERED: 6.7 ft (estimated)  13. DEPTH DRILLED INTO ROCK: N/A  16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A  14. TOTAL DEPTH OF HOLE: 8 ft  17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A  18. GEOTECHNICAL SAMPLES  DISTURBED  UNDISTURBED  UNDISTURBED  19. TOTAL NUMBER OF CORE BOXES: N/A  20. SAMPLES FOR CHEMICAL ANALYSIS  OTHER (SPECIFY)  OTHER (SPECIFY)  RAD  OTHER (SPECIFY)  OTHER (SPECIFY)  RECOVERY 45%						9. SURFACE ELEVATION: 5.650 ft (msl)						
13. DEPTH DRILLED INTO ROCK: N/A  14. TOTAL DEPTH OF HOLE: 8 ft  17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A  18. GEOTECHNICAL SAMPLES  DISTURBED  UNDISTURBED  UNDISTURBED  19. TOTAL NUMBER OF CORE BOXES: N/A  20. SAMPLES FOR CHEMICAL ANALYSIS  OTHER (SPECIFY)  OTHER (SPECIFY)  RAD  OTHER (SPECIFY)  OTHER (SPECIFY)  RECOVERY 45%					10. DATE STARTED: 7/13/11 1			11. DATE COMPLET	ED: 7/13/11			
14. TOTAL DEPTH OF HOLE: 8 ft  17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A  18. GEOTECHNICAL SAMPLES  DISTURBED  UNDISTURBED  19. TOTAL NUMBER OF CORE BOXES: N/A  20. SAMPLES FOR CHEMICAL ANALYSIS  VOC  METALS  OTHER (SPECIFY)  OTHER (SPECIFY)  OTHER (SPECIFY)  ABOUT OTHER (SPECIFY)  OTHER (SPECIFY)  ABOUT OTHER (SPECIFY)  OTHER (SPECIFY)  ABOUT OTHER (SPECIFY)  OTHER (SPECIFY)  ABOUT OTHER (SPECIFY)  ABOUT OTHER (SPECIFY)  OTHER (SPECIFY)  ABOUT OTHER (SPECIFY)  OTHER (SPECIFY)  ABOUT OTHER (SPECIFY)  OTHER (SPECIFY)  ABOUT OTHER (SPECIFY)  OTHER (SPECIFY)  OTHER (SPECIFY)  ABOUT OTHER (SPECIFY)  OTHER (	12. OVERBURDEN THICKNESS:	N/A				15. DEP	TH GROU	NDWATER ENCOUNTER	RED: 6.7 ft (estimated)			
18. GEOTECHNICAL SAMPLES  DISTURBED  UNDISTURBED  19. TOTAL NUMBER OF CORE BOXES: N/A  20. SAMPLES FOR CHEMICAL ANALYSIS  VOC  METALS  OTHER (SPECIFY)  RAD  OTHER (SPECIFY)  OTHER (SPECIFY)  RECOVERY 45%	13. DEPTH DRILLED INTO ROCK	í: N/A				16. DEP	TH TO WA	TER AND ELAPSED TIM	E AFTER DRILLING CO	DMPLETED: N/A		
20. SAMPLES FOR CHEMICAL ANALYSIS VOC METALS OTHER (SPECIFY) OTHER (SPECIFY) OTHER (SPECIFY) 21. TOTAL CORE RECOVERY 45%  MONITORING  MONITORING	14. TOTAL DEPTH OF HOLE: 8 ft					17. OTH	ER WATE	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A			
RAD RECOVERY 45%  MONITORING	18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A			
	20. SAMPLES FOR CHEMICAL AN	NALYSIS	VOC	META	ALS	RAD						
	22. DISPOSITION OF HOLE		BACKFILLED			OTHER (SP	ECIFY)	23. SIGNATURE OF IN	NSPECTOR	ı		



		H	ΓRW D	RILLING L	OG			HOLE N	UMBI	ER: 014	1
PROJECT:	Staten	Island Warehou	ıse	INSPECTOR:	BG			SHEET	2	OF	2
ELEV. (A)	DEPTH (B)	DESC	CRIPTION OF (C)	MATERIALS	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)	REMARKS (G)			
5.60	0.00 - 1.00 - 2.00 - 3.00		ML, clayer fill, dry,	ey, sandy, silt n, dry, loose, rganic ey, sandy, silt loose, with gravel ey, sandy, silt n/red, loose, dry		52% (2.6' of 5.0')		Core	e = 55 so	ected a	cpm, 1 min
0.80 — — — — — — — — — — — — — — — — — — —	- 5.00 - 6.00 - 7.00		CL, clay, plas	brown/grey, stic, wet	6.2	33% (1.0' of 3.0')		Core	e = 46 so	ected a	cpm, 1 min

HTRW DRILLING	LOG	i		DISTRICT: C	ENWK				HOLE NUMBER 015			
1. COMPANY NAME: GEO Consu	ıltants, LLC			2. DRILL SUE	CONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>			
3. PROJECT: Staten Island Warel	3. PROJECT: Staten Island Warehouse						ten Island, NY					
5. NAME OF DRILLER: Howard Ha	NAME OF DRILLER: Howard Hammel						6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 6610 DT					
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	bbe DPT soil sampler wi	th aceta	te	8. HOLE	LOCATIO	N: See aerial photo bel	ow					
				9. SURFACE ELEVATION: 5.001 ft (msl)								
				10. DATE STARTED: 7/14/11			11. DATE COMPLETED: 7/14/11					
12. OVERBURDEN THICKNESS:	N/A				15. DEP	TH GROU	NDWATER ENCOUNTER	RED: N/A				
13. DEPTH DRILLED INTO ROCK	: N/A				16. DEP	TH TO WA	TER AND ELAPSED TIM	E AFTER DRILLING CO	OMPLETED: N/A			
14. TOTAL DEPTH OF HOLE: 6 ft					17. OTH	ER WATEI	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A				
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A				
20. SAMPLES FOR CHEMICAL AN	SAMPLES FOR CHEMICAL ANALYSIS VOC METALS OTHER (SPECIFY) OTH RAD						OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 23%			
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	TORING -	OTHER (SP	ECIFY)	23. SIGNATURE OF IN	I NSPECTOR	1			



		HTRW D	RILLING L	OG			HOLE N	UMBE	R: 015	
PROJECT:	Staten	Island Warehouse	INSPECTOR	: BG			SHEET	2	OF	2
ELEV. (A)	DEPTH (B)	DESCRIPTION C		DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		REM	IARKS (G)	
4.80 — — — — — — — — — — — — — — — — — — —	0.00 - 1.00 - 2.00 - 3.00 - 4.00	ML/top sandy brow	osoil, clayey, , silt fill, dry, rn, organics		28% (1.4' of 5.0')	(F)	Backe Core =	ground = 1185 sca	cpm (	cpm, 1 min
-0.40					0% (0.0' of 1.0')		No rec	overy f	from s sh	econd
0.80	6.00									

HTRW DRILLING	LOG	i		DISTRICT: 0	ENWK				HOLE NUMBER 016	
1. COMPANY NAME: GEO Consu	ıltants, LLC			2. DRILL SUE	BCONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>	
3. PROJECT: Staten Island Warel	house				4. LOCA	TION: Sta	iten Island, NY			
5. NAME OF DRILLER: Howard Ha	ammel				6. MANU	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 6610 DT				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	RILLING liners						N: See aerial photo bel	ow		
					9. SURFACE ELEVATION: 4.617 ft (msl)					
				10. DATE STARTED: 7/14/11			D: 7/14/11	11. DATE COMPLET	ED: 7/14/11	
12. OVERBURDEN THICKNESS:	N/A				15. DEPT	TH GROU	NDWATER ENCOUNTER	RED: 6.1 ft (estimated)		
13. DEPTH DRILLED INTO ROCK	: N/A					ΓΗ ΤΟ WA /17/11 – 1:	TER AND ELAPSED TIM	E AFTER DRILLING CO	OMPLETED:	
14. TOTAL DEPTH OF HOLE: 8 ft					17. OTHE	ER WATEI	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A		
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	URBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A		
20. SAMPLES FOR CHEMICAL AN	NALYSIS	VOC	META	ALS	OTHER (SPI	ECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 21%	
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	ITORING -	OTHER (SPI	ECIFY)	23. SIGNATURE OF IN	ISPECTOR	1	
TEMPORARY MW										



		HTRW D	RILLING L	OG			HOLE N	UMBI	ER: 016	<b>,</b>	
PROJECT:	Staten	Island Warehouse	INSPECTOR:	BG			SHEET	2	OF	2	
ELEV. (A)	DEPTH (B)	DESCRIPTION (		DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)	REMARKS (G)				
4.40       4.00       3.60       2.80       2.40       1.60       1.20       0.80       -0.00	2.00	ト/ンマノン fill, c	vey, sandy, silt dry, brown, cs, with gravel		26% (1.3' of 5.0')		Back	e = 77	d = 46 cpm (1 can)	cpm, min	
-0.40	5.00			5.0			Back Core	= 56	d = 46 cpm (1 can)	cpm, min	
-1.60	6.00				13% (0.4' of 3.0')						
-2.40 -2.80 -2.80	7.00						Pour	ed ba	full of ck into drill be	hole.	
-3.20	8.00										

HTRW DRILLING	LOG	i		DISTRICT: C	ENWK				HOLE NUMBER 017	
1. COMPANY NAME: GEO Consu	ıltants, LLC			2. DRILL SUB	CONTRACTO	DR: Envir	oprobe Services Inc		SHEET 1 OF 2	
3. PROJECT: Staten Island Warel	house				4. LOCA	TION: Sta	ten Island, NY			
5. NAME OF DRILLER: Howard Ha	ammel				6. MANU	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 6610 DT				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	bbe DPT soil sampler w	ith aceta	te	8. HOLE	LOCATIO	N: See aerial photo bel	ow			
					9. SURFACE ELEVATION: 5.378 ft (msl)					
				10. DATE STARTED: 7/14/11 11. DA			11. DATE COMPLET	ED: 7/14/11		
12. OVERBURDEN THICKNESS:	N/A				15. DEP	TH GROU	NDWATER ENCOUNTER	RED: N/A		
13. DEPTH DRILLED INTO ROCK	: N/A				16. DEP	TH TO WA	TER AND ELAPSED TIM	E AFTER DRILLING CO	OMPLETED: N/A	
14. TOTAL DEPTH OF HOLE: 4.5	ft				17. OTH	ER WATEI	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A		
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A		
20. SAMPLES FOR CHEMICAL AN	NALYSIS	VOC	META	ALS	ALS OTHER (SPECIFY) OTHER (SPECIFY) OTHER (SPECIFY)  RAD F					
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	TORING -	OTHER (SP	ECIFY)	23. SIGNATURE OF IN	NSPECTOR		



		HTRW	DRILLING L	OG			HOLE NUMBER: 017
PROJECT	Staten	Island Warehouse	INSPECTOR:	BG			SHEET 2 OF 2
ELEV. (A)	DEPTH (B)		N OF MATERIALS (C)	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)	REMARKS (G)
5.20	0.00						Background = 46 cpm, Core = 68 cpm (1 min scan)
4.80	- - - -	ML, cl	layey, sandy, silt v, topsoil, organic				Hit refused at 2' moved 2'
4.40	- 1.00 - -						Hit refusal at 3', moved 3' east and tried another push.
3.60	- - - -						
3.20	- - 2.00 - -				53% (2.4' of 4.5')		Sample collected from topsoil.
2.80	- - -				,		
2.40	- - - - -	ML, cl fill,	layey, sandy, silt with rock/brick				
2.00	- - -						
1.60	- - - - 4.00						
1.20	- - -						
0.80	_						

COMPANY NAME: GEO Consultar		i		DISTRICT: CENWK					HOLE NUMBER 018	
1. COMPANT NAME. GEO COnsulta	nts, LLC			2. DRILL SUB	CONTRACTO	DR: Envir	oprobe Services Inc		SHEET 1 OF 2	
3. PROJECT: Staten Island Warehou	se				4. LOCAT	ΓΙΟΝ: Sta	ten Island, NY			
5. NAME OF DRILLER: Howard Hamr	nel				6. MANU	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 6610 DT				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	th acetar	te	8. HOLE	LOCATIO	N: See aerial photo bele	ow				
					9. SURF	ACE ELEV	'ATION: 5.280 ft (msl)			
					10. DATE	STARTE	D: 7/14/11	11. DATE COMPLET	ED: 7/14/11	
12. OVERBURDEN THICKNESS: N/A					15. DEPT	TH GROU	NDWATER ENCOUNTER	RED: N/A		
13. DEPTH DRILLED INTO ROCK: N	/A				16. DEPT	TH TO WA	TER AND ELAPSED TIM	IE AFTER DRILLING CO	OMPLETED: N/A	
14. TOTAL DEPTH OF HOLE: 5.5 ft					17. OTHE	ER WATE	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A		
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDISTL	IRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A		
20. SAMPLES FOR CHEMICAL ANAL	YSIS	VOC	META						21. TOTAL CORE RECOVERY 53%	
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	TORING -	OTHER (SPI	ECIFY)	23. SIGNATURE OF IN	NSPECTOR	1	



		Н	ΓRW D	RILLING L	OG			HOLE NUMB	ER: 018	}
PROJECT	Staten	Island Warehou	ıse	INSPECTOR:	BG			SHEET 2	OF	2
ELEV. (A)	DEPTH (B)	DESC	RIPTION OI (C)	FMATERIALS	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)	RE	MARKS (G)	
5.20	0.00							Backgrour Core = 360	) cpm (	cpm, 1 min
4.80	- - -		ML/top	soil, clayey,				Se	can)	
4.40	 1.00 		sandy, s	ilt fill, brown, dry						
4.00	_ _ _ _				-			SIW-SB		
3.60	  							collected fi	OIII (MS	s core.
3.20	2.00   		ML, claye	ey, sandy, silt black, dry						
2.80	- - -					48% (2.4' of 5.0')				
2.40	 3.00 				-					
2.00	  									
1.60										
1.20	<b>4.00</b> - - -		fill, clay	ey, sandy, silt vey, plastic, moist						
0.80	- - -									
0.40	- - - 5.00					4000/ /2 =:		No served	ا د داله	ما فرود در
0.00						100% (0.5' of 0.5')		No sample of this	collecte core.	a from

HTRW DRILLING	LOG	i		DISTRICT: C	ENWK				HOLE NUMBER 019
1. COMPANY NAME: GEO Consu	ıltants, LLC			2. DRILL SUE	BCONTRACT(	OR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>
3. PROJECT: Staten Island Ware	house				4. LOCA	TION: Sta	ten Island, NY		
5. NAME OF DRILLER: Howard Ha	ammel				6. MANU	IFACTURE	ERS DESIGNATION OF D	ORILL: Geoprobe 6610 D	T
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	bbe DPT soil sampler wi	ith aceta	te	8. HOLE	LOCATIO	N: See aerial photo bel	ow		
					9. SURF	ACE ELEV	/ATION: 5.686 ft (msl)		
				10. DATE STARTED: 7/13/11 11. DAT			11. DATE COMPLET	ED: 7/13/11	
12. OVERBURDEN THICKNESS:	N/A				15. DEP	TH GROU	NDWATER ENCOUNTER	RED: N/A	
13. DEPTH DRILLED INTO ROCK	:: N/A				16. DEP	TH TO WA	TER AND ELAPSED TIM	IE AFTER DRILLING CO	OMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 8 ft					17. OTHI	ER WATE	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A	
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	URBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A	
20. SAMPLES FOR CHEMICAL AN	NALYSIS	VOC	META	ALS	OTHER (SP RAD	ECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 81%
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	TORING -	OTHER (SP	ECIFY)	23. SIGNATURE OF IN	NSPECTOR	1



		НТ	TRW D	RILLING L	OG			HOLE N	UMBl	ER: 019	9	
PROJECT	$\Gamma$ : Staten	Island Warehous	se	INSPECTOR:	BG			SHEET	2	OF	2	
ELEV. (A)	DEPTH (B)	DESCI	RIPTION OF (C)	MATERIALS	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		RE	MARKS (G)	,	
5.60 —	0.00		MI eleve	vy goody silt				Back Core	= 50	nd = 44 cpm ( can)	cpm, 1 min	
4.80	1.00		fill, brow	ey, sandy, silt n/black, dry, asphalt								
4.40	_		ML, claye	ey, sandy, silt	_			Tire rubber recovere				
4.00			fill, brov with red	yn speckled , dry, loose, n gravel								
3.60					_	70% (3.5'						
3.20 —	_		ML, clave	ey, sandy, silt		of 5.0')						
2.40	3.00		fill, tan,	dry, loose, n gravel				Sampl	e coll	ected a	at 2.4' -	
2.00	_											
1.60	4.00				-							
1.20			ti	mber								
0.80	5.00				-			Back	arour	nd = 44	com.	
0.40			fill, tan,	ey, sandy, silt dry, loose,				Core	= 53	cpm (	1 min	
-0.00	6.00		witl	n gravel	_							
-0.40 — -0.80 —								100% (3.0'		Strong diesel fuel odo Appeared to be soaked		odor.
-1.20			ML clove	w sandy silt		of 3.0')		dies	el fue	be so I (6.0' -	8.0').	
-1.60	7.00		fill, bla	ey, sandy, silt ack, moist								
-2.00								Sample collected at 7 8.0'		at 7.0' -		
	8.00											

COMPANY NAME: GEO Consultants,     PROJECT: Staten Island Warehouse     NAME OF DRILLER: Howard Hammel	rc		2. DRILL SUB		DISTRICT: CENWK				
				CONTRACTO	R: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>	
5. NAME OF DRILLER: Howard Hammel				4. LOCA	ΓΙΟΝ: Sta	ten Island, NY			
				6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 6610 DT					
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	oprobe DPT soil sampler w	ith acetat	te	8. HOLE	LOCATIO	N: See aerial photo bel	ow		
				9. SURF	ACE ELEV	ATION: 5.414 ft (msl)			
				10. DATE STARTED: 7/14/11 11. DATE COM				ED: 7/14/11	
12. OVERBURDEN THICKNESS: N/A				15. DEP	TH GROUN	NDWATER ENCOUNTER	RED: 4.3 ft (estimated)		
13. DEPTH DRILLED INTO ROCK: N/A				16. DEP	H TO WA	TER AND ELAPSED TIM	E AFTER DRILLING CC	OMPLETED: N/A	
14. TOTAL DEPTH OF HOLE: 8 ft				17. OTH	ER WATE	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A		
18. GEOTECHNICAL SAMPLES	DISTURBED		UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A		
20. SAMPLES FOR CHEMICAL ANALYSI	s voc	META	ALS	OTHER (SP RAD	ECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 33%	
22. DISPOSITION OF HOLE	BACKFILLED	MONI	TORING -	OTHER (SP	ECIFY)	23. SIGNATURE OF IN	ISPECTOR		



		Н	TRW DRILLING L	OG			HOLE NU	JMBER:	020	
PROJECT:	Staten	Island Wareho	ouse INSPECTOR	: BG			SHEET	2 (	)F	2
ELEV. I	DEPTH (B)	DES	CRIPTION OF MATERIALS (C)	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		REMA (G		
5.20	0.00						Backo Core	ground = = 76 cp scan	m (1	cpm, min
4.40	- 1.00		ML, clayey, sandy, silt fill, dark brown, dry, organic							
4.00				_						
3.60	- 2.00									
2.80			ML, clayey, sandy, silt fill, red, moist, with gravel and brick		36% (1.8' of 5.0')					
2.40	- 3.00		graver and brick				Sample	o collect	od o	+ 2 2'
1.60	<b>-</b> 4.00			3.9			Sample	e collect 5.0'	eu a	12.2 -
1.20			ML, clayey, sandy, silt fill, dark brown, wet, with gravel							
0.40	- 5.00	0000		_			Backo Core	ground = = 37 cp	: 46 m (1	cpm, min
0.40		0000						scan	) `	
-0.80	<b>-</b> 6.00	0000			27% (0.8'					
1.20	7.00		GP, gravel, brown, wet		of 3.0')		Samp	ole collec 5.0' - 8	cted .0'	from
-2.00	- <b>7</b> .00									
2.40	8.00	0000								

HTRW DRILLING	LOG	i		DISTRICT: C	ENWK				HOLE NUMBER 021
1. COMPANY NAME: GEO Consu	Itants, LLC			2. DRILL SUB	CONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>
3. PROJECT: Staten Island Warel	nouse				4. LOCA	TION: Sta	ten Island, NY		
5. NAME OF DRILLER: Howard Ha	ammel				6. MANU	FACTURE	ERS DESIGNATION OF D	PRILL: Geoprobe 6610 D	T
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT  5' Geoprobe DPT soil sampler with acetate 8. HOLE LOCATION: See aerial photo be liners							N: See aerial photo bel	ow	
					9. SURF	ACE ELEV	/ATION: -2.022 ft (msl)		
					10. DATE	STARTE	D: 7/15/11	11. DATE COMPLET	ED: 7/15/11
12. OVERBURDEN THICKNESS: I	N/A				15. DEP	TH GROU	NDWATER ENCOUNTER	RED: N/A	
13. DEPTH DRILLED INTO ROCK	: N/A				16. DEP	TH TO WA	TER AND ELAPSED TIM	IE AFTER DRILLING CO	OMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 8 ft					17. OTH	ER WATE	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A	
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A	
20. SAMPLES FOR CHEMICAL AN	IALYSIS	VOC	МЕТА	ALS	OTHER (SP	ECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 56%
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	TORING -	OTHER (SP	ECIFY)	23. SIGNATURE OF IN	NSPECTOR	1



		НТ	RW DRILLING L	OG			HOLE N	UMBEI	R: 021	
PROJECT:	Staten	Island Warehous	se INSPECTOR	BG			SHEET	2	OF	2
ELEV. (A)	DEPTH (B)	DESCR	RIPTION OF MATERIALS (C)	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)			IARKS (G)	
-2.40	0.00						Back Core	ground = 52 c sca	pm (1	cpm, min
-3.20 -3.60 -3	1.00		SP, sand, black, wet, loose, coarse				Samp	ole coll 0.0' -	ected 2.4'	from
-4.40	2.00									
-4.80	3.00			-	42% (2.1' of 5.0')					
-5.20 -5.60 -5.60							Appea	g diese red to k	oe soa	aked in
-6.40	4.00						uies	si iuei (	. <b></b>	o.o j.
-6.80	5.00		SM, silty sand, black,				Back	ground	l = 44	cpm.
-7.20 — — — — — — — — — — — — — — — — — — —			wet, loose				Core	= 50 c	pm (1	min
-8.00	6.00						Sampl	e collec 6.3	cted a 3'	t 5.0' -
-8.40					8.0% (2.4' of 3.0')					
-9.20	7.00									
-9.60 10.00	8.00									

HTRW DRILLING	LOG	i		DISTRICT: C	ENWK				HOLE NUMBER 022
1. COMPANY NAME: GEO Consu	ıltants, LLC			2. DRILL SUB	CONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>
3. PROJECT: Staten Island Warel	house				4. LOCA	TION: Sta	ten Island, NY		
5. NAME OF DRILLER: Howard Ha	ammel				6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe 6610 DT				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	ith aceta	te	8. HOLE	LOCATIO	N: See aerial photo bel	low			
					9. SURF	ACE ELEV	'ATION: 6.565 ft (msl)		
					10. DATE STARTED: 7/14/11			11. DATE COMPLET	ED: 7/14/11
12. OVERBURDEN THICKNESS:	N/A				15. DEP1	TH GROU	NDWATER ENCOUNTER	RED: 5.5 ft (estimated)	
13. DEPTH DRILLED INTO ROCK	: N/A				16. DEPT	TH TO WA	TER AND ELAPSED TIM	ME AFTER DRILLING CO	OMPLETED: N/A
14. TOTAL DEPTH OF HOLE: 8 ft					17. OTHE	ER WATEI	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A	
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A	
20. SAMPLES FOR CHEMICAL AN	NALYSIS	VOC	META	ALS	S OTHER (SPECIFY) OTHER (SPECIFY) OTHER (SPECIFY) 21.1 RAD REC 55%				
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	TORING -	OTHER (SPI	ECIFY)	23. SIGNATURE OF IN	NSPECTOR	



		H'	TRW DRILLING L	OG			HOLE N	UMBl	ER: 022	2
PROJECT:	Staten	Island Warehou	use INSPECTOR:	BG			SHEET	2	OF	2
ELEV. (A)	DEPTH (B)	DESC	CRIPTION OF MATERIALS (C)	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		RE	MARKS (G)	
6.40	0.00		ML, clayey, sandy, silt fill, red/tan, dry, with brick				Back Core	= 63	nd = 46 cpm ( <sup>*</sup> can)	cpm, 1 min
5.60	- 1.00			-						
4.40	- 2.00									
3.60	- 3.00				44% (2.2' of 5.0')					
3.20			asphalt				Sampl	e coll	ected a	at 2.7' -
2.40	- 4.00									
1.60	- 5.00						Back Core	= 62	nd = 46 cpm ( <sup>*</sup> can)	cpm, 1 min
0.80	- 6.00									
-0.00				6.1	73% (2.2' of 3.0')					
-0.40	7.00		CL, clay, red, plastic, red, wet, soft, with gravel				Sampl	e coll	ected a	at 6.6' -
-1.20	8.00									

HTRW DRILLING	LOG	i		DISTRICT: 0	ENWK				HOLE NUMBER 023
1. COMPANY NAME: GEO Consu	ıltants, LLC			2. DRILL SUE	BCONTRACTO	DR: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>
3. PROJECT: Staten Island Warel	house				4. LOCA	TION: Sta	ten Island, NY		
5. NAME OF DRILLER: Howard Ha	ammel				6. MANU	FACTURE	RS DESIGNATION OF D	ORILL: Geoprobe 6610 D	т
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	DRILLING liners						N: See aerial photo bel	ow	
					9. SURF	ACE ELEV	/ATION: 5.385 ft (msl)		
					10. DATE STARTED: 7/15/11 11. DATE CO			11. DATE COMPLET	ED: 7/15/11
12. OVERBURDEN THICKNESS:	N/A				15. DEPT	TH GROU	NDWATER ENCOUNTER	RED: 4.8 ft (estimated)	
13. DEPTH DRILLED INTO ROCK	: N/A				-	ΓΗ ΤΟ WA /17/11 – 10	TER AND ELAPSED TIM	E AFTER DRILLING CO	DMPLETED:
14. TOTAL DEPTH OF HOLE: 8 ft					17. OTH	ER WATEI	R LEVEL MEASUREMEN	ITS (SPECIFY): N/A	
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	URBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A	
20. SAMPLES FOR CHEMICAL AN	NALYSIS	VOC	META	ALS	OTHER (SPECIFY) OTHER (SPECIFY) OTHER (SPECIFY) 21. TOT RECOV 31%				
22. DISPOSITION OF HOLE		BACKFILLED	MONI WELL	ITORING -	OTHER (SP	ECIFY)	23. SIGNATURE OF IN	ISPECTOR	•
			TEMPO	ORARY MW LLED	(				



		Н	TRW DR	ILLING I	.OG			HOLE N	UMBI	ER: 023	3
PROJECT:	Staten	Island Wareho	use	INSPECTOR	: BG		SHEET	2	OF	2	
ELEV. I	DEPTH (B)	DES	CRIPTION OF M (C)	1ATERIALS	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	REMARKS (G)				
5.20	0.00		ML/topso	il, clayey, fill, brown,				Back Core	= 74	d = 44 cpm (*	cpm, I min
4.40	<b>- 1.00</b>		dry,	loose							
3.60	- 2.00										
2.80			asp	ohalt		34% (1.7' of 5.0')		Sampl	e coll	ected a	at 2.9' -
2.40	- 3.00										
0.80	- 4.00		red/brow	nyey fill, n, plastic, oist							
0.40	- 5.00							Back Core	= 48	d = 44 cpm ( <i>*</i> can)	cpm, I min
-0.40	- 6.00									,	
-0.80		0 0 0 0	GC, clayey, gravel fill, red/brown, plastic,		27% (0.8' of 3.0')		Sample collected at 5.0' 8.0'				
-1.60	- 7.00		moist		moist						
-2.00		0 0 0 0 0									
2.40	8.00	)									

HTRW DRILLING LOG						CENWK					
1. COMPANY NAME: GEO Consultants, LLC 2. DRILL S						RILL SUBCONTRACTOR: Enviroprobe Services Inc					
3. PROJECT: Staten Island Warehouse						ΓΙΟΝ: Sta	ten Island, NY				
5. NAME OF DRILLER: Howard Ha	ammel				6. MANU	FACTURE	RS DESIGNATION OF D	RILL: Geoprobe 6610 D	Т		
7. SIZES AND TYPES OF DRILLING Inners AND SAMPLING EQUIPMENT						LOCATIO	N: See aerial photo belo	w			
				_	9. SURF	9. SURFACE ELEVATION: 5.477 ft (msl)					
					10. DATE	STARTE	11. DATE COMPLETE	ED: 7/15/11			
12. OVERBURDEN THICKNESS:	N/A				15. DEPTH GROUNDWATER ENCOUNTERED: 4.1 ft (estimated)						
13. DEPTH DRILLED INTO ROCK	: N/A				16. DEP	TH TO WA	TER AND ELAPSED TIM	E AFTER DRILLING CC	MPLETED: N/A		
14. TOTAL DEPTH OF HOLE: 5 ft					17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A						
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A			
20. SAMPLES FOR CHEMICAL AN	IALYSIS	VOC	META	ALS	OTHER (SP	ECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY 34%		
22. DISPOSITION OF HOLE BACKFILLED MONITORING WELL					OTHER (SPECIFY)		Y) 23. SIGNATURE OF INSPECTOR				



		HOLE N	HOLE NUMBER: 024								
PROJECT:	Staten	Island Warehouse	INSPECTOR	: BG			SHEET 2 OF 2				
ELEV. (A)	DEPTH (B)	DESCRIPTIO	N OF MATERIALS (C)	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)		RE	MARKS (G)	•	
5.20	0.00						Back Core	= 81	d = 44 cpm ( can)	cpm, 1 min	
4.80	- - -	ML/	topsoil, clayey, y, silt fill, brown,				Hit refusal at 2', moved south and tried anothe push.			oved 3' nother	
4.40	— 1.00 - -	mc	ist, with gravel								
4.00	- - -										
3.60	2.00										
3.20	- - -				34% (1.7' of 5.0')				-DUP-( om this	004 s core.	
2.80	. 3.00		asphalt								
2.40	: - -										
2.00	- - -										
1.20	- 4.00 			- <del>V</del> 4.1							
0.80	- - -	red/b	CL clayey fill, rown, plastic, wet			No second push. Hit refusal.				n. Hit	
0.40	5.00			_							

HTRW DRILLING LOG					DISTRICT: CENWK						
1. COMPANY NAME: GEO Consu	2. DRILL SUE	2. DRILL SUBCONTRACTOR: Enviroprobe Services Inc									
3. PROJECT: Staten Island Warehouse						TION: Sta	ten Island, NY				
5. NAME OF DRILLER: Howard Ha	ammel				6. MANU	FACTURE	RS DESIGNATION OF D	RILL: Geoprobe 6610 D	т		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 5' Geoprobe DPT soil sampler with acetate liners					8. HOLE	LOCATIO	N: See aerial photo bel	wo			
					9. SURF	9. SURFACE ELEVATION: -0.906 ft (msl)					
					10. DATE	STARTE	11. DATE COMPLET	ED: 7/15/11			
12. OVERBURDEN THICKNESS: I	N/A				15. DEPTH GROUNDWATER ENCOUNTERED: 0.0 ft						
13. DEPTH DRILLED INTO ROCK	: N/A				16. DEP	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A					
14. TOTAL DEPTH OF HOLE: 5 ft					17. OTH	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A					
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	JRBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A			
20. SAMPLES FOR CHEMICAL AN	ES FOR CHEMICAL ANALYSIS VOC METALS				OTHER (SP	ECIFY)	OTHER (SPECIFY) OTHER (SPECIFY)		21. TOTAL CORE RECOVERY 38%		
22. DISPOSITION OF HOLE	TORING -	OTHER (SPECIFY		HER (SPECIFY) 23. SIGNATURE OF INSPECTOR		<u> </u>					



		HOLE NUME	HOLE NUMBER: 025							
PROJECT	$\Gamma$ : Staten	Island Warehouse	INSPECTOR	: BG			SHEET 2	OF	2	
ELEV. (A)	DEPTH (B)	DESCRIPTIO.	DEPTH TO GROUNDWATER (D)	PERCENT RECOVERY (E)	PID SCREENING RESULTS (F)	G REMARKS (G)				
-1.20 — -1.60 — -2.00 — -2.40 — -2.80 —	0.00 1.00 2.00	SP, s	and, black, wet,	0.0			Backgrou Core = 4	nd = 44 8 cpm (1 scan)	cpm,	
-3.60 — -4.00 —					38% (1.9' of 5.0')					
-4.40 — —			slay, red, plastic, wet							
-4.80	4.00									
-5.20 — -	_						No seco	nd push	. Hit	
5.60 —	_						re	efusal.		
6.00 —	5.00 _	[]								

HTRW DRILLING	DISTRICT: 0	CENWK				HOLE NUMBER 026					
1. COMPANY NAME: GEO Consultants, LLC 2. DRILL SUBO						R: Envir	oprobe Services Inc		SHEET <u>1</u> OF <u>2</u>		
3. PROJECT: Staten Island Warehouse						ION: Sta	ten Island, NY				
5. NAME OF DRILLER: Howard Ha	ammel				6. MANUI	FACTURE	ERS DESIGNATION OF D	PRILL: Geoprobe 6610 D	т		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	5' Geopro	be DPT soil sampler wi	th aceta	te	8. HOLE	LOCATIO	N: See aerial photo bel	ow			
	100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						'ATION: 1.373 ft (msl)				
					10. DATE	STARTE	11. DATE COMPLETI	ED: 7/15/11			
12. OVERBURDEN THICKNESS:	N/A				15. DEPT	15. DEPTH GROUNDWATER ENCOUNTERED: 0.0 ft					
13. DEPTH DRILLED INTO ROCK	: N/A					16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 0.23 ft (7/17/11 – 1041)					
14. TOTAL DEPTH OF HOLE: 8 ft					17. OTHE	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A					
18. GEOTECHNICAL SAMPLES		DISTURBED		UNDIST	URBED	19. TO	TAL NUMBER OF CORE	BOXES: N/A			
20. SAMPLES FOR CHEMICAL AN	NALYSIS	YSIS VOC METALS				ECIFY)	OTHER (SPECIFY) OTHER (SPECIFY)		21. TOTAL CORE RECOVERY 75%		
22. DISPOSITION OF HOLE BACKFILLED WELL WELL					OTHER (SPE	ECIFY)	23. SIGNATURE OF IN				
			TEMPO INSTA	ORARY MW LLED							



		HTRW	DRILLING L	OG			HOLE N	UMBE	R: 026	i			
PROJECT:	Staten	Island Warehouse	INSPECTOR:	BG			SHEET 2 OF 2			2			
ELEV. (A)	DEPTH (B)		DESCRIPTION OF MATERIALS (C)  DEPTH TO GROUNDWATER (D)  PERCENT RECOVERY (E)  PID SCREENING RESULTS (F)						G REMARKS (G)				
0.80	0.00 - 1.00	SP, so wet, lo	and, brown/red, pose, with gravel	0.0			Background = 44 cp Core = 52 cpm (1 n scan)		cpm, min				
-0.40	- 2.00 - 3.00	SC, cl	ayey sand, red, wet	_	60% (3.0' of 5.0')		MS/M	SD pai this c	r taker core.	n from			
-2.40 — — — — — — — — — — — — — — — — — — —	<b>- 4.00</b>	SP, sa wet, lo	and, brown/red, oose, with gravel										
-4.40 — — — — — — — — — — — — — — — — — — —	<ul><li>5.00</li><li>6.00</li></ul>						Back Core	ground = 48 c sca	pm (1	cpm, min			
-5.20 ————————————————————————————————————	<b>-</b> 7.00	SM, s	ilty sand, black, vet, organic		100% (3.0' of 3.0')		No sar	mple co this p	ollecte oush.	d from			
-6.40	8.00												

# APPENDIX C QUALITY CONTROL SUMMARY REPORTS



# QUALITY CONTROL SUMMARY REPORT FOR RADIOLOGICAL SAMPLES

# 1. SAMPLING AND ANALYSIS QUALITY CONTROL

Analytical test methods and sample volume, preservation, holding time, and Quality Control requirements were met, as presented in the Quality Assurance Project Plan (QAPP). Standard methodology was used for sample collection, identification, documentation, handling, packaging, shipping, and chain-of-custody. An assessment of the data for quality and usability is presented in the tables located at the end of this document. The overall quality of this data meets or exceeds the established project objectives. Through proper implementation of the project data verification, validation, and assessment process, project information has been determined to be acceptable for use.

To confirm the quality of sampling and analysis techniques used for this investigation, precision and accuracy of data were evaluated and described below.

#### 1.1 PRECISION AND REPRESENTATIVENESS

Precision is defined as the degree to which two or more measurements are in agreement. Field precision is measured by comparing field duplicate results, and analytical precision is measured by comparing laboratory duplicate results.

#### 1.1.1 Field Precision

Precision and representativeness for radiological results were evaluated by calculating the relative percent difference (RPD), and/or normalized absolute difference (NAD), which accounts for uncertainty in the laboratory results. The calculated RPD results were compared to a performance criteria of less than, or equal to, 50% for soil samples, and less than, or equal to, 30% for groundwater samples. Where RPD values cannot be calculated, or were greater than 50% for soil samples, or greater than 30% for groundwater samples, precision and representativeness were evaluated by calculating the NAD. NAD values of less than 1.96 are considered acceptable. NAD and RPD are calculated as follows:

$$NAD = \left[ \frac{|S-D|}{\sqrt{\sigma_S^2 + \sigma_D^2}} \right] \times 100$$

$$RPD = \left[ \frac{|S-D|}{\frac{S+D}{2}} \right] \times 100$$

Where:

S = Parent Sample Result

D = Duplicate Sample Result

 $\sigma_{S}^{2}$  = Parent Sample Uncertainty

 $\sigma^2_D$  = Duplicate Sample Uncertainty

The calculated NAD results were compared to a performance criteria of less than or equal to 1.96. Calculated NAD values less than 1.96 were considered acceptable. Values greater than 1.96 were

investigated for possible discrepancies in analytical precision or sources of disagreement with the following assumptions of the test:

- The sample measurement and duplicate or replicate measurement are of the same normally-distributed population; and
- The standard deviations represent the true standard deviation of the measured population. NADs for all field duplicates analyzed during this effort were less than 1.96, thus meeting the requirement of the QAPP.

The RPD is calculated for all samples if a detectable result is reported for both the parent and field duplicate. The RPD is not calculated when the analyte in one or both of the samples is not detected. In cases where both the NAD and RPD equation cannot be used, the comparison is counted as acceptable in the overall number of comparisons.

The parent and field duplicate samples were compared for 190 analytes for soil samples, with 5 analytes exceeding the RPD acceptance criteria. This represents a 2.63 exceedance rate. This falls within the acceptable exceedance rate of less than 5%. All comparisons were met for the ground water samples, at 100% acceptance. The RPD values demonstrating acceptable field duplicate precision are presented in Tables C-1 through C-2. Based on the evaluation of this field duplicate data, precision was deemed adequate for the data generated in accordance with the QAPP or the Kansas City District Data Quality Evaluation Guidance.

#### 1.1.2 Laboratory Precision

Laboratory precision was evaluated through calculating the RPD between results for laboratory replicate samples and its associated parent sample. Laboratory replicates were analyzed at a rate of one replicate set per analytical batch. Laboratory replicate samples were considered acceptable if the RPD for groundwater was less than 30%, or less than 50% for soil samples, or if the NAD was less than 1.96. There were no laboratory replicate analyses that fell outside of the acceptance criteria. Acceptable laboratory replicate analyses are presented in Tables C-3 through C-5. Based on the evaluation of this laboratory duplicate data, laboratory precision was deemed adequate for the data generated, in accordance with the QAPP or the Kansas City District Data Quality Evaluation Guidance.

#### 1.2 ACCURACY

Accuracy is defined as the degree to which the reported measurement represents the true value. Analytical accuracy is assessed through the evaluation of laboratory blanks, laboratory control samples (LCSs), and matrix spike (MS) recoveries. Based on the evaluation of these samples, the overall analytical accuracy was deemed adequate for the data generated in accordance with the QAPP or the Kansas City District Data Quality Evaluation Guidance.

#### 1.2.1 Laboratory Method Blanks

Laboratory blanks are analyzed to evaluate the potential contamination of samples due to preparation and analytical procedures. Laboratory method blanks are prepared and analyzed exactly like the field samples and are designed to represent the matrix of interest as closely as possible. Laboratory method blanks were prepared and analyzed with each analytical batch. All laboratory blank results were less than the laboratory minimum detection compounds (MDCs) or reporting limits in all analyses associated with the data generated. Tables C-6 through C-10 demonstrate acceptable blank results for all sample analyses in accordance with the QAPP or the Kansas City District Data Quality Evaluation Guidance.

#### 1.2.2 Laboratory Control Samples

The LCS is a laboratory spike sample that originates from a source other than the source of the calibration standards and serves as a zero-blind check on the laboratory's accuracy. The LCSs were prepared and analyzed along with each analytical batch. Acceptable LCS results are presented in Tables C-11 through C-14, in accordance with the QAPP or the Kansas City District Data Quality Evaluation Guidance.

#### 1.2.3 Matrix Spike and Matrix Spike Duplicates

MS/matrix spike duplicate (MSD) analyses are performed by the laboratory on groundwater samples to estimate the extent of bias in the analytical measurements of radiological constituents. The analytical laboratory performed MS/MSD analyses by adding a known quality of each analyte to representative media, and analyzing the spiked media. Bias in the result was quantified by determining the percent recovery of the spike amount. Acceptable MS/MSD results are presented in Tables C-15 through C-17, in accordance with the QAPP or the Kansas City District Data Quality Evaluation Guidance.

#### 1.3 REPRESENTATIVENESS

Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is a qualitative parameter that is most concerned with the proper design of the sampling program. The representativeness criteria are best satisfied by making certain that sampling locations are properly selected and a sufficient number of samples are collected. Representativeness is addressed by describing sampling techniques and rationale used to select sampling locations. Representativeness is also evaluated through the review of the field precision as described in Section 1.1.1.

#### 1.4 COMPARABILITY

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. The comparability of the data, a relative measure, is influenced by sampling and analytical procedures. By providing specific protocols to be used for obtaining and analyzing samples, data sets should be comparable regardless of who obtains the sample or performs the analysis. The analytical laboratory was responsible for enhancing comparability using the following controls:

- Use of current, standard U.S. Environmentla Protection Agency (EPA) approved methodology for sample preservation, holding, and analysis
- Consistent reporting units for each parameter in similar matrices
- USEPA-traceable standards, when available
- Analysis of USEPA Quality Control (QC) samples, when available
- Participation in inter-laboratory performance evaluation studies

By following these controls, the data obtained during this Site Inspection has met the objectives outlined in the QAPP.

#### 1.5 COMPLETENESS

Completeness is a measure of the degree to which the amount of sample data collected meets the scope. It is also a measure of the relative number of analytical data points that meet the acceptance criteria, including accuracy, precision, and any other criteria required by the specific analytical method used. Completeness is defined as a comparison of the actual numbers of valid data points and expected numbers of points expressed as a percentage. The Quality Assurance objectives for completeness will be based upon a project goal of 90%. If data cannot be reported without qualifications, project completion goals may still be met if the qualified data (i.e., data of known quality even if not perfect) are suitable for the specified project goals. The completeness for this project was 100%, which exceeded the goal of 90%, as specified in the QAPP.

#### 2. DATA MANAGEMENT AND DOCUMENTATION

Management of the field and analytical data generated during the characterization effort was conducted in accordance with the general requirements of the Project Work Plan (USACE 2011a).

#### 2.1 FIELD DATA

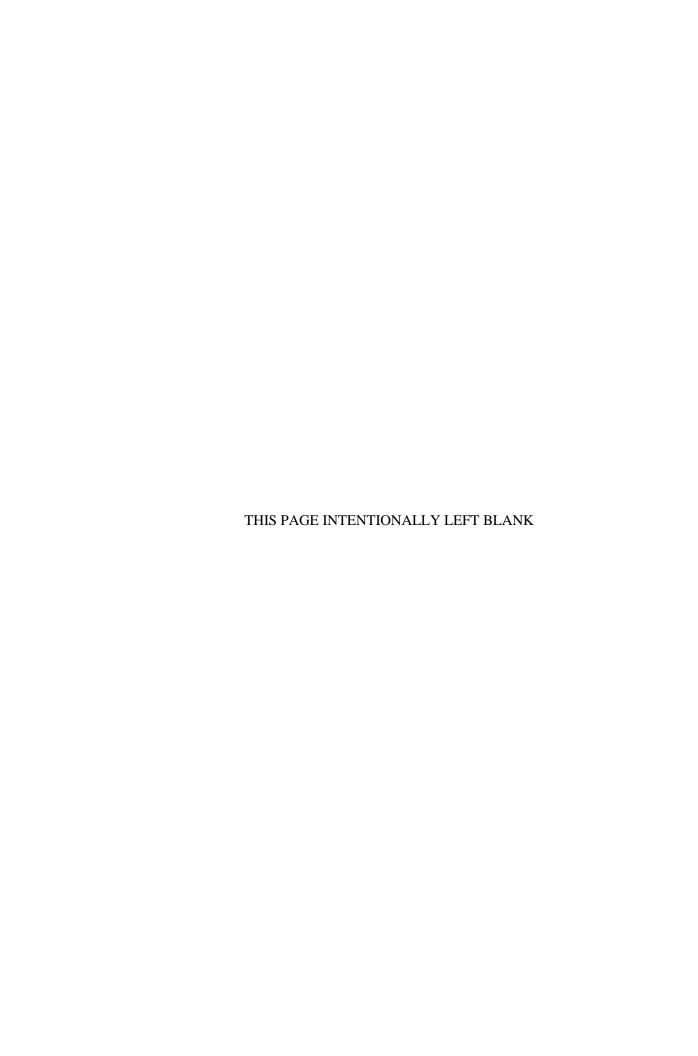
Field and QC data was recorded in logbooks and/or field sheets, scanned, and included in Appendix A.

During the field investigation, a Daily Quality Control Report (DQCR) was prepared daily. Each original paper copy was dated and signed by the Field Operations Manager. Copies of the DQCRs are included in Appendix A. DQCRs served to document the daily activities occurring on the project, including the weather for each day and any additional environmental conditions or observations pertinent to field activities. Also recorded on the DQCR were the names and roles of team members' present onsite, as well as visitors to the immediate investigation area. Any changes or delays in the project were discussed and recorded, as well as any safety issues that arose.

#### 2.2 ANALYTICAL DATA

Samples collected during the characterization effort were identified by a unique number code that accompanied the sample from collection through analysis and data review. Standardized chain-of-custody procedures were followed from sample collection through sample analysis. The condition of shipping coolers and enclosed sample containers were documented upon receipt at the analytical laboratory. The laboratory transmitted the completed chain-of-custody form and cooler receipt checklist to the Project Manager (PM) to confirm each sample shipment.

Analytical data reports containing results of the requested analyses were transmitted to the PM. Each data package contained an electronic data deliverable (EDD) spreadsheet summarizing the analytical results, as well as an electronic file containing the entire case narrative and supporting data. The electronic files were uploaded to the corporate server and backed up on a CD. Laboratory data reports are included in Appendix E.





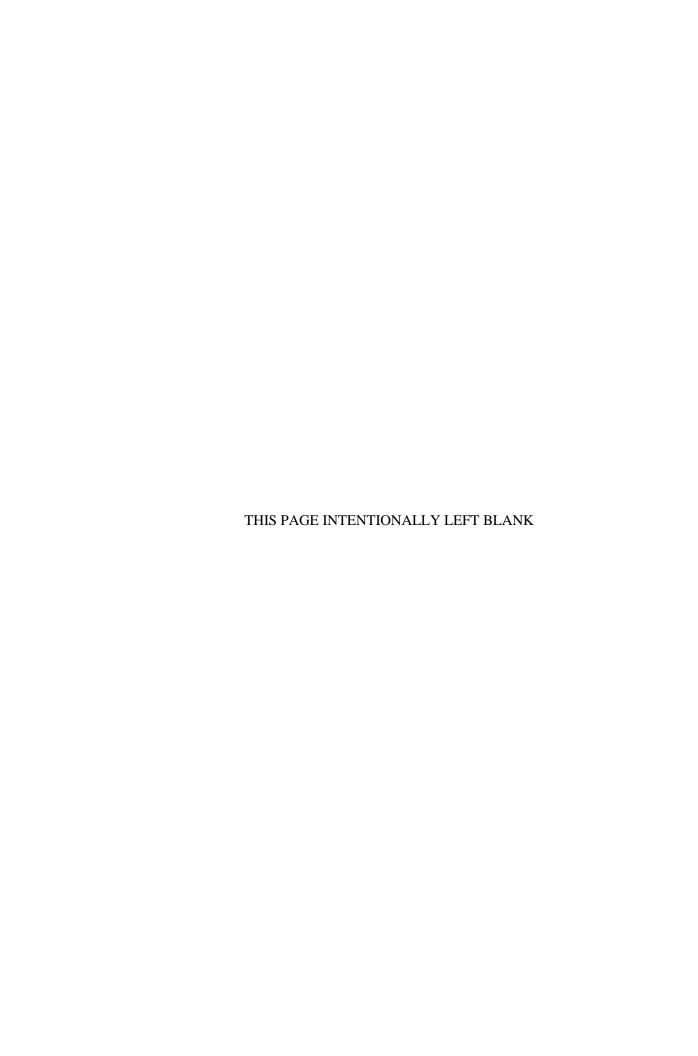


Table C-1. Alpha and Gamma Spec Field Duplicate Precision for Soil Samples

	Alpha Spec	;				
	Uraniun	1 234	Uran 235/		Uraniu	m 238
Sample Name	RPD	NAD	RPD	NAD	RPD	NAD
SIW-SS-016P-0.0-2.0/SIW-SS-DUP-002	0.84	0.06	20.80	0.65	2.58	0.19
SIW-SS-018P-0.0-2.0/SIW-SS-DUP-004	42.32	3.03	32.13	0.91	40.34	2.90
SIW-SS-021P-0.0-2.0/SIW-SS-DUP-001	6.70	0.34	5.00	0.06	11.11	0.58
SIW-SS-024P-0.0-2.0/SIW-SS-DUP-003	10.11	0.55	41.10	0.54	3.99	0.22
SIW-SS-040P-0.0-2.0/SIW-SS-DUP-005	14.01	0.77	11.06	0.16	31.58	1.69
SIW-SB-004P-0.0-5.0/SIW-SB-DUP-001	9.40	0.40	55.56	0.53	20.98	0.85
SIW-SB-005P-5.0-8.0/SIW-SB-DUP-002	2.86	0.12	49.75	0.56	11.94	0.49
SIW-SB-010P-5.0-8.0/SIW-SB-DUP-005	82.26	3.99	30.30	0.37	94.40	4.55
SIW-SB-018P-0.0-5.0/SIW-SB-DUP-003	33.50	2.60	50.35	1.83	35.05	2.68
SIW-SB-024P-0.0-5.0/SIW-SB-DUP-004	13.87	0.75	10.69	0.14	11.17	0.63

	Gamma Sp	ec														
	Actinium	n 227	Actiniu	ım 228	Bismut	h 212	Bismu	uth 214	Lea	d 210	Lead 212		Lead 214		Potas	sium 40
Sample Name	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD
SIW-SS-016P-0.0-2.0/SIW-SS-DUP-002	40.88	0.65	0.00	0.00	20.69	0.18	23.40	2.47	36.02	0.96	11.07	0.53	19.78	2.20	16.87	0.47
SIW-SS-018P-0.0-2.0/SIW-SS-DUP-004	90.91	0.39	38.16	0.97	44.44	0.23	3.63	0.38	29.91	0.57	16.96	0.76	5.82	0.65	25.48	0.82
SIW-SS-021P-0.0-2.0/SIW-SS-DUP-001	24.39	0.08	31.70	1.12	102.78	0.93	19.94	0.79	59.46	0.34	16.57	0.88	1.16	0.05	9.52	0.40
SIW-SS-024P-0.0-2.0/SIW-SS-DUP-003	-121.57	0.74	14.55	0.43	19.61	0.06	16.05	0.69	46.15	0.13	17.14	0.72	8.60	0.45	3.89	0.17
SIW-SS-040P-0.0-2.0/SIW-SS-DUP-005	161.90	0.17	11.03	0.40	8.57	0.08	10.19	0.39	190.24	0.96	9.61	0.44	3.49	0.17	8.47	0.37
SIW-SB-004P-0.0-5.0/SIW-SB-DUP-001	128.00	0.99	18.49	0.30	78.79	0.39	14.04	0.49	80.00	0.33	2.87	0.12	10.26	0.42	29.83	1.16
SIW-SB-005P-5.0-8.0/SIW-SB-DUP-002	14.29	0.02	5.78	0.18	152.74	1.76	7.32	0.29	69.09	0.59	25.86	1.26	13.65	0.48	12.20	0.53
SIW-SB-010P-5.0-8.0/SIW-SB-DUP-005	-400.00	0.05	6.50	0.18	66.67	0.40	96.55	2.88	66.67	0.43	49.28	2.02	79.85	2.62	0.87	0.03
SIW-SB-018P-0.0-5.0/SIW-SB-DUP-003	21.67	0.22	11.25	0.34	31.58	0.39	24.03	2.39	31.25	0.85	2.86	0.13	30.06	3.10	4.42	0.21
SIW-SB-024P-0.0-5.0/SIW-SB-DUP-004	115.56	1.12	12.29	0.45	30.57	0.41	0.00	0.00	77.97	0.74	0.54	0.03	0.53	0.03	6.78	0.28
	Protactini	um 231	Radiur	n (226)	Radiur	n 228	Thallium 208		Thorium 232		Thorium 234		Uranium 235		Urani	um 238
Sample Name	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD
SIW-SS-016P-0.0-2.0/SIW-SS-DUP-002	60.32	0.44	23.40	2.47	0.00	0.00	14.01	0.31	0.00	0.00	12.50	0.25	8.70	0.05	12.50	0.25
SIW-SS-018P-0.0-2.0/SIW-SS-DUP-004	108.57	0.52	3.63	0.38	38.16	0.97	26.37	0.59	38.16	0.97	22.73	0.81	10.53	0.16	22.73	0.81
SIW-SS-021P-0.0-2.0/SIW-SS-DUP-001	117.65	0.70	19.94	0.79	31.70	1.12	21.14	0.71	31.70	1.12	16.95	0.16	92.31	0.54	16.95	0.16
SIW-SS-024P-0.0-2.0/SIW-SS-DUP-003	38.10	0.12	16.05	0.69	14.55	0.43	7.87	0.20	14.55	0.43	79.33	0.75	136.45	0.31	79.33	0.75
SIW-SS-040P-0.0-2.0/SIW-SS-DUP-005	13.33	0.07	10.19	0.39	11.03	0.40	12.66	0.31	11.03	0.40	28.26	0.39	25.45	0.13	28.26	0.39
SIW-SB-004P-0.0-5.0/SIW-SB-DUP-001	49.18	0.39	14.04	0.49	18.49	0.30	7.41	0.21	18.49	0.30	27.37	0.14	6.45	0.03	27.37	0.14
SIW-SB-005P-5.0-8.0/SIW-SB-DUP-002	227.91	1.48	7.32	0.29	5.78	0.18	31.11	0.99	5.78	0.18	96.00	1.35	300.00	0.13	96.00	1.35
SIW-SB-010P-5.0-8.0/SIW-SB-DUP-005	24.76	0.16	96.55	2.88	6.50	0.18	63.82	1.67	6.50	0.18	52.63	0.44	104.76	0.32	52.63	0.44
SIW-SB-018P-0.0-5.0/SIW-SB-DUP-003	53.85	0.46	24.03	2.39	11.25	0.34	0.00	0.00	11.25	0.34	45.85	1.60	74.88	0.99	45.85	1.60
SIW-SB-024P-0.0-5.0/SIW-SB-DUP-004	57.73	0.56	0.00	0.00	12.29	0.45	13.33	0.41	12.29	0.45	3.39	0.03	46.81	0.19	3.39	0.03

**Table C-2. Field Duplicate Precision for Groundwater Samples** 

	Gross A	s Alpha Gross Beta			Radiun	n (226)	Radiu	m 228	Uraniu	ım 234	Uranium	n 235/236	Uranium 238	
Sample Name	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD
SIW-GW-05FP/SIW-GW-FDUP	72.34	0.26	53.33	0.65	15.93	0.33	19.05	0.20	4.08	0.13	35.56	0.25	9.20	0.30
SIW-GW-05UFP/SIW-GW-UFDUP	174.19	0.24	63.08	0.94	87.38	1.70	148.15	1.01	32.56	1.18	10.53	0.07	35.29	1.26

Table C-3. Laboratory Replicate Results for Alpha Spec

	Urani	um 234	Uraniun	n 235/236	Uraniı	ım 238
Sample Name	RPD	NAD	RPD	NAD	RPD	NAD
SIW-GW-010UFP	28	0.87	2	0.01	8	0.24
SIW-SB-006P-5.0-8.0	19	0.67	38	0.26	13	0.44
SIW-SB-008P-0.0-5.0	32	1.44	2	0.02	12	0.55
SIW-SS-018P-0.0-2.0	0.5	0.04	28	0.67	4	0.28
SIW-SS-033P-0.0-2.0	4	0.23	76	0.96	16	0.92

Table C-4. Laboratory Replicate Results for Gamma Spec

	Actiniu	ım 227	Actini	um 228	Bism	uth 212	Bismu	th 214	Lead	1 210	Lead	1 212	Lead	1 214	Potass	ium 40
Sample Name	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD
SIW-SB-006P-5.0-8.0	63	0.69	47	0.97	69	0.62	2	0.08	63	0.47	25	0.79	7	0.25	26	1.08
SIW-SB-017P-0.0-5.0	54	0.18	27	0.85	4	0.03	4	0.26	0.9	0.00	11	0.50	6	0.40	6	0.31
SIW-SS-007P-0.0-2.0	462	1.03	43	0.88	110	1.19	11	0.26	226	0.92	24	0.75	10	0.25	2	0.10
SIW-SS-027P-0.0-2.0	44	0.43	16	0.57	57	0.80	5	0.13	162	0.70	12	0.59	11	0.43	10	0.51
SIW-SS-DUP-001	104	0.20	0.04	0.00	36	0.60	21	0.85	17	0.12	11	0.58	12	0.47	5	0.22
	Protac 23	tinium 31	Radiu	m (226)	Radi	um 228	Thalli	Thallium 208		8 Thorium 232		ım 234	Uranium 235		Uranium 23	
Sample Name	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD
SIW-SB-006P-5.0-8.0	330	0.46	2	0.08	47	0.97	24	0.48	47	0.97	109	0.94	8	0.03	109	0.94
SIW-SB-017P-0.0-5.0	24	0.16	4	0.26	27	0.85	0.05	0.00	27	0.85	47	0.43	63	0.25	47	0.43
SIW-SS-007P-0.0-2.0	205	0.58	11	0.26	43	0.88	10	0.22	43	0.88	9	0.09	376	0.76	9	0.09
SIW-SS-027P-0.0-2.0	6240	0.73	5	0.13	16	0.57	5	0.14	16	0.57	41	0.29	6	0.04	41	0.29
SIW-SS-DUP-001	115	1.05	21	0.85	0.04	0.00	3	0.10	0.04	0.00	8	0.06	21	0.08	8	0.06

Table C-5. Laboratory Replicate Results for Gross Alpha/Beta

	Gross	Alpha	Gross	<b>Beta</b>
Sample Name	RPD	NAD	RPD	NAD
SIW-GW-010FP	1040	0.15	18	0.28
SIW-GW-010UFP	118	0.20	15	0.30

Table C-6. Gross Alpha/Beta Blank Results

		Gross Al	pha	Gross Beta						
LAB SAMPLE ID	Result	Units	Qualifier	Result	Units	Qualifier				
F1G250000128B	0.38	pCi/L	U	0.3	pCi/L	U				
F1H010000091B	0.06	pCi/L	U	-0.43	pCi/L	U				

Table C-7. Radium 226 Blank Results

	F	Radium (	(226)
LAB SAMPLE ID	Result	Units	Qualifier
F1G190000160B	0.12	pCi/L	U

Table C-8. Radium 228 Blank Results

	Radium 228										
LAB SAMPLE ID	Result	Units	Qualifier								
F1G190000162B	0.33	pCi/L	U								

Table C-9. Alpha Spec Blank Results

	J	Jranium	234	Ur	anium 235	/236	Uranium 238					
LAB SAMPLE ID	Result	Units	Qualifier	Result	Units	Qualifier	Result	Units	Qualifier			
F1H080000094B	0.015	pCi/g	U	0.004	pCi/g	U	-0.002	pCi/g	U			
F1H080000118B	0.008	pCi/g	U	0	pCi/g	U	0.008	pCi/g	U			
F1H090000094B	0.012	pCi/g	U	0	pCi/g	U	0.011	pCi/g	U			
F1H090000095B	0.003	pCi/g	U	-0.0012	pCi/g	U	0.006	pCi/g	U			
F1H100000106B	0.013	pCi/g	U	-0.0011	pCi/g	U	0	pCi/g	U			
F1H110000136B	0.014	pCi/g	U	-0.0011	pCi/g	U	0.009	pCi/g	U			
F1H110000151B	-0.002	pCi/g	U	0	pCi/g	U	-0.002	pCi/g	U			
F1H110000174B	0.003	pCi/g	U	0.008	pCi/g	U	-0.0018	pCi/g	U			
F1H250000147B	0.005	pCi/g	U	0	pCi/g	U	-0.0009	pCi/g	U			

Table C-10. Gamma Spec Blank Results

	Act	inium 22	27	Ac	tinium 2	28	Bi	smuth 21	2	Bi	smuth 21	14	]	Lead 210		1	Lead 212		1	Lead 214		Po	tassium 4	40
LAB SAMPLE ID	Result	Units	Qual	Result	Units	Qual	Result	Units	Qual	Result	Units	Qual	Result	Units	Qual	Result	Units	Qual	Result	Units	Qual	Result	Units	Qual
F1G250000061B	0.002	pCi/g	U	0.011	pCi/g	U	0	pCi/g	U	0.03	pCi/g	U	-0.2	pCi/g	U	0.03	pCi/g	U	0.1	pCi/g	U	0.09	pCi/g	U
F1G250000064B	0.033	pCi/g	U	0.025	pCi/g	U	0	pCi/g	U	0.03	pCi/g	U	-0.1	pCi/g	U	0.03	pCi/g	U	0.126	pCi/g	U	-0.3	pCi/g	U
F1G250000066B	-0.014	pCi/g	U	0	pCi/g	U	0	pCi/g	U	7E-05	pCi/g	U	-0.12	pCi/g	U	0.032	pCi/g	U	0.096	pCi/g	U	-0.2	pCi/g	U
F1G250000067B	-0.04	pCi/g	U	0.11	pCi/g	U	0.13	pCi/g	U	0.048	pCi/g	U	0.4	pCi/g	U	0.093	pCi/g	U	0.075	pCi/g	U	-0.1	pCi/g	U
F1G250000068B	0.006	pCi/g	U	0.15	pCi/g	U	0.03	pCi/g	U	0.13	pCi/g	U	0.54	pCi/g	U	0.044	pCi/g	U	0.128	pCi/g	U	-0.04	pCi/g	U
	Prota	ctinium	231	Ra	dium (22	26)	Ra	adium 22	8	Th	allium 20	08	Th	orium 23	32	Th	orium 23	34	Ur	anium 23	35	Ur	anium 23	38
LAB SAMPLE ID	Result	Units	Qual	Result	Units	Qual	Result	Units	Qual	Result	Units	Qual	Result	Units	Qual	Result	Units	Qual	Result	Units	Qual	Result	Units	Qual
F1G250000061B	-0.002	pCi/g	U	0.03	pCi/g	U	0.011	pCi/g	U	-0.01	pCi/g	U	0.011	pCi/g	U	-0.3	pCi/g	U	-0.013	pCi/g	U	-0.3	pCi/g	U
F1G250000064B	0.03	pCi/g	U	0.03	pCi/g	U	0.025	pCi/g	U	0.008	pCi/g	U	0.025	pCi/g	U	0.22	pCi/g	U	-0.04	pCi/g	U	0.22	pCi/g	U
F1G250000066B	0.05	pCi/g	U	7E-05	pCi/g	U	0	pCi/g	U	-0.01	pCi/g	U	0	pCi/g	U	0.15	pCi/g	U	0.03	pCi/g	U	0.15	pCi/g	U
F1G250000067B	0.13	pCi/g	U	0.048	pCi/g	U	0.11	pCi/g	U	0.025	pCi/g	U	0.11	pCi/g	U	0.3	pCi/g	U	0.03	pCi/g	U	0.3	pCi/g	U
F1G250000068B	0.09	pCi/g	U	0.13	pCi/g	U	0.15	pCi/g	U	0.037	pCi/g	U	0.15	pCi/g	U	0.73	pCi/g	U	-0.05	pCi/g	U	0.73	pCi/g	U

Table C-11. LCS Results for Radium 226 and Radium 228

LAB SAMPLE ID	<b>Radium</b> (226)	Radium 228	
F1G190000160C	75		
F1G190000162C		86	
Control Limits	64-125	65-126	

Table C-12. LCS Results for Gross Alpha/Beta

LAB SAMPLE ID	Gross Alpha	Gross Beta
F1G250000128C	100	106
F1H010000091C	77	101
Control Limits	74-138	75-125

Table C-13. LCS Results for Gamma Spec

LAB SAMPLE ID	Radium (226)	Thorium 232
F1G250000061C	94	107
F1G250000064C	99	114
F1G250000066C	94	120
F1G250000067C	90	107
F1G250000068C	96	109
Control Limits	83-110	90-123

Table C-14. LCS Results for Alpha Spec

LAB SAMPLE	Uranium	Uranium
ID	234	238
F1H080000094C	101	107
F1H080000118C	98	90
F1H090000094C	99	95
F1H090000095C	102	99
F1H100000106C	98	104
F1H110000136C	111	112
F1H110000151C	93	98
F1H110000174C	94	103
F1H250000147C	98	100
Control Limits	74-139	75-140

Table C-15. Matrix Spike Results for Gross Alpha/Beta

	Gross Alpha	Gross Beta
LAB SAMPLE ID	Percent Recovery	Percent Recovery
F1G190461013SREA	114	102
F1G190461014S	106	100
Control Limits	40-150	68-150

Table C-16. Matrix Spike Results for Radium 226

	Radium (226)
LAB SAMPLE ID	Percent Recovery
F1G190461013S	77
F1G190461014S	97
Control Limits	68-129

Table C-17. Matrix Spike Duplicate Results for Radium 226

	Radium (226)
LAB SAMPLE ID	Relative Percent Difference
F1G190461013D	5
F1G190461014D	16
Control Limits	0-40

### SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

Comprehensive Data Validation

Project:	Staten Island		
SDG Number:	F1G190456	_	
Laboratory:	Test America	-	
Analysis:	Alpha Spec; Gamma Spec		
Matrix:	Soil		
	e has been reviewed and the analytical quality cral criteria used to assess the analytical integrit		
Case Narrative Analytical Holding Sample Preservat Method Calibration Method and Projet Method Calibration Analytical Surroga	g Times tion on ect Blanks on Verification	MS/MSD Recoveries and LCS/LCSD Recoveries and Re-analysis and Secondar Internal Standards Perfor Tuning Standard Endrin/DDT Breakdown	d Differences ry Dilution
Definition of EPA Quali			
"UJ" "J" "R"	<ul> <li>- Not detected at the associated level</li> <li>- Not detected and associated value estimated</li> <li>- Associated value estimated</li> <li>- Associated value unusable or analyte identity of a compound properly identified and value position</li> </ul>		only)
Overall Remarks: The relative percent differ than 1.96, no qualification	rence for Bi-212 lab replicates were greater than 35% a is needed.	for sample SIW-SS-DUP-	001. Since the NAD is less
MS and MSD samples wer	ere taken, but not checked in or analyzed by the lab.	Please see the attached ema	ail for additional information.
Please see the attached wo	orksheet for further information relating to the RL.		
Reviewed by: (prin			9/12/2011
(Sign	n)		1
Peer Reviewed by: (prin	Jay Wilkins nt)	Date:	9/15/2011
	n)		

SDG: F1G190456 Revision 1: 27 November 2007

## **Sample Name cross-reference**

Project sample name	Phase	Lab sample name	additional lab sample names (if any)
SIW-SS-DUP-001	<u>Solid</u>	F1G190456-001	MK1PV
SIW-SS-DUP-002	Solid	F1G190456-002	MK1PX
SIW-SS-DUP-003	Solid	F1G190456-003	MK1P1
SIWSS-DUP-004	<u>Solid</u>	F1G190456-004	MK1P3
SIW-SS-DUP-005	<u>Solid</u>	F1G190456-005	MK1P7
SIW-SS-037P-0.0-2.0	<u>Solid</u>	F1G190456-006	MK1P8
SIW-SS-038P-0.0-2.0	<u>Solid</u>	F1G190456-007	MK1P9
SIW-SS-039P-0.0-2.0	<u>Solid</u>	F1G190456-008	MK1QA
SIW-SS-040P-0.0-2.0	<u>Solid</u>	F1G190456-009	MK1QC
SIW-SS-041P-0.0-2.0	<u>Solid</u>	F1G190456-010	MK1QD
SIW-SS-042P-0.0-2.0	<u>Solid</u>	F1G190456-011	MK1QE
SIW-SS-043P-0.0-2.0	<u>Solid</u>	F1G190456-012	MK1QF
SIW-SS-044P-0.0-2.0	<u>Solid</u>	F1G190456-013	MK1QG
SIW-SS-045P-0.0-2.0	Solid	F1G190456-014	MK1QH

### II. Case Narrative

Direct statement(s) from the lab of problems and/or unusual occurrences. Note disagreements and reasons for the disagreement with the Laboratory Statement.

Remarks:
There were no issues noted on the Case Narrative. Case Narrative was found to be complete and accurate.
III. Re-analysis and Secondary Dilutions  Verify that re-analysis and secondary dilutions were performed and reported as necessary. Determine appropriate results to report.
No reanalyses or secondary dilutions required. Acceptable.

SDG: F1G190456 Revision 1: 27 November 2007

## IV. Holding Times

<b>Remarks:</b> (Maximum holding time is set for a particular analysis, if the holding time exceeds twice the max
limit, then qualify all analytes with 'R' for rejected data point.)

Acceptable.								
1								

Revision 1: 27 November 2007 SDG: F1G190456

### V. Calibration

#### Remarks:

Acceptable.		
Required MDAs:		
Isotope	QAPP RL	
U-234	0.1 pCi/g	
U-235	0.1 pCi/g	
U-238	0.1 pCi/g	
Ra-226	1.0	
Th-232	0.5 pCi/g	
	•	_

### VI. Blanks

Remarks:			
Acceptable.			
l			

#### VII. **Surrogate Recoveries and Radiological Tracer Recoveries**

Remarks:			
Acceptable			

Revision 1: 27 November 2007 SDG: F1G190456

## VIII. Internal Standards Performance

Remarks:		
NA		

## IX. Instrument Performance Checks

Remarks:		
NA		

# X. Matrix Spike and Matrix Spike Duplicates Remarks:

Remarks:			
NA			

Revision 1: 27 November 2007 SDG: F1G190456

## XI. Duplicate Analysis

### **Radiochemical Duplicate Information**

Identify the method utilized to evaluate duplicate analyses; duplicate error ratio (DER), relative percent difference (RPD), or normalized absolute difference (NAD).

Duplicate actions should apply to all samples associated with the duplicate pair.

#### Deviations:

Duplicate Sample(s)				
Radionuclide	DER/RER	RPD	NAD	Samples Affected
Bi-212		36	0.6	SIW-SS-DUP-001

#### Remarks:

The relative percent difference for Bi-212 lab replicates were greater than 35% for sample SIW-SS-DUP-001. Since the NAD is less than 1.96, no qualification is needed.

SDG: F1G190456 Revision 1: 27 November 2007

## XII. Laboratory Control Sample

General Laboratory Control Sample Criteria, percent recovery (use Lab provided criteria when available):

Contra Laboratory Cor	iti di dampio di italia,	percent recovery (ase	Lab provided differia	Wildir available).	
VOC	SVOC	Pesticides	PCB	Aqueous	Solid
80-120	60-120	50-130	50-130	80-120	70-130

_				
De	<i>.</i> i	<b>~</b> +	in	nc

Compound	Method	Date	Percent	Recovery	RC	Samples Affected
			Recovery	Limits		

#### Remarks:

Acceptable.

Radiological LCS limits

70% - 130%

SDG: F1G190456 Revision 1: 27 November 2007

## XIII. Analytical Method Specific Information

SDG: F1G190456 Revision 1: 27 November 2007
13 of 13

LAB SAMPLE ID	STYPE	CLIENT SAMPLE DESCRIPTION	COMPOUND NAME	UNITS	RESULT	QUALIFIERS	TOTAL UNCERTAINTY	RPT LIMIT/MDC
F1G190456001	SO	SIW-SS-DUP-001	Uranium 235	pCi/g	0.14	U	0.28	0.52
F1G190456001	SO	SIW-SS-DUP-001	Uranium 238	pCi/g	3.2		2.6	3.2
F1G190456001X	DUP	SIW-SS-DUP-001	Uranium 235	pCi/g	0.18	U	0.38	0.66
F1G190456001X	DUP	SIW-SS-DUP-001	Uranium 238	pCi/g	3		2.1	2.7
F1G190456002	SO	SIW-SS-DUP-002	Uranium 235	pCi/g	1.1	U	1.1	1.9
F1G190456002	SO	SIW-SS-DUP-002	Uranium 238	pCi/g	10.5		2.5	6.5
F1G190456003	SO	SIW-SS-DUP-003	Uranium 235	pCi/g	0.017	U	0.083	0.55
F1G190456003	SO	SIW-SS-DUP-003	Uranium 238	pCi/g	2.5		1.7	2.3
F1G190456004	SO	SIW-SS-DUP-004	Uranium 235	pCi/g	2.7		1.3	1.7
F1G190456004	SO	SIW-SS-DUP-004	Uranium 238	pCi/g	31.2		7.2	8.1
F1G190456005	SO	SIW-SS-DUP-005	Uranium 235	pCi/g	0.24	U	0.35	0.66
F1G190456005	SO	SIW-SS-DUP-005	Uranium 238	pCi/g	1.58	U	0.86	2.4
F1G190456006	SO	SIW-SS-037P-0.0-2.0	Uranium 235	pCi/g	0.02	U	0.47	0.82
F1G190456006	SO	SIW-SS-037P-0.0-2.0	Uranium 238	pCi/g	3.3		1.3	3.3
F1G190456007	SO	SIW-SS-038P-0.0-2.0	Uranium 235	pCi/g	-0.04	U	4.1	0.6
F1G190456007	SO	SIW-SS-038P-0.0-2.0	Uranium 238	pCi/g	1.73	U	0.95	2.6
F1G190456008	SO	SIW-SS-039P-0.0-2.0	Uranium 235	pCi/g	0.2	U	0.42	0.71
F1G190456008	SO	SIW-SS-039P-0.0-2.0	Uranium 238	pCi/g	2.4	U	2.3	3
F1G190456009	SO	SIW-SS-040P-0.0-2.0	Uranium 235	pCi/g	0.31	U	0.39	0.62
F1G190456009	SO	SIW-SS-040P-0.0-2.0	Uranium 238	pCi/g	2.1	U	1	2.8
F1G190456010	SO	SIW-SS-041P-0.0-2.0	Uranium 235	pCi/g	0.23	U	0.43	0.6
F1G190456010	SO	SIW-SS-041P-0.0-2.0	Uranium 238	pCi/g	1.64	U	0.88	2.9
F1G190456011	SO	SIW-SS-042P-0.0-2.0	Uranium 235	pCi/g	0.04	U	0.12	0.3
F1G190456011	SO	SIW-SS-042P-0.0-2.0	Uranium 238	pCi/g	0.3	U	0.93	1.7
F1G190456012	SO	SIW-SS-043P-0.0-2.0	Uranium 235	pCi/g	0.93		0.6	0.78
F1G190456012	SO	SIW-SS-043P-0.0-2.0	Uranium 238	pCi/g	7.1		2.8	3.5
F1G190456013	SO	SIW-SS-044P-0.0-2.0	Uranium 235	pCi/g	0.3	U	0.23	0.45
F1G190456013	SO	SIW-SS-044P-0.0-2.0	Uranium 238	pCi/g	0.87	U	0.63	2
F1G190456014	SO	SIW-SS-045P-0.0-2.0	Uranium 235	pCi/g	1.13		0.79	1.1
F1G190456014	SO	SIW-SS-045P-0.0-2.0	Uranium 238	pCi/g	7.8		3.5	4.7
F1G250000061B	ВМ	LABQC	Uranium 235	pCi/g	-0.013	U	0.041	0.28
F1G250000061B	BM	LABQC	Uranium 238	pCi/g	-0.3	U	2.9	1.3
F1G190456002	SO	SIW-SS-DUP-002	Thorium 232	pCi/g	2.82		0.68	0.64
F1G190456004	SO	SIW-SS-DUP-004	Thorium 232	pCi/g	3.37		0.73	0.8
F1G190456014	SO	SIW-SS-045P-0.0-2.0	Thorium 232	pCi/g	2.08		0.76	0.63
F1G250000061C	LCS	LABQC	Thorium 232	pCi/g	10.1		0.93	0.57

The laboratory reporting limits for the samples listed above differ from the laboratory reporting limits documented in the QAPP. The requested reporting limits are listed in the table below.

Isotope	QAPP RL
U-234	0.1 pCi/g
U-235	0.1 pCi/g
U-238	0.1 pCi/g

Ra-226	1.0 pCi/g
Th-232	0.5 pCi/g

	A-01-R MOD		GA-01-R										
	Uranium 234	Uranium 235/236 Uranium 238	Actinium 227 Actinium 228	Bismuth 212 Bismuth		ed 212 Lead 214	Potassium 40 Protactinium			allium 208 Thorium 232	Thorium 234	Uranium 235	Uranium 238
Lab Sample ID Sample ID Sample Type	Result Error MDL Lab Qua	alifier Result Error MDL Lab Qualifier Result Error MDL Lab Qual	lifier Result Error MDL Lab Qualifier Result Error MDL Lab Quali	r Result Error MDL Lab Qualifier Result Error M	IDL Lab Qualifier Result Error MDL Lab Qualifier Result Error	MDL Lab Qualifier Result Error MDL Lab Qualifier Resul	t Error MDL Lab Qualifier Result Error				esult Error MDL Lab Qualifier Re	sult Error MDL Lab Qualifier Re	esult Error MDL Lab Qualifier
F1G19456001 SIW-SS-DUP-001 REG	1.85 0.26 0.03	0.078 0.05 0.045 1.9 0.26 0.04	0.23 0.57 2.5 U 1.46 0.32 0.13	1.09 0.55 0.74 1.82 0.29 0.	.17 2.4 2.4 3.5 U 1.83 0.24	0.21 1.71 0.27 0.21 11	1.9 0.7 0.21 0.29	3.1 U 1.82 0.29 0.17 1.	46 0.32 0.13 0.55 0.1	14 0.12 1.46 0.32 0.13 3	3.2 2.6 3.2	.14 0.28 0.52 U	3.2 2.6 3.2
F1G19456001X SIW-SS-DUP-001 DUP DUP (Alpha Spec)			0.07 0.54 2.2 U 1.46 0.33 0.22	1.58 0.6 0.51 1.47 0.29 0.	.23 2.8 2.2 2.8 U 1.64 0.22	0.18 1.52 0.3 0.26 11.6	1.9 1 0.78 0.46	3.6 U 1.47 0.29 0.23 1.	46 0.33 0.22 0.57 0.1	13 0.1 1.46 0.33 0.22	3 2.1 2.7 0	.18 0.38 0.66 U	3 2.1 2.7
F1G19456002 SIW-SS-DUP-002 REG	11.8 1.1 0.04	0.56 0.13 0.03 11.8 1.1 0.04	2.18 0.87 1.2 2.82 0.68 0.64	1.6 1.1 1.8 U 33.2 2.2 0	0.5 21.4 7 8.2 2.67 0.35	0.4 36.9 2.4 0.6 11.4	2.5 2.1 4.1 3.2	5.1 U 33.2 2.2 0.5 2.	82 0.68 0.64 0.84 0.2	23 0.24 2.82 0.68 0.64 1	0.5 2.5 6.5	I.1 1.1 1.9 U 1	10.5 2.5 6.5
F1G19456003 SIW-SS-DUP-003 REG	1.69 0.22 0.03	0.058 0.035 0.014 1.72 0.22 0.01	-0.2 0.42 0.71 U 1.02 0.29 0.26	0.28 0.68 1.2 U 1.49 0.27 0.	.15 0.5 1.4 2.6 U 0.96 0.19	0.15 1.78 0.26 0.2 13.1	2.3 1 0.5 1.3	2.9 U 1.49 0.27 0.15 1.	02 0.29 0.26 0.37 0.1	11 0.1 1.02 0.29 0.26 2	2.5 1.7 2.3 0.	017 0.083 0.55 U	2.5 1.7 2.3
F1G19456004 SIW-SS-DUP-004 REG	38 3.4 0.05	2.09 0.36 0.06 37.6 3.4 0.06	0.24 0.43 2.2 U 3.37 0.73 0.8	1.1 1.3 2.1 U 36.5 2.5 0	0.6 19.6 7 8.5 2.43 0.38	0.47 38.9 2.5 0.5 17.7	3.7 2.6 0.8 2.6	8.8 U 36.5 2.5 0.6 3.	37 0.73 0.8 1.03 0.3	31 0.3 3.37 0.73 0.8 3	11.2 7.2 8.1	2.7 1.3 1.7 3	31.2 7.2 8.1
F1G19456005 SIW-SS-DUP-005 REG	1.66 0.22 0.03	0.094 0.046 0.024 1.44 0.2 0.04	0.02 0.99 1.7 U 1.37 0.29 0.22	0.67 0.52 0.78 U 1.49 0.26 0.	.19 2.8 2.2 3 U 1.09 0.17	0.15 1.75 0.25 0.19 11.3	1.8 1.1 0.7 0.85	2.7 U 1.49 0.26 0.19 1.	37 0.29 0.22 0.42 0.1	12 0.11 1.37 0.29 0.22 1	.58 0.86 2.4 U 0	.24 0.35 0.66 U 1	1.58 0.86 2.4 U
F1G19456006 SIW-SS-037P-0.0-2.0 REG	3.22 0.36 0.03	0.148 0.059 0.025 3.38 0.37 0.01	0.28 0.45 3 U 3.12 0.52 0.3	2.03 0.72 0.86 2.66 0.39 0.	27 4 2.4 3.3 3.13 0.32	0.2 2.93 0.34 0.26 12.3	2 1 2.3 1.1	3.9 U 2.66 0.39 0.27 3.	12 0.52 0.3 0.98 0.1	18 0.13 3.12 0.52 0.3 3	3.3 1.3 3.3 0	.02 0.47 0.82 U	3.3 1.3 3.3
F1G19456007 SIW-SS-038P-0.0-2.0 REG	0.94 0.15 0.03	0.038 0.028 0.023 1.04 0.16 0.02	0.21 0.28 0.72 U 1.66 0.38 0.21	0.81 0.7 1.1 U 1.89 0.35 0.	.19 4.3 2.8 3.5 1.67 0.29	0.22 1.6 0.29 0.29 14.3	2.7 1.2 0.7 1.9	3.3 U 1.89 0.35 0.19 1.	66 0.38 0.21 0.64 0.1	19 0.16 1.66 0.38 0.21 1	.73 0.95 2.6 U -0	0.04 4.1 0.6 U 1	1.73 0.95 2.6 U
F1G19456008 SIW-SS-039P-0.0-2.0 REG	1.45 0.19 0.02	0.08 0.04 0.022 1.37 0.19 0.02	0.57 0.29 0.41 1 0.28 0.38	1.18 0.55 0.57 2.59 0.35 0.	.21 7.6 3.7 4.7 1.53 0.21	0.19 2.8 0.36 0.23 11.3	1.9 0.6 0.54 0.63	3.6 U 2.59 0.35 0.21	1 0.28 0.38 0.54 0.1	15 0.12 1 0.28 0.38 2	2.4 2.3 3 U (	0.2 0.42 0.71 U 2	2.4 2.3 3 U
F1G19456009 SIW-SS-040P-0.0-2.0 REG	1.91 0.24 0.03	0.105 0.049 0.029 1.98 0.25 0.02	0.19 0.28 1.8 U 1.53 0.27 0.21	0.73 0.52 0.77 U 1.65 0.32 0.	.26 0.07 1.8 3 U 1.2 0.18	0.17 1.69 0.26 0.23 12.3	2 1.1 0.8 1.1	2.8 U 1.65 0.32 0.26 1.	53 0.27 0.21 0.37 0.1	11 0.11 1.53 0.27 0.21 2	2.1 1 2.8 U 0	.31 0.39 0.62 U 2	2.1 1 2.8 U
F1G19456010 SIW-SS-041P-0.0-2.0 REG	0.77 0.17 0.04	0.007 0.02 0.045 U 0.9 0.19 0.04	-1.22 0.86 1.4 U 1.37 0.3 0.19	0.68 0.55 0.78 U 1.39 0.29 0.	.18 1.4 1.6 2.8 U 1.34 0.24	0.18 1.42 0.23 0.15 16.1	2.8 1.1 0.51 0.6	3.2 U 1.39 0.29 0.18 1.	37 0.3 0.19 0.51 0.1	14 0.12 1.37 0.3 0.19 1	.64 0.88 2.9 U 0	.23 0.43 0.6 U 1	1.64 0.88 2.9 U
F1G19456011 SIW-SS-042P-0.0-2.0 REG	0.254 0.07 0.025	0.016 0.019 0.014 0.278 0.073 0.012	-0.35 0.41 0.67 U 0.28 0.14 0.17	0.15 0.3 0.54 U 0.33 0.12 0.	.13 1.8 1.6 2.1 U 0.44 0.1	0.13 0.3 0.1 0.14 6.1	1.1 0.4 -0.12 0.89	1.6 U 0.33 0.12 0.13 0.	28 0.14 0.17 0.188 0.09	58 0.054 0.28 0.14 0.17 0	0.3 0.93 1.7 U 0	.04 0.12 0.3 U (	0.3 0.93 1.7 U
F1G19456012 SIW-SS-043P-0.0-2.0 REG	7.19 0.71 0.02	0.39 0.1 0.03 7.17 0.71 0.01	0.09 0.29 0.99 U 1.45 0.29 0.12	0.65 0.6 0.95 U 6.18 0.6 0.	25 5.7 3.1 4 0.96 0.19	0.22 6.15 0.61 0.31 11.7	1.9 1.1 0.69 0.56	4.1 U 6.18 0.6 0.25 1.	45 0.29 0.12 0.34 0.1	12 0.13 1.45 0.29 0.12 7	7.1 2.8 3.5	.93 0.6 0.78	7.1 2.8 3.5
F1G19456013 SIW-SS-044P-0.0-2.0 REG	1.26 0.18 0.03	0.078 0.042 0.024 1.28 0.18 0.02	0.047 0.065 0.66 U 0.22 0.12 0.36 U	0.03 0.31 0.58 U 1.77 0.27 0.	.17 3.9 1.6 1.9 0.4 0.11	0.13 1.85 0.27 0.19 5.5		1.9 U 1.77 0.27 0.17 0.	22 0.12 0.36 U 0.223 0.00	72 0.068 0.22 0.12 0.26 11 0.	1.87 0.63 2 U (	0.3 0.23 0.45 U 0	0.87 0.63 2 U
F1G19456014 SIW-SS-045P-0.0-2.0 REG	8.13 0.78 0.02	0.43 0.1 0.01 7.78 0.75 0.02	0.37 0.76 1.3 U 2.08 0.76 0.63	0 1 1.8 U 15.8 1.3 0	0.3 9.3 3.7 5 1.3 0.32	0.34 16 1.2 0.5 6.8	2.2 2.4 0.7 1.1	6.3 U 15.8 1.3 0.3 2.	08 0.76 0.63 0.33 0.1	18 0.21 2.08 0.76 0.63 7	7.8 3.5 4.7 1	.13 0.79 1.1	7.8 3.5 4.7
F1G25000061B (blank) BLK (Alpha Spec)			0.002 0.15 0.29 U 0.011 0.092 0.31 U	0 0.12 0.31 U 0.03 0.12 0.	.21 U -0.2 1.2 1.8 U 0.03 0.05	0.1 U 0.1 0.077 0.14 U 0.09	0.55 1.2 U -0.002 0.01	1.8 U 0.03 0.12 0.21 U 0.0	011 0.092 0.31 U -0.01 1.3	2 0.09 U 0.011 0.092 0.31 U -	0.3 2.9 1.3 U -0	013 0 041 0 28 11 -	-0.3 2.9 1.3 U
F1G25000061C (blank) LCS (Alpha Spec)								11.4 0.98 0.44		10.1 0.93 0.57			
F1H08000094B (blank) BLK (Iso-U)	0.015 0.016 0.018 U	0.004 0.01 0.022 U -0.002 0.003 0.021 U											
F1H08000094C (blank) LCS (Iso-U)	1.65 0.22 0.01	1.81 0.23 0.01											

The laboratory reporting limits reported for U-234, U-235, U-238, Ra-226 and Th-232 can results differ from the laboratory reporting limits documented in the QAPP. The result for the Uranium analyses by Alpha Spec should be utilized when the result for Uranium analysed by Gamma Spec is a non-detected value.

### SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

Comprehensive Data Validation

Project:	Staten Island F1G190461 Test America Gross Alpha/Beta; Alpha Spec: Ra-226 and Ra-228 by GFPC					
SDG Number:						
Laboratory:						
Analysis:						
Matrix:	Groundwater					
matrix.						
	has been reviewed and the analytical quality contral criteria used to assess the analytical integrity of					
Case Narrative Analytical Holding Sample Preservati Method Calibration Method and Projec Method Calibration Analytical Surroga	Times LCSA from Re-a Interest Blanks Tunin Yerification Endr	MSD Recoveries and Diff /LCSD Recoveries and D inalysis and Secondary I rnal Standards Performa ng Standard rin/DDT Breakdown	ifferences Dilution			
"UJ" "F" "F" "F" "F" "F" "F" "F" "F" "F" "	- Not detected at the associated level - Not detected and associated value estimated - Associated value estimated - Associated value unusable or analyte identity unfor - Compound properly identified and value positive (Corrected below the acceptance criteria. The samples were resorting limits for all samples were not met due to a reductive for GFPC (Ra-226 and Ra-228) was above the upper corrected during the initial preparation of the sample. Therefore W-010FP should be qualified as estimated (J) for Ra-226	e-extracted and reanalyzed ion in sample size attribute control limit for sample SI to the lab truncated the bar is and Ra-228 due to poten	ed to the samples' high  W-GW-010FP. No ium carrier recovery yields tial low bias as a result of			
Reviewed by: (print	t) Jessica Mattison	Date:	9/12/2011			
Peer Reviewed by: (prin	J. Wilkins t)	Date:	9/15/2011			
(Sign	n)					

SDG: F1G190461 Revision 1: 27 November 2007

## I. Sample Name cross-reference

Enter the names of the project sample(s) and Lab Sample name(s) associated with the sample(s):

Project sample name	Phase	Lab sample name	additional lab sample names (if any)
SIW-GW-016FP	Aqueous	F1G190461-001	MK1P4001
SIW-GW-016UFP	Aqueous	F1G190461-002	MK1QJ002
SIW-GW-FDUP	Aqueous	F1G190461-003	MK1QK003
SIW-GW-UFDUP	Aqueous	F1G190461-004	MK1QR004
SIW-GW-026UFP	Aqueous	F1G190461-005	MK1QT005
SIW-GW-026FP	<u>Aqueous</u>	F1G190461-006	MK1QW006
SIW-GW-023UFP	Aqueous	F1G190461-007	MK1Q0007
SIW-GW-023FP	Aqueous	F1G190461-008	MK1Q1008
SIW-GW-005UFP	Aqueous	F1G190461-009	MK1Q2009
SIW-GW-005FP	Aqueous	F1G190461-010	MK1Q3010
SIW-GW-009FP	Aqueous	F1G190461-011	MK1Q4011
SIW-GW-009UFP	Aqueous	F1G190461-012	MK1Q8012
SIW-GW-010UFP	Aqueous	F1G190461-013	MK1Q9013
SIW-GW-010FP	Aqueous	F1G190461-014	MK1RD014

SDG: F1G190461 Revision 1: 27 November 2007

#### II. Case Narrative

Direct statement(s) from the lab of problems and/or unusual occurrences. Note disagreements and reasons for the disagreement with the Laboratory Statement.

#### Remarks:

The Gross Beta LCS recovered below the acceptance criteria. The samples were re-extracted and reanalyzed.

The Gross Alpha/Beta reporting limits for all samples were not met due to a reduction in sample size attributed to the samples' high residual masses.

The Barium carrier recovery for GFPC (Ra-226 and Ra-228) was above the upper control limit for sample SIW-GW-010FP. No abnormalities were observed during the initial preparation of the sample. Therefore the lab truncated the barium carrier recovery yields to 100%.

## III. Re-analysis and Secondary Dilutions

Verify that re-analysis and secondary dilutions were performed and reported as necessary. Determine appropriate results to report.

The Gross Beta LCS recovered below the acceptance criteria. The samples were re-extracted and re-	eanalyzed.

SDG: F1G190461 Revision 1: 27 November 2007

## IV. Holding Times

Remarks: (Maximum ho	lding time is set for a particula	ar analysis, if the holding tim	e exceeds twice the max
limit, then qua	lify all analytes with 'R' for re	iected data point.)	

	minut area demand an arrander area area beauty
Acceptable.	
1	

Revision 1: 27 November 2007 SDG: F1G190461

### V. Calibration

Remarks:		
Acceptable.		

### VI. Blanks

Remarks:			
Acceptable.			

## VII. Surrogate Recoveries and Radiological Tracer Recoveries

#### Remarks:

The Barium carrier recovery for GFPC (Ra-226 and Ra-228) was above the upper control limit for sample SIW-GW-010FP. No abnormalities were observed during the initial preparation of the sample. Therefore the lab truncated the barium carrier recovery yields to 100%. Sample SIW-GW-010FP should be qualified as estimated for Ra-226 and Ra-228 due to potential low bias as a result of truncating the barium carrier recovery.

SDG: F1G190461 Revision 1: 27 November 2007

### VIII. Internal Standards Performance

SDG: F1G190461 Revision 1: 27 November 2007 8 of 13

## IX. Instrument Performance Checks

#### **Matrix Spike and Matrix Spike Duplicates** X.

R	6	m	а	r	k	c	•
т	ᆫ		а		N	3	٠

Acceptable.

MS and MSD samples were taken in the field, but were not checked in or analyzed.

Revision 1: 27 November 2007 SDG: F1G190461

# XI. Duplicate Analysis

# **Radiochemical Duplicate Information**

Identify the method utilized to evaluate duplicate analyses; duplicate error ratio (DER), relative percent difference (RPD), or normalized absolute difference (NAD).

Duplicate actions should apply to all samples associated with the duplicate pair.

### Deviations:

<b>Duplicate Samp</b>	le(s)			SIW-GW-010UFP
Radionuclide	DER/RER	RPD	NAD	Samples Affected

### Remarks:

Acceptable.			

SDG: F1G190461 Revision 1: 27 November 2007

# XII. Laboratory Control Sample

General Laboratory Control Sample Criteria, percent recovery (use Lab provided criteria when available):

Contra Laboratory Cor	iti di dampio di italia,	percent recovery (ase	Lab provided differia	Wildir available).	
VOC	SVOC	Pesticides	PCB	Aqueous	Solid
80-120	60-120	50-130	50-130	80-120	70-130

#### Deviations:

Compound	Method	Percent Recovery	Recovery Limits	RC	Samples Affected

# Remarks:

Acceptable.

Radiological LCS limits

70% - 130%

SDG: F1G190461 Revision 1: 27 November 2007

# XIII. Analytical Method Specific Information

SDG: F1G190461 Revision 1: 27 November 2007
13 of 13

Note to file:

Date: 09/13/2011

SDG: F1G190461

Test America logged samples in incorrectly. Refer to the sample cross reference below for the correct sample IDs.

Lab logged-incorrectly	Actual Sample ID
SIW-GW-05UFP	SIW-GW-005UFP
SIW-GW-05FP	SIW-GW-005FP
SIW-GW-09UFP	SIW-GW-009UFP
SIW-GW-09UFP	SIW-GW-009UFP

# F1G190461 WQUAL

				Gro	oss Alp	oha		Gr	oss Be	eta		Ra	dium (	226)		Ra	dium 2	228		Ura	nium 2	234		Uraniu	ım 235	5/236		Ura	nium 2	:38
Lab Sample ID	Sample ID	Sample Type	Result	Error	MDL	Lab Qualifier	Result	Error	MDL	Lab Qualifier	Result	Error	MDL	Lab Qualifier	Result	Error	MDL	Lab Qualifier	Result	Error	MDL	Lab Qualifier	Result	Error	MDL	Lab Qualifier	Result	Error	MDL	Lab Qualifier
F1G19000160B	(blank)	BLK (Ra-226)									0.12	0.12	1	U																
F1G19000160C	(blank)	LCS (Ra-226)									8.44	0.88	1																	
F1G19000162B	(blank)	BLK (Ra-228)													0.33	0.24	1	U												
F1G19000162C	(blank)	LCS (Ra-228)													4.63	0.59	1													
F1G190461001	SIW-GW-016FP	REG	-35	52	3	U	158	59	4		0.91	0.23	1		0.32	0.23	1	U	0.59	0.15	0.1		0.066	0.054	0.1		0.61	0.16	0.1	
F1G190461002	SIW-GW-016UFP	REG	2	100	3	U	181	81	4		0.73	0.23	1		0.31	0.33	1	U	0.51	0.14	0.1		0.045	0.045	0.1		0.57	0.15	0.1	
F1G190461003	SIW-GW-FDUP	REG	64	82	3	U	114	58	4		0.61	0.2	1		0.38	0.29	1	U	1	0.22	0.1		0.037	0.042	0.1		0.91	0.2	0.1	
F1G190461004	SIW-GW-UFDUP	REG	2	62	3	U	171	61	4		0.29	0.16	1		0.47	0.3	1		1.08	0.22	0.1		0.045	0.048	0.1	U	1.05	0.22	0.1	
	SIW-GW-026UFP		-14	71	3	U	161	60	4		0.29		1		0.02	0.25	1	U	0.84	0.18			0.01	0.021	0.1	U	0.65	0.16	0.1	
F1G190461006	SIW-GW-026FP	REG	7	84	3	U	52	72	4	U	-0.03		1	U	0.16	0.25	1	U	0.76	0.18	0.1		0.012	0.035		U	0.75	0.18	0.1	
F1G190461007	SIW-GW-023UFP		8	69	3	U	109	54	4		0.27	0.14	1		0.25	0.27	1	U	0.95	0.2	0.1		0.052	0.049	0.1		0.67	0.16	0.1	
F1G190461008	SIW-GW-023FP		24	84	3	U	140	49	4		0.35	0.16	1		0.13	0.27	1	U	0.91	0.21	0.1		0.013	0.026	0.1	U	0.85	0.2	0.1	
F1G190461009	SIW-GW-05UFP	REG	29	93	3	U	89	62	4	U	0.74		1		0.07	0.26	1	U	1.5	0.28	0.1		0.05	0.05	0.1		1.5	0.28	0.1	
F1G190461010	SIW-GW-05FP	REG	30	100	3	U	66	46	4	U	0.52	_			0.46	0.27	1		0.96	0.2	0.1		0.053	0.047	0.1		0.83	0.18	0.1	
F1G190461011	SIW-GW-09FP	REG	32	88	3	U	102	47	4		0.85	0.25	1		0.52	0.29	1		1.78	0.29	0.1		0.095	0.064	0.1		1.61	0.27	0.1	
F1G190461012	SIW-GW-09UFP	REG	-17	78	3	U	96	47	4		1.25	0.28			0.31	0.22	1	U	2.15	0.33	0.1		0.085	0.061	0.1		1.93	0.3	0.1	
	SIW-GW-010UFP		-10	120	3	U	221	75	4		1.91	0.35			0.5	0.24	1		0.98	0.21	0.1		0.055	0.055	0.1	U	0.73	0.18	0.1	
	SIW-GW-010UFP										11.5	1.2	1																	
	SIW-GW-010UFP		6150	760	3		6920	590	4		11	1.1	1																	
	SIW-GW-010UFP	+	-39	78	3	U	190	72	4										0.74	0.18	0.1		0.056				0.67	0.17	0.1	
F1G190461014		REG	-14	99.9	3	U	137	73	4		2.16				0.51	0.27	1		0.78	0.2	0.1		0.055	0.055	0.1		0.62	0.17	0.1	
											11.7																		<u> </u>	
			5720	710	3		6690	570	4		13.6	1.3	1																<u> </u>	
	ļ		10	120	3	U	165	67	4																<u> </u>				igsqcurl	
F1G25000128B	(blank)	BLK (GAB)		0.46		U		0.56		U																				<b></b>
F1G25000128C	(blank)	LCS (GAB)	54	6	3		69.4	5.9	4																<u> </u>				igsqcurl	
F1H01000091B	(blank)	BLK (GAB)		0.58		U		0.56		U																			igsqcurl	
F1H01000091C	(blank)	LCS (GAB)	41.5	5	3		66.3	5.7	4																				igsqcurl	
F1H11000151B	(blank)	BLK (Iso-U)																		0.004	-	U	U	0.0099	0.1	U	-0.002		_	U
F1H11000151C	(blank)	LCS (Iso-U)																	3.04	0.41	0.1						3.33	0.44	0.1	

The laboratory reporting limits reported for U-234, U-235, U-238,Ra-226 and Th-232 can results differ from the laboratory reporting limits documented in the QAPP. The result for the Uranium analyses by Alpha Spec should be utilized when the result for Uranium analyzed by Gamma Spec is a non-detected value.

# SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

Comprehensive Data Validation

Project:	Staten Island										
SDG Number:	F1G190465										
Laboratory:	Test America										
Analysis:	Alpha Spec; Gamma Spec										
Matrix:	Soil										
wati ix.											
	has been reviewed and the analytical quality cal criteria used to assess the analytical integrit										
Case Narrative Analytical Holding Sample Preservat Method Calibratio Method and Proje Method Calibratio Analytical Surroga	g Times ion n ct Blanks n Verification	MS/MSD Recoveries and LCS/LCSD Recoveries and Re-analysis and Seconda Internal Standards Perfor Tuning Standard Endrin/DDT Breakdown	d Differences ry Dilution								
Definition of EPA Quali	ifiers:										
"UJ" "J" "R'	" - Not detected at the associated level " - Not detected and associated value estimated " - Associated value estimated " - Associated value unusable or analyte identity u " - Compound properly identified and value positi		only)								
Overall Remarks:			3,								
The presence of Th-234/U calculated above the MDA	7-238 in sample SIW-SS-009P-0.0-2.0 indicates the p A in the samples, however, the results may be biased IW-SS-009P-0.0-2.0 should be qualified with a J as of	nigh due to the low abunda									
Sample SIW-SS-018P-0.0 acceptable.	-2.0 was reanalyzed by Alpha Spec due to low tracer	recovery. The reanalysis	results are reported and								
SIW-SS-007P-0.0-2.0 and concentration) and with a	the Method Blank for preparatory batch 1206064 and SIW-SS-019P-0.0-2.0 had Pb-214 detected at levels Normalized Absolute Difference between the blank a-019P-0.0-2.0 should be qualified as estimated (J) fo	that were less than the act and sample result of less th	ion level (ten times the blank an 2.58. Samples SIW-SS-								
	ence (RPD) between the parent sample and the labor-2.0 was above the acceptance criteria, but the NAD ry.										
	SIW-SS-033P-0.0-2.0 and lab replicate for U-235/2. are data is acceptable and no qualification is necessary		ce criteria, but the NAD is less								
	SIW-SS-001P-0.0-2.0 and the laboratory replicate woves the data is acceptable and no qualification is need to be a superior of the control of		riteria for Bi-212, but the NAD								
Please see the attached wo	orksheet for further information relating to the RL.										
Reviewed by: (prin	t) Jessica Mattison	Date: _	9/15/2011								
(Sign	n)										
Peer Reviewed by: (prin	nt)	Date:									

Revision 1: 27 November 2007 SDG: F1G190465 1 of 15

(Sign)	·	

SDG: F1G190465 Revision 1: 27 November 2007 2 of 15

# **Sample Name cross-reference**

Enter the names of the project samp  Project sample name	Phase	Lab sample name	additional lab sample names (if any)
SIW-SS-001P-0.0-2.0	<u>Solid</u>	F1G190465-001	MK1RJ001
SIW-SS-002P-0.0-2.0	Solid	F1G190465-002	MK1RK002
SIW-SS-003P-0.0-2.0	Solid	F1G190465-003	MK1RL003
SIW-SS-004P-0.0-2.0	Solid	F1G190465-004	MK1RM004
SIW-SS-005P-0.0-2.0	Solid	F1G190465-005	MK1RN005
SIW-SS-006P-0.0-2.0	Solid	F1G190465-006	MK1RP006
SIW-SS-007P-0.0-2.0	Solid	F1G190465-007	MK1RR007
SIW-SS-008P-0.0-2.0	Solid	F1G190465-008	MK1RT008
SIW-SS-009P-0.0-2.0	Solid	F1G190465-009	MK1RV009
SIW-SS-010P-0.0-2.0	Solid	F1G190465-010	MK1RW010
SIW-SS-011P-0.0-2.0	Solid	F1G190465-011	MK1RX011
SIW-SS-012P-0.0-2.0	Solid	F1G190465-012	MK1R0012
SIW-SS-013P-0.0-2.0	Solid	F1G190465-013	MK1R1013
SIW-SS-014P-0.0-2.0	Solid	F1G190465-014	MK1R5014
SIW-SS-015P-0.0-2.0	Solid	F1G190465-015	MK1R6015
SIW-SS-016P-0.0-2.0	Solid	F1G190465-016	MK1R7016
SIW-SS-017P-0.0-2.0	Solid	F1G190465-017	MK1R8017
SIW-SS-018P-0.0-2.0	Solid	F1G190465-018	MK1R9018
SIW-SS-019P-0.0-2.0	Solid	F1G190465-019	MK1TA019
SIW-SS-020P-0.0-2.0	Solid	F1G190465-020	MK1TC020
SIW-SS-021P-0.0-2.0	Solid	F1G190465-021	MK1TF021
SIW-SS-022P-0.0-2.0	Solid	F1G190465-022	MK1TG022
SIW-SS-023P-0.0-2.0	Solid	F1G190465-023	MK1TH023
SIW-SS-024P-0.0-2.0	Solid	F1G190465-024	MK1TJ024
SIW-SS-025P-0.0-2.0	Solid	F1G190465-025	MK1TK025
SIW-SS-026P-0.0-2.0	Solid	F1G190465-026	MK1TM026
SIW-SS-027P-0.0-2.0	Solid	F1G190465-027	MK1TR027
SIW-SS-028P-0.0-2.0	Solid	F1G190465-028	MK1TT028
SIW-SS-029P-0.0-2.0	Solid	F1G190465-029	MK1TV029
SIW-SS-030P-0.0-2.0	Solid	F1G190465-030	MK1TW030

SIW-SS-031P-0.0-2.0	<u>Solid</u>	F1G190465-031	MK1T0031
SIW-SS-032P-0.0-2.0	<u>Solid</u>	F1G190465-032	MK1T1032
SIW-SS-033P-0.0-2.0	<u>Solid</u>	F1G190465-033	MK1T2033
SIW-SS-034P-0.0-2.0	<u>Solid</u>	F1G190465-034	MK1T3034
SIW-SS-035P-0.0-2.0	<u>Solid</u>	F1G190465-035	MK1T5035
SIW-SS-036P-0.0-2.0	<u>Solid</u>	F1G190465-036	MK1T6036

SDG: F1G190465 Revision 1: 27 November 2007 4 of 15

# II. Case Narrative

Direct statement(s) from the lab of problems and/or unusual occurrences. Note disagreements and reasons for the disagreement with the Laboratory Statement.

### Remarks:

ı	The presence of Th-234/U-238 in sample SIW-SS-009P-0.0-2.0 indicates the presence of Pa-234m. The Pa-234m results were calculated
ı	above the MDA in the samples, however, the results may be biased high due to the low abundance at keyline 1001.3 keV. The Pa-234m
l	results for SIW-SS-009P-0.0-2.0 should be qualified with a J as estimated.
ı	
ı	
ı	
۱	

# III. Re-analysis and Secondary Dilutions

Verify that re-analysis and secondary dilutions were performed and reported as necessary. Determine appropriate results to report.

Sample SIW-SS-018P-0.0-2.0 was reanalyzed by Alpha Spec due to low tracer recovery. The reanalysis results are reported and are exceptable.

SDG: F1G190465 Revision 1: 27 November 2007

#### **Holding Times** IV.

Remarks: (Maximum holding time is set for a particular analysis, if the holding time exceeds twice the max
limit, then qualify all analytes with 'R' for rejected data point.)

	1, 1 1 1 1 3 1 1 1 3 1 1 1 1 1 1 1 1 1 1	
Acceptable.		
_		

Revision 1: 27 November 2007 SDG: F1G190465

# V. Calibration

# Remarks:

Kelliai KS.		
Acceptable.		
Required MDAs:		
Isotope	QAPP RL	
U-234	0.1 pCi/g	
U-235	0.1 pCi/g	
U-238	0.1 pCi/g	
Ra-226	1.0	
Th-232	0.5 pCi/g	

SDG: F1G190465 Revision 1: 27 November 2007

# VI. Blanks

### Radiochemical Blanks

If the blank result is less than the associated uncertainty (error), no qualification will be warranted.

If the blank result is greater than its associated uncertainty, but less than the MDA, then no qualification will be warranted. If the blank result is greater than the associated uncertainty and greater than the MDA, then qualification of sample results may be appropriate.

#### **Laboratory Method Blanks:**

Date	Blank ID	Radionuclide	Result	Error	MDA
7/25/2011	F1G250000-064B	Pb-214	0.126	0.077	0.10
7/25/2011	F1G250000-066B	Pb-214	0.096	0.059	0.088
8/9/2011	F1H090000-094B	U-238	0.011	0.013	0.01

- If the blank result falls outside criteria, qualify associated sample results that are less than 10x the blank value as estimated (J), only if the NAD <2.58
- If the absolute sample result is less than the MDA and the uncertainty is less than the result, qualify as non-detect (U).
- If the absolute sample result is less than the MDA and the uncertainty is greater than the result qualify as non-detect value uncertain (UJ).
- If the sample result is greater than the MDA and the uncertainty is 50-100% of the result, qualify the data as estimated (J).
- If the sample result is greater than the MDA and the uncertainty is greater than 100% of the result, qualify the data as rejected.
- If the sample result is negative, and its absolute value exceeds 2x the MDA, qualify the data as rejected.

#### Deviations:

Radionuclide	Max Activity	Action Level		
Pb-214	0.126	1.26	NAD	Sample ID
			2.41	SIW-SS-007P-0.0-2.0
			2.14	SIW-SS-019P-0.0-2.0

#### Remarks:

Lead-214 was detected in the Method Blank for preparatory batch 1206064 and 1206066 indicating potential contamination. Samples SIW-SS-007P-0.0-2.0 and SIW-SS-019P-0.0-2.0 had Pb-214 detected at levels that were less than the action level (ten times the blank concentration) and with a Normalized Absolute Difference between the blank and sample result of less than 2.58. Samples SIW-SS-007P-0.0-2.0 and SIW-SS-019P-0.0-2.0 should be qualified as estimated (J) for Pb-214 due to potential blank contamination.

SDG: F1G190465 Revision 1: 27 November 2007

# VII. Surrogate Recoveries and Radiological Tracer Recoveries

# Remarks:

Sample SIW-SS-018P-0.0-2.0 was reanalyzed by Alpha Spec due to low tracer recovery. The reanalysis results is reported.

SDG: F1G190465 Revision 1: 27 November 2007

# VIII. Internal Standards Performance

Remarks:		
NA		

# IX. Instrument Performance Checks

Remarks:		
NA		

# X. Matrix Spike and Matrix Spike Duplicates Remarks:

Remarks:			
NA			

Revision 1: 27 November 2007 SDG: F1G190465

# XI. Duplicate Analysis

# **Radiochemical Duplicate Information**

Identify the method utilized to evaluate duplicate analyses; duplicate error ratio (DER), relative percent difference (RPD), or normalized absolute difference (NAD).

Duplicate actions should apply to all samples associated with the duplicate pair.

#### **Deviations:**

Duplicate Sample(s)				F1G190465-001, F1G190465-007, F1G190465-027, F1G190465-033
Radionuclide	DER/RER	RPD	NAD	Samples Affected
Bi-212		36.7	0.6	SIW-SS-001P-0.0-2.0
Ac-228		45	0.88	SIW-SS-007P-0.0-2.0
Ra-228		45	0.88	SIW-SS-007P-0.0-2.0
Th-232		45	0.88	SIW-SS-007P-0.0-2.0
U-235/236		75.5	0.96	SIW-SS-033P0-2.0

### Remarks:

The relative percent difference (RPD) between the parent sample and the laboratory replicate for Ac-228, Ra-228, and Th-232 for sample SIW-SS-007P-0.0-2.0 was above the acceptance criteria, but the NAD is less than 1.96, which proves the data is acceptable and no qualification is necessary.

The RPD between sample SIW-SS-033P-0.0-2.0 and lab replicate for U-235/236 was above the acceptance criteria, but the NAD is less than 1.96, which proves the data is acceptable and no qualification is necessary.

The RPD between sample SIW-SS-001P-0.0-2.0 and the laboratory replicate was above the acceptance criteria for Bi-212, but the NAD is less than 1.96, which proves the data is acceptable and no qualification is necessary.

SDG: F1G190465 Revision 1: 27 November 2007

### **Laboratory Control Sample** XII.

General Laboratory Control Sample Criteria, percent recovery (use Lab provided criteria when available):

Contor at Eaboratory Con	iti di dampio di italia,	percent recovery (ase	Lab provided differia	Wildir available).	
VOC	SVOC	Pesticides	PCB	Aqueous	Solid
80-120	60-120	50-130	50-130	80-120	70-130

_							
11	e١	/1	2	t۱	n	n	c

Compound	Method	Date	Percent	Recovery	RC	Samples Affected
			Recovery	Limits		

# Remarks:

Acceptable.

Radiological LCS limits

70% - 130%

Revision 1: 27 November 2007 SDG: F1G190465

# XIII. Analytical Method Specific Information

SDG: F1G190465 Revision 1: 27 November 2007 15 of 15

LAB SAMPLE ID	CLIENT SAMPLE DESCRIPTION	COMPOUND NAME	UNITS	RESULT	QUALIFIERS	TOTAL UNCERTAINTY	RPT LIMIT/MDC
F1G190465001	SIW-SS-001P-0.0-2.0	Uranium 235	pCi/g	0.45	-	0.59	
F1G190465001	SIW-SS-001P-0.0-2.0	Uranium 238	pCi/g	1.2		1.3	3.8
F1G190465002	SIW-SS-002P-0.0-2.0	Uranium 235	pCi/g	0.35		0.43	<del> </del>
F1G190465002	SIW-SS-002P-0.0-2.0	Uranium 238	pCi/g	1.2		1.1	3.3
F1G190465003	SIW-SS-003P-0.0-2.0	Uranium 235	pCi/g	0.11	U	0.2	0.31
F1G190465003	SIW-SS-003P-0.0-2.0	Uranium 238	pCi/g	0.29	U	0.38	1.6
F1G190465004	SIW-SS-004P-0.0-2.0	Uranium 235/236	pCi/g	0.024	U	0.023	0.027
F1G190465004	SIW-SS-004P-0.0-2.0	Uranium 235	pCi/g	0.09	U	0.13	0.51
F1G190465004	SIW-SS-004P-0.0-2.0	Uranium 238	pCi/g	0.6	U	0.65	2
F1G190465005	SIW-SS-005P-0.0-2.0	Uranium 235	pCi/g	0.3	U	0.41	0.68
F1G190465005	SIW-SS-005P-0.0-2.0	Uranium 238	pCi/g	1.55	U	0.97	2.8
F1G190465006	SIW-SS-006P-0.0-2.0	Uranium 235	pCi/g	0.17	U	0.17	0.25
F1G190465006	SIW-SS-006P-0.0-2.0	Uranium 238	pCi/g	0.11	U	0.47	1.5
F1G190465007	SIW-SS-007P-0.0-2.0	Uranium 235	pCi/g	0.11	U	0.14	0.41
F1G190465007	SIW-SS-007P-0.0-2.0	Uranium 238	pCi/g	0.6	U	0.49	1.4
F1G190465007X	SIW-SS-007P-0.0-2.0	Uranium 235	pCi/g	-0.03	U	0.12	0.36
F1G190465007X	SIW-SS-007P-0.0-2.0	Uranium 238	pCi/g	0.66	U	0.45	1.4
F1G190465008	SIW-SS-008P-0.0-2.0	Uranium 235	pCi/g	0.48	U	0.46	0.6
F1G190465008	SIW-SS-008P-0.0-2.0	Uranium 238	pCi/g	2.15	U	0.95	2.6
F1G190465009	SIW-SS-009P-0.0-2.0	Uranium 235	pCi/g	2.9		1.2	1.7
F1G190465009	SIW-SS-009P-0.0-2.0	Uranium 238	pCi/g	34		7.6	8.9
F1G190465010	SIW-SS-010P-0.0-2.0	Uranium 235	pCi/g	0.2	U	0.49	0.75
F1G190465010	SIW-SS-010P-0.0-2.0	Uranium 238	pCi/g	1.75	U	0.97	3
F1G190465011	SIW-SS-011P-0.0-2.0	Uranium 235	pCi/g	0.18	U	0.33	0.59
F1G190465011	SIW-SS-011P-0.0-2.0	Uranium 238	pCi/g	2	U	1.6	2.2
F1G190465012	SIW-SS-012P-0.0-2.0	Uranium 235	pCi/g	0.4	U	0.42	0.69
F1G190465012	SIW-SS-012P-0.0-2.0	Uranium 238	pCi/g	4.1		2.6	3.3
F1G190465013	SIW-SS-013P-0.0-2.0	Uranium 235	pCi/g	1.09	U	0.92	1.7
F1G190465013	SIW-SS-013P-0.0-2.0	Uranium 238	pCi/g	11.6		4.2	5.5
F1G190465014	SIW-SS-014P-0.0-2.0	Uranium 235/236	pCi/g	0.068		0.039	0.027
F1G190465014	SIW-SS-014P-0.0-2.0	Uranium 235	pCi/g	-0.008		0.044	0.7
F1G190465014	SIW-SS-014P-0.0-2.0	Uranium 238	pCi/g	2.5	U	2	3.2
F1G190465015	SIW-SS-015P-0.0-2.0	Uranium 235	pCi/g	0.77	U	0.96	1.6
F1G190465015	SIW-SS-015P-0.0-2.0	Uranium 238	pCi/g	7.2		1.9	5.9
F1G190465016	SIW-SS-016P-0.0-2.0	Uranium 235	pCi/g	1.2		1.5	
F1G190465016	SIW-SS-016P-0.0-2.0	Uranium 238	pCi/g	11.9		5.1	<del></del>
F1G190465017	SIW-SS-017P-0.0-2.0	Uranium 235	pCi/g	0.44		0.56	
F1G190465017	SIW-SS-017P-0.0-2.0	Uranium 238	pCi/g	2.1	U	2.5	
F1G190465018REA	SIW-SS-018P-0.0-2.0	Uranium 234	pCi/g	58.4		5.8	<del></del>
F1G190465018REA	SIW-SS-018P-0.0-2.0	Uranium 235/236	pCi/g	2.89		0.8	<del> </del>
F1G190465018REA	SIW-SS-018P-0.0-2.0	Uranium 238	pCi/g	56.6		5.6	<del> </del>
F1G190465018	SIW-SS-018P-0.0-2.0	Uranium 235	pCi/g	3		1.3	
F1G190465018	SIW-SS-018P-0.0-2.0	Uranium 238	pCi/g	39.2		6.7	7.1
F1G190465018XREA	SIW-SS-018P-0.0-2.0	Uranium 234	pCi/g	58.7		5.8	
F1G190465018XREA	SIW-SS-018P-0.0-2.0	Uranium 235/236	pCi/g	2.18		0.7	<del> </del>
F1G190465019	SIW-SS-019P-0.0-2.0	Uranium 235	pCi/g	-0.02	U	0.47	0.29

F1G190465019	SIW-SS-019P-0.0-2.0	Uranium 238	pCi/g	0.28 U	0.43	1.5
F1G190465020	SIW-SS-020P-0.0-2.0	Uranium 235	pCi/g	0.21 U	0.34	0.58
F1G190465020	SIW-SS-020P-0.0-2.0	Uranium 238	pCi/g	2.7	2.1	2.7
F1G190465021	SIW-SS-021P-0.0-2.0	Uranium 235	pCi/g	0.38 U	0.35	0.63
F1G190465021	SIW-SS-021P-0.0-2.0	Uranium 238	pCi/g	2.7	1.6	2.3
F1G190465022	SIW-SS-022P-0.0-2.0	Uranium 235	pCi/g	0.05 U	0.19	0.34
F1G190465022	SIW-SS-022P-0.0-2.0	Uranium 238	pCi/g	0.37 U	0.36	1.3
F1G190465023	SIW-SS-023P-0.0-2.0	Uranium 235	pCi/g	0.34 U	0.4	0.75
F1G190465023	SIW-SS-023P-0.0-2.0	Uranium 238	pCi/g	3.3 U	2.2	3.5
F1G190465024	SIW-SS-024P-0.0-2.0	Uranium 235	pCi/g	0.09 U	0.22	0.49
F1G190465024	SIW-SS-024P-0.0-2.0	Uranium 238		1.08 U	0.81	2.6
F1G190465024	SIW-SS-025P-0.0-2.0	Uranium 235	pCi/g	0.42	0.34	0.41
	SIW-SS-025P-0.0-2.0	Uranium 238	pCi/g	2.9		1.7
F1G190465025 F1G190465026			pCi/g	<b></b>	1.4	
	SIW-SS-026P-0.0-2.0	Uranium 235	pCi/g	0.31 U	0.42	0.82
F1G190465026	SIW-SS-026P-0.0-2.0	Uranium 238	pCi/g	2.8 U	2.4	3.1
F1G190465027	SIW-SS-027P-0.0-2.0	Uranium 235	pCi/g	0.24 U	0.31	0.58
F1G190465027	SIW-SS-027P-0.0-2.0	Uranium 238	pCi/g	1.5 U	1.5	2.1
F1G190465027X	SIW-SS-027P-0.0-2.0	Uranium 235	pCi/g	0.26 U	0.32	0.59
F1G190465027X	SIW-SS-027P-0.0-2.0	Uranium 238	pCi/g	1.01 U	0.8	2.5
F1G190465028	SIW-SS-028P-0.0-2.0	Uranium 235	pCi/g	0.09 U	0.22	0.58
F1G190465028	SIW-SS-028P-0.0-2.0	Uranium 238	pCi/g	2.6	1.6	2.1
F1G190465029	SIW-SS-029P-0.0-2.0	Uranium 235	pCi/g	0.19 U	0.28	0.48
F1G190465029	SIW-SS-029P-0.0-2.0	Uranium 238	pCi/g	1.9	1.5	1.9
F1G190465030	SIW-SS-030P-0.0-2.0	Uranium 235	pCi/g	0.07 U	0.41	0.62
F1G190465030	SIW-SS-030P-0.0-2.0	Uranium 238	pCi/g	3.3	1.8	2.4
F1G190465031	SIW-SS-031P-0.0-2.0	Uranium 235	pCi/g	0.37 U	0.48	0.8
F1G190465031	SIW-SS-031P-0.0-2.0	Uranium 238	pCi/g	2.7 U	2	2.8
F1G190465032	SIW-SS-032P-0.0-2.0	Uranium 235	pCi/g	0.07 U	0.22	0.38
F1G190465032	SIW-SS-032P-0.0-2.0	Uranium 238	pCi/g	0.8 U	1.1	1.8
F1G190465033	SIW-SS-033P-0.0-2.0	Uranium 235	pCi/g	0.015 U	0.069	0.79
F1G190465033	SIW-SS-033P-0.0-2.0	Uranium 238	pCi/g	2.02 U	0.93	2.7
F1G190465034	SIW-SS-034P-0.0-2.0	Uranium 235	pCi/g	0.15 U	0.35	0.79
F1G190465034	SIW-SS-034P-0.0-2.0	Uranium 238	pCi/g	3.9	2.5	3.1
F1G190465035	SIW-SS-035P-0.0-2.0	Uranium 235	pCi/g	0.24 U	0.31	0.56
F1G190465035	SIW-SS-035P-0.0-2.0	Uranium 238	pCi/g	3.5	2	2.5
F1G190465036	SIW-SS-036P-0.0-2.0	Uranium 235	pCi/g	0.13 U	0.37	0.68
F1G190465036	SIW-SS-036P-0.0-2.0	Uranium 238	pCi/g	3	2.2	2.8
F1G250000061B	LABQC	Uranium 235	pCi/g	-0.013 U	0.041	0.28
F1G250000061B	LABQC	Uranium 238	pCi/g	-0.3 U	2.9	1.3
F1G250000064B	LABQC	Uranium 235	pCi/g	-0.04 U	1.5	0.3
F1G250000064B	LABQC	Uranium 238	pCi/g	0.22 U	0.59	1.2
F1G250000066B	LABQC	Uranium 235	pCi/g	0.03 U	0.15	0.22
F1G250000066B	LABQC	Uranium 238	pCi/g	0.15 U	0.18	0.86
F1G190465009	SIW-SS-009P-0.0-2.0	Thorium 232	pCi/g	2.01	0.8	1.2
F1G190465013	SIW-SS-013P-0.0-2.0	Thorium 232	pCi/g	1.82	0.52	0.53
F1G190465015	SIW-SS-015P-0.0-2.0	Thorium 232	pCi/g	2.36	0.7	0.79
F1G190465016	SIW-SS-016P-0.0-2.0	Thorium 232	pCi/g	2.82	0.82	0.77

F1G190465018	SIW-SS-018P-0.0-2.0	Thorium 232	pCi/g	2.29	0.84	0.78
F1G250000061C	LABQC	Thorium 232	pCi/g	10.1	0.93	0.57

The laboratoryreporting limits for the samples listed above differ from the laboratory reporting limits documented in the QAPP. The requested reporting limits are listed in the table below.

Isotope	QAPP RL	
U-234	0.1 pCi/g	
U-235	0.1 pCi/g	
U-238	0.1 pCi/g	
Ra-226	1.0 pCi/g	
Th-232	0.5 pCi/g	

F36290000063C				$\overline{}$	_		$\neg$			_			$\overline{}$	$\overline{}$	_				_	 _	-	_	_	_		_			_			_			$\overline{}$	$\neg$	$\overline{}$	11.4	0.55	0.66	_			_	$\overline{}$	$\overline{}$	$\overline{}$	$\overline{}$	10.1	T 4.01	0.17	$\overline{}$	$\overline{}$	$\overline{}$	$\overline{}$	$\overline{}$	$\overline{}$		$\overline{}$
P3 0.25000000688								0.011	0.079	0.8 U	0.025	0.076 0.2	6 U	a a:	22 0.10	U 1	0.016	0.19	U		-0.1	1.1 1	x v	0.01	0.06 0.	11 U	0.129	0.077 0.	1	4.5	10 0.1		0.01 0	3.1 1.5	U			0.01	0.098	0.39 0	0.023	0.024	026 U	0.008	0.007 0.000	2 U			0.00	0.076 *	0.2E U	0.22 *	359 12	9 /	0.06 1.5	0.1	U 0.22	0.39	12 0
P202900000060C																								_														12	0.99	O.EE									10.8	3.3	0.5		_		$\overline{}$				
7202100000066B								903.0	120.0	0.88 U	0	0.012 0.01	tt U	0 0.0	0.17	ū	20001	0.11			-0.12	0.65	1 0	0.012	0.052 0.1	093 U	0.096	0.334 0.3	22	-0.2	25 03	9	0.05 0	136 1.2	0			0.00000	\$3000£	0.11		0.012 0	1.086	031	0.22 0.05	c				0.012 7	JUEST U	0.11	0.18 0.86	9 /	4.01 0.15	0.22			3.86 12
73 5290000006C																								_														11.6	0.96	0.35									11.6	1 .	3.66		_		$\overline{}$				
F1HCR0000711RR D	D8 D311	0.011	u a	0.0009 0.	EE3 U	0.006	1001 10011	u u																_																										$\overline{}$			_		$\overline{}$				
F1+080000118C 1	12 0.2					1.52	0.39 0.009																	_																															$\overline{}$				
P1H0900000988 0:	12 0.315		u a		E63 U	0.011	0311 031																	_																										$\overline{}$									
1 109000000930	0.21					1.6	0.31 0.31																	_																										$\overline{}$			_		$\overline{}$				
1H09000000918		2.036	0.0002	2 0.0036 0	522 U	0.004	031 032	e e																_																										$\overline{}$					$\overline{}$				
71H0900000091C 1	0.31	0.01					0.31 0.31																	_																																			
P1+01000001E78 0:	23.0	0.016		0.0001 0.	E02 U	-0.0001	0007 0036	U																			-																							-	-					-			
P1+01000021EYC 1	6 02	0.01				1.69	0.31 0.33																	Т —			T																							T	$\neg$		$\neg$		$\neg$				$\neg$
								rting brids docum																																																			

# SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

Comprehensive Data Validation

Project:	Staten Island		
SDG Number:	F1G190474		
Laboratory:	Test America		
Analysis:	Iso-U (EML A-01-R MOD), Gamma Spectrosocpy	y (GA-01-R MOD)	
Matrix:	Soil		
	has been reviewed and the analytical quality all criteria used to assess the analytical integri		
Case Narrative Analytical Holding Sample Preservat Method Calibration Method and Projee Method Calibration Analytical Surroga	ion n ct Blanks n Verification	MS/MSD Recoveries and LCS/LCSD Recoveries and Re-analysis and Secondal Internal Standards Perfor Tuning Standard Endrin/DDT Breakdown	d Differences ry Dilution
Definition of EPA Quali	fiers:		
"UJ" "J" "R"	<ul> <li>Not detected at the associated level</li> <li>Not detected and associated value estimated</li> <li>Associated value estimated</li> <li>Associated value unusable or analyte identity</li> <li>Compound properly identified and value posit</li> </ul>		only)
	SB-009P-0.0-5.0 and SIW-SB-015P-0.0-5.0 recove The reanalyzed results are reported and were accep		. Both samples were re-
Narrative from Test Ameri interest for this nuclide. O	the Gamma Spec method blank at levels above the laca the variations in Compton backgrounds and statisther uranium decay products are not present in the ledata validator confirmed that no action was require	stical analyes allow for sma blank to support Lead-214 is	all area counts in the regions of dentification. Additionally,
for sample SIW-SB-006P-	Ference (RPD) for the laboratory replicate results for 5.0-8.0 were above the acceptance criteria of 35%. roves the data to be acceptable.		
Please see the attached wo	rksheet for further information relating to the RL.		
Reviewed by: (prin	t) Jessica Mattison	Date: _	9/12/2011
(Sign	)		
Peer Reviewed by: (prin	J Wilkins t)	Date:	9/15/2011
	n)		

SDG: F1G190474 Revision 1: 27 November 2007

# **Sample Name cross-reference**

Enter the names of the project samp  Project sample name	Phase	Lab sample name	additional lab sample names (if any)
SIW-SB-001P-0.0-5.0	Solid	F1G190474-001	MK1VG001
SIW-SB-001P-5.0-10.0	Solid	F1G190474-002	MK1VJ002
SIW-SB-002P-0.0-5.0	Solid	F1G190474-003	MK1VK003
SIW-SB-003P-0.0-5.0	Solid	F1G190474-004	MK1VM004
SIW-SB-003P-5.0-8.0	Solid	F1G190474-005	MK1VN005
SIW-SB-004P-0.0-5.0	Solid	F1G190474-006	MK1VP006
SIW-SB-004P-5.0-10.0	Solid	F1G190474-007	MK1VT007
SIW-SB-005P-0.0-5.0	Solid	F1G190474-008	MK1VW008
SIW-SB-005P-5.0-8.0	Solid	F1G190474-009	MK1VX009
SIW-SB-006P-0.0-5.0	Solid	F1G190474-010	MK1V2010
SIW-SB-006P-5.0-8.0	Solid	F1G190474-011	MK1V3011
SIW-SB-007P-0.0-5.0	Solid	F1G190474-012	MK1V5012
SIW-SB-007P-5.0-8.0	Solid	F1G190474-013	MK1V7013
SIW-SB-008P-0.0-5.0	Solid	F1G190474-014	MK1V9014
SIW-SB-008P-5.0-8.0	Solid	F1G190474-015	MK1WD015
SIW-SB-009P-0.0-5.0	Solid	F1G190474-016	MK1WF016
SIW-SB-09P-5.0-8.0	Solid	F1G190474-017	MK1WG017
SIW-SB-010P-0.0-5.0	Solid	F1G190474-018	MK1WH018
SIW-SB-10P-5.0-8.0	Solid	F1G190474-019	MK1WJ019
SIW-SB-011P-0.0-5.0	Solid	F1G190474-020	MK1WK020
SIW-SB-011P-5.0-8.0	Solid	F1G190474-021	MK1WM021
SIW-SB-012P-0.0-5.0	Solid	F1G190474-022	MK1WN022
SIW-SB-012P-5.0-8.0	Solid	F1G190474-023	MK1WP023
SIW-SB-13P-0.0-5.0	Solid	F1G190474-024	MK1WQ024
SIW-SB-013P-5.0-8.0	Solid	F1G190474-025	MK1WR025
SIW-SB-014P-0.0-5.0	Solid	F1G190474-026	MK1WT026
SIW-SB-014P-5.0-8.0	Solid	F1G190474-027	MK1WV027
SIW-SB015P-0.0-5.0	Solid	F1G190474-028	MK1WW028
SIW-SB-016P-0.0-5.0	Solid	F1G190474-029	MK1WX029
SIW-SB-016P-5.0-8.0	Solid	F1G190474-030	MK1WO030

SIW-SB-017P-0.0-5.0	<u>Solid</u>	F1G190474-031	MK1W1031
SIW-SB-018P-0.0-5.0	<u>Solid</u>	F1G190474-032	MK1W2032
SIW-SB-019P-0.0-5.0	<u>Solid</u>	F1G190474-033	MK2W3033
SIW-SB-019P-5.0-8.0	<u>Solid</u>	F1G190474-034	MK1W4034
SIW-SB-020P-0.0-5.0	<u>Solid</u>	F1G190474-035	MKW14035
SIW-SB-020P-5.0-8.0	<u>Solid</u>	F1G190474-036	MK1W6036

SDG: F1G190474 Revision 1: 27 November 2007 3 of 14

# II. Case Narrative

Direct statement(s) from the lab of problems and/or unusual occurrences. Note disagreements and reasons for the disagreement with the Laboratory Statement.

### Remarks:

Lead-214 was detected in the Gamma Spec method blank at levels above the MDA for prep batch 1206066. According to the Case
Narrative from Test America the variations in Compton backgrounds and statistical analyse allow for small area counts in the regions of
interest for this nuclide. Other uranium decay products are not present in the blank to support Lead-214 identification.

# III. Re-analysis and Secondary Dilutions

Verify that re-analysis and secondary dilutions were performed and reported as necessary. Determine appropriate results to report.

1	7-SB-009P-0.0-5.0 and SIW-SB-015P-0.0-5.0 recovered low for Uranium tracer. Both samples were re-

SDG: F1G190474 Revision 1: 27 November 2007

#### **Holding Times** IV.

Remarks: (N	laximum holdi	ng time is s	et for a p	articula	r analysis,	if the	holding time exceed	ds twice the max	(
lim	it, then qualify	all analyte	s with 'R'	for reje	ected data	point.)	)		

	 	,			 ,			
Acceptable								

Revision 1: 27 November 2007 SDG: F1G190474

# V. Calibration

# Remarks:

Acceptable		
Required MDAs:		
Isotope	QAPP RL	
U-234	0.1 pCi/g	
U-235	0.1 pCi/g	
U-238	0.1 pCi/g	
Ra-226	1.0	
Th-232	0.5 pCi/g	
	•	<u>,</u>

# VI. Blanks

### Radiochemical Blanks

If the blank result is less than the associated uncertainty (error), no qualification will be warranted.

If the blank result is greater than its associated uncertainty, but less than the MDA, then no qualification will be warranted. If the blank result is greater than the associated uncertainty and greater than the MDA, then qualification of sample results may be appropriate.

#### **Laboratory Method Blanks:**

Date	Blank ID	Radionuclide	Result	Error	MDA
7/25/2011	F1G250000-066B	Pb-214	0.096	0.59	0.088

- If the blank result falls outside criteria, qualify associated sample results that are less than 10x the blank value as estimated (J), only if the NAD <2.58</li>
- If the absolute sample result is less than the MDA and the uncertainty is less than the result, qualify as non-detect (U).
- If the absolute sample result is less than the MDA and the uncertainty is greater than the result qualify as non-detect value uncertain (UJ).
- If the sample result is greater than the MDA and the uncertainty is 50-100% of the result, qualify the data as estimated
- If the sample result is greater than the MDA and the uncertainty is greater than 100% of the result, qualify the data as rejected.
- If the sample result is negative, and its absolute value exceeds 2x the MDA, qualify the data as rejected.

#### **Deviations:**

Radionuclide	Max Activity	Action Level		
Pb-214	0.096	0.96	NAD	Sample ID

#### Remarks:

Lead-214 was detected in the method blank at levels greater than the MDA indicating potential blank contamination. Further investigation revealed that all sample results with a detection for Pb-214, had Pb-214 either greater than the action level of ten times the blank concentration, or a Normalized Absolute Difference between the blank result and the sample result greater than 2.58. Additionally, according to the Case Narrative from Test America the variations in Compton backgrounds and statistical analyes allow for small area counts in the regions of interest for this nuclide. Other uranium decay products are not present in the blank to support Lead-214 identification. Therefore, no action is required as a result of potential blank contamination.

SDG: F1G190474 Revision 1: 27 November 2007

# VII. Surrogate Recoveries and Radiological Tracer Recoveries

# Remarks:

Alpha Spec Samples SIW-SB-009P-0.0-5.0 and SIW-SB-015P-0.0-5.0 recovered low for Uranium tracer. Both samples were reextracted and reanalyzed. The reanalyzed results are reported and were acceptable.

SDG: F1G190474 Revision 1: 27 November 2007

# VIII. Internal Standards Performance

Remarks:		
N/A		

# IX. Instrument Performance Checks

Remarks:		
N/A		

# X. Matrix Spike and Matrix Spike Duplicates Remarks:

Remarks:			
N/A			

Revision 1: 27 November 2007 SDG: F1G190474

## XI. Duplicate Analysis

## **Radiochemical Duplicate Information**

Identify the method utilized to evaluate duplicate analyses; duplicate error ratio (DER), relative percent difference (RPD), or normalized absolute difference (NAD).

Duplicate actions should apply to all samples associated with the duplicate pair.

#### Deviations:

<b>Duplicate Samp</b>	le(s)			
Radionuclide	DER/RER	RPD	NAD	Samples Affected
Ac-228		46.67	0.97	SIW-SB-006P-5.0-8.0
Ra-228		46.67	0.97	SIW-SB-006P-5.0-8.0
Th-232		46.67	0.97	SIW-SB-006P-5.0-8.0
Th-234		110.2	0.94	SIW-SB-006P-5.0-8.0
U-238		110.2	0.94	SIW-SB-006P-5.0-8.0
U-235/236		37.84	0.26	SIW-SB-006P-5.0-8.0

#### Remarks:

The Relative Percents Difference (RPD) for the laboratory replicate results for Ac-228, Ra-228, Th-232, Th-234, U-238, and U-235/236 for sample SIW-SB-006P-5.0-8.0 were above the acceptance criteria of 35%. All normalized absolute difference (NAD) were less than the required 1.96, which proves the data to be acceptable.

SDG: F1G190474 Revision 1: 27 November 2007

# XII. Laboratory Control Sample

General Laboratory Control Sample Criteria, percent recovery (use Lab provided criteria when available):

Contra Laboratory Cor	iti di dampio di italia,	percent recovery (ase	Lab provided differia	Wildir available).	
VOC	SVOC	Pesticides	PCB	Aqueous	Solid
80-120	60-120	50-130	50-130	80-120	70-130

_				
De	<i>.</i> i	<b>~</b> +	in	nc

Compound	Method	Date	Percent	Recovery	RC	Samples Affected
			Recovery	Limits		

## Remarks:

Acceptable.

Radiological LCS limits

70% - 130%

SDG: F1G190474 Revision 1: 27 November 2007

# XIII. Analytical Method Specific Information

SDG: F1G190474 Revision 1: 27 November 2007
14 of 14

Note to file:

Date: 09/15/2011

SDG: F1G190474

Test America logged samples in incorrectly. Refer to the sample cross reference below for the correct sample IDs.

Lab logged-incorrectly	Actual Sample ID
SIW-SB-001P-5.0-10.0	SIW-SB-001P-5.0-8.0

LAB SAMPLE ID	CLIENT SAMPLE DESCRIPTION	COMPOUND NAME	UNITS	RESULT	QUALIFIERS	TOTAL UNCERTAINTY	RPT LIMIT/MDC
F1G190474001	SIW-SB-001P-0.0-5.0	Uranium 235	pCi/g	0.11	_	0.38	0.67
F1G190474001	SIW-SB-001P-0.0-5.0	Uranium 238	pCi/g	1.65		0.97	2.7
F1G190474002	SIW-SB-001P-5.0-10.0	Uranium 235	pCi/g	0.11		0.29	0.5
F1G190474002	SIW-SB-001P-5.0-10.0	Uranium 238	pCi/g	0.9		1.5	2.2
F1G190474003	SIW-SB-002P-0.0-5.0	Uranium 235	pCi/g	0.11	U	0.27	0.46
F1G190474003	SIW-SB-002P-0.0-5.0	Uranium 238	pCi/g	0.88	U	0.7	2
F1G190474004	SIW-SB-003P-0.0-5.0	Uranium 235	pCi/g	0.43		0.36	0.44
F1G190474004	SIW-SB-003P-0.0-5.0	Uranium 238	pCi/g	0.45	U	0.65	2.3
F1G190474005	SIW-SB-003P-5.0-8.0	Uranium 235	pCi/g	0.11	U	0.28	0.48
F1G190474005	SIW-SB-003P-5.0-8.0	Uranium 238	pCi/g	0.21	U	0.71	2.3
F1G190474006	SIW-SB-004P-0.0-5.0	Uranium 235	pCi/g	0.16	U	0.23	0.59
F1G190474006	SIW-SB-004P-0.0-5.0	Uranium 238	pCi/g	0.54	U	0.66	2.2
F1G190474007	SIW-SB-004P-5.0-10.0	Uranium 235	pCi/g	-0.08	U	1.3	0.5
F1G190474007	SIW-SB-004P-5.0-10.0	Uranium 238	pCi/g	0.64	U	0.61	2.2
F1G190474008	SIW-SB-005P-0.0-5.0	Uranium 235	pCi/g	0.12	U	0.35	0.66
F1G190474008	SIW-SB-005P-0.0-5.0	Uranium 238	pCi/g	2.08	U	0.81	2.2
F1G190474009	SIW-SB-005P-5.0-8.0	Uranium 235	pCi/g	0.15	U	0.41	0.69
F1G190474009	SIW-SB-005P-5.0-8.0	Uranium 238	pCi/g	1.3	U	1.1	3.2
F1G190474010	SIW-SB-006P-0.0-5.0	Uranium 235	pCi/g	0.06	U	0.29	0.5
F1G190474010	SIW-SB-006P-0.0-5.0	Uranium 238	pCi/g	0.8	U	1.1	1.7
F1G190474011	SIW-SB-006P-5.0-8.0	Uranium 235	pCi/g	0.11	U	0.27	0.47
F1G190474011	SIW-SB-006P-5.0-8.0	Uranium 238	pCi/g	0.55	U	0.61	1.8
F1G190474011X	SIW-SB-006P-5.0-8.0	Uranium 235	pCi/g	0.1	U	0.2	0.46
F1G190474011X	SIW-SB-006P-5.0-8.0	Uranium 238	pCi/g	1.9		1.3	1.7
F1G190474012	SIW-SB-007P-0.0-5.0	Uranium 235	pCi/g	0.17	U	0.33	0.52
F1G190474012	SIW-SB-007P-0.0-5.0	Uranium 238	pCi/g	1.71	U	0.73	2
F1G190474013	SIW-SB-007P-5.0-8.0	Uranium 235	pCi/g	0.2	U	0.32	0.71
F1G190474013	SIW-SB-007P-5.0-8.0	Uranium 238	pCi/g	1.99	U	0.92	2.5
F1G190474014	SIW-SB-008P-0.0-5.0	Uranium 235	pCi/g	0.06		0.39	0.68
F1G190474014	SIW-SB-008P-0.0-5.0	Uranium 238	pCi/g	1.12	U	0.89	2.6
F1G190474015	SIW-SB-008P-5.0-8.0	Uranium 235	pCi/g	0.38	U	0.41	0.68
F1G190474015	SIW-SB-008P-5.0-8.0	Uranium 238	pCi/g	1.3	U	1.2	3.6
F1G190474016REA	SIW-SB-009P-0.0-5.0	Uranium 234	pCi/g	40.7		4.3	0.3
F1G190474016REA	SIW-SB-009P-0.0-5.0	Uranium 235/236	pCi/g	1.57		0.59	0.24
F1G190474016REA	SIW-SB-009P-0.0-5.0	Uranium 238	pCi/g	40.9		4.3	
F1G190474016	SIW-SB-009P-0.0-5.0	Uranium 235	pCi/g	4.5		1.6	
F1G190474016	SIW-SB-009P-0.0-5.0	Uranium 238	pCi/g	50.7		7.5	7.8
F1G190474017	SIW-SB-009P-5.0-8.0	Uranium 235	pCi/g	0.7		0.5	0.63
F1G190474017	SIW-SB-009P-5.0-8.0	Uranium 238	pCi/g	2.9		1.1	2.8
F1G190474018	SIW-SB-010P-0.0-5.0	Uranium 235	pCi/g	0.11		0.42	0.76
F1G190474018	SIW-SB-010P-0.0-5.0	Uranium 238	pCi/g	1.33		0.98	
F1G190474019	SIW-SB-010P-5.0-8.0	Uranium 235	pCi/g	0.05		0.13	0.54
F1G190474019	SIW-SB-010P-5.0-8.0	Uranium 238	pCi/g	1.4		1.5	2.6
F1G190474020	SIW-SB-011P-0.0-5.0	Uranium 235	pCi/g	0.21		0.47	0.73
F1G190474020	SIW-SB-011P-0.0-5.0	Uranium 238	pCi/g	2.8		1.3	2.8
F1G190474021	SIW-SB-011P-5.0-8.0	Uranium 235	pCi/g	0.27	ĮU	0.47	0.69

F1G190474021	SIW-SB-011P-5.0-8.0	Uranium 238	pCi/g	0.6	П	1	3.3
F1G190474022	SIW-SB-012P-0.0-5.0	Uranium 235	pCi/g	0.24		0.33	0.62
F1G190474022	SIW-SB-012P-0.0-5.0	Uranium 238	pCi/g	0.24		0.61	2.1
F1G190474023	SIW-SB-012P-5.0-8.0	Uranium 235	pCi/g	0.016		0.081	0.52
F1G190474023	SIW-SB-012P-5.0-8.0	Uranium 238		0.010		0.82	2.7
			pCi/g		0		2.7
F1G190474024	SIW-SB-013P-0.0-5.0	Uranium 235	pCi/g	4.6		2.3	
F1G190474024	SIW-SB-013P-0.0-5.0	Uranium 238	pCi/g	26.7	11	4.6	11
F1G190474025	SIW-SB-013P-5.0-8.0	Uranium 235	pCi/g	0.35	U	0.67	0.94
F1G190474025	SIW-SB-013P-5.0-8.0	Uranium 238	pCi/g	4.2		1.3	3.2
F1G190474026	SIW-SB-014P-0.0-5.0	Uranium 238	pCi/g	0.121		0.076	0.27
F1G190474027	SIW-SB-014P-5.0-8.0	Uranium 235	pCi/g	0.21	U	0.39	0.67
F1G190474027	SIW-SB-014P-5.0-8.0	Uranium 238	pCi/g	2.7		1.8	2.5
F1G190474028REA	SIW-SB-015P-0.0-5.0	Uranium 234	pCi/g	65.4		6.4	0.2
F1G190474028REA	SIW-SB-015P-0.0-5.0	Uranium 235/236	pCi/g	3.02		0.84	0.14
F1G190474028REA	SIW-SB-015P-0.0-5.0	Uranium 238	pCi/g	63		6.2	0.3
F1G190474028	SIW-SB-015P-0.0-5.0	Uranium 235	pCi/g	4.2		1.3	1.9
F1G190474028	SIW-SB-015P-0.0-5.0	Uranium 238	pCi/g	50.7		8.1	8.6
F1G190474029	SIW-SB-016P-0.0-5.0	Uranium 235	pCi/g	0.69	U	0.58	1
F1G190474029	SIW-SB-016P-0.0-5.0	Uranium 238	pCi/g	6.1		1.4	3.8
F1G190474030	SIW-SB-016P-5.0-8.0	Uranium 235	pCi/g	0.08	U	0.13	0.67
F1G190474030	SIW-SB-016P-5.0-8.0	Uranium 238	pCi/g	2.8		1.7	2.3
F1G190474031	SIW-SB-017P-0.0-5.0	Uranium 235	pCi/g	0.31	U	0.51	0.85
F1G190474031	SIW-SB-017P-0.0-5.0	Uranium 238	pCi/g	1.9	U	1	3
F1G190474031X	SIW-SB-017P-0.0-5.0	Uranium 235	pCi/g	0.16	U	0.31	0.82
F1G190474031X	SIW-SB-017P-0.0-5.0	Uranium 238	pCi/g	3.1	U	2.6	3.3
F1G190474032	SIW-SB-018P-0.0-5.0	Uranium 235	pCi/g	2.9		1.4	1.6
F1G190474032	SIW-SB-018P-0.0-5.0	Uranium 238	pCi/g	37		6.5	6.7
F1G190474033	SIW-SB-019P-0.0-5.0	Uranium 235	pCi/g	0.12	U	0.11	0.33
F1G190474033	SIW-SB-019P-0.0-5.0	Uranium 238	pCi/g	0.45	U	0.42	1.3
F1G190474034	SIW-SB-019P-5.0-8.0	Uranium 235	pCi/g	0.11	U	0.24	0.34
F1G190474034	SIW-SB-019P-5.0-8.0	Uranium 238	pCi/g	0.6	U	1.2	1.7
F1G190474035	SIW-SB-020P-0.0-5.0	Uranium 235	pCi/g	0.03	U	0.35	0.61
F1G190474035	SIW-SB-020P-0.0-5.0	Uranium 238	pCi/g	2.7		1.9	2.6
F1G190474036	SIW-SB-020P-5.0-8.0	Uranium 235	pCi/g	0.28	U	0.3	0.54
F1G190474036	SIW-SB-020P-5.0-8.0	Uranium 238	pCi/g	0.58	U	0.75	2.4
F1G250000066B	LABQC	Uranium 235	pCi/g	0.03	U	0.15	0.22
F1G250000066B	LABQC	Uranium 238	pCi/g	0.15	U	0.18	0.86
F1G250000067B	LABQC	Uranium 235	pCi/g	0.03	U	0.16	0.31
F1G250000067B	LABQC	Uranium 238	pCi/g	0.3		0.32	1.4
F1G250000068B	LABQC	Uranium 235	pCi/g	-0.05		32	0.3
F1G250000068B	LABQC	Uranium 238	pCi/g	0.73		0.79	1.3
F1G190474009	SIW-SB-005P-5.0-8.0	Thorium 232	pCi/g	1.78		0.36	0.55
F1G190474016	SIW-SB-009P-0.0-5.0	Thorium 232	pCi/g	2.82		0.72	1.1
F1G190474024	SIW-SB-013P-0.0-5.0	Thorium 232	pCi/g	1.2	U	0.88	1.6
F1G190474028	SIW-SB-015P-0.0-5.0	Thorium 232	pCi/g	1.55		0.63	1.1
F1G190474032	SIW-SB-018P-0.0-5.0	Thorium 232	pCi/g	2.6		0.66	0.57
F1G250000067C	LABQC	Thorium 232	pCi/g	10.1		1.1	0.6
1 10230000070	15.500	monum 232	PC1/8	10.1		1.1	0.0

F1G250000068C	LABQC	Thorium 232	pCi/g	10.4	0.99	0.61

The laboratory reporting limits for the samples listed above differ from the laboratory reporting limits documented in the QAPP. The requested reporting limits are listed in the table below.

Isotope	QAPP RL	
U-234	0.1 pCi/g	
U-235	0.1 pCi/g	
U-238	0.1 pCi/g	
Ra-226	1.0 pCi/g	
Th-232	0.5 pCi/g	

F1G250000066C																				
F1G250000067B													-0.04	0.2	0.36	U	0.11	0.13	0.21	U
F1G250000067C																				
F1G250000068B													0.006	0.07	0.55	U	0.15	0.13	0.2	U
F1G250000068C																				
F1H100000106B	0.013	0.014	0.016	U	-0.0011	0.0022	0.02	U	0	0.0035	0.0094	U								
F1H100000106C	1.6	0.2	0.02						1.77	0.22	0.02									
F1H110000136B	0.014	0.017	0.025	U	-0.0011	0.0023	0.021	U	0.009	0.013	0.019	U								
F1H110000136C	1.82	0.23	0.01						1.9	0.23	0.01									
F1H250000147B	0.005	0.01	0.018	U	0	0.0043	0.012	U	-0.0009	0.0017	0.016	U								
F1H250000147C	1.6	0.2	0.03						1.69	0.21	0.02									

The laboratory reporting limits reported for U-234, U-235, U-238,Ra-226 and Th-232 can results differ from the laboratory reporting limits documented in the QAPP. The result for the Uranium analyses by Alpha Spec should be utilized when the result for Uranium analyzed by Gamma Spec is a non-detected value.

0.13	0.27	0.5	U	0.048	0.079	0.15	U			0.4	1.2	2.1	U	0.093	0.072	0.11	U	0.075	0.074
0.03	0.32	0.6	U	0.13	0.097	0.17	U			0.54	0.92	1.7	U	0.044	0.059	0.11	U	0.128	0.098

												11.4	0.94	0.34					
0.14	U	-0.1	4.3	0.5	U	0.13	0.38	1.5	U			0.048	0.079	0.15	U	0.11	0.13	0.21	U
												10.9	0.93	0.39					
0.14	J	-0.04	0.38	0.9	U	0.09	0.15	1.6	U			0.13	0.097	0.17	U	0.15	0.13	0.2	U
												11.7	0.98	0.38					

						11.4	1	0.46											
0.025	0.052	0.085	U			0.11	0.13	0.21	U	0.3	0.32	1.4	U	0.03	0.16	0.31	U	0.3	0.32
						10.1	1.1	0.6											
0.037	0.049	0.073	J			0.15	0.13	0.2	U	0.73	0.79	1.3	U	-0.05	32	0.3	U	0.73	0.79
						10.4	0.99	0.61											

U
J

## SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

Comprehensive Data Validation

Project:	Staten Island									
SDG Number:	F1G190479									
Laboratory:	Test America									
Analysis:	Alpha Spec; Gamma Spec									
Matrix:	Soil									
wati ix.										
	has been reviewed and the analytical quality al criteria used to assess the analytical integr									
Case Narrative Analytical Holding Sample Preservat Method Calibratio Method and Proje Method Calibratio Analytical Surroga	ion n ct Blanks n Verification	MS/MSD Recoveries and Differences LCS/LCSD Recoveries and Differences Re-analysis and Secondary Dilution Internal Standards Performance Tuning Standard Endrin/DDT Breakdown								
Definition of EPA Quali	fiers:									
"UJ" "J" "R"	<ul> <li>Not detected at the associated level</li> <li>Not detected and associated value estimated</li> <li>Associated value estimated</li> <li>Associated value unusable or analyte identity</li> <li>Compound properly identified and value posit</li> </ul>		only)							
Overall Remarks:	e taken in the field, but not checked in at the lab. P		-	tional information.						
Please see the attached wo	orksheet for further information relating to the RL.									
Reviewed by: (prin (Sign	t) Jessica Mattison			9/12/2011						
Peer Reviewed by: (prin	J Wilkins ht)			9/15/2011						
	n)									

SDG: F1G190479 Revision 1: 27 November 2007

# I. Sample Name cross-reference

Enter the names of the project sample(s) and Lab Sample name(s) associated with the sample(s)

Project sample name	Phase	Lab sample name	additional lab sample names (if any)
SIW-SB-021P-0.0-5.0	<u>Solid</u>	F1G190479-001	MK1XF001
SIW-SB-021P-5.0-8.0	Solid	F1G190479-002	MK17H002
SIW-SB-022P-0.0-5.0	<u>Solid</u>	F1G190479-003	MK17J003
SIW-SB-022P-5.0-8.0	Solid	F1G190479-004	MK17K004
SIW-SB-023P-0.0-5.0	Solid	F1G190479-005	MK17M005
SIW-SB-023P-5.0-8.0	<u>Solid</u>	F1G190479-006	MK17N006
SIW-SB-024P-0.0-5.0	Solid	F1G190479-007	MK17P007
SIW-SB-025P0.0-5.0	Solid	F1G190479-008	MK17Q008
SIW-SB-026P-0.0-5.0	Solid	F1G190479-009	MK17R009
SIW-SB-DUP-001	Solid	F1G190479-010	MK17V010
SIW-SB-DUP-002	Solid	F1G190479-011	MK17W011
SIW-SB-DUP-003	Solid	F1G190479-012	MK170012
SIW-SB-DUP-004	Solid	F1G190479-013	MK171013
SIW-SB-DUP-005	Solid	F1G190479-014	MK172014

SDG: F1G190479 Revision 1: 27 November 2007

## II. Case Narrative

Direct statement(s) from the lab of problems and/or unusual occurrences. Note disagreements and reasons for the disagreement with the Laboratory Statement.

Remarks:
There were no issues reported.
III. Re-analysis and Secondary Dilutions
Verify that re-analysis and secondary dilutions were performed and reported as necessary.  Determine appropriate results to report.
Determine appropriate results to report.
There were no reanalyses or secondary dilutions required. Acceptable.

SDG: F1G190479 Revision 1: 27 November 2007

# IV. Holding Times

Remarks:	(Maximum	holding	time is set	for a	particular	analysis,	if the holding	time exceeds to	wice the max
1	imit, then d	nualify al	l analytes	with '	R' for reied	cted data	point.)		

Acceptable.								
1								

SDG: F1G190479 Revision 1: 27 November 2007

## V. Calibration

## Remarks:

Citiai K3.		
Acceptable.		
Required MDAs		
Isotope	QAPP RL	
U-234	0.1 pCi/g	
U-235	0.1 pCi/g	
U-238	0.1 pCi/g	
Ra-226	1.0	
Th-232	0.5 pCi/g	

SDG: F1G190479 Revision 1: 27 November 2007 5 of 13

## VI. Blanks

Remarks:			
Acceptable.			

SDG: F1G190479 Revision 1: 27 November 2007

# VII. Surrogate Recoveries and Radiological Tracer Recoveries

Remarks:		
Acceptable.		

Revision 1: 27 November 2007 SDG: F1G190479

# VIII. Internal Standards Performance

Remarks:		
NA		

Revision 1: 27 November 2007 SDG: F1G190479

# IX. Instrument Performance Checks

Remarks:		
NA		

Revision 1: 27 November 2007 SDG: F1G190479

#### **Matrix Spike and Matrix Spike Duplicates** Χ.

R	eı	m	а	r	k	c	
т	CI		а		Ν	- 3	

Three MS/MSD pairs were taken in the field, but not checked in at the lab.

Revision 1: 27 November 2007 SDG: F1G190479

#### XI. **Duplicate Analysis**

Remarks:			
Accpetable.			

Revision 1: 27 November 2007 SDG: F1G190479

# XII. Laboratory Control Sample

General Laboratory Control Sample Criteria, percent recovery (use Lab provided criteria when available):

Contor at Eaboratory Con	iti di dampio di italia,	percent recovery (ase	Lab provided differia	Wildir available).	
VOC	SVOC	Pesticides	PCB	Aqueous	Solid
80-120	60-120	50-130	50-130	80-120	70-130

_				
Deν	/12	111	nn	•

Compound	Method	Date	Percent	Recovery	RC	Samples Affected
			Recovery	Limits		

## Remarks:

Acceptable.

Radiological LCS limits

70% - 130%

SDG: F1G190479 Revision 1: 27 November 2007

# XIII. Analytical Method Specific Information

SDG: F1G190479 Revision 1: 27 November 2007
13 of 13

LAB SAMPLE ID	CLIENT SAMPLE DESCRIPTION	ANALYSIS METHOD	COMPOUND NAME	UNITS	RESULT	QUALIFIERS	TOTAL UNCERTAINTY	RPT LIMIT/MDC
F1G190479001	SIW-SB-021P-0.0-5.0	GA-01-R MOD	Uranium 238	pCi/g	1.03	U	0.92	2.7
F1G190479002	SIW-SB-021P-5.0-8.0	GA-01-R MOD	Uranium 238	pCi/g	1.49	U	0.75	1.8
F1G190479003	SIW-SB-022P-0.0-5.0	GA-01-R MOD	Uranium 238	pCi/g	2.3	U	2.1	2.8
F1G190479004	SIW-SB-022P-5.0-8.0	GA-01-R MOD	Uranium 238	pCi/g	0.73	U	0.77	3
F1G190479005	SIW-SB-023P-0.0-5.0	GA-01-R MOD	Uranium 238	pCi/g	1.8	U	1.1	3.7
F1G190479006	SIW-SB-023P-5.0-8.0	GA-01-R MOD	Uranium 238	pCi/g	0.93	U	0.61	1.8
F1G190479007	SIW-SB-024P-0.0-5.0	GA-01-R MOD	Uranium 238	pCi/g	2.9		2	2.7
F1G190479008	SIW-SB-025P-0.0-5.0	GA-01-R MOD	Uranium 238	pCi/g	1.17	U	0.72	2.9
F1G190479009	SIW-SB-026P-0.0-5.0	GA-01-R MOD	Uranium 238	pCi/g	1.96	U	0.997	2.9
F1G190479010	SIW-SB-DUP-001	GA-01-R MOD	Uranium 238	pCi/g	0.41	U	0.68	2.3
F1G190479011	SIW-SB-DUP-002	GA-01-R MOD	Uranium 238	pCi/g	3.7		1.4	3.2
F1G190479012	SIW-SB-DUP-003	GA-01-R MOD	Uranium 235	pCi/g	1.32		0.76	1.3
F1G190479012	SIW-SB-DUP-003	GA-01-R MOD	Uranium 238	pCi/g	23.2		5.7	6.4
F1G190479013	SIW-SB-DUP-004	GA-01-R MOD	Uranium 238	pCi/g	3		2.2	2.8
F1G190479014	SIW-SB-DUP-005	GA-01-R MOD	Uranium 238	pCi/g	2.4	U	1.7	2.6
F1G250000068B	LABQC	GA-01-R MOD	Uranium 238	pCi/g	0.73	U	0.79	1.3
F1G190479012	SIW-SB-DUP-003	GA-01-R MOD	Thorium 232	pCi/g	2.91		0.64	0.54
F1G250000068C	LABQC	GA-01-R MOD	Thorium 232	pCi/g	10.4		0.99	0.61

The laboratory reporting limits for the samples listed above differ from the laboratory reporting limits documented in the QAPP. The requested reporting limits are listed in the table below.

Isotope	QAPP RL
U-234	0.1 pCi/g
U-235	0.1 pCi/g
U-238	0.1 pCi/g
Ra-226	1.0 pCi/g
Th-232	0.5 pCi/g

A-01-R MOD			GA-01-R																						
Uranium 234	Uranium 235/236	Uranium 238	Actinium 227	Actinium 228	Bist	muth 212 Bismuth 214		Lead 210	Lead	212		Lead 214	Potassium 40	Protactinium 2	31	Radium (226)	Radium 228	Thallium 208	-	Thorium 232	Thori	ium 234	Uranium 235	Urani	ım 238
Lab Sample ID Sample Type Result MDL Error Lab Qualifier	Result MDL Error Lab Qualifier R	Result MDL Error Lab	Qualifier Result MDL Error Lab Qualifier	Result MDL Error Lab Qualifier	Result ME	DL Error Lab Qualifier Result MDL Error La	b Qualifier Result M	L Error Lab Qualifier	Result MDL E	rror Lab Qualifier	Result MD	L Error Lab Qualifier	Result MDL Error Lab Qualifier	Result MDL Erro	r Lab Qualifier Result	MDL Error Lab Qualit	fier Result MDL Error Lab Qua	alifier Result MDL Error Lab Qu	ualifier Result	MDL Error Lab Qualifier	Result MDL	Error Lab Qualifier	Result MDL Error Lab Qua	lifier Result MDL	Error Lab Qualifier
F1G190479001 SIW-SB-021P-0.0-5.0 REG 1.15 0.02 0.17	0.069 0.014 0.039	1.15 0.01 0.17	0.18 2 0.27 U	1.47 0.19 0.27		36 0.54 U 1.5 0.2 0.28	2.1 2	1.8 U	1.44 0.17	0.2	1.43 0.2	1 0.23	14.9 1.1 2.2	0.89 2.8 0.9	B U 1.5	0.2 0.28	1.47 0.19 0.27	0.54 0.09 0.12	1.47	0.19 0.27	1.03 2.7	0.92 U	0.26 0.61 0.36 U	1.03 2.7	0.92 U
F1G190479002 SIW-SB-021P-5.0-8.0 REG 0.92 0.02 0.14	0.031 0.021 0.025	0.96 0.02 0.14	0.12 0.35 0.2 U	0.61 0.41 0.25	0.59 0.6	56 0.45 U 0.71 0.16 0.18	-0.2	2.2 U	1.04 0.17 0	1.19	0.71 0.2	1 0.19	9.8 1.3 1.8	0.72 2.6 0.6	U 0.71	0.16 0.18	0.61 0.41 0.25	0.184 0.12 0.085	0.61	0.41 0.25	1.49 1.8	0.75 U	0.21 0.49 0.2 U	1.49 1.8	0.75 U
F1G190479003 SIW-SB-022P-0.0-S.0 REG 0.78 0.03 0.16	0.034 0.041 0.036 U	0.92 0.02 0.18	0.16 2.6 0.36 U	1.63 0.14 0.34	0.53 0.9	95 0.57 U 1.15 0.21 0.25	0.4 3	2.1 U	1.78 0.2 (	1.24	1.28 0.25	5 0.27	16.4 0.7 2.4	0.2 3.4 0.4	U 1.15	0.21 0.25	1.63 0.14 0.34	0.49 0.1 0.12	1.63	0.14 0.34	2.3 2.8	2.1 U	0.26 0.72 0.45 U	2.3 2.8	2.1 U
F1G190479004 SIW-S8-022P-5.0-8.0 REG 0.67 0.03 0.14	0.012 0.032 0.02 U	0.73 0.03 0.14	0.06 2 1.2 U	1.5 0.29 0.35	1.97 0.2	26 0.54 1.25 0.2 0.26	1.2	1.9 U	1.54 0.13	0.2	1.24 0.2	0.22	19.6 1.1 2.5	0.44 2.2 0.5	7 U 1.25	0.2 0.26	1.5 0.29 0.35	0.51 0.08 0.11	1.5	0.29 0.35	0.73 3	0.77 U	0.28 0.72 0.38 U	0.73 3	0.77 U
F1G190479005 SIW-SB-023P-0.0-5.0 REG 2.54 0.02 0.3	0.134 0.015 0.056	2.62 0.02 0.31	0.11 0.67 0.36 U	2.67 0.29 0.41	1.49 0.8	37 0.66 2.48 0.23 0.36	3.6 3	3 2.5	2.75 0.23	0.3	2.9 0.20	5 0.38	12.1 1.3 2.2	1.9 3.7 1.1	U 2.48	0.23 0.36	2.67 0.29 0.41	0.89 0.12 0.16	2.67	0.29 0.41	1.8 3.7	1.1 U	0.25 0.81 0.46 U	1.8 3.7	1.1 U
1G190479006 SIW-SB-023P-5.0-8.0 REG 1.28 0.02 0.18	0.048 0.022 0.031	1.19 0.02 0.17	0.13 1.2 0.21 U	0.59 0.33 0.22	0.49 0.7	71 0.46 U 0.78 0.11 0.18	0.04	1 U	0.55 0.14 0	1.15	0.5 0.1	8 0.14	9 0.9 1.9	0.39 2.2 0.6	5 U 0.78	0.11 0.18	0.59 0.33 0.22	0.284 0.084 0.097	0.59	0.33 0.22	0.93 1.8	0.61 U	-0.04 0.4 9.3 U	0.93 1.8	0.61 U
F1G190479007 SIW-SB-024P-0.0-5.0 REG 1.61 0.01 0.21	0.069 0.012 0.036	1.69 0.01 0.21	0.71 0.34 0.28	1.9 0.13 0.32	0.97 0.5	59 0.53 1.63 0.2 0.28	4.1	2.1	1.86 0.21 0	1.24	1.87 0.24	4 0.27	11.4 1.3 2	1.25 3.1 0.7	3 U 1.63	0.2 0.28	1.9 0.13 0.32	0.72 0.13 0.16	1.9	0.13 0.32	2.9 2.7	2	0.18 0.73 0.35 U	2.9 2.7	2
F1G190479008 SIW-S8-025P-0.0-5.0 REG 1.08 0.01 0.16	0.038 0.013 0.027	1.03 0.01 0.15	0.11 1.9 0.38 U	1.51 0.14 0.32	0.31 0.	8 0.48 U 1.09 0.18 0.23	0.5 4	1 2.3 U	1.19 0.18	0.2	1.13 0.2	1 0.23	10.6 1.5 2	0.5 2.8 1.1	U 1.09	0.18 0.23	1.51 0.14 0.32	0.45 0.12 0.13	1.51	0.14 0.32	1.17 2.9	0.72 U	0.18 0.63 0.18 U	1.17 2.9	0.72 U
F1G190479009 SIW-S8-026P-0.0-5.0 REG 1.9 0.02 0.24	0.077 0.015 0.042	1.77 0.02 0.23	0.18 0.75 0.35 U	2.36 0.44 0.5	1.7 0.7	74 0.74 1.87 0.29 0.37	1.6	2.3 U	2.22 0.2 0	1.27	2.12 0.24	4 0.29	14.5 1.2 2.3	2.1 3.4 1.4	U 1.87	0.29 0.37	2.36 0.44 0.5	0.8 0.08 0.14	2.36	0.44 0.5	1.96 2.9	0.997 U	0.1 0.95 0.29 U	1.96 2.9	0.997 U
F1G190479010 SIW-SB-DUP-001 REG 0.78 0.01 0.13	0.046 0.022 0.03	0.79 0.01 0.13	0.41 0.18 0.18	0.54 0.4 0.29	0.2 0.9	91 0.51 U 1.06 0.18 0.25	1.4 2	1.5 U	1.03 0.14 0	1.18	1.23 0.14	4 0.22	7.7 0.9 1.7	0.76 2.8 0.5	5 U 1.06	0.18 0.25	0.54 0.4 0.29	0.39 0.08 0.11	0.54	0.4 0.29	0.41 2.3	0.68 U	0.15 0.51 0.3 U	0.41 2.3	0.68 U
F1G190479011 SIW-S8-DUP-002 REG 1.38 0.02 0.19	0.074 0.014 0.04	1.26 0.01 0.18	0.15 2.6 0.24 U	1.68 0.45 0.41	2.09 0.4	14 0.66 1.7 0.21 0.29	3.7 3	2.5	2.14 0.19 0	1.26	1.8 0.3	1 0.36	17.4 1.3 2.5	1.38 3.9 0.9	5 U 1.7	0.21 0.29	1.68 0.45 0.41	0.78 0.12 0.16	1.68	0.45 0.41	3.7 3.2	1.4	-0.03 0.8 1.3 U	3.7 3.2	1.4
F1G190479012 SIW-SB-DUP-003 REG 24.6 0.06 2.2	1.07 0.06 0.23	24 0.07 2.2	1.33 1 0.73	2.91 0.54 0.64	2.2 1.	2 1.1 20.5 0.4 1.5	18.9 6	5.7	2.07 0.33	0.3	21.2 0.5	1.5	15.5 1.2 2.2	1.9 6.5 1.2	U 20.5	0.4 1.5	2.91 0.54 0.64	0.78 0.17 0.17	2.91	0.54 0.64	23.2 6.4	5.7	1.32 1.3 0.76	23.2 6.4	5.7
F1G190479013 SIW-S8-DUP-004 REG 1.85 0.02 0.24	0.062 0.024 0.037	1.89 0.02 0.24	0.19 2.4 0.37 U	1.68 0.26 0.37	1.32 0.6	66 0.66 1.63 0.2 0.28	1.8 3	1 2.3 U	1.87 0.2 0	1.24	1.88 0.2	1 0.26	12.2 1 2	0.69 3.6 0.6	U 1.63	0.2 0.28	1.68 0.26 0.37	0.63 0.12 0.15	1.68	0.26 0.37	3 2.8	2.2	0.29 0.71 0.45 U	3 2.8	2.2
F1G190479014 SIW-SB-DUP-005 REG 1.75 0.03 0.22	0.076 0.014 0.04	1.84 0.02 0.23	-0.06 2.6 1.5 U	1.27 0.23 0.39	0.72 1.	2 0.76 U 1.72 0.22 0.35	1.2 3	5 2 U	1.72 0.21 0	1.29	1.91 0.2	7 0.37	11.5 1.8 2.6	0.59 4 0.5	3 U 1.72	0.22 0.35	1.27 0.23 0.39	0.68 0.14 0.18	1.27	0.23 0.39	2.4 2.6	1.7 U	0.16 0.75 0.32 U	2.4 2.6	1.7 U
F1G25000068B (blank) BLK (Gamma Spec)			0.006 0.55 0.07 U	0.15 0.2 0.13 U	0.03 0.	6 0.32 U 0.13 0.17 0.097	U 0.54 1	7 0.92 U	0.044 0.11 0	.059 U	0.128 0.14	4 0.098 U	-0.04 0.9 0.38 U	0.09 1.6 0.1	5 U 0.13	0.17 0.097 U	0.15 0.2 0.13 U	0.037 0.073 0.049 U	U 0.15	0.2 0.13 U	0.73 1.3	0.79 U	-0.05 0.3 32 U	0.73 1.3	0.79 U
F1G25000068C (blank) LCS (Gamma Spec)															11.7	0.38 0.98			10.4	0.61 0.99					
F1H11000174B (blank) BLK (Iso-U) 0.003 0.025 0.011 U	0.008 0.021 0.013 U -0	0.0018 0.019 0.0026	U																						
F1H11000174C (blank) LCS (Iso-U) 1.54 0.01 0.2		1.74 0.01 0.22																							

The laboratory reporting limits reported for U-234, U-235, U-236, Ra-226 and Th-232 can results differ from the laboratory reporting limits documented in the QAPP. The result for the Uranium analyses by Alpha Spec should be utilized when the result for Uranium analyzed by Gamma Spec is a non-detected value.

# QUALITY CONTROL SUMMARY REPORT FOR CHARACTERIZATION SAMPLES

## 1. SAMPLING AND ANALYSIS QUALITY CONTROL

Analytical test methods and sample volume, preservation, holding time, and Quality Control (QC) requirements were met, as presented in the Quality Assurance Project Plan (QAPP). Standard methodology was used for sample collection, identification, documentation, handling, packaging, shipping, and chain-of-custody. Assessment of the data for quality and usability is presented in the Tables located at the end of this document.

To confirm the quality of sampling and analysis techniques used for this investigation, precision and accuracy of data were evaluated and described below.

#### 1.1 PRECISION AND REPRESENTATIVENESS

Precision is defined as the degree to which two or more measurement are in agreement. Field precision is measured by comparing field duplicate results, and analytical precision is measured by comparing laboratory duplicate results.

#### 1.1.1 Field Precision

Precision and representativeness for characterization results were evaluated by calculating the relative percent difference (RPD). RPD is calculated as follows:

$$RPD = \left[ \frac{|S-D|}{\frac{S+D}{2}} \right] \times 100$$

Where:

S = Parent Sample Result

 $D = Duplicate \ Sample \ Result$ 

The RPD is calculated for all samples if a detectable result is reported for both the parent and field duplicate. The RPD is not calculated when the analyte in one or both of the samples is not detected. In cases where the RPD equation cannot be used, the comparison is counted as acceptable in the overall number of comparisons.

The calculated RPD results were compared to a performance criteria of less than or equal to 50% for field duplicates for organic analysis and 35% for metals analysis. Calculated RPD values less than 50% for organic analysis and 35% for metals analysis were considered acceptable. The parent and field duplicate samples were compared for 147 analytes, with 4 analytes exceeding the RPD acceptance criteria. This represents 2.72 exceedance rate. This falls within the acceptable exceedance rate of less than 5%. The RPD values demonstrating acceptable field duplicate precision are presented in Tables C-17 through C-22.

## 1.1.2 Laboratory Precision

Laboratory precision was evaluated through calculating the RPD between results for laboratory control sample (LCS) and laboratory control sample duplicate (LCD), or matrix spike (MS), and matrix spike duplicate (MSD) analyses. MS/MSDs were analyzed at a rate of one MS/MSD pair per analytical method batch, or where there was not enough sample available, and the LCS/LCD pair was analyzed. The MS/MSD RPD and LCS/LCD RPD are presented in Tables C-23 through C-28. MS/MSD or LCS/LCD RPD results that fell outside of the applicable control limits were addressed during the evaluation process, and samples were qualified as estimated, where appropriate. Based on the evaluation of this laboratory duplicate data, laboratory precision was deemed adequate in accordance with the QAPP or the Kansas City District Data Quality Evaluation Guidance.

#### 1.2 ACCURACY

Accuracy is defined as the degree to which the reported measurement represents the true value. Analytical accuracy is assessed through the evaluation of laboratory blanks, LCSs, surrogate recoveries, and MS recoveries. Based on the evaluation of these samples, the overall analytical accuracy was deemed adequate in accordance with the QAPP or the Kansas City District Data Quality Evaluation Guidance.

### 1.2.1 Laboratory Method Blanks

Laboratory blanks are analyzed to evaluate the potential contamination of samples due to preparation and analytical procedures. Laboratory method blanks are digested/extracted/analyzed exactly like the field samples and are designed to represent the matrix of interest as closely as possible. Laboratory method blanks were prepared and analyzed with each digestion/extraction/analysis batch. In addition, initial and continuing calibration blanks were analyzed. Laboratory blanks results were less than the laboratory minimum detection compounds (MDCs) or reporting limits in all analyses associated with the data generated. Tables C-29 through C-34 demonstrate acceptable blank results for all sample analyses.

## 1.2.2 Laboratory Control Samples

The LCS is a laboratory spike sample that originates from a source other than the source of the calibration standards and serves as a zero-blind check on the laboratory's accuracy. The LCSs were prepared and analyzed with each digestion, extraction, and analysis batch. LCS results are presented in Tables C-359 through C-40. LCS samples that fell outside of the applicable control limits were addressed during the evaluation process, and samples were qualified as estimated in accordance with the QAPP or the Kansas City District Data Quality Evaluation Guidance.

### 1.2.3 Surrogate Recoveries

Surrogates are compounds that are not commonly found in the natural environment that have similar chemical structure and similar chemical behavior as the compounds of interest. The surrogates are added to the samples prior to extraction to assess extraction efficiency and analytical bias on a sample-by-sample basis. Surrogate recoveries are presented in Tables C-41 through C-45. Surrogate recoveries that fell outside of the applicable control limits were addressed during the evaluation process, and samples were qualified as estimated, where appropriate, in accordance with the QAPP or the Kansas City District Data Quality Evaluation Guidance.

## 1.2.4 Matrix Spike and Matrix Spike Duplicates

MS/MSD analyses are performed by the laboratory to estimate the extent of bias in the analytical measurements of chemical constituents. The analytical laboratory performed MS/MSD analyses by adding a known quality of each analyte to representative media, and analyzing the spiked media. Bias in the result was quantified by determining the percent recovery of the spike amount. MS percent recoveries are presented in Tables C-46 through C-50. MS recoveries that fell outside of the applicable control limits were addressed during the evaluation process, and samples were qualified as estimated where appropriate in accordance with the QAPP or the Kansas City District Data Quality Evaluation Guidance.

#### 1.3 REPRESENTATIVENESS

Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is a qualitative parameter that is most concerned with the proper design of the sampling program. The representativeness criteria are best satisfied by making certain that sampling locations are properly selected and a sufficient number of samples are collected. Representativeness is addressed by describing sampling techniques and rationale used to select sampling locations. Representativeness is also evaluated through the review of the field precision, as described in Section 1.1.1.

#### 1.4 COMPARABILITY

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. The comparability of the data, a relative measure, is influenced by sampling and analytical procedures. By providing specific protocols to be used for obtaining and analyzing samples, data sets should be comparable, regardless of who obtains the sample or performs the analysis. The analytical laboratory was responsible for enhancing comparability using the following controls:

- Use of current, standard U.S. Environmental Protection Agency (USEPA) approved methodology for sample preservation, holding, and analysis
- Consistent reporting units for each parameter in similar matrices
- USEPA-NIST traceable standards, when available
- Analysis of USEPA QC samples, when available
- Participation in inter-laboratory performance evaluation studies

By following these controls, the data obtained during this SI has met the objectives outlined in the QAPP.

#### 1.5 COMPLETENESS

Completeness is a measure of the degree to which the amount of sample data collected meets the scope and a measure of the relative number of analytical data points that meet the acceptance criteria, including accuracy, precision, and any other criteria required by the specific analytical method used. Completeness is defined as a comparison of the actual numbers of valid data points and expected numbers of points expressed as a percentage. The Quality Assurance objectives for completeness will be based upon a project goal of 90%. If data cannot be reported without qualifications, project completion goals may still be met if the qualified data (i.e., data of known quality even if not perfect) are suitable for the specified project goals. The completeness for this project was 100%, which exceeded the goal of 90%, as specified in the QAPP.



## 2. DATA MANAGEMENT AND DOCUMENTATION

Management of the field and analytical data generated during the characterization effort was conducted in accordance with the general requirements of the Project Work Plan (USACE 2011a).

#### 2.1 FIELD DATA

Field and QC data was recorded in logbooks and/or field sheets, scanned, and included in Appendix A.

During the field investigation, a Daily Quality Control Report (DQCR) was prepared daily. Each original paper copy was dated and signed by the Field Operations Manager. Copies of the DQCRs are included in Appendix A. DQCRs served to document the daily activities occurring on the project, including the weather for each day and any additional environmental conditions or observations pertinent to field activities. Also recorded on the DQCR were the names and roles of team members' present onsite, as well as visitors to the immediate investigation area. Any changes or delays in the project were discussed and recorded, as well as any safety issues that arose.

## 2.2 ANALYTICAL DATA

Samples collected during the characterization effort were identified by a unique number code that accompanied the sample from collection through analysis and data review. Standardized chain-of-custody procedures were followed from sample collection through sample analysis. The condition of shipping coolers and enclosed sample containers were documented upon receipt at the analytical laboratory. The laboratory transmitted the completed chain-of-custody form and cooler receipt checklist to the Project Manager (PM) to confirm each sample shipment.

Analytical data reports containing results of the requested analyses were transmitted to the PM. Each data package contained an electronic data deliverable (EDD) spreadsheet summarizing the analytical results, as well as an electronic file containing the entire case narrative and supporting data. The electronic files were uploaded to the corporate server and backed up on a CD. Laboratory data reports are included in Appendix E.







Table C-17. Field Duplicate Precision for 8082

Sample Pairs	Analyte	RPD
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Aroclor 1016	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Aroclor 1221	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Aroclor 1232	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Aroclor 1242	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Aroclor 1248	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Aroclor 1254	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Aroclor 1260	60.38

Table C-18. Field Duplicate Precision for 6020A

Sample Pairs	Analyte	RPD
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Arsenic	15.65
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Barium	40.16
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Cadmium	16.39
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Chromium	14.06
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Lead	19.03
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Selenium	8.09
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Silver	9.01
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Mercury	3.51

Table C-19. Field Duplicate Precision for 8081A

Sample Pairs	Analyte	RPD	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	4,4'-DDD	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	4,4'-DDE	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	4,4'-DDT	29.09	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Aldrin	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	alpha-BHC	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	alpha-Chlordane	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	beta-BHC	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Chlordane (technical)	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	delta-BHC	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Dieldrin	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Endosulfan I	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Endosulfan II	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Endosulfan sulfate	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Endrin	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Endrin aldehyde	35.29	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Endrin ketone	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	gamma-BHC (Lindane)	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	gamma-Chlordane	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Heptachlor	13.95	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Heptachlor epoxide	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Methoxychlor	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Toxaphene	*	

Table C-20. Field Duplicate Precision for 8081A

Sample Pairs	Analyte	RPD
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2,4,5-T	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2,4,5-TP (Silvex)	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2,4-D	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2,4-DB	*

Table C-21. Field Duplicate Precision for 8260B

Sample Pairs	Analyte	RPD
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,1,1-Trichloroethane	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,1,2,2-Tetrachloroethane	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,1,2-Trichloroethane	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,1-Dichloroethane	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,1-Dichloroethene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,2-Dichlorobenzene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,2-Dichloroethane	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,2-Dichloroethene (total)	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,2-Dichloropropane	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,3-Dichlorobenzene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,4-Dichlorobenzene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2-Butanone	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2-Hexanone	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	4-Methyl-2-pentanone	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Acetone	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Benzene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Bromodichloromethane	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Bromoform	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Bromomethane	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Carbon disulfide	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Carbon tetrachloride	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Chlorobenzene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Chloroethane	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Chloroform	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Chloromethane	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	cis-1,3-Dichloropropene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Dibromochloromethane	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Ethylbenzene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Methylene chloride	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Styrene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Tetrachloroethene	45.90
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Toluene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	trans-1,3-Dichloropropene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Trichloroethene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Vinyl chloride	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Xylenes (total)	10.53

Table C-22. Field Duplicate Precision for 8270C

Sample Pairs	Analyte RPD	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,2,4-Trichlorobenzene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,2-Dichlorobenzene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,3-Dichlorobenzene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	1,4-Dichlorobenzene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2,4,5-Trichlorophenol	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2,4,6-Trichlorophenol	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2,4-Dichlorophenol	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2,4-Dimethylphenol	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2,4-Dinitrophenol	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2,4-Dinitrotoluene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2,6-Dinitrotoluene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2-Chloronaphthalene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2-Chlorophenol	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2-Methylnaphthalene	26.67
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2-Methylphenol	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2-Nitroaniline	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	2-Nitrophenol	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	3,3'-Dichlorobenzidine	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	3-Methylphenol & 4-Methylphenol	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	3-Nitroaniline	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	4,6-Dinitro-2-methylphenol	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	4-Bromophenyl phenyl ether	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	4-Chloro-3-methylphenol	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	4-Chloroaniline	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	4-Chlorophenyl phenyl ether	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	4-Nitroaniline	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	4-Nitrophenol	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Acenaphthene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Acenaphthylene	32.26
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Aniline	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Anthracene	129.52
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Azobenzene	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Benzidine	*
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Benzo(a)anthracene	44.90
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Benzo(a)pyrene	35.62
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Benzo(b)fluoranthene	41.58
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Benzo(ghi)perylene	44.07
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Benzo(k)fluoranthene	40.00
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Benzoic acid	*

Table C-22. Field Duplicate Precision for 8270C

Sample Pairs	Analyte	RPD	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Benzyl alcohol	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	bis(2-Chloroethoxy)methane	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	bis(2-Chloroethyl) ether	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	bis(2-Chloroisopropyl) ether	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	bis(2-Ethylhexyl) phthalate	32.14	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Butyl benzyl phthalate	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Carbazole	109.52	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Chrysene	6.32	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Dibenz(a,h)anthracene	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Dibenzofuran	21.54	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Diethyl phthalate	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Dimethyl phthalate	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Di-n-butyl phthalate	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Di-n-octyl phthalate	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Fluoranthene		
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Fluorene	11.76	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Hexachlorobenzene	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Hexachlorobutadiene	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Hexachlorocyclopentadiene	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Hexachloroethane	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Indeno(1,2,3-cd)pyrene	49.41	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Isophorone	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Naphthalene	9.09	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Nitrobenzene	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	N-Nitrosodi-n-propylamine	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	N-Nitrosodiphenylamine	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Pentachlorophenol	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Phenanthrene	44.78	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Phenol	*	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Pyrene	50.00	
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	Pyridine	*	

Table C-23. MS/MSD RPD for 8082

Analyte	RPD	RPD Limit
Aroclor 1016	5.5	30
Aroclor 1260	0	30

**Table C-24. MS/MSD RPD for 6020A/7174A** 

Analyte	RPD	RPD Limit
Arsenic	3	30
Barium	7.8	30
Cadmium	0.036	30
Chromium	6.1	30
Lead	17	30
Selenium	6.5	30
Silver	1	30
Mercury	0	30

Table C-25. MS/MSD RPD for 8270C

Analyte	RPD	RPD Limit
1,2,4-Trichlorobenzene	0.27	30
1,2-Dichlorobenzene	0.56	30
1,3-Dichlorobenzene	0.63	30
1,4-Dichlorobenzene	1.2	30
2,4,5-Trichlorophenol	0.41	30
2,4,6-Trichlorophenol	0.07	30
2,4-Dichlorophenol	1.4	30
2,4-Dimethylphenol	1.2	30
2,4-Dinitrophenol	24	30
2,4-Dinitrotoluene	3	30
2,6-Dinitrotoluene	2.5	30
2-Chloronaphthalene	1.8	30
2-Chlorophenol	1.6	30
2-Methylnaphthalene	0.55	30
2-Methylphenol	2.2	30
2-Nitroaniline	1.2	30
2-Nitrophenol	2.6	30
3,3'-Dichlorobenzidine	18	30
3-Methylphenol & 4-Methylphenol	3	30
3-Nitroaniline	8.6	30

Table C-25. MS/MSD RPD for 8270C

Table C-25. MS/MSD RPD for 8270C		
Analyte	RPD	RPD Limit
4,6-Dinitro-2-methylphenol	39	30
4-Bromophenyl phenyl ether	0.56	30
4-Chloro-3-methylphenol	1.5	30
4-Chloroaniline	9.9	30
4-Chlorophenyl phenyl ether	1.5	30
4-Nitroaniline	5.9	30
4-Nitrophenol	3.5	30
Acenaphthene	1.8	30
Acenaphthylene	6	30
Anthracene	6.8	30
Benzo(a)anthracene	6.4	30
Benzo(a)pyrene	9.9	30
Benzo(b)fluoranthene	4.9	30
Benzo(ghi)perylene	21	30
Benzo(k)fluoranthene	8	30
bis(2-Chloroethoxy)methane	0.28	30
bis(2-Chloroethyl) ether	1.9	30
bis(2-Chloroisopropyl) ether	2.6	30
bis(2-Ethylhexyl) phthalate	5.7	30
Butyl benzyl phthalate	4.8	30
Carbazole	1.4	30
Chrysene	7.4	30
Dibenz(a,h)anthracene	11	30
Dibenzofuran	2.2	30
Diethyl phthalate	0.14	30
Dimethyl phthalate	1.1	30
Di-n-butyl phthalate	0.94	30
Di-n-octyl phthalate	0.7	30
Fluoranthene	8.2	30
Fluorene	1.8	30
Hexachlorobenzene	2.6	30
Hexachlorobutadiene	1	30
Hexachlorocyclopentadiene	84	30
Hexachloroethane	4.2	30
Indeno(1,2,3-cd)pyrene	20	30
Isophorone	0.97	30
Naphthalene	1.1	30
Nitrobenzene	1.1	30

Table C-25. MS/MSD RPD for 8270C

Analyte	RPD	RPD Limit
N-Nitrosodi-n-propylamine	2.2	30
N-Nitrosodiphenylamine	1.2	30
Pentachlorophenol	1.9	30
Phenanthrene	1.3	30
Phenol	0.7	30
Pyrene	14	30

Table C-26 - LCD RPD for 8081A

Analyte	RPD	RPD Limit
4,4'-DDD	9.2	30
4,4'-DDE	12	30
4,4'-DDT	31	30
Aldrin	2.6	30
alpha-BHC	3.4	30
alpha-Chlordane	4.9	30
beta-BHC	5.4	30
delta-BHC	8	30
Dieldrin	5.6	30
Endosulfan I	7.2	30
Endosulfan II	8	30
Endosulfan sulfate	11	30
Endrin	8	30
Endrin aldehyde	8.6	30
Endrin ketone	11	30
gamma-BHC (Lindane)	5.1	30
gamma-Chlordane	6.6	30
Heptachlor	5.9	30
Heptachlor epoxide	5	30
Methoxychlor	10	30

Table C-27. LCD RPD for 8151A

Analyte	RPD	RPD Limit
2,4,5-T	16	20
2,4,5-TP (Silvex)	24	20
2,4-D	22	20
2,4-DB	35	20

Table C-28, LCD RPD for 8260B

Table C-28. LCD RPD for 8260B					
Analyte	RPD	RPD Limit			
1,1,1-Trichloroethane	4.9	20			
1,1,2,2-Tetrachloroethane	0.41	20			
1,1,2-Trichloroethane	4.9	20			
1,1-Dichloroethane	6	20			
1,1-Dichloroethene	0.6	20			
1,2-Dichlorobenzene	4.8	20			
1,2-Dichloroethane	6.8	20			
1,2-Dichloroethene (total)	1.1	20			
1,2-Dichloropropane	4.6	20			
1,3-Dichlorobenzene	3.4	20			
1,4-Dichlorobenzene	2.2	20			
2-Butanone	6	20			
2-Hexanone	7.7	20			
4-Methyl-2-pentanone	5.2	20			
Acetone	12	20			
Benzene	4.5	20			
Bromodichloromethane	3.9	20			
Bromoform	3.9	20			
Bromomethane	8.8	20			
Carbon disulfide	1.7	20			
Carbon tetrachloride	5.3	20			
Chlorobenzene	4.5	20			
Chloroethane	14	20			
Chloroform	6.4	20			
Chloromethane	4.8	20			
cis-1,3-Dichloropropene	4.1	20			
Dibromochloromethane	0.16	20			
Ethylbenzene	5.9	20			
Methylene chloride	4.8	20			

Table C-28. LCD RPD for 8260B

Analyte	RPD	RPD Limit
Styrene	5.4	20
Tetrachloroethene	1.5	20
Toluene	5.1	20
trans-1,3-Dichloropropene	1.6	20
Trichloroethene	0.14	20
Vinyl chloride	11	20

Table C-29. Blank Results for 8082

Analyte	Result	Units	Reporting Limit/MDC	Qualifier
Aroclor 1016	8	μg/kg	8	U
Aroclor 1221	8	μg/kg	8	U
Aroclor 1232	8	μg/kg	8	U
Aroclor 1242	8	μg/kg	8	U
Aroclor 1248	8	μg/kg	8	U
Aroclor 1254	8	μg/kg	8	U
Aroclor 1260	8	μg/kg	8	U

Table C-30. Blank Results for 6020A/7471A

Analyte	Result	Units	Reporting Limit/MDC	Qualifier
Arsenic	0.6	mg/kg	0.6	U
Barium	0.18	mg/kg	0.18	U
Cadmium	0.03	mg/kg	0.03	U
Chromium	0.9	mg/kg	0.9	U
Lead	0.09	mg/kg	0.09	U
Selenium	0.15	mg/kg	0.15	U
Silver	0.024	mg/kg	0.024	U
Mercury	0.017	mg/kg	0.017	U

Table C-31. Blank Results for 8081A

Table C-31. Dialik Results for 6001			Reporting	
Analyte	Result	Units	Limit/MDC	Qualifier
4,4'-DDD	0.83	μg/kg	0.83	U
4,4'-DDE	0.83	μg/kg	0.83	U
4,4'-DDT	0.83	μg/kg	0.83	U
Aldrin	0.83	μg/kg	0.83	U
alpha-BHC	0.83	μg/kg	0.83	U
alpha-Chlordane	0.83	μg/kg	0.83	U
beta-BHC	0.83	μg/kg	0.83	U
Chlordane (technical)	8.5	μg/kg	8.5	U
delta-BHC	0.83	μg/kg	0.83	U
Dieldrin	0.83	μg/kg	0.83	U
Endosulfan I	0.83	μg/kg	0.83	U
Endosulfan II	0.83	μg/kg	0.83	U
Endosulfan sulfate	0.83	μg/kg	0.83	U
Endrin	0.83	μg/kg	0.83	U
Endrin aldehyde	0.83	μg/kg	0.83	U
Endrin ketone	0.83	μg/kg	0.83	U
gamma-BHC (Lindane)	0.83	μg/kg	0.83	U
gamma-Chlordane	0.83	μg/kg	0.83	U
Heptachlor	0.83	μg/kg	0.83	U
Heptachlor epoxide	0.83	μg/kg	0.83	U
Methoxychlor	0.83	μg/kg	0.83	U
Toxaphene	34	μg/kg	34	U

Table C-32. Blank Results for 8151A

Analyte	Result	Units	Reporting Limit/MDC	Qualifier
2,4,5-T	4	μg/kg	4	U
2,4,5-TP (Silvex)	4	μg/kg	4	U
2,4-D	40	μg/kg	40	U
2,4-DB	40	μg/kg	40	U

Table C-33. Blank Results for 8260B

Analyte	Result	Units	Reporting Limit/MDC	Qualifier
1,1,1-Trichloroethane	5	μg/kg	5	U
1,1,2,2-Tetrachloroethane	5	μg/kg	5	U
1,1,2-Trichloroethane	5	μg/kg	5	U
1,1-Dichloroethane	5	μg/kg	5	U
1,1-Dichloroethene	5	μg/kg	5	U
1,2-Dichlorobenzene	5	μg/kg	5	U
1,2-Dichloroethane	5	μg/kg	5	U
1,2-Dichloroethene (total)	10	μg/kg	10	U
1,2-Dichloropropane	5	μg/kg	5	U
1,3-Dichlorobenzene	5	μg/kg	5	U
1,4-Dichlorobenzene	5	μg/kg	5	U
2-Butanone	20	μg/kg	20	U
2-Hexanone	20	μg/kg	20	U
4-Methyl-2-pentanone	20	μg/kg	20	U
Acetone	20	μg/kg	20	U
Benzene	5	μg/kg	5	U
Bromodichloromethane	5	μg/kg	5	U
Bromoform	5	μg/kg	5	U
Bromomethane	10	μg/kg	10	U
Carbon disulfide	5	μg/kg	5	U
Carbon tetrachloride	5	μg/kg	5	U
Chlorobenzene	5	μg/kg	5	U
Chloroethane	10	μg/kg	10	U
Chloroform	5	μg/kg	5	U
Chloromethane	10	μg/kg	10	U
cis-1,3-Dichloropropene	5	μg/kg	5	U
Dibromochloromethane	5	μg/kg	5	U
Ethylbenzene	5	μg/kg	5	U
Methylene chloride	5	μg/kg	5	U
Styrene	5	μg/kg	5	U
Tetrachloroethene	5	μg/kg	5	U
Toluene	5	μg/kg	5	U
trans-1,3-Dichloropropene	5	μg/kg	5	U
Trichloroethene	5	μg/kg	5	U
Vinyl chloride	10	μg/kg	10	U
Xylenes (total)	10	μg/kg	10	U

Table C-34. Blank Results for 8270C

Analyte	Result	Units	Reporting Limit/MDC	Qualifier
1,2,4-Trichlorobenzene	330	μg/kg	330	U
1,2-Dichlorobenzene	330	μg/kg	330	U
1,3-Dichlorobenzene	330	μg/kg	330	U
1,4-Dichlorobenzene	330	μg/kg	330	U
2,4,5-Trichlorophenol	330	μg/kg	330	U
2,4,6-Trichlorophenol	330	μg/kg	330	U
2,4-Dichlorophenol	330	μg/kg	330	U
2,4-Dimethylphenol	330	μg/kg	330	U
2,4-Dinitrophenol	1600	μg/kg	1600	U
2,4-Dinitrotoluene	330	μg/kg	330	U
2,6-Dinitrotoluene	330	μg/kg	330	U
2-Chloronaphthalene	330	μg/kg	330	U
2-Chlorophenol	330	μg/kg	330	U
2-Methylnaphthalene	330	μg/kg	330	U
2-Methylphenol	330	μg/kg	330	U
2-Nitroaniline	330	μg/kg	330	U
2-Nitrophenol	330	μg/kg	330	U
3,3'-Dichlorobenzidine	1600	μg/kg	1600	U
3-Methylphenol & 4-Methylphenol	660	μg/kg	660	U
3-Nitroaniline	330	μg/kg	330	U
4,6-Dinitro-2-methylphenol	1600	μg/kg	1600	U
4-Bromophenyl phenyl ether	330	μg/kg	330	U
4-Chloro-3-methylphenol	330	μg/kg	330	U
4-Chloroaniline	330	μg/kg	330	U
4-Chlorophenyl phenyl ether	330	μg/kg	330	U
4-Nitroaniline	1600	μg/kg	1600	U
4-Nitrophenol	1600	μg/kg	1600	U
Acenaphthene	330	μg/kg	330	U
Acenaphthylene	330	μg/kg	330	U
Aniline	330	μg/kg	330	U
Anthracene	330	μg/kg	330	U
Azobenzene	330	μg/kg	330	U
Benzidine	330	μg/kg	330	U
Benzo(a)anthracene	330	μg/kg	330	U
Benzo(a)pyrene	330	μg/kg	330	U
Benzo(b)fluoranthene	330	μg/kg	330	U
Benzo(ghi)perylene	330	μg/kg	330	U
Benzo(k)fluoranthene	330	μg/kg	330	U

Table C-34. Blank Results for 8270C

Analyte	Result	Units	Reporting Limit/MDC	Qualifier
Benzoic acid	1600	μg/kg	1600	U
Benzyl alcohol	330	μg/kg	330	U
bis(2-Chloroethoxy)methane	330	μg/kg	330	U
bis(2-Chloroethyl) ether	330	μg/kg	330	U
bis(2-Chloroisopropyl) ether	330	μg/kg	330	U
bis(2-Ethylhexyl) phthalate	330	μg/kg	330	U
Butyl benzyl phthalate	330	μg/kg	330	U
Carbazole	330	μg/kg	330	U
Chrysene	330	μg/kg	330	U
Di-n-butyl phthalate	330	μg/kg	330	U
Di-n-octyl phthalate	330	μg/kg	330	U
Dibenz(a,h)anthracene	330	μg/kg	330	U
Dibenzofuran	330	μg/kg	330	U
Diethyl phthalate	330	μg/kg	330	U
Dimethyl phthalate	330	μg/kg	330	U
Fluoranthene	330	μg/kg	330	U
Fluorene	330	μg/kg	330	U
Hexachlorobenzene	330	μg/kg	330	U
Hexachlorobutadiene	330	μg/kg	330	U
Hexachlorocyclopentadiene	1600	μg/kg	1600	U
Hexachloroethane	330	μg/kg	330	U
Indeno(1,2,3-cd)pyrene	330	μg/kg	330	U
Isophorone	330	μg/kg	330	U
N-Nitrosodi-n-propylamine	330	μg/kg	330	U
N-Nitrosodiphenylamine	330	μg/kg	330	U
Naphthalene	330	μg/kg	330	U
Nitrobenzene	330	μg/kg	330	U
Pentachlorophenol	660	μg/kg	660	U
Phenanthrene	330	μg/kg	330	U
Phenol	330	μg/kg	330	U
Pyrene	330	μg/kg	330	U
Pyridine	660	μg/kg	660	U

Table C-35. LCS Recovery for 8082

Analyte	Percent Recovery	Control Limits
Aroclor 1016	108	60-125
Aroclor 1260	109	60-130

Table C-35. LCS Recovery for 6020A/7174A

Analyte	Percent Recovery	Control Limits
Arsenic	103	80-120
Barium	105	80-120
Cadmium	101	80-120
Chromium	101	80-120
Lead	108	80-120
Selenium	109	80-120
Silver	104	80-120
Mercury	115	80-120

Table C-37. LCS Recovery for 8081A

Analyte	Percent Recovery	Control Limits
4,4'-DDD	121	30-135
4,4'-DDE	108	70-125
4,4'-DDT	126	45-140
Aldrin	101	45-140
alpha-BHC	102	60-125
alpha-Chlordane	101	65-120
beta-BHC	102	60-125
delta-BHC	110	55-130
Dieldrin	116	65-125
Endosulfan I	107	15-135
Endosulfan II	104	35-140
Endosulfan sulfate	105	60-135
Endrin	114	60-135
Endrin aldehyde	97	35-145
Endrin ketone	111	65-135
gamma-BHC (Lindane)	104	60-125
gamma-Chlordane	103	65-125
Heptachlor	103	50-140
Heptachlor epoxide	105	65-130
Methoxychlor	132	55-145

Table C-38. LCS Recovery for 8151A

Analyte	Percent Recovery	Control Limits
2,4,5-T	84	45-135
2,4,5-TP (Silvex)	66	45-125
2,4-D	82	35-145
2,4-DB	65	50-155

Table C-39. LCS Recovery for 8260B

Analyte	Percent Recovery	Control Limits
1,1,1-Trichloroethane	97	70-135
1,1,2,2-Tetrachloroethane	101	55-130
1,1,2-Trichloroethane	98	60-125
1,1-Dichloroethane	98	75-125
1,1-Dichloroethene	99	65-135
1,2-Dichlorobenzene	96	75-120
1,2-Dichloroethane	98	70-135
1,2-Dichloroethene (total)	98	85-115
1,2-Dichloropropane	96	70-120
1,3-Dichlorobenzene	98	70-125
1,4-Dichlorobenzene	96	70-125
2-Butanone	98	30-160
2-Hexanone	96	45-145
4-Methyl-2-pentanone	96	45-145
Acetone	82	20-160
Benzene	97	75-125
Bromodichloromethane	96	70-130
Bromoform	101	55-135
Bromomethane	93	30-160
Carbon disulfide	96	45-160
Carbon tetrachloride	92	65-135
Chlorobenzene	97	75-125
Chloroethane	94	40-155
Chloroform	97	70-125
Chloromethane	107	50-130
cis-1,3-Dichloropropene	105	70-125
Dibromochloromethane	96	65-130
Ethylbenzene	96	75-125
Methylene chloride	93	55-140
Styrene	103	75-125
Tetrachloroethene	95	65-140
Toluene	94	70-125
trans-1,3-Dichloropropene	105	65-125
Trichloroethene	98	75-125
Vinyl chloride	101	60-125

Table C-40. LCS Recovery for 8270C

Table C-40. LCS Recovery for 82/0C	Percent	Control
Analyte	Recovery	Limits
1,2,4-Trichlorobenzene	77	45-110
1,2-Dichlorobenzene	72	45-95
1,3-Dichlorobenzene	70	40-100
1,4-Dichlorobenzene	69	35-105
2,4,5-Trichlorophenol	70	50-110
2,4,6-Trichlorophenol	72	45-110
2,4-Dichlorophenol	69	45-110
2,4-Dimethylphenol	71	30-105
2,4-Dinitrophenol	45	15-130
2,4-Dinitrotoluene	79	50-115
2,6-Dinitrotoluene	77	50-110
2-Chloronaphthalene	72	45-105
2-Chlorophenol	71	45-105
2-Methylnaphthalene	69	45-105
2-Methylphenol	69	40-105
2-Nitroaniline	80	45-120
2-Nitrophenol	73	40-110
3,3'-Dichlorobenzidine	67	24-101
3-Methylphenol & 4-Methylphenol	77	40-105
3-Nitroaniline	70	25-110
4,6-Dinitro-2-methylphenol	66	30-135
4-Bromophenyl phenyl ether	78	45-115
4-Chloro-3-methylphenol	71	45-115
4-Chloroaniline	52	28-80
4-Chlorophenyl phenyl ether	74	45-110
4-Nitroaniline	76	35-115
4-Nitrophenol	84	15-140
Acenaphthene	74	45-110
Acenaphthylene	75	45-105
Anthracene	76	55-105
Benzo(a)anthracene	82	50-110
Benzo(a)pyrene	79	50-110
Benzo(b)fluoranthene	78	45-115
Benzo(ghi)perylene	101	40-125
Benzo(k)fluoranthene	83	45-125
bis(2-Chloroethoxy)methane	69	45-110
bis(2-Chloroethyl) ether	69	40-105
bis(2-Chloroisopropyl) ether	70	20-115

Table C-40. LCS Recovery for 8270C

Analyte	Percent Recovery	Control Limits
bis(2-Ethylhexyl) phthalate	82	45-125
Butyl benzyl phthalate	82	50-125
Carbazole	75	45-115
Chrysene	81	55-110
Di-n-butyl phthalate	76	55-110
Di-n-octyl phthalate	82	40-130
Dibenz(a,h)anthracene	99	40-125
Dibenzofuran	71	50-105
Diethyl phthalate	74	50-115
Dimethyl phthalate	73	50-110
Fluoranthene	79	55-115
Fluorene	76	50-110
Hexachlorobenzene	81	52-107
Hexachlorobutadiene	77	40-115
Hexachlorocyclopentadiene	90	38-107
Hexachloroethane	74	35-110
Indeno(1,2,3-cd)pyrene	104	40-120
Isophorone	76	45-110
N-Nitrosodi-n-propylamine	75	40-115
N-Nitrosodiphenylamine	94	50-115
Naphthalene	72	40-105
Nitrobenzene	72	40-115
Pentachlorophenol	63	25-120
Phenanthrene	76	50-110
Phenol	66	40-100
Pyrene	80	45-125

**Table C-41. Surrogate Recovery for 8082** 

Sample	Analyte	Percent Recovery	Control Limits
BLK	Surrogate-Decachlorobiphenyl	107	54-150
LCS	Surrogate-Decachlorobiphenyl	105	60-125
SIW-SS-041PC-0.0-2.0	Surrogate-Decachlorobiphenyl	66	60-125
SIW-SS-042PC-0.0-2.0	Surrogate-Decachlorobiphenyl	54	60-125
SIW-SS-043PC-0.0-2.0	Surrogate-Decachlorobiphenyl	94	60-120
SIW-SS-043PC-0.0-2.0MS	Surrogate-Decachlorobiphenyl	88	60-125
SIW-SS-043PC-0.0-2.0MSD	Surrogate-Decachlorobiphenyl	95	60-125
SIW-SS-044PC-0.0-2.0	Surrogate-Decachlorobiphenyl	76	60-125
SIW-SS-CDUP-001	Surrogate-Decachlorobiphenyl	101	60-125

Table C-42. Surrogate Recovery for 8081A

Sample	Analyte	Percent Recovery	Control Limits
BLK	Surrogate-Decachlorobiphenyl	103	26-150
	Surrogate-Tetrachloro-m-xylene	87	35-128
LCD	Surrogate-Decachlorobiphenyl	88	55-130
	Surrogate-Tetrachloro-m-xylene	85	70-125
LCS	Surrogate-Decachlorobiphenyl	99	55-130
	Surrogate-Tetrachloro-m-xylene	90	70-125
SIW-SS-041PC-0.0-2.0	Surrogate-Decachlorobiphenyl	256	55-130
	Surrogate-Tetrachloro-m-xylene	80	70-125
SIW-SS-042PC-0.0-2.0	Surrogate-Decachlorobiphenyl	0	55-130
	Surrogate-Tetrachloro-m-xylene	121	70-125
SIW-SS-043PC-0.0-2.0	Surrogate-Decachlorobiphenyl	0	55-130
	Surrogate-Tetrachloro-m-xylene	83	70-125
SIW-SS-043PC-0.0-2.0MS	Surrogate-Decachlorobiphenyl	0	55-130
	Surrogate-Tetrachloro-m-xylene	74	70-125
SIW-SS-044PC-0.0-2.0	Surrogate-Decachlorobiphenyl	0	55-130
	Surrogate-Tetrachloro-m-xylene	87	70-125
SIW-SS-CDUP-001	Surrogate-Decachlorobiphenyl	0	55-130
	Surrogate-Tetrachloro-m-xylene	85	70-125

Table C-43. Surrogate Recovery for 8151A

Sample	Analyte	Percent Recovery	Control Limits
BLK	Surrogate-2,4-Dichlorophenylacetic acid	60	35-115
LCD	Surrogate-2,4-Dichlorophenylacetic acid	86	35-115
LCS	Surrogate-2,4-Dichlorophenylacetic acid	71	35-115
SIW-SS-041PC-0.0-2.0	Surrogate-2,4-Dichlorophenylacetic acid	74	35-115
SIW-SS-042PC-0.0-2.0	Surrogate-2,4-Dichlorophenylacetic acid	61	35-115
SIW-SS-043PC-0.0-2.0	Surrogate-2,4-Dichlorophenylacetic acid	87	35-115
SIW-SS-043PC-0.0-2.0MS	Surrogate-2,4-Dichlorophenylacetic acid	88	35-115
SIW-SS-044PC-0.0-2.0	Surrogate-2,4-Dichlorophenylacetic acid	63	35-115
SIW-SS-CDUP-001	Surrogate-2,4-Dichlorophenylacetic acid	108	35-115

Table C-44. Surrogate Recovery for 8260B

Sample	Analyte	Percent Recovery	Control Limits
BLK	Surrogate-1,2-Dichloroethane-d4	102	71-128
	Surrogate-4-Bromofluorobenzene	110	44-150
	Surrogate-Dibromofluoromethane	97	76-126
	Surrogate-Toluene-d8	110	85-115
LCD	Surrogate-1,2-Dichloroethane-d4	104	71-128
	Surrogate-4-Bromofluorobenzene	110	85-120
	Surrogate-Dibromofluoromethane	102	76-126
	Surrogate-Toluene-d8	112	85-115
LCS	Surrogate-1,2-Dichloroethane-d4	98	71-128
	Surrogate-4-Bromofluorobenzene	108	85-120
	Surrogate-Dibromofluoromethane	98	76-126
	Surrogate-Toluene-d8	106	85-115
SIW-SS-041PC-0.0-2.0	Surrogate-1,2-Dichloroethane-d4	117	71-128
	Surrogate-4-Bromofluorobenzene	156	85-120
	Surrogate-Dibromofluoromethane	105	76-126
	Surrogate-Toluene-d8	125	85-115
SIW-SS-042PC-0.0-2.0	Surrogate-1,2-Dichloroethane-d4	129	71-128
	Surrogate-4-Bromofluorobenzene	230	85-120
	Surrogate-Dibromofluoromethane	115	76-126
	Surrogate-Toluene-d8	158	85-115
SIW-SS-043PC-0.0-2.0	Surrogate-1,2-Dichloroethane-d4	171	71-128
	Surrogate-4-Bromofluorobenzene	251	85-120
	Surrogate-Dibromofluoromethane	149	76-126
	Surrogate-Toluene-d8	224	85-115
SIW-SS-044PC-0.0-2.0	Surrogate-1,2-Dichloroethane-d4	148	71-128
	Surrogate-4-Bromofluorobenzene	182	85-120
	Surrogate-Dibromofluoromethane	117	76-126
	Surrogate-Toluene-d8	156	85-115
SIW-SS-CDUP-001	Surrogate-1,2-Dichloroethane-d4	135	71-128
	Surrogate-4-Bromofluorobenzene	169	85-120
	Surrogate-Dibromofluoromethane	115	76-126
	Surrogate-Toluene-d8	160	85-115

**Table C-45. Surrogate Recovery for 8270C** 

Sample	Analyte	Percent Recovery	Control Limits
BLK	Surrogate-2,4,6-Tribromophenol	75	35-125
	Surrogate-2-Fluorobiphenyl	78	45-105
	Surrogate-2-Fluorophenol	73	35-105
	Surrogate-Nitrobenzene-d5	77	35-100
	Surrogate-Phenol-d5	79	40-100
	Surrogate-Terphenyl-d14	98	30-125
LCS	Surrogate-2,4,6-Tribromophenol	84	35-125
	Surrogate-2-Fluorobiphenyl	74	45-105
	Surrogate-2-Fluorophenol	72	35-105
	Surrogate-Nitrobenzene-d5	76	35-100
	Surrogate-Phenol-d5	76	40-100
	Surrogate-Terphenyl-d14	94	30-125
SIW-SS-041PC-0.0-2.0	Surrogate-2,4,6-Tribromophenol	90	35-125
	Surrogate-2-Fluorobiphenyl	76	45-105
	Surrogate-2-Fluorophenol	70	35-105
	Surrogate-Nitrobenzene-d5	78	35-100
	Surrogate-Phenol-d5	76	40-100
	Surrogate-Terphenyl-d14	75	30-125
SIW-SS-042PC-0.0-2.0	Surrogate-2,4,6-Tribromophenol	61	35-125
	Surrogate-2-Fluorobiphenyl	55	45-105
	Surrogate-2-Fluorophenol	59	35-105
	Surrogate-Nitrobenzene-d5	61	35-100
	Surrogate-Phenol-d5	65	40-100
	Surrogate-Terphenyl-d14	73	30-125
SIW-SS-043PC-0.0-2.0	Surrogate-2,4,6-Tribromophenol	77	35-125
	Surrogate-2-Fluorobiphenyl	74	45-105
	Surrogate-2-Fluorophenol	71	35-105
	Surrogate-Nitrobenzene-d5	80	35-100
	Surrogate-Phenol-d5	76	40-100
	Surrogate-Terphenyl-d14	69	30-125
SIW-SS-043PC-0.0-2.0MS	Surrogate-2,4,6-Tribromophenol	90	35-125
	Surrogate-2-Fluorobiphenyl	79	45-105
	Surrogate-2-Fluorophenol	74	35-105
	Surrogate-Nitrobenzene-d5	80	35-100
	Surrogate-Phenol-d5	82	40-100
	Surrogate-Terphenyl-d14	77	30-125
SIW-SS-043PC-0.0-2.0MSD	Surrogate-2,4,6-Tribromophenol	92	35-125

**Table C-45. Surrogate Recovery for 8270C** 

Sample	Analyte	Percent Recovery	Control Limits
	Surrogate-2-Fluorobiphenyl	78	45-105
	Surrogate-2-Fluorophenol	75	35-105
	Surrogate-Nitrobenzene-d5	80	35-100
	Surrogate-Phenol-d5	83	40-100
	Surrogate-Terphenyl-d14	80	30-125
SIW-SS-044PC-0.0-2.0	Surrogate-2,4,6-Tribromophenol	71	35-125
	Surrogate-2-Fluorobiphenyl	66	45-105
	Surrogate-2-Fluorophenol	68	35-105
	Surrogate-Nitrobenzene-d5	73	35-100
	Surrogate-Phenol-d5	73	40-100
	Surrogate-Terphenyl-d14	72	30-125
	Surrogate-2,4,6-Tribromophenol	75	35-125
	Surrogate-2-Fluorobiphenyl	71	45-105
	Surrogate-2-Fluorophenol	71	35-105
	Surrogate-Nitrobenzene-d5	77	35-100
	Surrogate-Phenol-d5	76	40-100
	Surrogate-Terphenyl-d14	77	30-125
SIW-SS-CDUP-001	Surrogate-2,4,6-Tribromophenol	75	35-125
	Surrogate-2-Fluorobiphenyl	74	45-105
	Surrogate-2-Fluorophenol	79	35-105
	Surrogate-Nitrobenzene-d5	81	35-100
	Surrogate-Phenol-d6	83	40-100
	Surrogate-Terphenyl-d15	87	30-125
	Surrogate-2,4,6-Tribromophenol	0	35-125
	Surrogate-2-Fluorobiphenyl	0	45-105
	Surrogate-2-Fluorophenol	0	35-105
	Surrogate-Nitrobenzene-d5	0	35-100
	Surrogate-Phenol-d5	0	40-100
	Surrogate-Terphenyl-d14	0	30-125

Table C-46. Matrix Spike Recovery for 8082

Analyte	Percent Recovery	Control Limits
Aroclor 1016	76	40-140
Aroclor 1260	0	60-130

Table C-47. Matrix Spike Recovery for 6020A/7174A

Analyte	Percent Recovery	Control Limits
Arsenic	90	80-120
Barium	0	80-120
Cadmium	102	80-120
Chromium	93	80-120
Lead	1210	80-120
Selenium	83	80-120
Silver	100	80-120
Mercury	0	80-120

Table C-48. Matrix Spike Recovery for 8081A

Analyte	Percent Recovery	Control Limits
4,4'-DDD	80	30-135
4,4'-DDE	120	70-125
4,4'-DDT	489	45-140
Aldrin	86	45-140
alpha-BHC	87	60-125
alpha-Chlordane	22	65-120
beta-BHC	87	60-125
delta-BHC	85	55-130
Dieldrin	64	65-125
Endosulfan I	96	15-135
Endosulfan II	24	35-140
Endosulfan sulfate	331	60-135
Endrin	66	60-135
Endrin aldehyde	392	35-145
Endrin ketone	148	65-135
gamma-BHC (Lindane)	81	60-125
gamma-Chlordane	23	65-125
Heptachlor	88	50-140
Heptachlor epoxide	49	65-130
Methoxychlor	115	55-145

Table C-49. Matrix Spike Recovery for 8151A

Analyte	Percent Recovery	Control Limits
2,4,5-T	75	45-135
2,4,5-TP (Silvex)	51	45-125
2,4-D	71	35-145
2,4-DB	55	50-155

Table C-50. Matrix Spike Recovery for 8270C

Table C-50. Matrix Spike Recovery for	Percent	Control
Analyte	Recovery	Limits
1,2,4-Trichlorobenzene	77	45-110
1,2-Dichlorobenzene	69	45-95
1,3-Dichlorobenzene	66	40-100
1,4-Dichlorobenzene	65	35-105
2,4,5-Trichlorophenol	80	50-110
2,4,6-Trichlorophenol	79	45-110
2,4-Dichlorophenol	77	45-110
2,4-Dimethylphenol	77	30-105
2,4-Dinitrophenol	20	15-130
2,4-Dinitrotoluene	91	50-115
2,6-Dinitrotoluene	86	50-110
2-Chloronaphthalene	77	45-105
2-Chlorophenol	74	45-105
2-Methylnaphthalene	75	45-105
2-Methylphenol	76	40-105
2-Nitroaniline	92	45-120
2-Nitrophenol	76	40-110
3,3'-Dichlorobenzidine	13	24-101
3-Methylphenol & 4-Methylphenol	87	40-105
3-Nitroaniline	59	25-110
4,6-Dinitro-2-methylphenol	29	30-135
4-Bromophenyl phenyl ether	79	45-115
4-Chloro-3-methylphenol	82	45-115
4-Chloroaniline	43	28-80
4-Chlorophenyl phenyl ether	82	45-110
4-Nitroaniline	58	35-115
4-Nitrophenol	104	15-140
Acenaphthene	83	45-110
Acenaphthylene	90	45-105

Table C-50. Matrix Spike Recovery for 8270C

Analyte	Percent Recovery	Control Limits
Anthracene	86	55-105
Benzo(a)anthracene	95	50-110
Benzo(a)pyrene	93	50-110
Benzo(b)fluoranthene	119	45-115
Benzo(ghi)perylene	104	40-125
Benzo(k)fluoranthene	94	45-125
bis(2-Chloroethoxy)methane	74	45-110
bis(2-Chloroethyl) ether	69	40-105
bis(2-Chloroisopropyl) ether	70	20-115
bis(2-Ethylhexyl) phthalate	68	45-125
Butyl benzyl phthalate	73	50-125
Carbazole	81	45-115
Chrysene	94	55-110
Dibenz(a,h)anthracene	83	40-125
Dibenzofuran	79	50-105
Diethyl phthalate	85	50-115
Dimethyl phthalate	82	50-110
Di-n-butyl phthalate	82	55-110
Di-n-octyl phthalate	86	40-130
Fluoranthene	105	55-115
Fluorene	85	50-110
Hexachlorobenzene	83	52-107
Hexachlorobutadiene	74	40-115
Hexachlorocyclopentadiene	42	38-107
Hexachloroethane	68	35-110
Indeno(1,2,3-cd)pyrene	108	40-120
Isophorone	83	45-110
Naphthalene	74	40-105
Nitrobenzene	74	40-115
N-Nitrosodi-n-propylamine	84	40-115
N-Nitrosodiphenylamine	93	50-115
Pentachlorophenol	68	25-120
Phenanthrene	85	50-110
Phenol	72	40-100
Pyrene	74	45-125

Method	Sample Pairs
8082	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8082	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8082	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8082	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8082	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8082	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8082	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
6020A	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
6020A	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
6020A	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
6020A	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
6020A	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
6020A	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
6020A	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
7471A	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8081A	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8151A	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
02000	STATE OF THE ONE 2.0/STATE OF COOL

0200	CIM CC OMADC O O 2 O/CIM CC CDUD
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8260B	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C 8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
02/00	31W-33-044F C-0.0-2.0/31W-33-CDOF

[	
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C 8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C 8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP

8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP
8270C	SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP

Analyte	RPD
Aroclor 1016	*
Aroclor 1221	*
Aroclor 1232	*
Aroclor 1242	*
Aroclor 1248	*
Aroclor 1254	*
Aroclor 1260	60.377358490566
Arsenic	15.6462585034014
Barium	40.1598401598402
Cadmium	16.3934426229508
Chromium	14.0625
Lead	19.0274841437632
Selenium	8.09248554913296
Silver	9.00900900909
Mercury	3.50877192982454
4,4'-DDD	*
4,4'-DDE	*
4,4'-DDT	29.09090909091
Aldrin	29.09090909091
alpha-BHC	*
	*
alpha-Chlordane beta-BHC	*
	*
Chlordane (technical)	*
delta-BHC	*
Dieldrin	*
Endosulfan I	
Endosulfan II	*
Endosulfan sulfate	*
Endrin	*
Endrin aldehyde	35.2941176470588
Endrin ketone	*
gamma-BHC (Lindane)	*
gamma-Chlordane	*
Heptachlor	13.953488372093
Heptachlor epoxide	*
Methoxychlor	*
Toxaphene	*
2,4,5-T	*
2,4,5-TP (Silvex)	*
2,4-D	*
2,4-DB	*
1,1,1-Trichloroethane	*
1,1,2,2-Tetrachloroethane	*

1,1,2-Trichloroethane	*
1,1-Dichloroethane	*
1,1-Dichloroethene	*
1,2-Dichlorobenzene	*
1,2-Dichloroethane	*
1,2-Dichloroethene (total)	*
1,2-Dichloropropane	*
1,3-Dichlorobenzene	*
1,4-Dichlorobenzene	*
2-Butanone	*
2-Hexanone	*
4-Methyl-2-pentanone	*
Acetone	*
Benzene	*
Bromodichloromethane	*
Bromoform	*
Bromomethane	*
Carbon disulfide	*
Carbon tetrachloride	*
Chlorobenzene	*
Chloroethane	*
Chloroform	*
Chloromethane	*
cis-1,3-Dichloropropene	*
Dibromochloromethane	*
Ethylbenzene	*
Methylene chloride	*
Styrene	*
Tetrachloroethene	45.9016393442623
Toluene	*
trans-1,3-Dichloropropene	*
Trichloroethene	*
Vinyl chloride	*
Xylenes (total)	10.5263157894737
1,2,4-Trichlorobenzene	*
1,2-Dichlorobenzene	*
1,3-Dichlorobenzene	*
·	*
1,4-Dichlorobenzene	*
2,4,5-Trichlorophenol	*
2,4,6-Trichlorophenol	*
2,4-Dichlorophenol	*
2,4-Dimethylphenol	*
2,4-Dinitrophenol	
2,4-Dinitrotoluene	*
2,6-Dinitrotoluene	*
2-Chloronaphthalene	*
2-Chlorophenol	*

2-Methylnaphthalene	26.666666666667
2-Methylphenol	*
2-Nitroaniline	*
2-Nitrophenol	*
3,3'-Dichlorobenzidine	*
3-Methylphenol & 4-Methylphenol	*
3-Nitroaniline	*
4,6-Dinitro-2-methylphenol	*
4-Bromophenyl phenyl ether	*
4-Chloro-3-methylphenol	*
4-Chloroaniline	*
4-Chlorophenyl phenyl ether	*
4-Nitroaniline	*
4-Nitrophenol	*
Acenaphthene	*
Acenaphthylene	32.258064516129
Aniline	*
Anthracene	129.519450800915
Azobenzene	*
Benzidine	*
Benzo(a)anthracene	44.8979591836735
Benzo(a)pyrene	35.6164383561644
Benzo(b)fluoranthene	41.5841584158416
Benzo(ghi)perylene	44.0677966101695
Benzo(k)fluoranthene	40
Benzoic acid	*
Benzyl alcohol	*
bis(2-Chloroethoxy)methane	*
bis(2-Chloroethyl) ether	*
bis(2-Chloroisopropyl) ether	*
bis(2-Ethylhexyl) phthalate	32.1428571428571
Butyl benzyl phthalate	*
Carbazole	109.52380952381
Chrysene	6.31578947368421
Dibenz(a,h)anthracene	*
Dibenzofuran	21.5384615384615
Diethyl phthalate	*
Dimethyl phthalate	*
Di-n-butyl phthalate	*
Di-n-octyl phthalate	*
Fluoranthene	75.55555555556
Fluorene	11.7647058823529
Hexachlorobenzene	*
Hexachlorobutadiene	*
Hexachlorocyclopentadiene	*
Hexachloroethane	*
Indeno(1,2,3-cd)pyrene	49.4117647058824

Isophorone	*
Naphthalene	9.09090909090909
Nitrobenzene	*
N-Nitrosodi-n-propylamine	*
N-Nitrosodiphenylamine	*
Pentachlorophenol	*
Phenanthrene	44.7761194029851
Phenol	*
Pyrene	50
Pyridine	*

4 exceedances 147 comparisons

=4/147\*100

Sample Pairs Method

SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8082
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8082
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8082
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8082
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8082
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8082
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8082
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	6020A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	6020A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	6020A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	6020A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	6020A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	6020A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	6020A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	7471A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8081A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8151A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8151A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8151A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8151A
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B

SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8260B
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C 8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C 8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C 8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C 8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C 8270C
31VV-33-0441 C-0.0-2.0/31VV-33-CDOF	02/00

SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C

SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C
SIW-SS-044PC-0.0-2.0/SIW-SS-CDUP	8270C

Analyte	Parent Result
Aroclor 1016	11
Aroclor 1221	11
Aroclor 1232	11
Aroclor 1242	11
Aroclor 1248	11
Aroclor 1254	11
Aroclor 1260	69
Arsenic	31.7
Barium	400
Cadmium	3.3
Chromium	137
Lead	2590
Selenium	0.83
Silver	0.58
Mercury	0.28
4,4'-DDD	0.9
4,4'-DDE	0.9
4,4'-DDT	6.3
Aldrin	0.9
alpha-BHC	0.9
alpha-Chlordane	0.9
beta-BHC	0.9
Chlordane (technical)	9.2
delta-BHC	0.9
Dieldrin	0.9
Endosulfan I	0.74
Endosulfan II	0.9
Endosulfan sulfate	0.9
Endrin	0.9
Endrin aldehyde	9.8
Endrin ketone	0.9
gamma-BHC (Lindane)	0.9
gamma-Chlordane	0.9
Heptachlor	4.6
Heptachlor epoxide	0.9
Methoxychlor	0.9
Toxaphene	36
2,4,5-T	7.2
2,4,5-TP (Silvex)	7.2
2,4-D	72
2,4-DB	72
1,1,1-Trichloroethane	0.54
1,1,2,2-Tetrachloroethane	0.54

1,1,2-Trichloroethane	0.54
1,1-Dichloroethane	0.54
1,1-Dichloroethene	0.54
1,2-Dichlorobenzene	0.54
1,2-Dichloroethane	0.54
1,2-Dichloroethene (total)	1.1
1,2-Dichloropropane	0.54
1,3-Dichlorobenzene	0.54
1,4-Dichlorobenzene	0.54
2-Butanone	1.1
2-Hexanone	0.54
4-Methyl-2-pentanone	0.54
Acetone	7.3
Benzene	0.39
Bromodichloromethane	0.54
Bromoform	0.54
Bromomethane	0.54
Carbon disulfide	0.54
Carbon tetrachloride	0.54
Chlorobenzene	0.54
Chloroethane	0.54
Chloroform	0.54
Chloromethane	0.54
cis-1,3-Dichloropropene	0.54
Dibromochloromethane	0.54
Ethylbenzene	0.48
Methylene chloride	0.92
Styrene	0.58
Tetrachloroethene	1.5
Toluene	1.3
trans-1,3-Dichloropropene	0.54
Trichloroethene	0.54
Vinyl chloride	0.54
Xylenes (total)	0.99
1,2,4-Trichlorobenzene	72
1,2-Dichlorobenzene	72
1,3-Dichlorobenzene	72
1,4-Dichlorobenzene	72
2,4,5-Trichlorophenol	72
2,4,6-Trichlorophenol	72
2,4-Dichlorophenol	72
2,4-Dimethylphenol	72
2,4-Dinitrophenol	720
2,4-Dinitrotoluene	72
2,6-Dinitrotoluene	72
2-Chloronaphthalene	72
2-Chlorophenol	72

	470
2-Methylnaphthalene	170
2-Methylphenol	72
2-Nitroaniline	72
2-Nitrophenol	72
3,3'-Dichlorobenzidine	72
3-Methylphenol & 4-Methylphenol	210
3-Nitroaniline	72
4,6-Dinitro-2-methylphenol	720
4-Bromophenyl phenyl ether	72
4-Chloro-3-methylphenol	72
4-Chloroaniline	72
	72 72
4-Chlorophenyl phenyl ether	
4-Nitroaniline	72
4-Nitrophenol	720
Acenaphthene	72
Acenaphthylene	1800
Aniline	72
Anthracene	7700
Azobenzene	72
Benzidine	210
Benzo(a)anthracene	3000
Benzo(a)pyrene	4300
Benzo(b)fluoranthene	6100
Benzo(ghi)perylene	7200
Benzo(k)fluoranthene	2100
Benzoic acid	210
Benzyl alcohol	72
bis(2-Chloroethoxy)methane	72
•	
bis(2-Chloroethyl) ether	72 72
bis(2-Chloroisopropyl) ether	72
bis(2-Ethylhexyl) phthalate	130
Butyl benzyl phthalate	72
Carbazole	3800
Chrysene	4900
Dibenz(a,h)anthracene	72
Dibenzofuran	360
Diethyl phthalate	72
Dimethyl phthalate	72
Di-n-butyl phthalate	72
Di-n-octyl phthalate	72
Fluoranthene	6200
Fluorene	480
Hexachlorobenzene	72
Hexachlorobutadiene	72 72
	72 72
Hexachlorocyclopentadiene	
Hexachloroethane	72
Indeno(1,2,3-cd)pyrene	5300

72
230
72
72
72
720
4100
72
4500
210

Units	Qual	Field Duplicate Result	Units	Qual
ug/kg	U	8.7	ug/kg	U
ug/kg	U	8.7	ug/kg	U
ug/kg	U	8.7	ug/kg	U
ug/kg	U	8.7	ug/kg	U
ug/kg	U	8.7	ug/kg	U
ug/kg	U	8.7	ug/kg	U
ug/kg		37	ug/kg	
mg/kg		27.1	mg/kg	
mg/kg		601	mg/kg	
mg/kg		2.8	mg/kg	
mg/kg		119	mg/kg	
mg/kg		2140	mg/kg	
mg/kg		0.9	mg/kg	
mg/kg		0.53	mg/kg	
mg/kg		0.29	mg/kg	
ug/kg	U	0.9	ug/kg	U
ug/kg	U	0.9	ug/kg	U
ug/kg		4.7	ug/kg	
ug/kg	U	0.9	ug/kg	U
ug/kg	U	0.9	ug/kg	U
ug/kg	U	0.9	ug/kg	U
ug/kg	U	0.9	ug/kg	U
ug/kg	U	9.2	ug/kg	U
ug/kg	U	0.9	ug/kg	U
ug/kg	U	2.5	ug/kg	
ug/kg	11	0.9	ug/kg	U
ug/kg	U U	0.9 0.9	ug/kg	U
ug/kg			ug/kg	U
ug/kg ug/kg	U	0.9 14	ug/kg ug/kg	U
ug/kg	U	0.9	ug/kg	U
ug/kg	U	0.9	ug/kg	U
ug/kg	U	0.9	ug/kg	U
ug/kg	•	4	ug/kg	•
ug/kg	U	0.9	ug/kg	U
ug/kg	U	0.9	ug/kg	U
ug/kg	U	36	ug/kg	U
ug/kg	U	5.3	ug/kg	U
ug/kg	U	5.3	ug/kg	U
ug/kg	U	53	ug/kg	U
ug/kg	U	53	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U

ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	1.1	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	1.1	ug/kg	U
	U	0.54		U
ug/kg	U	0.54	ug/kg	U
ug/kg	U		ug/kg	
ug/kg		2.7	ug/kg	U
ug/kg		0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg		0.54	ug/kg	U
ug/kg		1.1	ug/kg	U
ug/kg		0.54	ug/kg	U
ug/kg		0.94	ug/kg	
ug/kg		0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
ug/kg	U	0.54	ug/kg	U
	O	1.1	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg				
ug/kg	U	72 73	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg 	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	720	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U

ug/kg		130	ug/kg	
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	210	ug/kg	U
ug/kg	U	72	ug/kg	U
		72 720		
ug/kg	U		ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	720	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg		1300	ug/kg	
ug/kg	U	72	ug/kg	U
ug/kg	Ü	36000	ug/kg	Ū
ug/kg ug/kg	U	72		U
			ug/kg	
ug/kg	U	210	ug/kg	U
ug/kg		1900	ug/kg	
ug/kg		3000	ug/kg	
ug/kg		4000	ug/kg	
ug/kg		4600	ug/kg	
ug/kg		1400	ug/kg	
ug/kg	U	210	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
	O	94		J
ug/kg			ug/kg	
ug/kg	U	72	ug/kg	U
ug/kg		13000	ug/kg	
ug/kg		4600	ug/kg	
ug/kg	U	920	ug/kg	
ug/kg		290	ug/kg	
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg		2800	ug/kg	
ug/kg		540	ug/kg	
	U	72		U
ug/kg			ug/kg	
ug/kg	U	72 73	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg		3200	ug/kg	

ug/kg	U	72	ug/kg	U
ug/kg		210	ug/kg	
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	72	ug/kg	U
ug/kg	U	720	ug/kg	U
ug/kg		2600	ug/kg	
ug/kg	U	72	ug/kg	U
ug/kg		2700	ug/kg	
ug/kg	U	210	ug/kg	U

Calculated RPD Adjusted RPD

*
*
*
*
*
*
60.377358490566
15.6462585034014
40.1598401598402
16.3934426229508
14.0625
19.0274841437632
8.09248554913296
9.009009009009
3.50877192982454
*
*
29.0909090909091
*
*
*
*
*
*
*
*
*
*
*
35.2941176470588
*
*
*
13.953488372093
*
*
*
*
*
*
*
*
*

=((ABS(I45-L45))/((I45+L45)/2))*100	*
=((ABS(I46-L46))/((I46+L46)/2))*100	*
=((ABS(I47-L47))/((I47+L47)/2))*100	*
=((ABS(I48-L48))/((I48+L48)/2))*100	*
	*
=((ABS(I49-L49))/((I49+L49)/2))*100	*
=((ABS(I50-L50))/((I50+L50)/2))*100	
=((ABS(I51-L51))/((I51+L51)/2))*100	*
=((ABS(I52-L52))/((I52+L52)/2))*100	*
=((ABS(I53-L53))/((I53+L53)/2))*100	*
=((ABS(I54-L54))/((I54+L54)/2))*100	*
=((ABS(I55-L55))/((I55+L55)/2))*100	*
=((ABS(I56-L56))/((I56+L56)/2))*100	*
=((ABS(I57-L57))/((I57+L57)/2))*100	*
=((ABS(I58-L58))/((I58+L58)/2))*100	*
=((ABS(I59-L59))/((I59+L59)/2))*100	*
=((ABS(I60-L60))/((I60+L60)/2))*100	*
=((ABS(I61-L61))/((I61+L61)/2))*100	*
=((ABS(I62-L62))/((I62+L62)/2))*100	*
=((ABS(I63-L63))/((I63+L63)/2))*100	*
=((ABS(I64-L64))/((I64+L64)/2))*100	*
=((ABS(I65-L65))/((I65+L65)/2))*100	*
	*
=((ABS(I66-L66))/((I66+L66)/2))*100	*
=((ABS(I67-L67))/((I67+L67)/2))*100	*
=((ABS(I68-L68))/((I68+L68)/2))*100	*
=((ABS(I69-L69))/((I69+L69)/2))*100	*
=((ABS(I70-L70))/((I70+L70)/2))*100	
=((ABS(I71-L71))/((I71+L71)/2))*100	*
=((ABS(I72-L72))/((I72+L72)/2))*100	*
=((ABS(I73-L73))/((I73+L73)/2))*100	45.9016393442623
=((ABS(I74-L74))/((I74+L74)/2))*100	*
=((ABS(I75-L75))/((I75+L75)/2))*100	*
=((ABS(I76-L76))/((I76+L76)/2))*100	*
=((ABS(I77-L77))/((I77+L77)/2))*100	*
=((ABS(I78-L78))/((I78+L78)/2))*100	10.5263157894737
=((ABS(I79-L79))/((I79+L79)/2))*100	*
=((ABS(I80-L80))/((I80+L80)/2))*100	*
=((ABS(I81-L81))/((I81+L81)/2))*100	*
=((ABS(I82-L82))/((I82+L82)/2))*100	*
=((ABS(I83-L83))/((I83+L83)/2))*100	*
=((ABS(I84-L84))/((I84+L84)/2))*100	*
=((ABS(I85-L85))/((I85+L85)/2))*100	*
=((ABS(I86-L86))/((I86+L86)/2))*100	*
=((ABS(180-L80))/((180+L80)/2)) 100 =((ABS(187-L87))/((187+L87)/2))*100	*
=((ABS(187-L87))/((187+L87)/2))*100 =((ABS(188-L88))/((188+L88)/2))*100	*
	*
=((ABS(I89-L89))/((I89+L89)/2))*100	*
=((ABS(I90-L90))/((I90+L90)/2))*100	*
=((ABS(I91-L91))/((I91+L91)/2))*100	*

```
=((ABS(I92-L92))/((I92+L92)/2))*100
                                                                                26.66666666667
=((ABS(I93-L93))/((I93+L93)/2))*100
                                                                                 *
=((ABS(I94-L94))/((I94+L94)/2))*100
=((ABS(195-L95))/((195+L95)/2))*100
=((ABS(I96-L96))/((I96+L96)/2))*100
=((ABS(197-L97))/((197+L97)/2))*100
=((ABS(I98-L98))/((I98+L98)/2))*100
=((ABS(I99-L99))/((I99+L99)/2))*100
=((ABS(I100-L100))/((I100+L100)/2))*100
=((ABS(I101-L101))/((I101+L101)/2))*100
=((ABS(I102-L102))/((I102+L102)/2))*100
=((ABS(I103-L103))/((I103+L103)/2))*100
=((ABS(I104-L104))/((I104+L104)/2))*100
=((ABS(I105-L105))/((I105+L105)/2))*100
=((ABS(I106-L106))/((I106+L106)/2))*100
=((ABS(I107-L107))/((I107+L107)/2))*100
                                                                                32.258064516129
=((ABS(I108-L108))/((I108+L108)/2))*100
=((ABS(I109-L109))/((I109+L109)/2))*100
                                                                                129.519450800915
=((ABS(I110-L110))/((I110+L110)/2))*100
=((ABS(I111-L111))/((I111+L111)/2))*100
=((ABS(I112-L112))/((I112+L112)/2))*100
                                                                                44.8979591836735
=((ABS(I113-L113))/((I113+L113)/2))*100
                                                                                35.6164383561644
=((ABS(I114-L114))/((I114+L114)/2))*100
                                                                                41.5841584158416
=((ABS(I115-L115))/((I115+L115)/2))*100
                                                                                44.0677966101695
=((ABS(I116-L116))/((I116+L116)/2))*100
                                                                                40
=((ABS(I117-L117))/((I117+L117)/2))*100
=((ABS(I118-L118))/((I118+L118)/2))*100
=((ABS(I119-L119))/((I119+L119)/2))*100
=((ABS(I120-L120))/((I120+L120)/2))*100
=((ABS(I121-L121))/((I121+L121)/2))*100
=((ABS(I122-L122))/((I122+L122)/2))*100
                                                                                32.1428571428571
=((ABS(I123-L123))/((I123+L123)/2))*100
=((ABS(I124-L124))/((I124+L124)/2))*100
                                                                                109.52380952381
=((ABS(I125-L125))/((I125+L125)/2))*100
                                                                                6.31578947368421
=((ABS(I126-L126))/((I126+L126)/2))*100
=((ABS(I127-L127))/((I127+L127)/2))*100
                                                                                21.5384615384615
=((ABS(I128-L128))/((I128+L128)/2))*100
=((ABS(I129-L129))/((I129+L129)/2))*100
=((ABS(I130-L130))/((I130+L130)/2))*100
=((ABS(I131-L131))/((I131+L131)/2))*100
=((ABS(I132-L132))/((I132+L132)/2))*100
                                                                                75.55555555556
=((ABS(I133-L133))/((I133+L133)/2))*100
                                                                                11.7647058823529
=((ABS(I134-L134))/((I134+L134)/2))*100
=((ABS(I135-L135))/((I135+L135)/2))*100
=((ABS(I136-L136))/((I136+L136)/2))*100
=((ABS(I137-L137))/((I137+L137)/2))*100
=((ABS(I138-L138))/((I138+L138)/2))*100
                                                                                49.4117647058824
```

=((ABS(I139-L139))/((I139+L139)/2))*100	*
=((ABS(I140-L140))/((I140+L140)/2))*100	9.090909090909
=((ABS(I141-L141))/((I141+L141)/2))*100	*
=((ABS(I142-L142))/((I142+L142)/2))*100	*
=((ABS(I143-L143))/((I143+L143)/2))*100	*
=((ABS(I144-L144))/((I144+L144)/2))*100	*
=((ABS(I145-L145))/((I145+L145)/2))*100	44.7761194029851
=((ABS(I146-L146))/((I146+L146)/2))*100	*
=((ABS(I147-L147))/((I147+L147)/2))*100	50
=((ABS(I148-L148))/((I148+L148)/2))*100	*

Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
LABQC	6020A	BLK	Arsenic	0.2			mg/kg	U				Y	
LABQC	6020A	BLK	Barium	0.057		0.057		Ü				Ϋ́	
LABQC	6020A	BLK	Cadmium	0.016		0.016		U				Y	
LABQC	6020A	BLK	Chromium	0.45			mg/kg	U				Y	
LABQC	6020A	BLK	Lead	0.1			mg/kg	U			1	Υ	
LABQC	6020A	BLK	Selenium	0.16			mg/kg	U				Υ	
LABQC	6020A	BLK	Silver	0.014			mg/kg	U			1	Υ	
LABQC	6020A	LCS	Arsenic	103			%				2.5	Υ	
LABQC	6020A	LCS	Barium	105			%				2.5	Υ	
LABQC	6020A	LCS	Cadmium	101			%				2.5	Υ	
LABQC	6020A	LCS	Chromium	101			%				2.5	Υ	
LABQC	6020A	LCS	Lead	108			%				2.5	Υ	
LABQC	6020A	LCS	Selenium	109			%				2.5	Υ	
LABQC	6020A	LCS	Silver	103			%				2.5	Υ	
SIW-SS-043PC-0.0-2.0	6020A	MS	Arsenic	89.8			%				1	Υ	
SIW-SS-043PC-0.0-2.0	6020A	MS	Barium	-18.2			%	N			1	Υ	
SIW-SS-043PC-0.0-2.0	6020A	MS	Cadmium	102.5			%					Υ	
SIW-SS-043PC-0.0-2.0	6020A	MS	Chromium	92.6			%					Υ	
SIW-SS-043PC-0.0-2.0	6020A	MS	Lead	1207.7			%	N				Υ	
SIW-SS-043PC-0.0-2.0	6020A	MS	Selenium	82.8			%					Υ	
SIW-SS-043PC-0.0-2.0	6020A	MS	Silver	99.5			%					Υ	
SIW-SS-043PC-0.0-2.0	6020A	MSD	Arsenic	3.03			%	*				Υ	
SIW-SS-043PC-0.0-2.0	6020A	MSD	Barium	7.79			%	N				Y	
SIW-SS-043PC-0.0-2.0	6020A	MSD	Cadmium	0.036			%					Y	
SIW-SS-043PC-0.0-2.0	6020A	MSD	Chromium	6.07			%	ļ.,				Y	
SIW-SS-043PC-0.0-2.0	6020A	MSD	Lead	16.96			%	N				Y	
SIW-SS-043PC-0.0-2.0	6020A	MSD	Selenium	6.47			%	*				Y	
SIW-SS-043PC-0.0-2.0	6020A	MSD	Silver	1	-	4.4	%	-	ļ. —	F07		Y	
SIW-SS-041PC-0.0-2.0	6020A	REG	Arsenic	5			mg/kg	E	J =	E07		Y	
SIW-SS-041PC-0.0-2.0	6020A	REG	Barium Cadmium	48			mg/kg	N	=	H02		Y	
SIW-SS-041PC-0.0-2.0	6020A	REG		0.058			mg/kg		=			Y	
SIW-SS-041PC-0.0-2.0	6020A	REG	Chromium	19			mg/kg	NE	.1	E07		Y	
SIW-SS-041PC-0.0-2.0 SIW-SS-041PC-0.0-2.0	6020A 6020A	REG REG	Lead Selenium	202 1.8			mg/kg mg/kg	NE	J	E07		Y Y	
SIW-SS-041PC-0.0-2.0	6020A	REG	Silver	0.043			mg/kg	В	U			Y	
SIW-SS-041PC-0.0-2.0	6020A	REG	Arsenic	2.9			mg/kg	E	0	E07		Y	
SIW-SS-042PC-0.0-2.0	6020A	REG	Barium	39.3			mg/kg	N	=	H02		Y	
SIW-SS-042PC-0.0-2.0	6020A	REG	Cadmium	0.16			mg/kg	IN	=	HUZ		Y	
SIW-SS-042PC-0.0-2.0	6020A	REG	Chromium	21.6			mg/kg		=			Y	
SIW-SS-042PC-0.0-2.0	6020A	REG	Lead	30.4			mg/kg	NE	J	E07		Y	
SIW-SS-042PC-0.0-2.0	6020A	REG	Selenium	0.95			mg/kg	INC	=	L07		Y	
SIW-SS-042PC-0.0-2.0	6020A	REG	Silver	0.076			mg/kg	В	U			Y	
SIW-SS-043PC-0.0-2.0	6020A	REG	Arsenic	29			mg/kg	E	J	E07		Y	
SIW-SS-043PC-0.0-2.0	6020A	REG	Barium	963			mg/kg	N	=	H02		Y	
SIW-SS-043PC-0.0-2.0	6020A	REG	Cadmium	4.4		0.055			=	1102		Y	
SIW-SS-043PC-0.0-2.0	6020A	REG	Chromium	76.4			mg/kg		=			Y	
SIW-SS-043PC-0.0-2.0	6020A	REG	Lead	2960			mg/kg	NE	J	E07		Y	
SIW-SS-043PC-0.0-2.0	6020A	REG	Selenium	2.1			mg/kg		=			Y	
SIW-SS-043PC-0.0-2.0	6020A	REG	Silver	0.72			mg/kg	İ	=			Y	
SIW-SS-044PC-0.0-2.0	6020A	REG	Arsenic	31.7			mg/kg	E	J	E07		Υ	
SIW-SS-044PC-0.0-2.0	6020A	REG	Barium	400			mg/kg	N	=	H02		Υ	
SIW-SS-044PC-0.0-2.0	6020A	REG	Cadmium	3.3			mg/kg		=		1	Υ	
SIW-SS-044PC-0.0-2.0	6020A	REG	Chromium	137			mg/kg		=		1	Υ	
SIW-SS-044PC-0.0-2.0		REG	Lead	2590			mg/kg	NE	J	E07	_	Υ	
SIW-SS-044PC-0.0-2.0		REG	Selenium	0.83			mg/kg		=			Υ	
	6020A	REG	Silver	0.58			mg/kg		=		1	Υ	
SIW-SS-CDUP-001	6020A	REG	Arsenic	27.1		1.1	mg/kg	E	J	E07	1	Υ	
SIW-SS-CDUP-001	6020A	REG	Barium	601			mg/kg	N	=	H02	1	Υ	
SIW-SS-CDUP-001	6020A	REG	Cadmium	2.8		0.054	mg/kg		=			Υ	
SIW-SS-CDUP-001	6020A	REG	Chromium	119		1.1	mg/kg		=			Υ	
SIW-SS-CDUP-001	6020A	REG	Lead	2140			mg/kg	NE	J	E07		Υ	
SIW-SS-CDUP-001	6020A	REG	Selenium	0.9			mg/kg		=			Υ	
SIW-SS-CDUP-001	6020A	REG	Silver	0.53			mg/kg		=			Υ	
LABQC	7471A	BLK	Mercury	0.011		0.011	mg/kg	U				Υ	
LABQC	7471A	LCS	Mercury	115.38			%				50		
SIW-SS-043PC-0.0-2.0	7471A	MS	Mercury	-59.4			%	N			10		
SIW-SS-043PC-0.0-2.0	7471A	MSD	Mercury	12.16			%	N			10		
SIW-SS-041PC-0.0-2.0	7471A	REG	Mercury	0.036			mg/kg	BN	J	E07		Υ	
SIW-SS-042PC-0.0-2.0	7471A	REG	Mercury	0.048			mg/kg	N	J	E07		Υ	
SIW-SS-043PC-0.0-2.0	7471A	REG	Mercury	3.1			mg/kg	N	J	E07	10		
SIW-SS-044PC-0.0-2.0	7471A	REG	Mercury	0.28			mg/kg	N	J	E07		Υ	
SIW-SS-CDUP-001	7471A	REG	Mercury	0.29			mg/kg	N	J	E07		Υ	
LABQC	8081A	BLK	4,4'-DDD	0.83			ug/kg	U				Υ	
LABQC	8081A	BLK	4,4'-DDE	0.83			ug/kg	U				Υ	
LABQC	8081A	BLK	4,4'-DDT	0.83			ug/kg	U				Υ	
LABQC	8081A	BLK	Aldrin	0.83			ug/kg	U				Υ	
LABQC	8081A	BLK	alpha-BHC				ug/kg	U				Υ	
LABQC	8081A	BLK	alpha-Chlo	0.83	<u> </u>	0.83	ug/kg	U	L		1	Υ	

Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
LABQC	8081A	BLK	beta-BHC	0.83		0.83		U				Υ	. morou
LABQC	8081A	BLK	Chlordane	8.5			ug/kg ug/kg	U				Y	
LABQC	8081A	BLK	delta-BHC	0.83		0.83		U				Y	
LABQC	8081A	BLK	Dieldrin	0.83		0.83		U				Y	
LABQC	8081A	BLK	Endosulfan	0.83		0.83		U				Y	
LABQC	8081A	BLK	Endosulfan	0.83		0.83	-9.1.9	U				Y	
LABQC	8081A	BLK	Endosulfan	0.83		0.83		U				Y	
LABQC	8081A	BLK	Endrin	0.83		0.83		U				Y	
	8081A	BLK	Endrin alde	0.83		0.83		U				Y	
LABQC	8081A	BLK	Endrin keto	0.83		0.83		U				Y	
LABQC	8081A	BLK	gamma-BH	0.83		0.83		U				Y	
LABQC	8081A	BLK	gamma-Ch	0.83		0.83	0 0	U				Y	
LABQC	8081A	BLK	Heptachlor	0.83		0.83		U				Υ	
LABQC	8081A	BLK	Heptachlor	0.83		0.83		U				Υ	
LABQC	8081A	BLK	Methoxych	0.83		0.83		U				Υ	
	8081A	BLK	Toxaphene	34				U				Y	
LABQC	8081A	LCD	4,4'-DDD	9.2			%	_				Y	
LABQC	8081A	LCD	4,4'-DDE	12			%				1	Υ	
LABQC	8081A	LCD	4,4'-DDT	31				р				Υ	
LABQC	8081A	LCD	Aldrin	2.6			%				1	Υ	
LABQC	8081A	LCD	alpha-BHC	3.4			%					Y	
LABQC	8081A	LCD	alpha-Chlo	4.9			%					Υ	
	8081A	LCD	beta-BHC	5.4			%					Υ	
LABQC	8081A	LCD	delta-BHC	8			%					Υ	
LABQC	8081A	LCD	Dieldrin	5.6			%					Υ	
	8081A	LCD	Endosulfan	7.2			%				1	Υ	
LABQC	8081A	LCD	Endosulfan	8			%				1	Υ	
LABQC	8081A	LCD	Endosulfan	11			%				1	Υ	
LABQC	8081A	LCD	Endrin	8			%					Υ	
	8081A	LCD	Endrin alde	8.6			%					Υ	
LABQC	8081A	LCD	Endrin keto	11			%				1	Υ	
LABQC	8081A	LCD	gamma-B⊦	5.1			%				1	Υ	
LABQC	8081A	LCD	gamma-Ch	6.6			%				1	Υ	
LABQC	8081A	LCD	Heptachlor	5.9			%				1	Υ	
LABQC	8081A	LCD	Heptachlor	5			%				1	Υ	
LABQC	8081A	LCD	Methoxych	10			%				1	Υ	
LABQC	8081A	LCS	4,4'-DDD	121			%				1	Υ	
LABQC	8081A	LCS	4,4'-DDE	108			%				1	Υ	
LABQC	8081A	LCS	4,4'-DDT	126			%				1	Υ	
LABQC	8081A	LCS	Aldrin	101			%				1	Υ	
LABQC	8081A	LCS	alpha-BHC	102			%				1	Υ	
LABQC	8081A	LCS	alpha-Chlo	101			%					Υ	
LABQC	8081A	LCS	beta-BHC	102			%				1	Υ	
LABQC	8081A	LCS	delta-BHC	110			%				1	Υ	
LABQC	8081A	LCS	Dieldrin	116			%					Υ	
LABQC	8081A	LCS	Endosulfan	107			%					Υ	
LABQC	8081A	LCS	Endosulfan	104			%					Υ	
LABQC	8081A	LCS	Endosulfan	105			%					Υ	
LABQC	8081A	LCS	Endrin	114			%					Υ	
LABQC	8081A	LCS	Endrin alde	97			%					Υ	
LABQC	8081A	LCS	Endrin keto	111			%					Υ	
	8081A	LCS	gamma-Bl-	104			%					Υ	
LABQC	8081A	LCS	gamma-Ch	103			%					Υ	
	8081A	LCS	Heptachlor	103			%					Υ	
	8081A	LCS	Heptachlor	105			%					Υ	
LABQC	8081A	LCS	Methoxych	132			%					Y	
	8081A	MS	4,4'-DDD	80			%					Υ	
	8081A	MS	4,4'-DDE	120			%					Υ	
	8081A	MS	4,4'-DDT	489				а				Y	
	8081A	MS	Aldrin	86			%					Y	
	8081A	MS	alpha-BHC	87			%					Y	
	8081A	MS	alpha-Chlo	22			%	а		-		Y	
	8081A	MS	beta-BHC	87			%					Y	
	8081A	MS	delta-BHC	85			%					Y	
	8081A	MS	Dieldrin	64			<u>%</u>	а				Y	
	8081A	MS	Endosulfan	96			<u>%</u>					Y	
	8081A	MS	Endosulfan	24	-		%	a		-		Y	
	8081A	MS	Endosulfan	331				а				Y	
	8081A	MS	Endrin	66			<u>%</u>					Y	
	8081A	MS	Endrin alde	392			%	a		-		Y	
	8081A	MS	Endrin keto	148			%	а				Y	
	8081A	MS	gamma-BH	81			%					Y	
	8081A	MS	gamma-Ch	23				а		-		Y	
	8081A	MS	Heptachlor	88			%					Y	
	8081A	MS	Heptachlor	49				а				Y	
	8081A	MS	Methoxych	115			%		111	C01		Y	
	8081A	REG	4,4'-DDD	1.6			ug/kg	U	UJ	G01	1.64		
SIW-SS-041PC-0.0-2.0	8081A	REG	4,4'-DDE	1.6	l	1.6	ug/kg	U	UJ	G01	1.64	Ţ	

\$90%-\$50-HIPC-00-20   09014   REG	Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
\$8W.55.04 (PC.00.2.0)   Binth A. REG.   Audin   1.6   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Audin   1.6   1.6   Lighty   U.   U.   Got   1.65   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Christians   1.6   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Christians   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Christians   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Christians   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Christians   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Christians   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Endosular   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Endosular   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Endosular   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Endosular   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Endosular   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Endosular   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Endosular   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Endosular   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Endosular   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Endosular   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Endosular   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Haptacline   1.6   Lighty   U.   U.   Got   1.64   Y.   \$8W.55.04 (PC.00.2.0)   Binth A. REG.   Haptacline   1.6   Lighty   U.   U.   Got   Lighty   U.   U.   Got   Lighty   U.   U.   G		8081A										1.64		
\$\$\$8.541PC_0.2.0.2.0.0001A, REG. alpha-Che 1.6. 1.6.   1.6.				Aldrin				0 0		UJ	G01		Υ	
SIMS SEA PERCO 20   8014 R. REG.	SIW-SS-041PC-0.0-2.0	8081A	REG	alpha-BHC	1.6		1.6	ug/kg	U	UJ	G01	1.64	Υ	
Section   Sect		8081A	REG	alpha-Chlo	1.6		1.6	ug/kg	U	UJ	G01; H02	1.64	Υ	
\$WASS-041PC-02-20   8091A, PREC   Detection 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Detection 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Extracellater 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Extracellater 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Extracellater 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Extracellater 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Extracellater 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Extracellater 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Extracellater 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Extracellater 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Extracellater 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Extracellater 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Perplacetor 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Perplacetor 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Perplacetor 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   Perplacetor 1.6   1.6   Lighting   U.   U.   C011   1.6   V.   \$WASS-041PC-02-20   8091A, PREC   WASS-041PC-02-20   8091A, PREC   V.   V.   V.   \$WASS-041PC-02-20   8091A, PREC   V.   V.   V.   V.   V.   V.   V.   V													Υ	
SW-95-04TPC-0.02 0891A REG Cholourist 1.6   1.6														
\$\$W.\$54.0FPC.0.0.2.0   8091A   REG   Enfounding   1.6													Y	
SW-SS-041PC-0.02 0.081A REC Endousties 1.6 16 16 16 16 17 16 16 16 17 16 16 17 16 16 17 16											, ,		Y	
SW-SS AD HPC 0.0.2.0 B081A REG Endose 1.6 1.6 (1.0) by U U G011 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Endose 1.6 1.6 (1.0) by U U U G011 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Endose 1.6 1.6 (1.0) by U U U G011 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Endose 1.6 1.8 1.6 (1.0) by U U U G011 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Endose 1.6 1.8 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Endose 1.6 1.8 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Endose 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Endose 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Hypertenion 1.6 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Hypertenion 1.6 1.6 (1.0) by U U U G011 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Hypertenion 1.6 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Hypertenion 1.6 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Hypertenion 1.6 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Hypertenion 1.6 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Hypertenion 1.6 1.6 (1.0) by WS-SS AD HPC 0.0.2 B081A REG Hypertenion 0.6 (1.0) by WS-SS AD HPC													Y	
SW-SS-04PC-0.02-0 B091A REG Entinin of 1.6   1.6													Y	
\$\$W\$\$6.41PC-0.02 0 8981A REG Endrin add 1.6														
\$WRSSQ4PC-0.0.2 0801A REG gamme-8H 1.6	SIW-SS-041PC-0.0-2.0	8081A	REG	Endrin alde	1.6				U	UJ	G01; H01	1.64	Υ	
SIN-SS-APIPC-0.0 2.0 8081A REG		8081A		Endrin keto										
SINY-SS-041PC-0.0 2.0 8081A REG				)									Υ	
SIM-SS-041PC-0.0.2   0901A   REG   Methocych   1.6   1.6   UUNg   U   U   G01;102   1.64   Y   SIM-SS-041PC-0.0.2   0901A   REG   Methocych   1.6   1.6   UUNg   CV   U   G01   1.64   Y   W   SIM-SS-041PC-0.0.2   0901A   REG   44-0.00   0.86   0.80   UUNg   U   U   G01   1.64   Y   W   SIM-SS-041PC-0.0.2   0901A   REG   44-0.00   0.86   0.80   UUNg   U   U   G04   1   Y   W   W   SIM-SS-041PC-0.0.2   0901A   REG   44-0.00   0.86   0.80   UUNg   U   U   G04   1   Y   W   W   W   W   W   W   W   W   W				0									Υ	
SIM-SS-041PC-0-0-20 8081A REG				_										
\$\text{SW-SP4PC-0.0.20} & 0001A \text{ REG } & \text{Troxaphene} & 02 & 02 & 02 & 02 & 03 & 03 & 1.64 \text{ Y} \text{ SW-SP4PC-0.0.20} & 0001A \text{ REG } & 4.4-DDD & 0.86 & 0													Y	
SINY-SS-04/2PC-0.0-20 8081A REG 4.4-0DD 0.88 0.88 Up/Ng U UJ 004 1 Y SINY-SS-04/2PC-0.0-20 8081A REG 4.4-0DT 0.88 0.88 Up/Ng U UJ 004 1 Y SINY-SS-04/2PC-0.0-20 8081A REG 4.4-0DT 0.88 0.88 Up/Ng U UJ 004 1 Y SINY-SS-04/2PC-0.0-20 8081A REG 4.4-0DT 0.88 0.88 Up/Ng U UJ 004 1 Y SINY-SS-04/2PC-0.0-20 8081A REG 8.4-0DT 0.88 0.88 Up/Ng U UJ 004 1 Y SINY-SS-04/2PC-0.0-20 8081A REG 8.4-0DT 0.88 0.88 Up/Ng U UJ 004 1 Y SINY-SS-04/2PC-0.0-20 8081A REG 8.8-0 REG 8.8-0 REG 9.8-0 REG				_									Ι V	
\$\text{SW-SS-042PC-0-0-20   80814 \text{ REG } 4,4*-0DE \text{ 0.66   0.66   0.66   0.66   0.66   0.67   1 \text{ Y}  \text{ SW-SS-042PC-0-0-20   80814 \text{ REG } 4,4*-0DE  0.66   0.														
\$\text{SW-SS-04PC-02-02} \text{ B0814 A REG } 4.4*-DDT \ 0.86 \ 0.86 \ 0.86 \ 0.96 \ 0														
\$\text{SW-SS-Q42PC-00-20 B0814 REG } & Admin														
SIW-SS-042PC-0.2.0 8081A REG							0.86	ug/kg						
SIW-SS-042PC-0-2.0 8081A REG Chordene 8.8 8. 8.8 8. 8.8 10 u/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Chordene 8.8 8. 8.8 10 u/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Chordene 8.8 8. 8.8 10 u/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Deto-BHC 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Deto-BHC 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 1 SIW-SS-042PC-0-2.0 8081A REG Endosulfar 1 SIW-SS-042PC-0-2.0 8081A REG Endosulfar 1 SIW-SS-042PC-0-2.0 8081A REG Endosulfar 1 SIW-SS-042PC-0-2.0 8081A REG Endosulfar 1 SIW-SS-042PC-0-2.0 8081A REG Hebrachtor 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Hebrachtor 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Hebrachtor 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Hebrachtor 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Hebrachtor 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Hebrachtor 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Hebrachtor 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Hebrachtor 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-042PC-0-2.0 8081A REG Hebrachtor 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-043PC-0-2.0 8081A REG Hebrachtor 0.86 0.86 lug/m U U GO4 1 Y SIW-SS-043PC-0-2.0 8081A REG Hebrachtor 0.86 0.86 lug/m U U GO4 1														
SIW-SS-042PC-0-2.0   0861A   REG				_				ŭ						
SIW-SS-042PC-0-2.0 8081A REG Dietorin 0.86 0.86 Ug/kg U U U G04 1 Y SIW-SS-042PC-0-2.0 8081A REG Dietorin 0.86 0.86 Ug/kg U U U G04 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 Ug/kg U U U G04 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 Ug/kg U U U G01: h01 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 Ug/kg U U U G01: h01 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 Ug/kg U U U G01: h01 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 Ug/kg U U U G01: h01 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 Ug/kg U U U G01: h01 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 Ug/kg U U U G01: h01 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 Ug/kg U U U G01: h01 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 Ug/kg U U U G01: h01 1 Y SIW-SS-042PC-0-2.0 8081A REG Endosulfar 0.86 0.86 Ug/kg U U U G04 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Endosulfar 0.86 0.86 Ug/kg U U U G04 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Endosulfar 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Endosulfar 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Helpstehtor 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Helpstehtor 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Methoxych 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Methoxych 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Methoxych 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Methoxych 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Methoxych 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Methoxych 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Methoxych 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Methoxych 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Methoxych 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Methoxych 0.86 0.86 Ug/kg U U U G04 N08 1 Y SIW-SS-042PC-0-0-2.0 8081A REG Methoxych 0						1		0 0						
\$\text{SW-S9-042PC-0.0.2.0} \text{ B081A } \text{ REG } \text{ Colorability } 0.86 \text{ B08 } 0.86 \text{ Ug/kg} \text{ U } \text{ U } \text{ G01 + I02 } 1 \text{ Y } \text{ SW-S9-042PC-0.0.2.0} \text{ B081A } \text{ REG } \text{ Endosufar } 0.86 \text{ 0.86 } 0.86 \text{ Ug/kg} \text{ U } \text{ U } \text{ G01 + I02 } 1 \text{ Y } \text{ SW-S9-042PC-0.0.2.0} \text{ B081A } \text{ REG } \text{ Endosufar } 0.86 \text{ 0.86 } 0.86 \text{ Ug/kg} \text{ U } \text{ U } \text{ G01 + I02 } 1 \text{ Y } \text{ SW-S9-042PC-0.0.2.0} \text{ B081A } \text{ REG } \text{ Endosufar } 0.86 \text{ 0.86 } 0.86 \text{ Ug/kg} \text{ U } \text{ U } \text{ G01 + I01 } 1 \text{ Y } \text{ SW-S9-042PC-0.0.2.0} \text{ B081A } \text{ REG } \text{ Endosufar } 0.86 \text{ 0.86 } 0.86 \text{ Ug/kg} \text{ U } \text{ U } \text{ G01 + I01 } 1 \text{ Y } \text{ SW-S9-042PC-0.0.2.0} \text{ B081A } \text{ REG } \text{ Endosufar } 0.86 \text{ 0.86 } 0.86 \text{ Ug/kg} \text{ U } \text{ U } \text{ G01 + I01 } 1 \text{ Y } \text{ SW-S9-042PC-0.0.2.0} \text{ B081A } \text{ REG } \text{ Endosufar } 0.88 \text{ 0.86 } 0.86 \text{ Ug/kg} \text{ U } \text{ U } \text{ G01 + I01 } 1 \text{ Y } \text{ SW-S9-042PC-0.0.2.0} \text{ B081A } \text{ REG } \text{ Endosufar } 0.88 \text{ 0.86 } 0.86 \text{ Ug/kg} \text{ U } \text{ U } \text{ G01 + I02 } 1 \text{ Y } \text{ SW-S9-042PC-0.0.2.0} \text{ B081A } \text{ REG } \text{ Helpochlor } 0.88 \text{ 0.86 } 0.86 \text{ Ug/kg} \text{ U } \text{ U } \text{ G01 + I02 } 1 \text{ Y } \text{ SW-S9-042PC-0.0.2.0} \text{ B081A } \text{ REG } \text{ Helpochlor } 0.88 \text{ 0.86 } 0.86 \text{ Ug/kg} \text{ U } \text{ U } \text{ G04 + I Y } \text{ SW-S9-042PC-0.0.2.0} \text{ B081A } \text{ REG } \text{ Helpochlor } 0.88 \text{ 0.86 } 0.86 \text{ Ug/kg} \text{ U } \text{ U } \text{ G04 + I Y } \text{ U } \text{ G04 + I Y } \text{ U } \text{ G04 + I Y } \text{ U } \text{ G04 + I Y } \text{ U } \text{ G04 + I Y } \text{ U } \text{ G04 + I Y } \text{ U } \text{ G04 + I Y } \text{ U } \text{ G04 + I Y } \text{ U }  G0														
\$\text{SW-S9-042PC-0.0-2.0}  B081A REG														
SIW-SS-042PC-0.0-2.0 8081A REG														
SIM-SS-042PC-0.0-2.0   B081A   REG														
\$\text{SW-SS-042PC-0.0-2.0}    8081A   REC   Endrin   0.86														
SW-SS-042PC-0-2-0   0801A   REG   Endrin kelf   0.86   0.86   0.86   0.96   0.97   0	SIW-SS-042PC-0.0-2.0	8081A	REG	Endrin	0.86				U	UJ	G04	1	Υ	
SW-SS-042PC-0-0-2.0   081A   REG   gamma-BH   0.86   0.86   0.86   0.86   0.87   0.9	SIW-SS-042PC-0.0-2.0	8081A	REG	Endrin alde	0.86		0.86	ug/kg		UJ	G01; H01	1	Υ	
\$\text{SW-SS-042PC-0-0-2-0} & 0801A & REG & gamma-CH & 0.86 & 0.86     \text{U} &   \text{U} &   \qq\qq\qq\qq\qq\qq\qq\qq\qq\qq\qq\qq\qq														
SIW-SS-042PC-0.0-2.0   8081A   REG   Heptachlor   1.8   1.8   1.8   lg/kg   PG   UJ   G04; M08   1   Y   SIW-SS-042PC-0.0-2.0   8081A   REG   Methoxych   0.86   0.86   lg/kg   CV   UJ   G04   1   Y   SIW-SS-042PC-0.0-2.0   8081A   REG   Methoxych   0.86   0.86   lg/kg   CV   UJ   G04   1   Y   SIW-SS-042PC-0.0-2.0   8081A   REG   A4-DDD   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   A4-DDD   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   A4-DDE   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   A4-DDE   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   A4-DDE   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   A4-DDE   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   A4-DDE   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   A4-DDE   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   a1pha-Chlo   5   1.9   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   a1pha-Chlo   5   1.9   lg/kg   PG   J   G04; H02; 1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   delta-BHC   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Chlordane   110   19   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   lg/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   lg/kg   U   UJ				0										L
SIW-SS-042PC-0-0-20   8081A   REG   Heptachlor   0.86				)										
SIW-SS-042PC-0.0-2.0   8081A   REG   Methowych   0.86				_										
SIW-SS-042PC-0.0-2.0   8081A   REG											, ,			
SIW-SS-043PC-0.0-2.0   8081A   REG														
SIW-SS-043PC-0.0-2.0   8081A   REG														
SIW-SS-043PC-0.0-2.0   8081A   REG   Aldrin   0.91   0.9				4,4'-DDE						UJ				
SIW-SS-043PC-0.0-2.0 8081A REG alpha-BHC 0.91 0.91 ug/kg U U U G04 1 Y siw-SS-043PC-0.0-2.0 8081A REG alpha-Chilo 5 1.9 ug/kg PG J G04; H02; 1 Y siw-SS-043PC-0.0-2.0 8081A REG beta-BHC 0.91 0.91 ug/kg U U U G04 1 Y siw-SS-043PC-0.0-2.0 8081A REG beta-BHC 0.91 0.91 ug/kg U U U G04 1 Y siw-SS-043PC-0.0-2.0 8081A REG delta-BHC 0.91 0.91 ug/kg U U U G04 1 Y siw-SS-043PC-0.0-2.0 8081A REG delta-BHC 0.91 0.91 ug/kg U U U G01; H02 1 Y siw-SS-043PC-0.0-2.0 8081A REG Dieldrin 0.91 0.91 ug/kg U U U G01; H02 1 Y siw-SS-043PC-0.0-2.0 8081A REG Endosulfar 0.91 0.91 ug/kg U U U G01; H02 1 Y siw-SS-043PC-0.0-2.0 8081A REG Endosulfar 0.91 0.91 ug/kg U U U G01; H02 1 Y siw-SS-043PC-0.0-2.0 8081A REG Endosulfar 0.91 0.91 ug/kg U U U G01; H02 1 Y siw-SS-043PC-0.0-2.0 8081A REG Endosulfar 0.91 0.91 ug/kg U U U G01; H02 1 Y siw-SS-043PC-0.0-2.0 8081A REG Endosulfar 0.91 0.91 ug/kg U U U G01; H02 1 Y siw-SS-043PC-0.0-2.0 8081A REG Endosulfar 0.91 0.91 ug/kg U U U G01; H01 1 Y siw-SS-043PC-0.0-2.0 8081A REG Endosulfar 0.91 0.91 ug/kg U U U G01; H01 1 Y siw-SS-043PC-0.0-2.0 8081A REG Endrin deld 3.6 1.9 ug/kg U U U G01; H01 1 Y siw-SS-043PC-0.0-2.0 8081A REG Endrin deld 3.6 1.9 ug/kg U U U G01; H01 1 Y siw-SS-043PC-0.0-2.0 8081A REG Endrin kett 0.91 0.91 ug/kg U U U G01; H01 1 Y siw-SS-043PC-0.0-2.0 8081A REG gamma-Bt 0.91 0.91 ug/kg U U U G04; H02; I Y siw-SS-043PC-0.0-2.0 8081A REG gamma-Bt 0.91 0.91 ug/kg U U U G04 1 Y siw-SS-043PC-0.0-2.0 8081A REG gamma-Ct 6.2 1.9 ug/kg U U U G04 1 Y siw-SS-043PC-0.0-2.0 8081A REG gamma-Ct 6.2 1.9 ug/kg U U U G04 1 Y siw-SS-043PC-0.0-2.0 8081A REG Heptachlor 0.91 0.91 ug/kg U U U G04 1 Y siw-SS-043PC-0.0-2.0 8081A REG Heptachlor 0.91 0.91 ug/kg U U U G04 1 Y siw-SS-043PC-0.0-2.0 8081A REG Heptachlor 0.91 0.91 ug/kg U U U G04 1 Y siw-SS-044PC-0.0-2.0 8081A REG Heptachlor 0.91 0.91 ug/kg U U U G04 1 Y siw-SS-044PC-0.0-2.0 8081A REG Heptachlor 0.91 0.91 ug/kg U U U G04 1 Y siw-SS-044PC-0.0-2.0 8081A REG Heptachlor 0.91 0.91 ug/kg U U U G04 1 Y siw-SS-044PC-0.0-2.0 8081A REG Galaria Bell C 0.9 0.9 ug	SIW-SS-043PC-0.0-2.0	8081A	REG	4,4'-DDT	0.91		0.91	ug/kg	U	UJ	G01; H01	1	Υ	
SIW-SS-043PC-0.0-2.0   8081A   REG   alpha-Chlo   5   1.9   ug/kg   PG   J   G04; H02;   1   V   SIW-SS-043PC-0.0-2.0   8081A   REG   Chlordane   110   19   ug/kg   J   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Chlordane   110   19   ug/kg   J   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Chlordane   110   19   ug/kg   J   U   U   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Chlordane   10.91   0.91   ug/kg   U   U   G01; H02   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Dieldrin   0.91   0.91   ug/kg   U   U   G01; H02   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   U   G01; H02   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   U   G01; H02   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   U   G01; H01   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   U   G01; H01   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin   0.91   0.91   ug/kg   U   U   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin   8.6   1.9   ug/kg   U   U   G04; H01;   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin   8.6   1.9   ug/kg   U   U   G04; H01;   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin   8.6   1.9   ug/kg   U   U   G04; H01;   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin   8.6   1.9   ug/kg   U   U   G04; H01;   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   gamma-Bh   0.91   0.91   ug/kg   U   U   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   gamma-Ch   6.2   1.9   ug/kg   U   U   G04; H01;   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachior   0.91   0.91   ug/kg   U   U   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachior   0.91   0.91   ug/kg   U   U   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachior   0.91   0.91   ug/kg   U   U   G04   1   Y   SIW-SS-044PC-0.0-2.0   8081A   REG   Heptachior   0.91   0.91   ug/kg   U   U   G04   1   Y   SIW-SS-044PC-0.0-2.0   8081A   REG   Heptachior   0.91   0.		8081A		Aldrin			0.91	ug/kg						
SIW-SS-043PC-0.0-2.0   8081A   REG   beta-BHC   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   delta-BHC   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   delta-BHC   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   delta-BHC   0.91   0.91   ug/kg   U   UJ   G01; H02   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   UJ   G01; H02   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   UJ   G01; H02   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   UJ   G01; H01   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   UJ   G01; H01   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin   0.91   0.91   ug/kg   U   UJ   G01; H01   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin   8.6   1.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin   8.6   1.91   ug/kg   U   UJ   G01; H01   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin   8.6   1.91   ug/kg   U   UJ   G01; H01   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   gamma-BH   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   gamma-BH   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   gamma-BH   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachlor   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachlor   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachlor   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachlor   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachlor   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-044PC-0.0-2.0   8081A   REG   Toxaphene   37   37   ug/kg   U   UJ   G04   1   Y   SIW-SS-044PC-0.0-2.0   8081A   REG   At-DDD				_										
SIW-SS-043PC-0.0-2.0   8081A   REG   Chlordane   110   19   19   19   19   19   19   1										ŭ				
SIW-SS-043PC-0.0-2.0   8081A   REG   delta-BHC   0.91   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   UJ   G01; H02   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   UJ   G01; H01   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin   add   3.6   1.9   ug/kg   PG   J   G04; H01;   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin   add   3.6   1.9   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin   add   3.6   1.9   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   gamma-BH   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   gamma-Ch   6.2   1.9   ug/kg   PG   J   G04; H01;   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachlor   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachlor   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachlor   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachlor   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachlor   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Heptachlor   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   Toxaphene   37   37   ug/kg   U   UJ   G04   1   Y   SIW-SS-044PC-0.0-2.0   8081A   REG   A4-DDD   0.9   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-044PC-0.0-2.0   8081A   REG   A4-DDD   0.9   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-044PC-0.0-2.0   8081A   REG   A4-DD									U					
SIW-SS-043PC-0.0-2.0   8081A   REG   Dieldrin   D.91   D.91   D.91   Ug/kg   U   UJ   G01; H02   1   Y   Mark										0				
SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91														
SIW-SS-043PC-0.0-2.0         8081A         REG         Endosulfar         0.91         0.91 ug/kg         U         UJ         G01; H02         1 Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Endosulfar         0.91         0.91 ug/kg         U         UJ         G01; H01         1 Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Endrin         0.91         0.91 ug/kg         U         UJ         G04         1 Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Endrin lade         3.6         1.9 ug/kg         PG         J         G04; H01;         1 Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Endrin ket         0.91         0.91 ug/kg         U         UJ         G04; H01;         1 Y           SIW-SS-043PC-0.0-2.0         8081A         REG         gamma-Bh         0.91         0.91 ug/kg         U         UJ         G04         1 Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Heptachlor         0.91         0.91 ug/kg         U         UJ         G04         1 Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Heptachlor         0.91         0.91 ug/kg         U         UJ														
SIW-SS-043PC-0.0-2.0   8081A   REG   Endosulfar   0.91														
SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin   0.91   0.9							0.91	ug/kg	U					
SIW-SS-043PC-0.0-2.0   8081A   REG   Endrin ketc   0.91   0.91   ug/kg   U   UJ   G01; H01   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   gamma-BH   0.91   0.91   ug/kg   U   UJ   G04   1   Y   SIW-SS-043PC-0.0-2.0   8081A   REG   gamma-Ch   6.2   1.9   ug/kg   PG   J   G04; H02;														
SIW-SS-043PC-0.0-2.0         8081A         REG         gamma-BH         0.91         0.91 lug/kg         U         UJ         G04         1 Y           SIW-SS-043PC-0.0-2.0         8081A         REG         gamma-Ch         6.2         1.9 lug/kg         PG         J         G04; H02;         1 Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Heptachlor         0.91         0.91 lug/kg         U         UJ         G04         1 Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Heptachlor         0.91         0.91 lug/kg         U         UJ         G04         1 Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Methoxych         0.91         0.91 lug/kg         CV         UJ         G04         1 Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Toxaphene         37         37 lug/kg         CV         UJ         G04         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDD         0.9         0.9 lug/kg         U         UJ         G04         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Aldrin         0.9         0.9 lug/kg         U         UJ         G04										-				ļļ
SIW-SS-043PC-0.0-2.0         8081A         REG         gamma-Ch         6.2         1.9         ug/kg         PG         J         G04; H02;         1         Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Heptachlor         0.91         0.91         ug/kg         U         UJ         G04         1         Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Heptachlor         0.91         0.91         ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Methoxych         0.91         0.91         ug/kg         CV         UJ         G04         1         Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Toxaphene         37         37         ug/kg         CV         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDD         0.9         0.9         ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDT         6.3         1.8         ug/kg         U         UJ         G04         1         Y						<b></b>		0 0						
SIW-SS-043PC-0.0-2.0         8081A         REG         Heptachlor         0.91         0.91         ug/kg         U         UJ         G04         1         Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Heptachlor         0.91         0.91         ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Methoxych         0.91         0.91         ug/kg         CV         UJ         G04         1         Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Methoxych         0.91         0.91         ug/kg         CV         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDD         0.9         0.9         ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDD         0.9         0.9         ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Aldrin         0.9         0.9         ug/kg         U         UJ         G04         1         Y     <						-								
SIW-SS-043PC-0.0-2.0         8081A         REG         Heptachlor         0.91         0.91         ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Methoxych         0.91         0.91         ug/kg         CV         UJ         G04         1         Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Toxaphene         37         37         ug/kg         CV         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDD         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDD         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDT         6.3         1.8         ug/kg         U         UJ         G01; H01         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Aldrin         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0														
SIW-SS-043PC-0.0-2.0         8081A         REG         Methoxych         0.91         0.91         ug/kg         CV         UJ         G04         1         Y           SIW-SS-043PC-0.0-2.0         8081A         REG         Toxaphene         37         37 ug/kg         CV         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDD         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDE         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDT         6.3         1.8 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Aldrin         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         alpha-Chlo         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         beta-BHC<														
SIW-SS-043PC-0.0-2.0         8081A         REG         Toxaphene         37         37 lug/kg         CV         UJ         G04         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDD         0.9         0.9 lug/kg         U         UJ         G04         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDE         0.9         0.9 lug/kg         U         UJ         G04         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDT         6.3         1.8 lug/kg         PG         J         G01; H01         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Aldrin         0.9         0.9 lug/kg         U         UJ         G04         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         alpha-BHC         0.9         0.9 lug/kg         U         UJ         G04         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         alpha-Chlo         0.9         0.9 lug/kg         U         UJ         G01; H02         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         beta-BHC         0.9         0.9 lug/kg         U         UJ         G04						<b>†</b>								
SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDD         0.9         0.9 ug/kg         U         UJ         G04         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDE         0.9         0.9 ug/kg         U         UJ         G04         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDT         6.3         1.8 ug/kg         PG         J         G01; H01         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Aldrin         0.9         0.9 ug/kg         U         UJ         G04         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         alpha-BHC         0.9         0.9 ug/kg         U         UJ         G04         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         alpha-Chlo         0.9         0.9 ug/kg         U         UJ         G01; H02         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         alpha-Chlo         0.9         0.9 ug/kg         U         UJ         G04         1 Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Chlordane         9.2         ug/kg         U         UJ         G04         1 Y </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDE         0.9         0.9         ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         4,4'-DDT         6.3         1.8 ug/kg         PG         J         G01; H01         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Aldrin         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         alpha-BHC         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         alpha-Chlo         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         beta-BHC         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Chlordane         9.2         ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         delta-BHC<														
SIW-SS-044PC-0.0-2.0         8081A         REG         Aldrin         0.9         0.9         ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         alpha-BHC         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         alpha-Chlo         0.9         0.9 ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         beta-BHC         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Chlordane         9.2         9.2 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         delta-BHC         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Dieldrin         0.9         0.9 ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG														
SIW-SS-044PC-0.0-2.0         8081A         REG         alpha-BHC         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         alpha-Chlo         0.9         0.9 ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         beta-BHC         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Chlordane         9.2         9.2 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Celta-BHC         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Dieldrin         0.9         0.9 ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.74         1.8 ug/kg         J PG         J         G04; M08         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endos														
SIW-SS-044PC-0.0-2.0         8081A         REG         alpha-Chlo         0.9         0.9         ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         beta-BHC         0.9         0.9         ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Chlordane         9.2         9.2         ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         delta-BHC         0.9         0.9         ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Dieldrin         0.9         0.9         ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.74         1.8         ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.9         0.9         ug/kg         U         UJ         G01; H02         1         Y<								0 0						
SIW-SS-044PC-0.0-2.0         8081A         REG         beta-BHC         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Chlordane         9.2         9.2 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         delta-BHC         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Dieldrin         0.9         0.9 ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.74         1.8 ug/kg         J PG         J         G04; M08         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.9         0.9 ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.9         0.9 ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>														
SIW-SS-044PC-0.0-2.0         8081A         REG         Chlordane         9.2         9.2 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         delta-BHC         0.9         0.9 ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Dieldrin         0.9         0.9 ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.74         1.8 ug/kg         J PG         J G04; M08         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.9         0.9 ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.9         0.9 ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.9         0.9 ug/kg         U         UJ         G01; H01         1         Y														
SIW-SS-044PC-0.0-2.0         8081A         REG         delta-BHC         0.9         0.9         ug/kg         U         UJ         G04         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Dieldrin         0.9         0.9         ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.74         1.8         ug/kg         J PG         J         G04; M08         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.9         ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.9         0.9         ug/kg         U         UJ         G01; H02         1         Y														
SIW-SS-044PC-0.0-2.0         8081A         REG         Dieldrin         0.9         0.9 ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.74         1.8 ug/kg         J PG         J         G04; M08         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.9         0.9 ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.9         0.9 ug/kg         U         UJ         G01; H01         1         Y														
SIW-SS-044PC-0.0-2.0       8081A       REG       Endosulfar       0.74       1.8 lug/kg       J PG       J       G04; M08       1 Y         SIW-SS-044PC-0.0-2.0       8081A       REG       Endosulfar       0.9       0.9 lug/kg       U       UJ       G01; H02       1 Y         SIW-SS-044PC-0.0-2.0       8081A       REG       Endosulfar       0.9       0.9 lug/kg       U       UJ       G01; H01       1 Y														
SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.9         0.9 ug/kg         U         UJ         G01; H02         1         Y           SIW-SS-044PC-0.0-2.0         8081A         REG         Endosulfar         0.9         0.9 ug/kg         U         UJ         G01; H01         1         Y														
	SIW-SS-044PC-0.0-2.0				0.9							1	Υ	
SIW-SS-044PC-0.0-2.0  8081A   REG   Endrin   0.9   0.9   U   UJ   G04   1   Y														
	SIW-SS-044PC-0.0-2.0	8081A	REG	Endrin	0.9		0.9	ug/kg	ĮU	UJ	G04	1	Υ	

Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
SIW-SS-044PC-0.0-2.0		REG	, ,					PG	J				Tillered
SIW-SS-044PC-0.0-2.0	8081A		Endrin alde				ug/kg	U	UJ	G04; H01;		Y	
	8081A	REG	Endrin keto				ug/kg			G01; H01		Y	
SIW-SS-044PC-0.0-2.0	8081A	REG	gamma-Bl				ug/kg	U	UJ	G04		Υ	
SIW-SS-044PC-0.0-2.0	8081A	REG	gamma-Ch	0.9			ug/kg	U	UJ	G01; H02		Y	
SIW-SS-044PC-0.0-2.0	8081A	REG	Heptachlor				ug/kg	PG	J	G04; M08		Υ	
SIW-SS-044PC-0.0-2.0	8081A	REG	Heptachlor				ug/kg	U	UJ	G01; H02		Υ	
SIW-SS-044PC-0.0-2.0	8081A	REG	Methoxych				ug/kg	CV	UJ	G04		Υ	
SIW-SS-044PC-0.0-2.0	8081A	REG	Toxaphene				ug/kg	CV	UJ	G04		Υ	
SIW-SS-CDUP-001	8081A	REG	4,4'-DDD	0.9			ug/kg	U	UJ	G04		Υ	
SIW-SS-CDUP-001	8081A	REG	4,4'-DDE	0.9			ug/kg	U	UJ	G04	1	Υ	
SIW-SS-CDUP-001	8081A	REG	4,4'-DDT	4.7		1.8	ug/kg	PG CV	J	G04; H01;	1	Υ	
SIW-SS-CDUP-001	8081A	REG	Aldrin	0.9		0.9	ug/kg	U	UJ	G04	1	Υ	
SIW-SS-CDUP-001	8081A	REG	alpha-BHC	0.9		0.9	ug/kg	U	UJ	G04	1	Υ	
SIW-SS-CDUP-001	8081A	REG	alpha-Chlo	0.9		0.9	ug/kg	U	UJ	G01; H02	1	Υ	
SIW-SS-CDUP-001	8081A	REG	beta-BHC	0.9			ug/kg	U	UJ	G04	1	Υ	
SIW-SS-CDUP-001	8081A	REG	Chlordane	9.2			ug/kg	Ū	UJ	G04		Y	
SIW-SS-CDUP-001	8081A	REG	delta-BHC	0.9			ug/kg	Ü	UJ	G04		Ϋ́	
SIW-SS-CDUP-001	8081A	REG	Dieldrin	2.5			ug/kg	PG	J	G01; H02		Y	
SIW-SS-CDUP-001	8081A	REG	Endosulfar				ug/kg	U	UJ	G04		Y	
SIW-SS-CDUP-001	8081A	REG	Endosulfar				ug/kg ug/kg	U	UJ	G01; H02		Y	
SIW-SS-CDUP-001	8081A	REG	Endosulfar				ug/kg ug/kg	U	UJ	G01; H02		Y	
SIW-SS-CDUP-001	8081A	REG	Endosuliar	0.9				U	UJ	G01; H01		Y	
					<del>                                     </del>		ug/kg		J				
SIW-SS-CDUP-001	8081A	REG	Endrin alde		1		ug/kg	PG	-	G04; H01;		Y	
SIW-SS-CDUP-001	8081A	REG	Endrin keto				ug/kg	U	UJ	G01; H01		Y	
SIW-SS-CDUP-001	8081A	REG	gamma-BH				ug/kg	U	UJ	G04		Y	
SIW-SS-CDUP-001	8081A	REG	gamma-Ch				ug/kg	U	UJ	G01; H02	1		
SIW-SS-CDUP-001	8081A	REG	Heptachlor				ug/kg	PG	J	G04; M08		Υ	
SIW-SS-CDUP-001	8081A	REG	Heptachlor				ug/kg	U	UJ	G01; H02		Υ	
SIW-SS-CDUP-001	8081A	REG	Methoxych	0.9			ug/kg	CV	UJ	G04		Υ	
SIW-SS-CDUP-001	8081A	REG	Toxaphene	36		36	ug/kg	CV	UJ	G04	1	Υ	
LABQC	8081A	SUR	Surrogate-	6.9			ug/kg				1	Υ	
LABQC	8081A	SUR	Surrogate-	6.62			ug/kg				1	Υ	
LABQC	8081A	SUR	Surrogate-	5.89			ug/kg				1	Υ	
LABQC	8081A	SUR	Surrogate-	5.97			ug/kg					Y	
LABQC	8081A	SUR	Surrogate-	5.8			ug/kg					Y	
LABQC	8081A	SUR	Surrogate-	5.65			ug/kg					Y	
SIW-SS-041PC-0.0-2.0	8081A	SUR	Surrogate-	32			ug/kg ug/kg	*			1.64	-	
SIW-SS-041PC-0.0-2.0	8081A	SUR	Surrogate-	10			ug/kg ug/kg				1.64		
SIW-SS-042PC-0.0-2.0	8081A	SUR	Surrogate-	0				*				Y	
SIW-SS-042PC-0.0-2.0	8081A	SUR		8.4			ug/kg				1		
			Surrogate-				ug/kg	*					
SIW-SS-043PC-0.0-2.0	8081A	SUR	Surrogate-	0			ug/kg	*				Y	
SIW-SS-043PC-0.0-2.0	8081A	SUR	Surrogate-	0			ug/kg	-				Y	
SIW-SS-043PC-0.0-2.0	8081A	SUR	Surrogate-	6.1			ug/kg					Υ	
SIW-SS-043PC-0.0-2.0	8081A	SUR	Surrogate-	5.41			ug/kg					Υ	
SIW-SS-044PC-0.0-2.0	8081A	SUR	Surrogate-	0			ug/kg	*				Υ	
SIW-SS-044PC-0.0-2.0	8081A	SUR	Surrogate-	6.9			ug/kg				1	Υ	
SIW-SS-CDUP-001	8081A	SUR	Surrogate-	0			ug/kg	*			1	Υ	
SIW-SS-CDUP-001	8081A	SUR	Surrogate-	6.2			ug/kg				1	Υ	
LABQC	8082	BLK	Aroclor 10	8		8	ug/kg	U			1	Υ	
LABQC	8082	BLK	Aroclor 12	8		8	ug/kg	U			1	Υ	
LABQC	8082	BLK	Aroclor 12	8			ug/kg	U			1	Υ	
LABQC	8082		Aroclor 12				ug/kg	Ū				Y	
LABQC	8082		Aroclor 12				ug/kg	U				Y	
LABQC	8082		Aroclor 12				ug/kg ug/kg	U				Y	
LABQC	8082		Aroclor 12				ug/kg ug/kg	U				Y	
LABQC	8082		Aroclor 12				wg/kg %					Y	
LABQC	8082		Aroclor 12				%	CV				Y	
SIW-SS-043PC-0.0-2.0	8082		Aroclor 120				%	υv				Y	
SIW-SS-043PC-0.0-2.0							%	o C\/		-		Y	
	8082		Aroclor 12			1		a CV					
SIW-SS-043PC-0.0-2.0	8082		Aroclor 10				%	a C\/				Y	
SIW-SS-043PC-0.0-2.0	8082		Aroclor 12			ļ	%	a CV		1100 000		Y	
SIW-SS-041PC-0.0-2.0	8082		Aroclor 10				ug/kg	U	U	H02,G02	1.66		
SIW-SS-041PC-0.0-2.0	8082		Aroclor 12				ug/kg	U	U	G02	1.66		
SIW-SS-041PC-0.0-2.0	8082		Aroclor 12				ug/kg	-	U	G02	1.66		
SIW-SS-041PC-0.0-2.0	8082		Aroclor 12				ug/kg	U	U	G02	1.66		
SIW-SS-041PC-0.0-2.0	8082		Aroclor 124				ug/kg	U	U	G02	1.66		
SIW-SS-041PC-0.0-2.0	8082		Aroclor 12			15	ug/kg	U	U	G02	1.66	Υ	
SIW-SS-041PC-0.0-2.0	8082	REG	Aroclor 120	15			ug/kg	U	UJ	H03; C05	1.66	Υ	
SIW-SS-042PC-0.0-2.0	8082		Aroclor 10				ug/kg	U	U	H02,G02		Υ	
SIW-SS-042PC-0.0-2.0	8082		Aroclor 12				ug/kg	U	U	G02		Y	
SIW-SS-042PC-0.0-2.0	8082		Aroclor 12:				ug/kg	U	U	G02		Y	
SIW-SS-042PC-0.0-2.0	8082		Aroclor 124				ug/kg	U	U	G02		Y	
SIW-SS-042PC-0.0-2.0	8082		Aroclor 124				ug/kg ug/kg		U	G02		Y	
SIW-SS-042PC-0.0-2.0	8082		Aroclor 12				ug/kg ug/kg		U	G02		Y	
SIW-SS-042PC-0.0-2.0	8082		Aroclor 12				ug/kg ug/kg		UJ	H03; C05		Y	
								U	U				
SIW-SS-043PC-0.0-2.0	8082		Aroclor 10		-		ug/kg		U	G02		Y	
SIW-SS-043PC-0.0-2.0	8082		Aroclor 12				ug/kg		_	G02		Y	
SIW-SS-043PC-0.0-2.0	8082	KEG	Aroclor 12	8.7		8.7	ug/kg	U	U	G02	1 1	Υ	

Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
SIW-SS-043PC-0.0-2.0	8082		Aroclor 12				ug/kg	U	U	G02		Y	
SIW-SS-043PC-0.0-2.0		REG	Aroclor 12				ug/kg	U	U	G02		Y	
SIW-SS-043PC-0.0-2.0	8082	REG	Aroclor 12	8.7		8.7	ug/kg	U	U	G02	1	Υ	
SIW-SS-043PC-0.0-2.0		REG	Aroclor 12				ug/kg	CV	J	H03; C05		Υ	
SIW-SS-044PC-0.0-2.0	8082		Aroclor 10				ug/kg	-	U	H02,G02	1.3		
SIW-SS-044PC-0.0-2.0 SIW-SS-044PC-0.0-2.0	8082 8082		Aroclor 12: Aroclor 12:				ug/kg ug/kg	U	U	G02 G02	1.3 1.3		
SIW-SS-044PC-0.0-2.0		REG	Aroclor 12				ug/kg ug/kg	U	U	G02	1.3		
SIW-SS-044PC-0.0-2.0		REG	Aroclor 12				ug/kg	U	U	G02	1.3		
SIW-SS-044PC-0.0-2.0		REG	Aroclor 12	11			ug/kg	U	U	G02	1.3	Υ	
SIW-SS-044PC-0.0-2.0		REG	Aroclor 12				ug/kg	CV	J	H03; C05;	1.3		
SIW-SS-CDUP-001	8082		Aroclor 10				ug/kg	U	U	H02,G02		Υ	
SIW-SS-CDUP-001	8082	REG	Aroclor 12:				ug/kg	U	U	G02 G02		Y Y	
SIW-SS-CDUP-001 SIW-SS-CDUP-001		REG	Aroclor 12 Aroclor 12				ug/kg ug/kg	U	U	G02 G02		Y	
SIW-SS-CDUP-001	8082		Aroclor 12				ug/kg ug/kg		U	G02		Y	
SIW-SS-CDUP-001		REG	Aroclor 12		•		ug/kg	Ü	U	G02		Y	
SIW-SS-CDUP-001	8082	REG	Aroclor 12	37		36	ug/kg	CV	J	H03; C05;	1	Υ	
LABQC	8082		Surrogate-				ug/kg	CV				Υ	
LABQC	8082		Surrogate-	7.03			ug/kg	CV				Y	
SIW-SS-041PC-0.0-2.0 SIW-SS-042PC-0.0-2.0	8082 8082		Surrogate-	8.4			ug/kg	CV			1.66	Y	
SIW-SS-042PC-0.0-2.0	8082		Surrogate- Surrogate-	6.41		<del>                                     </del>	ug/kg ug/kg	CV				Y	
SIW-SS-043PC-0.0-2.0	8082		Surrogate-	6.9			ug/kg ug/kg	CV				Y	
SIW-SS-043PC-0.0-2.0	8082	SUR	Surrogate-	6.96	i		ug/kg	CV			1	Υ	
SIW-SS-044PC-0.0-2.0	8082		Surrogate-	7.2			ug/kg	CV			1.3		
SIW-SS-CDUP-001	8082		Surrogate-	7.3			ug/kg	CV				Υ	
LABQC	8151A	BLK	2,4,5-T	4			ug/kg	U				Y	
LABQC LABQC	8151A 8151A	BLK BLK	2,4,5-TP (\$ 2,4-D	40			ug/kg ug/kg	U				Y Y	
LABQC	8151A	BLK	2,4-DB	40			ug/kg ug/kg	U				Y	
LABQC	8151A	LCD	2,4,5-T	16		10	%					Y	
LABQC	8151A	LCD	2,4,5-TP (				%	р				Υ	
LABQC	8151A	LCD	2,4-D	22			%	р				Υ	
LABQC	8151A	LCD	2,4-DB	35			%	р				Υ	
LABQC	8151A	LCS	2,4,5-T	84			%					Y	
LABQC LABQC	8151A 8151A	LCS LCS	2,4,5-TP (\$ 2.4-D	66 82			%					Y Y	
LABQC	8151A	LCS	2,4-DB	65			%					Y	
SIW-SS-043PC-0.0-2.0	8151A	MS	2,4,5-T	75			%				1.56		
SIW-SS-043PC-0.0-2.0	8151A	MS	2,4,5-TP (S	51			%				1.56	Υ	
SIW-SS-043PC-0.0-2.0	8151A	MS	2,4-D	71			%				1.56		
SIW-SS-043PC-0.0-2.0	8151A	MS	2,4-DB	55		7.0	%			110.4	1.56		
SIW-SS-041PC-0.0-2.0 SIW-SS-041PC-0.0-2.0	8151A 8151A	REG REG	2,4,5-T 2,4,5-TP (\$	7.6			ug/kg ug/kg	U	UJ	H04 H04	1.66 1.66		
SIW-SS-041PC-0.0-2.0	8151A	REG	2,4,5-1P (3	7.6			ug/kg ug/kg	U	UJ	H04	1.66		
SIW-SS-041PC-0.0-2.0	8151A	REG	2,4-DB	76			ug/kg ug/kg	U	UJ	H04	1.66		
SIW-SS-042PC-0.0-2.0	8151A	REG	2,4,5-T	4.1			ug/kg		U	106		Υ	
SIW-SS-042PC-0.0-2.0	8151A	REG	2,4,5-TP (	4.1		4.1	ug/kg	U	UJ	H04	1	Υ	
SIW-SS-042PC-0.0-2.0	8151A	REG	2,4-D	41			ug/kg	U	UJ	H04		Υ	
SIW-SS-042PC-0.0-2.0	8151A	REG	2,4-DB	41			ug/kg	U	UJ	H04		Y	
	8151A 8151A	REG REG	2,4,5-T 2,4,5-TP (\$	6.8			ug/kg ug/kg	U	U UJ	I06 H04	1.56 1.56		
SIW-SS-043PC-0.0-2.0			2,4,5-1P (3	68			ug/kg ug/kg		UJ	H04	1.56		
	8151A	REG	2,4-DB	68			ug/kg ug/kg	U	UJ	H04	1.56		
SIW-SS-044PC-0.0-2.0	8151A	REG	2,4,5-T	7.2		7.2	ug/kg	U	U	106	1.66	Υ	
	8151A	REG	2,4,5-TP (S				ug/kg	U	UJ	H04	1.66		
	8151A	REG	2,4-D	72			ug/kg	U	UJ	H04	1.66		
SIW-SS-044PC-0.0-2.0 SIW-SS-CDUP-001	8151A 8151A	REG REG	2,4-DB 2,4,5-T	72 5.3			ug/kg ug/kg	U	UJ U	H04 I06	1.66 1.21		<b> </b>
SIW-SS-CDUP-001	8151A 8151A	REG	2,4,5-1 2,4,5-TP (\$				ug/kg ug/kg	U	UJ	H04	1.21		
SIW-SS-CDUP-001	8151A	REG	2,4,0-11 (c	53			ug/kg ug/kg	U	UJ	H04	1.21		
SIW-SS-CDUP-001	8151A	REG	2,4-DB	53			ug/kg	U	UJ	H04	1.21		
LABQC	8151A	SUR	Surrogate-				ug/kg					Υ	
LABQC	8151A	SUR	Surrogate-				ug/kg					Y	
LABQC SIW-SS-041PC-0.0-2.0	8151A	SUR SUR	Surrogate-			<del>                                     </del>	ug/kg					Y	
	8151A 8151A	SUR	Surrogate- Surrogate-			-	ug/kg ug/kg				1.66	Y	<b> </b>
	8151A	SUR	Surrogate-				ug/kg ug/kg				1.56		
	8151A	SUR	Surrogate-				ug/kg				1.56		
	8151A	SUR	Surrogate-	360			ug/kg				1.66	Υ	
SIW-SS-CDUP-001	8151A	SUR	Surrogate-				ug/kg				1.21		
LABOC	8260B	BLK	1,1,1-Trich				ug/kg	U	U			Y	
LABQC LABQC	8260B	BLK	1,1,2,2-Tet				ug/kg	U	U			Y	
LABQC	8260B 8260B	BLK BLK	1,1,2-Trich				ug/kg ug/kg	U	U			Y Y	
LABQC	8260B	BLK	1,1-Dichlor				ug/kg ug/kg		U			Y	
LABQC	8260B	BLK	1,2-Dichlor				ug/kg	U	U			Y	
													_

Camania Id	Made a	Т	A I 4 -	D I4	F	DI	11-4-	1.0	VO.	DC	Diletian	1110	T:14 1
_	Method	Туре		Result	Error			LQ		RC	Dilution	Use?	Filtered
	8260B	BLK	1,2-Dichlor	5			ug/kg	U	U			Y	
	8260B	BLK	1,2-Dichlor	10				U	U			Y	
	8260B	BLK	1,2-Dichlor	5			ug/kg	U	U			Υ	
	8260B	BLK	1,3-Dichlor	5			99	U	U			Y	
	8260B	BLK BLK	1,4-Dichlor 2-Butanone	5 20			ug/kg ug/kg	U	U			Y	
	8260B							U	-				
	8260B	BLK	2-Hexanon	20			ug/kg	U	U			Y	
	8260B 8260B	BLK BLK	4-Methyl-2	20 20			ug/kg	U	U			Y	
	8260B	BLK	Acetone Benzene	5			ug/kg ug/kg	U	U			Y	
	8260B	BLK	Bromodich	5		5		U	U			Y	
	8260B	BLK	Bromoform	5		5		U	U			Y	
	8260B	BLK	Bromometh	10			ug/kg ug/kg	U	U			Y	
	8260B	BLK	Carbon dis	5				U	U			Y	
	8260B	BLK	Carbon tetr	5			ug/kg ug/kg	U	U			Y	
	8260B	BLK	Chlorobenz	5			ug/kg ug/kg	U	U			Y	
	8260B	BLK	Chloroetha	10			ug/kg	U	U			Y	
	8260B	BLK	Chloroform	5				U	U			Y	
	8260B	BLK	Chlorometh	10			ug/kg	U	U			Y	
	8260B	BLK	cis-1,3-Dicl	5				U	U			Υ	
LABQC	8260B	BLK	Dibromoch	5			ug/kg	U	U			Υ	
	8260B	BLK	Ethylbenze	5			ug/kg	U	U			Υ	
	8260B	BLK	Methylene	5				U	U			Υ	
LABQC	8260B	BLK	Styrene	5		5	ug/kg	U	U		1	Υ	
LABQC	8260B	BLK	Tetrachlord	5			99	U	U			Υ	
	8260B	BLK	Toluene	5		5	ug/kg	U	U			Υ	
	8260B	BLK	trans-1,3-D	5				U	U			Υ	
	8260B	BLK	Trichloroet	5		5	ug/kg	U	U			Υ	
	8260B	BLK	Vinyl chlori	10		10	ug/kg	U	U			Υ	
	8260B	BLK	Xylenes (to	10			ug/kg	U	U			Υ	
	8260B	LCD	1,1,1-Trich	4.9			%					Υ	
	8260B	LCD	1,1,2,2-Tet	0.41			%					Υ	
	8260B	LCD	1,1,2-Trich	4.9			%					Υ	
	8260B	LCD	1,1-Dichlor	6			%					Υ	
	8260B	LCD	1,1-Dichlor	0.6			%					Υ	
	8260B	LCD	1,2-Dichlor	4.8			%					Υ	
	8260B	LCD	1,2-Dichlor	6.8			%					Υ	
	8260B	LCD	1,2-Dichlor	1.1			%					Υ	
	8260B	LCD	1,2-Dichlor	4.6			%					Y	
	8260B	LCD	1,3-Dichlor	3.4			%					Υ	
	8260B	LCD	1,4-Dichlor	2.2			%					Y	
	8260B	LCD	2-Butanone	6 7.7			%					Y	
	8260B	LCD LCD	2-Hexanon	7.7			<u>%</u>					Y	
	8260B	LCD	4-Methyl-2-	5.2			<u>%</u> %						
	8260B 8260B	LCD	Acetone	12 4.5			<u>%</u> %					Y	
	8260B	LCD	Benzene Bromodich	3.9			<u>%</u> %					Y	
	8260B	LCD	Bromodich Bromoform	3.9			<u>%</u> %					Y	
	8260B	LCD	Bromometh	8.8			<del>%</del>					Y	
	8260B	LCD	Carbon dis	1.7			<del>%</del>					Y	
	8260B	LCD	Carbon teti	5.3			<del>%</del>					Y	
	8260B	LCD	Chlorobenz	4.5			<del>%</del>					Y	
	8260B	LCD	Chloroetha	14			%					Y	
	8260B	LCD	Chloroform	6.4			%					Y	
	8260B	LCD	Chlorometh	4.8			%					Y	
	8260B	LCD	cis-1,3-Dicl	4.1			%					Y	
	8260B	LCD	Dibromoch	0.16			%					Y	
	8260B	LCD	Ethylbenze	5.9			%					Y	
	8260B	LCD	Methylene	4.8			%					Y	
	8260B	LCD	Styrene	5.4			%					Y	
	8260B	LCD	Tetrachlord	1.5			%					Y	
	8260B	LCD	Toluene	5.1			%					Y	
	8260B	LCD	trans-1,3-D	1.6			%					Υ	
	8260B	LCD	Trichloroetl	0.14			%				1	Υ	
LABQC	8260B	LCD	Vinyl chlori	11			%				1	Υ	
	8260B	LCS	1,1,1-Trich	97			%				1	Υ	
	8260B	LCS	1,1,2,2-Tet	101			%					Υ	
	8260B	LCS	1,1,2-Trich	98			%					Υ	
	8260B	LCS	1,1-Dichlor	98			%					Υ	
	8260B	LCS	1,1-Dichlor	99			%					Υ	
	8260B	LCS	1,2-Dichlor	96			%					Υ	
	8260B	LCS	1,2-Dichlor	98			%					Υ	
	8260B	LCS	1,2-Dichlor	98			%					Υ	
	8260B	LCS	1,2-Dichlor	96			%					Υ	
	8260B	LCS	1,3-Dichlor	98			%					Υ	
	8260B	LCS	1,4-Dichlor	96			%					Υ	
	8260B	LCS	2-Butanone	98			%					Υ	
LABQC	8260B	LCS	2-Hexanon	96		1	%	l			1	Υ	1

Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
LABQC	8260B	LCS	4-Methyl-2-	96			%	- 4	. ~			Y	i iitorou
	8260B	LCS	Acetone	82			%					Y	
LABQC	8260B	LCS	Benzene	97			%					Y	
LABQC	8260B	LCS	Bromodich	96			%					Y	
	8260B	LCS	Bromoform	101			%					Y	
LABQC	8260B	LCS	Bromometh	93			%					Y	
	8260B	LCS	Carbon dis	96			%					Y	
LABQC	8260B	LCS	Carbon tetr	92			%					Y	
	8260B	LCS	Chlorobenz	97			%					Y	
LABQC	8260B	LCS	Chloroetha	94			%					Υ	
LABQC	8260B	LCS	Chloroform	97			%					Υ	
LABQC	8260B	LCS	Chlorometh	107			%					Υ	
LABQC	8260B	LCS	cis-1,3-Dic	105			%				1	Υ	
LABQC	8260B	LCS	Dibromoch	96			%				1	Υ	
LABQC	8260B	LCS	Ethylbenze	96			%				1	Υ	
LABQC	8260B	LCS	Methylene	93			%				1	Υ	
LABQC	8260B	LCS	Styrene	103			%					Υ	
	8260B	LCS	Tetrachloro	95			%					Υ	
	8260B	LCS	Toluene	94			%					Υ	
LABQC	8260B	LCS	trans-1,3-D	105			%					Υ	
LABQC	8260B	LCS	Trichloroet	98			%					Υ	
LABQC	8260B	LCS	Vinyl chlori	101			%					Υ	
	8260B	REA	1,1,1-Trich	5.7			, ,	U		106		Υ	
	8260B	REA	1,1,2,2-Tet	5.7			ug/kg	U	UJ	I06;G01		Υ	
	8260B	REA	1,1,2-Trich	5.7			-99	U		106		Υ	
	8260B	REA	1,1-Dichlor	5.7			ug/kg	U		106		Υ	
	8260B	REA	1,1-Dichlor	5.7			ug/kg	U	UJ	106		Υ	
	8260B	REA	1,2-Dichlor	5.7			ug/kg	U	UJ	I06;G01		Υ	
	8260B	REA	1,2-Dichlor	5.7			ug/kg	U		106		Y	
	8260B	REA	1,2-Dichlor	11			99	U		106		Υ	
	8260B	REA	1,2-Dichlor	5.7			ug/kg	U	UJ	106		Υ	
	8260B	REA	1,3-Dichlor	5.7			99	U		106;G01		Y	
	8260B	REA	1,4-Dichlor	5.7			ug/kg	U -	UJ	106;G01		Y	
	8260B	REA	2-Butanone	10			ug/kg	J U		106		Y	
	8260B	REA	2-Hexanon	23 23			-9.1.9	U	UJ	106		Y	
	8260B	REA	4-Methyl-2-	27			ug/kg	U		106			
	8260B 8260B	REA REA	Acetone Benzene	5.7			ug/kg ug/kg	U	-	106 106		Y	
	8260B	REA	Bromodich	5.7				U		106		Y	
	8260B	REA	Bromoform	5.7			ug/kg ug/kg	U		106		Y	
	8260B	REA	Bromometh	11				U		106		Y	
	8260B	REA	Carbon dis	1.6			ug/kg ug/kg	-	J	106		Y	
	8260B	REA	Carbon tetr	5.7			ug/kg ug/kg	U	UJ	106		Y	
	8260B	REA	Chlorobenz	5.7			ug/kg	U	UJ	106		Y	
	8260B	REA	Chloroetha	11			ug/kg	U	UJ	106		Y	
	8260B	REA	Chloroform	5.7				U	UJ	106		Y	
	8260B	REA	Chlorometh	11			ug/kg	U		106		Y	
	8260B	REA	cis-1,3-Dic	5.7				U		106		Y	
	8260B	REA	Dibromoch	5.7			ug/kg	U		106		Y	
	8260B	REA	Ethylbenze	5.7				U		106		Y	
	8260B	REA	Methylene	5.7			ug/kg	U		106		Y	
	8260B	REA	Styrene	5.7			ug/kg	U		106		Y	
	8260B	REA	Tetrachloro	5.7			ug/kg	U	UJ	106		Y	
		REA	Toluene	5.7				U		106		Y	
	8260B	REA	trans-1,3-D	5.7			ug/kg	U		106		Y	
	8260B	REA	Trichloroet	5.7			ug/kg	Ü		106		Y	
	8260B	REA	Vinyl chlori	11				U	UJ	106	1	Υ	
	8260B	REA	Xylenes (to	11				U	UJ	106	1	Υ	
	8260B	REA	1,1,1-Trich	5.2			5	U		106		Υ	
	8260B	REA	1,1,2,2-Tet	5.2			ug/kg	U	UJ	I06; G01		Υ	
	8260B	REA	1,1,2-Trich	5.2		5.2	ug/kg	U	UJ	106	1	Υ	
	8260B	REA	1,1-Dichlor	5.2			ug/kg	U		106		Υ	
	8260B	REA	1,1-Dichlor	5.2			ug/kg	U		106		Υ	
	8260B	REA	1,2-Dichlor	5.2			ug, ng	U		I06; G01		Υ	
	8260B	REA	1,2-Dichlor	5.2			,	U		106		Υ	
	8260B	REA	1,2-Dichlor	10			-99	U		106		Υ	
	8260B	REA	1,2-Dichlor	5.2			ug/kg	U		106		Υ	
	8260B	REA	1,3-Dichlor	5.2			, ,	U		I06; G01		Υ	
	8260B	REA	1,4-Dichlor	5.2			ug/kg	U	UJ	I06; G01		Υ	
	8260B	REA	2-Butanone	21			ug/kg	U	UJ	106		Υ	
	8260B	REA	2-Hexanon	21			5	U		106		Υ	
	8260B	REA	4-Methyl-2	21			ug/kg	U		106		Y	
	8260B	REA	Acetone	21			5	U		106		Υ	
	8260B	REA	Benzene	5.2			5	U		106		Υ	
	8260B	REA	Bromodich	5.2			99	U		106		Υ	
	8260B	REA	Bromoform	5.2			ug/kg	U		I06; G01		Y	
	8260B	REA	Bromometh	10			, ,	U		106		Y	
SIW-SS-042PC-0.0-2.0	8260B	REA	Carbon dis	5.2		5.2	ug/kg	U	UJ	106	1	Υ	

Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
SIW-SS-042PC-0.0-2.0	8260B	REA	Carbon tet		LITOI			U	UJ	106		Y	riitereu
		REA		5.2			ug/kg	U	UJ			Y	
SIW-SS-042PC-0.0-2.0	8260B		Chloroben:				ug/kg			I06; G01			<del></del>
SIW-SS-042PC-0.0-2.0	8260B	REA	Chloroetha				ug/kg	U	UJ	106		Υ	<b> </b>
SIW-SS-042PC-0.0-2.0	8260B	REA	Chloroform	5.2			ug/kg	U	UJ	106		Υ	<b> </b>
SIW-SS-042PC-0.0-2.0	8260B	REA	Chloromet	10			ug/kg	U	UJ	106		Υ	
SIW-SS-042PC-0.0-2.0	8260B	REA	cis-1,3-Dic	5.2			ug/kg	U	UJ	106		Υ	
SIW-SS-042PC-0.0-2.0	8260B	REA	Dibromoch	5.2			ug/kg	U	UJ	I06; G01		Υ	l .
SIW-SS-042PC-0.0-2.0	8260B	REA	Ethylbenze				ug/kg	J	J	106; G01		Υ	
SIW-SS-042PC-0.0-2.0	8260B	REA	Methylene	1.5			ug/kg	J	J	106		Υ	
SIW-SS-042PC-0.0-2.0	8260B	REA	Styrene	5.2		5.2	ug/kg	U	UJ	I06; G01	1	Υ	i
SIW-SS-042PC-0.0-2.0	8260B	REA	Tetrachloro	5.2		5.2	ug/kg	U	UJ	106; G01	1	Υ	ł
SIW-SS-042PC-0.0-2.0	8260B	REA	Toluene	0.86		5.2	ug/kg	J	J	106	1	Υ	
SIW-SS-042PC-0.0-2.0	8260B	REA	trans-1,3-D	5.2		5.2	ug/kg	U	UJ	106	1	Υ	
SIW-SS-042PC-0.0-2.0	8260B	REA	Trichloroet	5.2		5.2	ug/kg	U	UJ	106	1	Υ	
SIW-SS-042PC-0.0-2.0	8260B	REA	Vinyl chlori	10		10	ug/kg	U	UJ	106	1	Υ	
SIW-SS-042PC-0.0-2.0	8260B	REA	Xylenes (to	2.3		10	ug/kg	J	J	I06; G01	1	Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	1,1,1-Trich	5.5			ug/kg	U	UJ	I06; G01		Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	1,1,2,2-Tet	5.5			ug/kg	U	UJ	I06; G01	1	Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	1,1,2-Trich	5.5			ug/kg	U	UJ	I06; G01		Y	
SIW-SS-043PC-0.0-2.0	8260B	REA	1,1-Dichlor				ug/kg	U	UJ	106; G01		Y	
SIW-SS-043PC-0.0-2.0	8260B	REA	1,1-Dichlor	5.5			ug/kg	U	UJ	106; G01		Y	<del>                                     </del>
SIW-SS-043PC-0.0-2.0	8260B	REA	1,2-Dichlor				ug/kg ug/kg	U	UJ	106; G01		Y	
SIW-SS-043PC-0.0-2.0	8260B	REA	1,2-Dichlor				ug/kg ug/kg	U	UJ	106; G01		Y	
SIW-SS-043PC-0.0-2.0	8260B	REA	1,2-Dichlor	11			ug/kg ug/kg	U	UJ	106; G01		Y	$\vdash$
SIW-SS-043PC-0.0-2.0 SIW-SS-043PC-0.0-2.0	8260B 8260B	REA	,		-		ug/kg ug/kg	U	UJ	106; G01 106; G01		Y	<del></del>
SIW-SS-043PC-0.0-2.0			1,2-Dichlor		-		ug/kg ug/kg		J				
	8260B	REA	1,3-Dichlor				0	J	J	106; G01		Y	$\vdash$
SIW-SS-043PC-0.0-2.0	8260B	REA	1,4-Dichlor				ug/kg	J	-	106; G01		Y	<del></del>
SIW-SS-043PC-0.0-2.0	8260B	REA	2-Butanone				ug/kg	U	UJ	I06; G01		Y	<b></b>
SIW-SS-043PC-0.0-2.0	8260B	REA	2-Hexanon	22				U	UJ	106; G01		Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	4-Methyl-2	22			ug/kg	U	UJ	I06; G01		Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	Acetone	14			ug/kg	J	J	106; G01		Υ	l .
SIW-SS-043PC-0.0-2.0	8260B	REA	Benzene	5.5			ug/kg		UJ	106; G01		Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	Bromodich	5.5		5.5	ug/kg	U	UJ	106; G01	1	Υ	ł
SIW-SS-043PC-0.0-2.0	8260B	REA	Bromoform	5.5		5.5	ug/kg	U	UJ	106; G01	1	Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	Bromomet	11		11	ug/kg	U	UJ	106; G01	1	Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	Carbon dis	5.5		5.5	ug/kg	U	UJ	I06; G01	1	Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	Carbon tet	5.5		5.5	ug/kg	U	UJ	I06; G01	1	Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	Chlorobena	5.5			ug/kg	U	UJ	106; G01	1	Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	Chloroetha				ug/kg	U	UJ	I06; G01	1	Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	Chloroform	5.5			ug/kg	U	UJ	I06; G01	1	Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	Chloromet	11			ug/kg	Ū	UJ	I06; G01		Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	cis-1,3-Dic	5.5			ug/kg	Ü	UJ	I06; G01		Ϋ́	
SIW-SS-043PC-0.0-2.0	8260B	REA	Dibromoch	5.5			ug/kg	U	UJ	106; G01		Y	
SIW-SS-043PC-0.0-2.0	8260B	REA	Ethylbenze				ug/kg ug/kg	U	UJ	106; G01		Y	
SIW-SS-043PC-0.0-2.0	8260B	REA	Methylene	1.1			ug/kg ug/kg	J	J	106; G01		Y	
SIW-SS-043PC-0.0-2.0	8260B	REA	Styrene	5.5			ug/kg ug/kg	U	UJ	106; G01		Y	<del>                                     </del>
		REA	,					J	.I				<del>                                     </del>
SIW-SS-043PC-0.0-2.0	8260B		Tetrachlor				ug/kg	-	•	106; G01		Y	<b></b>
SIW-SS-043PC-0.0-2.0	8260B	REA	Toluene	5.5			ug/kg	U	UJ	106; G01		Y	<del></del>
SIW-SS-043PC-0.0-2.0	8260B	REA	trans-1,3-E				ug/kg	U	UJ	I06; G01		Υ	<b> </b>
SIW-SS-043PC-0.0-2.0	8260B	REA	Trichloroet				ug/kg	U	UJ	I06; G01		Υ	<b> </b>
SIW-SS-043PC-0.0-2.0	8260B	REA	Vinyl chlori	11			ug/kg	U	UJ	I06; G01		Υ	
SIW-SS-043PC-0.0-2.0	8260B	REA	Xylenes (to				ug/kg	J	J	I06; G01		Υ	
SIW-SS-044PC-0.0-2.0	8260B	REA	1,1,1-Trich				ug/kg	U	UJ	I06; G01		Υ	
SIW-SS-044PC-0.0-2.0		REA	1,1,2,2-Tet				ug/kg		UJ	I06; G01		Υ	
SIW-SS-044PC-0.0-2.0		REA	1,1,2-Trich				ug/kg	U	UJ	106; G01		Υ	
SIW-SS-044PC-0.0-2.0		REA	1,1-Dichlor				ug/kg	U	UJ	I06; G01		Υ	لـــــــا
SIW-SS-044PC-0.0-2.0			1,1-Dichlor				ug/kg		UJ	106; G01		Υ	
SIW-SS-044PC-0.0-2.0		REA	1,2-Dichlor				ug/kg	U	UJ	I06; G01		Υ	
	8260B	REA	1,2-Dichlor				ug/kg	U	UJ	I06; G01		Υ	
SIW-SS-044PC-0.0-2.0	8260B	REA	1,2-Dichlor			11	ug/kg	U	UJ	I06; G01	1	Υ	
SIW-SS-044PC-0.0-2.0	8260B	REA	1,2-Dichlor	5.4		5.4	ug/kg	U	UJ	I06; G01	1	Υ	
SIW-SS-044PC-0.0-2.0	8260B	REA	1,3-Dichlor	5.4		5.4	ug/kg	U	UJ	I06; G01	1	Υ	
SIW-SS-044PC-0.0-2.0		REA	1,4-Dichlor				ug/kg	U	UJ	I06; G01		Υ	
SIW-SS-044PC-0.0-2.0	8260B	REA	2-Butanone				ug/kg	U	UJ	I06; G01		Υ	
SIW-SS-044PC-0.0-2.0		REA	2-Hexanon				ug/kg	U	UJ	I06; G01		Υ	
SIW-SS-044PC-0.0-2.0			4-Methyl-2				ug/kg	U	UJ	I06; G01		Υ	
SIW-SS-044PC-0.0-2.0	8260B	REA	Acetone	7.3			ug/kg	J	J	I06: G01		Y	
SIW-SS-044PC-0.0-2.0			Benzene	0.39			ug/kg ug/kg	J	J	106; G01		Y	
SIW-SS-044PC-0.0-2.0		REA	Bromodich				ug/kg ug/kg	U	UJ	106; G01		Y	
SIW-SS-044PC-0.0-2.0		REA	Bromoform				ug/kg ug/kg	U	UJ	106; G01		Y	$\vdash$
SIW-SS-044PC-0.0-2.0			Bromomet				ug/kg ug/kg	U	UJ	106; G01		Y	$\vdash$
SIW-SS-044PC-0.0-2.0		REA	Carbon dis		-		ug/kg ug/kg	U	UJ	106; G01		Y	$\vdash$
SIW-SS-044PC-0.0-2.0		REA	Carbon dis				ug/kg ug/kg	U	UJ			Y	$\vdash$
								U		106; G01			$\vdash$
SIW-SS-044PC-0.0-2.0		REA	Chloroben				ug/kg		UJ	106; G01		Y	<b></b>
	8260B	REA	Chloroetha				ug/kg	U	UJ	106; G01		Y	<b></b>
SIW-SS-044PC-0.0-2.0		REA	Chloroform				ug/kg	U	UJ	106; G01		Y	<b></b>
SIW-SS-044PC-0.0-2.0		REA	Chloromet				ug/kg	U	UJ	106; G01		Y	<b></b>
SIW-SS-044PC-0.0-2.0	8260B	REA	cis-1,3-Dic	5.4		5.4	ug/kg	U	UJ	I06; G01	1	Υ	

SIM-SS-044PC-0.2.0   2620B   REA   Dibromoch   S.4   S.4   Ligridg   U   U   06; G01   1 Y   SIM-SS-044PC-0.2.0   2620B   REA   Dibromoch   S.4   S.4   Ligridg   J   J   06; G01   1 Y   W   SIM-SS-044PC-0.2.0   2620B   REA   Methylene   0.58   S.4   Ligridg   J   J   06; G01   1 Y   W   SIM-SS-044PC-0.2.0   2620B   REA   Styrene   0.58   S.4   Ligridg   J   J   06; G01   1 Y   W   SIM-SS-044PC-0.2.0   2620B   REA   Styrene   0.58   S.4   Ligridg   J   J   06; G01   1 Y   W   SIM-SS-044PC-0.2.0   2620B   REA   Styrene   0.58   S.4   Ligridg   J   J   06; G01   1 Y   W   SIM-SS-044PC-0.2.0   2620B   REA   Styrene   S.54   S.4   Ligridg   J   J   06; G01   1 Y   W   SIM-SS-044PC-0.2.0   2620B   REA   Styrene   S.54   S.4   Ligridg   J   J   06; G01   1 Y   W   SIM-SS-044PC-0.2.0   2620B   REA   Styrene   S	Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
SIM-SS-044PC-0.2.0   2608   REA   Syrene   0.92   5.4   upkg   J   J   106; G01   1   Y   SIM-SS-044PC-0.2.0   2608   REA   Syrene   0.58   5.4   upkg   J   J   106; G01   1   Y   SIM-SS-044PC-0.2.0   2608   REA   Tetrachlord   1.5   5.4   upkg   J   J   106; G01   1   Y   SIM-SS-044PC-0.2.0   2608   REA   Tetrachlord   1.5   5.4   upkg   J   J   106; G01   1   Y   SIM-SS-044PC-0.2.0   2608   REA   Tetrachlord   1.3   5.4   upkg   J   J   106; G01   1   Y   SIM-SS-044PC-0.2.0   2608   REA   Tetrachlord   5.4   5.4   upkg   U   UJ   106; G01   1   Y   SIM-SS-044PC-0.2.0   2608   REA   Tetrachlord   5.4   5.4   upkg   U   UJ   106; G01   1   Y   SIM-SS-044PC-0.2.0   2608   REA   Tetrachlord   5.4   5.4   upkg   U   UJ   106; G01   1   Y   SIM-SS-044PC-0.2.0   2608   REA   Xirphore   1   1   1   upkg   U   UJ   106; G01   1   Y   SIM-SS-044PC-0.2.0   2608   REA   Xirphore   1   1   1   upkg   U   UJ   106; G01   1   Y   SIM-SS-044PC-0.2.0   2608   REA   Xirphore   1   1   1   upkg   U   UJ   106; G01   1   Y   SIM-SS-044PC-0.2   2608   REA   1,1,1-17ich   5.4   5.4   5.4   upkg   U   UJ   106; G01   1   Y   SIM-SS-044PC-0.0   2608   REA   1,1,1-17ich   5.4   5.4   5.4   upkg   U   UJ   106; G01   1   Y     1   1   1   1   1   1   1	SIW-SS-044PC-0.0-2.0	8260B			5.4		5.4	ug/kg	U	UJ	I06; G01	1	Υ	
SIW-SS-044PC-0.2.0   2600B   REA   Totuge   1.3   5.4   upkg   J   J   106; G01   1   Y   SIW-SS-044PC-0.2.0   2600B   REA   Totuge   1.3   5.4   upkg   J   J   106; G01   1   Y   SIW-SS-044PC-0.2.0   2600B   REA   Totuge   1.3   5.4   upkg   J   J   106; G01   1   Y   SIW-SS-044PC-0.2.0   2600B   REA   trinchlored   5.4   5.4   upkg   U   U   106; G01   1   Y   SIW-SS-044PC-0.2.0   2600B   REA   trinchlored   5.4   5.4   upkg   U   U   106; G01   1   Y   SIW-SS-044PC-0.2.0   2600B   REA   trinchlored   5.4   5.4   upkg   U   U   106; G01   1   Y   SIW-SS-044PC-0.2.0   2600B   REA   trinchlored   5.4   5.4   upkg   U   U   106; G01   1   Y   SIW-SS-044PC-0.2.0   2600B   REA   trinchlored   5.4   5.4   upkg   U   U   U   106; G01   1   Y   SIW-SS-044PC-0.2.0   2600B   REA   trinchlored   5.4   5.4   4   upkg   U   U   U   106; G01   1   Y   SIW-SS-044PC-0.2.0   2600B   REA   trinchlored   5.4   5.4   4   upkg   U   U   U   106; G01   1   Y   SIW-SS-044PC-0.2.0   2600B   REA   trinchlored   5.4   5.4   4   upkg   U   U   U   U   106; G01   1   Y   SIW-SS-044PC-0.0   2600B   REA   trinchlored   5.4   5.4   4   upkg   U   U   U   U   U   U   U   U   U	SIW-SS-044PC-0.0-2.0	8260B	REA	Ethylbenze	0.48		5.4	ug/kg	J	J	I06; G01	1	Υ	
\$\frac{\text{SW-SS-04PC-0.2.0}}{\text{2008}}\$ \frac{\text{REA}}{\text{Colored}}\$ \text{Colored}{\text{REA}}\$ \text{Colored}{\text{1.5}}\$ \text{S-4} \text{Ug/kg} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	SIW-SS-044PC-0.0-2.0	8260B	REA	Methylene	0.92		5.4	ug/kg	J	J	I06; G01	1	Υ	
\$\textit{SW-SS-04PC-0.0-2.0} &\textit{Bost REA} & \textit{Toluene} & 1.3 & 5.4 \ \ \text{U}_2 \textit{Ng} \ \ \text{U}_2 \text{Ng} \ \ \text{U}_2 \text{Var} \ \text{U}_2 \text{Var} \ \\ \text{U}_2 \text{Var} \ \text{U}_2 \text{Var} \ \\ \text{U}_2 \text{Var} \ \\ \text{U}_2 \text{Var} \ \\ \text{U}_2 \text{Var} \\ \text{U}_2 \text{Var} \\ \text{U}_2 \text{Var} \\ \text{U}_2 \text{Var} \\ \text{U}_2 \text{Var} \\ \text{U}_2 \text{Var} \\ \text{U}_2 \text{Var} \\ \text{U}_2 \text{Var} \\ \text{U}_2 \text{Var} \\ \text{U}_2 \text{Var} \\ \text{U}_2 \text{Var} \										0				
\$\frac{\text{SW-SS-04PC-0.0-2.0} &2620B \text{REA} & \text{trans-1.3-C} & 5.4 \\ \text{SS-04PC-0.0-2.0} &2620B \text{REA} & \text{trans-1.3-C} & 5.4 \\ \text{SS-04PC-0.0-2.0} &2620B \text{REA} & \text{Vinyl chloric} & 11 \\ \text{SW-SS-04PC-0.0-2.0} &2620B \text{REA} & \text{Vinyl chloric} & 11 \\ \text{SW-SS-04PC-0.0-2.0} &2620B \text{REA} & \text{Vinyl chloric} & 11 \\ \text{SW-SS-04PC-0.0-2.0} &2620B \text{REA} & \text{Vinyl chloric} & 11 \\ \text{SW-SS-04PC-0.0-2.0} &2620B \text{REA} & \text{Vinyl chloric} & 11 \\ \text{SW-SS-04PC-0.0-2.0} &2620B \text{REA} & \text{1.1-1-1-inch} & 5.4 \\ \text{SW-SS-04PC-0.0-10} &2620B \text{REA} & \text{1.1-1-1-inch} & 5.4 \\ \text{SW-SS-04PC-0.01} &2620B \text{REA} & \text{1.1-1-1-inch} & 5.4 \\ \text{SW-SS-04PC-0.01} &2620B \text{REA} & \text{1.1-1-1-inch} & 5.4 \\ \text{SW-SS-04PC-0.01} &2620B \text{REA} & \text{1.1-1-inch} & 5.4 \\\ \text{SW-SS-04PC-0.01} &2620B \text{REA} & \text{1.1-1-inch} & 5.4 \\\ \text{SW-SS-04PC-0.01} &2620B \text{REA} & \text{1.1-1-inch} & 5.4 \\\ \text{SW-SS-04PC-0.01} &2620B \text{REA} & \text{1.1-1-inch} & 5.4 \\\\ \text{SW-SS-04PC-0.01} &2620B \text{REA} & \text{1.1-1-inch} & 5.4 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\										•				
SIW-SS-044PC-0-2-0   2800B   REA													1	
\$\frac{\text{SW-SS-04PC-0-2.0}}{\text{200}}\$\frac{\text{8204PC-0-2.0}}{\text{200}}\$\frac{\text{8204PC-0-2.0}}{\text{8204PC-0-2.0}}\$\frac{\text{8204PC-0-2.0}}{8204PC-0-2						•								
SIM-SS-044PC-0-0-2.0   2800B   REA   Xylenes (tc   0.99   11   ug/kg   U   U   106   601   Y   Y   SIM-SS-040P0.01   2800B   REA   1.1.2-tret   5.4   5.4   ug/kg   U   U   106   601   Y   Y   SIM-SS-040P0.01   2800B   REA   1.1.2-tret   5.4   5.4   ug/kg   U   U   106   601   Y   Y   SIM-SS-040P0.01   2800B   REA   1.1.2-tret   5.4   5.4   ug/kg   U   U   106   601   Y   Y   Y   Y   Y   Y   Y   Y   Y											,		1	
SIN-SS-CDUP-001 8260B REA 1.1.1-Trich 5.4 5.4 Uu/kg U UJ 106 01 1 Y SIN-SS-CDUP-001 8260B REA 1.1.2-Trich 5.4 5.4 Uu/kg U UJ 106 01 1 Y SIN-SS-CDUP-001 8260B REA 1.1.2-Trich 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.1.2-Trich 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.1-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.1-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.1-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.2-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.2-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.2-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.2-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.2-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.2-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.2-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.2-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.2-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.4-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.4-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 1.4-Dichlor 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 2.4-Exanon 22 22 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 2.4-Exanon 22 22 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA 2.4-Exanon 22 22 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA Acatone 22 22 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA Acatone 22 22 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA Acatone 22 22 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA Acatone 22 22 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA Bornodich 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA Acatone 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA Acatone 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA Caton tate 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-001 8260B REA Caton tate 5.4 5.4 Uu/kg U UJ 106 1 1 Y SIN-SS-CDUP-														
SIM-SS-CDUP-001   3260B   REA   1.1.2.2-fel   5.4   5.4   ug/kg   U   UJ   06, G01   1 Y   SIM-SS-CDUP-001   3260B   REA   1.1.2-fich   5.4   5.4   ug/kg   U   UJ   06   1 Y   SIM-SS-CDUP-001   3260B   REA   1.1.Dichlor   5.4   5.4   ug/kg   U   UJ   06   1 Y   SIM-SS-CDUP-001   3260B   REA   1.1.Dichlor   5.4   5.4   ug/kg   U   UJ   06   1 Y   SIM-SS-CDUP-001   3260B   REA   1.2.Dichlor   5.4   5.4   ug/kg   U   UJ   06, G01   1 Y   SIM-SS-CDUP-001   3260B   REA   1.2.Dichlor   5.4   5.4   ug/kg   U   UJ   06, G01   1 Y   SIM-SS-CDUP-001   3260B   REA   1.2.Dichlor   5.4   5.4   ug/kg   U   UJ   06, G01   1 Y   SIM-SS-CDUP-001   3260B   REA   1.2.Dichlor   5.4   5.4   ug/kg   U   UJ   06, G01   1 Y   SIM-SS-CDUP-001   3260B   REA   1.2.Dichlor   5.4   5.4   ug/kg   U   UJ   06, G01   1 Y   SIM-SS-CDUP-001   3260B   REA   1.2.Dichlor   5.4   5.4   ug/kg   U   UJ   06, G01   1 Y   SIM-SS-CDUP-001   3260B   REA   1.3.Dichlor   5.4   5.4   ug/kg   U   UJ   06, G01   1 Y   SIM-SS-CDUP-001   3260B   REA   1.4.Dichlor   5.4   5.4   ug/kg   U   UJ   06, G01   1 Y   SIM-SS-CDUP-001   3260B   REA   2.2-bearon   22   22   ug/kg   U   UJ   106, G01   1 Y   SIM-SS-CDUP-001   3260B   REA   2.2-bearon   22   22   ug/kg   U   UJ   106   1 Y   SIM-SS-CDUP-001   3260B   REA   A-ketone   22   22   22   ug/kg   U   UJ   106   1 Y   SIM-SS-CDUP-001   3260B   REA   A-ketone   22   22   22   ug/kg   U   UJ   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Renzene   5.4   5.4   ug/kg   U   UJ   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Renzene   5.4   5.4   ug/kg   U   UJ   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Renzene   5.4   5.4   ug/kg   U   UJ   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Renzene   5.4   5.4   ug/kg   U   UJ   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Renzene   5.4   5.4   ug/kg   U   UJ   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Renzene   5.4   5.4   ug/kg   U   UJ   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Renzene   5.4   5.4   ug/kg   U   UJ   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Renzene				, ,						UJ				
SIM-SS-CDUP-001   3260B   REA   11-Dichlor   5.4   5.4   ug/kg   U   U   U   06   1 Y   SIM-SS-CDUP-001   3260B   REA   11-Dichlor   5.4   5.4   ug/kg   U   U   U   06   1 Y   SIM-SS-CDUP-001   3260B   REA   12-Dichlor   5.4   5.4   ug/kg   U   U   U   06   01 Y   SIM-SS-CDUP-001   3260B   REA   12-Dichlor   5.4   5.4   ug/kg   U   U   U   06   01 Y   SIM-SS-CDUP-001   3260B   REA   12-Dichlor   5.4   5.4   ug/kg   U   U   U   06   01 Y   SIM-SS-CDUP-001   3260B   REA   12-Dichlor   5.4   5.4   ug/kg   U   U   U   06   01 Y   SIM-SS-CDUP-001   3260B   REA   1.2-Dichlor   5.4   5.4   ug/kg   U   U   U   06   01 Y   SIM-SS-CDUP-001   3260B   REA   1.2-Dichlor   5.4   5.4   ug/kg   U   U   U   06   001   1 Y   SIM-SS-CDUP-001   3260B   REA   1.2-Dichlor   5.4   5.4   ug/kg   U   U   U   06   001   1 Y   SIM-SS-CDUP-001   3260B   REA   1.2-Dichlor   5.4   5.4   ug/kg   U   U   U   06   001   1 Y   SIM-SS-CDUP-001   3260B   REA   1.2-Dichlor   5.4   5.4   ug/kg   U   U   U   06   001   1 Y   SIM-SS-CDUP-001   3260B   REA   2-Hexanor   22   22   ug/kg   U   U   U   106   1 Y   SIM-SS-CDUP-001   3260B   REA   2-Hexanor   22   22   ug/kg   U   U   U   106   1 Y   SIM-SS-CDUP-001   3260B   REA   A-ketone   22   22   ug/kg   U   U   U   106   1 Y   SIM-SS-CDUP-001   3260B   REA   A-ketone   22   22   ug/kg   U   U   U   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Remonder   5.4   5.4   ug/kg   U   U   U   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Remonder   5.4   5.4   ug/kg   U   U   U   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Remonder   5.4   5.4   ug/kg   U   U   U   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Remonder   5.4   5.4   ug/kg   U   U   U   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Remonder   5.4   5.4   ug/kg   U   U   U   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Remonder   5.4   5.4   ug/kg   U   U   U   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Carbon del   5.4   5.4   ug/kg   U   U   U   106   1 Y   SIM-SS-CDUP-001   3260B   REA   Carbon del   5.4   5.4   ug/kg   U   U   U   106   1 Y	SIW-SS-CDUP-001		REA	1,1,2,2-Te	5.4				U	UJ	I06; G01	1	Υ	
SIM-SS-CDUP-001   8260B   REA   1.1-Dichlor   5.4   5.4   ug/kg   U   U   106   1   Y   SIM-SS-CDUP-001   8260B   REA   1.2-Dichlor   5.4   5.4   ug/kg   U   U   106   601   1   Y   SIM-SS-CDUP-001   8260B   REA   1.2-Dichlor   5.4   5.4   ug/kg   U   U   106   601   Y   SIM-SS-CDUP-001   8260B   REA   1.2-Dichlor   5.4   5.4   ug/kg   U   U   106   601   Y   SIM-SS-CDUP-001   8260B   REA   1.2-Dichlor   5.4   5.4   ug/kg   U   U   106   601   Y   SIM-SS-CDUP-001   8260B   REA   1.2-Dichlor   5.4   5.4   ug/kg   U   U   106   601   Y   SIM-SS-CDUP-001   8260B   REA   1.3-Dichlor   5.4   5.4   ug/kg   U   U   106   601   Y   SIM-SS-CDUP-001   8260B   REA   1.3-Dichlor   5.4   5.4   ug/kg   U   U   106   601   Y   SIM-SS-CDUP-001   8260B   REA   2.4-bitanon   22   22   ug/kg   U   U   106   601   Y   SIM-SS-CDUP-001   8260B   REA   2.4-bitanon   22   22   ug/kg   U   U   106   1   Y   SIM-SS-CDUP-001   8260B   REA   4.4-bityl-2   22   22   ug/kg   U   U   106   1   Y   SIM-SS-CDUP-001   8260B   REA   4.4-bityl-2   22   22   ug/kg   U   U   106   1   Y   SIM-SS-CDUP-001   8260B   REA   4.5-bitanon   4.5-bi			1	1,1,2-Trich										
SIW-SS-CDUP-001   8260B   REA   1,2-Dichlor   5,4   5,4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   1,2-Dichlor   5,4   5,4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   1,2-Dichlor   5,4   5,4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   1,2-Dichlor   5,4   5,4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   1,3-Dichlor   5,4   5,4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   1,4-Dichlor   5,4   5,4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   1,4-Dichlor   5,4   5,4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   1,4-Dichlor   5,4   5,4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   2-Hexanon   22   22   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   2-Hexanon   22   22   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   A-kethyt-2   22   22   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   A-kethyt-2   22   22   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   A-kethyt-2   22   22   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Benzene   5,4   5,4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Benzene   5,4   5,4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Bromodich   5,4   5,4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Bromodich   5,4   5,4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Carbon dis   5,4   5,4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Carbon dis   5,4   5,4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Carbon dis   5,4   5,4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorochen   5,4   5,4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorochen   5,4   5,4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorochen   5,4   5,4   ug/kg   U   UJ   106   1   Y   SIW-SS-														
SIM-SS-CDUP-001   8260B   REA   1,2-Dichlor   5.4   5.4   1.5   1.5   5.4   1.5   1.5   5.4   1.5														
SIM-SS-CDUP-001   8260B   REA   1,2-Dichlor   11													1	
SIW-SS-CDUP-001   8260B   REA   1,2-Dichlor   5,4   5,4   1,5														
SIM-SS-CDIP-001   3260B   REA   1.3-Dichlor   5.4   5.4   ug/kg   U   UJ   106; G01   1 Y														
SIM-SS-CDUP-001   8260B   REA   1.4-Dichlor   5.4													1	
SIM-SS-CDUP-001   8260B   REA   2-Butanon   22   22   29   29   20   20   20   20														
SIM-SS-CDUP-001   8260B   REA   A-Methyl-2   22   22   22   22   22   23   23									U	UJ				
SIW-SS-CDUP-001   8260B   REA   Acetone   22   22 ug/kg   U   UJ   106   1 Y		8260B	REA	2-Hexanor	22				U	UJ	106	1	Υ	
SIW-SS-CDUP-001   8260B   REA   Benzene   5.4   5.4   ug/kg   U   U   U   U   U   U   U   U   U				,										
SIW-SS-CDUP-001   8260B   REA   Bromodish   5.4   5.4   ug/kg   U   UJ   106   1   V   SIW-SS-CDUP-001   8260B   REA   Bromoform   5.4   5.4   ug/kg   U   UJ   106   601   1   V   SIW-SS-CDUP-001   8260B   REA   Bromomett   11   11   ug/kg   U   UJ   106   61   1   V   SIW-SS-CDUP-001   8260B   REA   Carbon dis   5.4   5.4   ug/kg   U   UJ   106   1   V   SIW-SS-CDUP-001   8260B   REA   Carbon dis   5.4   5.4   ug/kg   U   UJ   106   1   V   SIW-SS-CDUP-001   8260B   REA   Carbon tet   5.4   5.4   ug/kg   U   UJ   106   1   V   SIW-SS-CDUP-001   8260B   REA   Chloroben;   5.4   5.4   ug/kg   U   UJ   106   601   1   V   SIW-SS-CDUP-001   8260B   REA   Chloroben;   5.4   5.4   ug/kg   U   UJ   106   601   1   V   SIW-SS-CDUP-001   8260B   REA   Chloroben;   5.4   5.4   ug/kg   U   UJ   106   1   V   SIW-SS-CDUP-001   8260B   REA   Chloroben;   5.4   5.4   ug/kg   U   UJ   106   1   V   SIW-SS-CDUP-001   8260B   REA   Chloroben;   5.4   5.4   ug/kg   U   UJ   106   1   V   SIW-SS-CDUP-001   8260B   REA   Chloroben;   5.4   5.4   ug/kg   U   UJ   106   1   V   SIW-SS-CDUP-001   8260B   REA   Chloroben;   5.4   5.4   ug/kg   U   UJ   106   1   V   SIW-SS-CDUP-001   8260B   REA   Chloroben;   5.4   5.4   ug/kg   U   UJ   106   1   V   SIW-SS-CDUP-001   8260B   REA   Chloroben;   5.4   5.4   ug/kg   U   UJ   106   601   1   V   SIW-SS-CDUP-001   8260B   REA   Ethylbenze   5.4   5.4   ug/kg   U   UJ   106   601   1   V   SIW-SS-CDUP-001   8260B   REA   Ethylbenze   5.4   5.4   ug/kg   U   UJ   106   601   1   V   SIW-SS-CDUP-001   8260B   REA   Tetrachlord   5.4   5.4   ug/kg   U   UJ   106   601   1   V   SIW-SS-CDUP-001   8260B   REA   Tetrachlord   5.4   5.4   ug/kg   U   UJ   106   601   1   V   SIW-SS-CDUP-001   8260B   REA   Tetrachlord   5.4   5.4   ug/kg   U   UJ   106   601   1   V   SIW-SS-CDUP-001   8260B   REA   Tetrachlord   5.4   5.4   ug/kg   U   UJ   106   601   1   V   SIW-SS-CDUP-001   8260B   REA   Tetrachlord   5.4   5.4   ug/kg   U   UJ   106   601   1   V   SIW-SS-CDUP-001   8260B   REA   Tetra													1	
SIW-SS-CDUP-001   8260B   REA   Bromoform   5.4   5.4   gg/kg   U   UJ   106; G01   1   V   SIW-SS-CDUP-001   8260B   REA   Bromoment   11   11   11   ug/kg   U   UJ   106   1   V   SIW-SS-CDUP-001   8260B   REA   Carbon dis   5.4   5.4   ug/kg   U   UJ   106   1   V   SIW-SS-CDUP-001   8260B   REA   Carbon telt   5.4   5.4   ug/kg   U   UJ   106   1   V     SIW-SS-CDUP-001   8260B   REA   Carbon telt   5.4   5.4   ug/kg   U   UJ   106   1   V     SIW-SS-CDUP-001   8260B   REA   Chloroben;   5.4   5.4   ug/kg   U   UJ   106; G01   1   V     SIW-SS-CDUP-001   8260B   REA   Chlorotenta   11   11   ug/kg   U   UJ   106   1   V       SIW-SS-CDUP-001   8260B   REA   Chlorotenta   11   11   ug/kg   U   UJ   106   1   V													1	
SIW-SS-CDUP-001   8260B   REA   Bromomett   11   11   11   11   11   13   14   15   15   15   15   15   15   15														
SIW-SS-CDUP-001   8260B   REA   Carbon dis   5.4   5.4   ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   Carbon tet   5.4   5.4   ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorobena   5.4   5.4   ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorotha   11   11   ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorotha   11   11   ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorotha   11   11   ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorotha   11   11   ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorotha   11   11   ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorotha   11   11   ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   Dibromoch   5.4   5.4   ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Dibromoch   5.4   5.4   ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Ethylbenze   5.4   5.4   ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Methylene   5.4   5.4   ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Styrene   5.4   5.4   ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Toluene   5.4   5.4   ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Toluene   5.4   5.4   ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Toluene   5.4   5.4   ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Toluene   5.4   5.4   ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Toluene   5.4   5.4   ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Toluene   5.4   5.4   ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Toluene   5.4   5.4   ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Toluene   5.4   5.4   ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   Toluene   5.4   5.4   ug/kg   U   UJ   I06   1   Y   SIW-SS								0 0						
SIW-SS-CDUP-001   8260B   REA   Carbon tet   5.4   5.4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Chloroben   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Chloroform   5.4   5.4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Chloroform   5.4   5.4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Chloromett   11   11   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Chloromett   11   11   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Chloromett   11   11   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Dibromoch   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Dibromoch   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Ethylbenze   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Ethylbenze   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Styrene   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Tetrachlord   0.94   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Tetrachlord   0.94   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Toluene   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichlorot   5.4   5.4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichlorot   5.4   5.4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichlorot   5.4   5.4   ug/kg   U   UJ   106   1   Y     SIW-SS-CDUP-001   8260B   REA   Trichlorot   5.4   5.4   ug/kg   U   UJ   106   1   Y     SIW-SS-CDUP-001   8260B   REA   Trichlorot   5.4   5.4   ug/kg   U   UJ   106   1   Y     SIW-SS-CDUP-001   8260B   REA   Trichlorot   5.4   5.4   ug/kg   U   UJ   106   1   Y     SIW-SS-CDUP-001   8260B   REA   Trichlorot   5.4   5.4   ug/kg   U   UJ   106   1   Y       SIW-SS-CDUP-001   8260B   REA   Trichlorot   5.4   5.4   ug/kg														
SIW-SS-CDUP-001   8260B   REA   Chloroben;   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorofetha   11   11   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorofetha   11   11   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorofetha   11   11   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorofetha   11   11   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Chlorofetha   11   11   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Cis-1,3-Dic   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Ethylbenze   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Ethylbenze   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Styrene   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Styrene   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Tetrachloro   0.94   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Toluene   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Toluene   5.4   5.4   ug/kg   U   UJ   106; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichlorote   5.4   5.4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichlorote   5.4   5.4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichlorote   5.4   5.4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichlorote   5.4   5.4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichlorote   5.4   5.4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichlorote   5.4   5.4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichlorote   5.4   5.4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichlorote   5.4   5.4   ug/kg   U   UJ   106   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichlorote   5.4   5.4   ug/kg   U														
SIW-SS-CDUP-001														
SIW-SS-CDUP-001         8260B         REA         Chlorometl         11         11 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         cis-1,3-Dic         5.4         5.4 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Dibromoch         5.4         5.4 ug/kg         U         UJ         106; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Ethylbenze         5.4         5.4 ug/kg         U         UJ         106; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Methylene         5.4         5.4 ug/kg         U         UJ         106; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Styrene         5.4         5.4 ug/kg         U         UJ         106; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Tetrachlord         0.94         5.4 ug/kg         U         UJ         106; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Trichloroet         5.4         5.4 ug/kg         U         UJ         106         1 Y <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>U</td> <td>UJ</td> <td></td> <td></td> <td></td> <td></td>									U	UJ				
SIW-SS-CDUP-001   8260B   REA   Cis-1,3-Dic   5.4   5.4   Ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   Dibromoch   5.4   5.4   Ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Ethylbenze   5.4   5.4   Ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Methylene   5.4   5.4   Ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Methylene   5.4   5.4   Ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Styrene   5.4   5.4   Ug/kg   U   UJ   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Tetrachlord   0.94   5.4   Ug/kg   J   J   I06; G01   1   Y   SIW-SS-CDUP-001   8260B   REA   Toluene   5.4   5.4   Ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   trans-1,3-D   5.4   5.4   Ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   trans-1,3-D   5.4   5.4   Ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   trans-1,3-D   5.4   5.4   Ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichloroet   5.4   5.4   Ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   Trichloroet   5.4   5.4   Ug/kg   U   UJ   I06   1   Y   SIW-SS-CDUP-001   8260B   REA   Xylenes (tc   1.1   11   Ug/kg   U   UJ   I06   1   Y     SIW-SS-CDUP-001   8260B   REA   Xylenes (tc   1.1   11   Ug/kg   J   J   I06; G01   1   Y     SIW-SS-CDUP-001   8260B   SUR   Surrogate-   51   Ug/kg   U   UJ   I06; G01   1   Y     SIW-SS-CDUP-001   8260B   SUR   Surrogate-   51   Ug/kg   U   UJ   I06   1   Y     SIW-SS-CDUP-001   8260B   SUR   Surrogate-   51.9   Ug/kg   Ug/kg	SIW-SS-CDUP-001	8260B	REA	Chloroform	5.4		5.4	ug/kg			106	1	Υ	
SIW-SS-CDUP-001         8260B         REA         Dibromoch         5.4         5.4 lug/kg         U         UJ         I06; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Ethylbenze         5.4         5.4 lug/kg         U         UJ         I06; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Methylene         5.4         5.4 lug/kg         U         UJ         I06; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Styrene         5.4         5.4 lug/kg         U         UJ         I06; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Tetrachlort         0.94         5.4 lug/kg         U         UJ         I06; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Tetrachlort         0.94         5.4 lug/kg         U         UJ         I06; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Trichloroet         5.4         5.4 lug/kg         U         UJ         I06         1 Y           SIW-SS-CDUP-001         8260B         REA         Vinyl chlori         11         11 lug/kg         U         UJ         I06         1													1	
SIW-SS-CDUP-001         8260B         REA         Ethylbenze         5.4         5.4 ug/kg         U         UJ         106; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Methylene         5.4         5.4 ug/kg         U         UJ         106; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Styrene         5.4         5.4 ug/kg         U         UJ         106; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Toluene         5.4         5.4 ug/kg         U         UJ         106; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Toluene         5.4         5.4 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Trichloreet         5.4         5.4 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Trichloreet         5.4         5.4 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Vinyl chlori         11         11 ug/kg         U         UJ         106         1 Y													1	
SIW-SS-CDUP-001         8260B         REA         Methylene         5.4         5.4 ug/kg         U         UJ         I06         1 Y           SIW-SS-CDUP-001         8260B         REA         Styrene         5.4         5.4 ug/kg         U         UJ         I06; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Tetrachlor         0.94         5.4 ug/kg         J         J         I06; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Toluene         5.4         5.4 ug/kg         U         UJ         I06         1 Y           SIW-SS-CDUP-001         8260B         REA         trans-1,3-D         5.4         5.4 ug/kg         U         UJ         I06         1 Y           SIW-SS-CDUP-001         8260B         REA         Trichloroet         5.4         5.4 ug/kg         U         UJ         I06         1 Y           SIW-SS-CDUP-001         8260B         REA         Vinyl chlori         11         11 ug/kg         U         UJ         I06         1 Y           SIW-SS-CDUP-001         8260B         REA         Xylenes (tc         1.1         11 ug/kg         U         UJ         I06         1 Y														
SIW-SS-CDUP-001         8260B         REA         Styrene         5.4         5.4 ug/kg         U         UJ         106; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Tetrachlor         0.94         5.4 ug/kg         J         J         106; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Toluene         5.4         5.4 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         trans-1,3-D         5.4         5.4 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Trichloroet         5.4         5.4 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Trichloroet         5.4         5.4 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Vinyl chlori         11         11 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Xylenes (tc         1.1         11 ug/kg         J         J         106; G01         1 Y				,							,			
SIW-SS-CDUP-001         8260B         REA         Tetrachlord         0.94         5.4 ug/kg         J         J         106; G01         1 Y           SIW-SS-CDUP-001         8260B         REA         Toluene         5.4         5.4 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         trans-1,3-D         5.4         5.4 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Trichloroet         5.4         5.4 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Vinyl chlori         11         11 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Vinyl chlori         11         11 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Xylenes (tc         1.1         11 ug/kg         U         UJ         106         1 Y           LABQC         8260B         SUR         Surrogate-         49.2         ug/kg         J         J         106; G01         1 Y           LAB				,										
SIW-SS-CDUP-001         8260B         REA         Toluene         5.4         5.4 ug/kg         U         UJ         I06         1 Y           SIW-SS-CDUP-001         8260B         REA         trans-1,3-D         5.4         5.4 ug/kg         U         UJ         I06         1 Y           SIW-SS-CDUP-001         8260B         REA         Trichloroet         5.4         5.4 ug/kg         U         UJ         I06         1 Y           SIW-SS-CDUP-001         8260B         REA         Vinyl chlori         11         11 ug/kg         U         UJ         I06         1 Y           SIW-SS-CDUP-001         8260B         REA         Xylenes (tc         1.1         11 ug/kg         U         UJ         I06         1 Y           LABQC         8260B         SUR         Surrogate-         49.2         ug/kg         U         UJ         I06; G01         1 Y           LABQC         8260B         SUR         Surrogate-         51         ug/kg         Ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         51.9         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         54.9         ug/kg				•										
SIW-SS-CDUP-001         8260B         REA         trans-1,3-D         5.4         5.4 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Trichloroet         5.4         5.4 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Vinyl chlori         11         11 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Xylenes (tc         1.1         11 ug/kg         U         UJ         106         1 Y           LABQC         8260B         SUR         Surrogate-         49.2         ug/kg         J         J         106; G01         1 Y           LABQC         8260B         SUR         Surrogate-         49.2         ug/kg         J         1 Y           LABQC         8260B         SUR         Surrogate-         51.9         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         54.9         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         54.2         ug/kg         1 Y           LABQC         826										UJ			1	
SIW-SS-CDUP-001         8260B         REA         Vinyl chlori         11         11 ug/kg         U         UJ         106         1 Y           SIW-SS-CDUP-001         8260B         REA         Xylenes (tc         1.1         11 ug/kg         J         J         106; G01         1 Y           LABQC         8260B         SUR         Surrogate-         49.2         ug/kg         1 Y         1 Y           LABQC         8260B         SUR         Surrogate-         51         ug/kg         1 Y         1 Y           LABQC         8260B         SUR         Surrogate-         51.9         ug/kg         1 Y         1 Y           LABQC         8260B         SUR         Surrogate-         54.9         ug/kg         1 Y         1 Y           LABQC         8260B         SUR         Surrogate-         54.2         ug/kg         1 Y         1 Y           LABQC         8260B         SUR         Surrogate-         55         ug/kg         1 Y         1 Y           LABQC         8260B         SUR         Surrogate-         48         ug/kg         1 Y         1 Y           LABQC         8260B         SUR         Surrogate-         50.8												1	Υ	
SIW-SS-CDUP-001         8260B         REA         Xylenes (tc         1.1         11 ug/kg         J         J l06; G01         1 Y           LABQC         8260B         SUR         Surrogate-         49.2         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         51         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         51.9         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         54.9         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         54.2         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         55         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         48         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         48         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         50.8         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         48.9         ug/kg         1 Y	SIW-SS-CDUP-001	8260B	REA	Trichloroet	5.4		5.4	ug/kg	U	UJ	106	1	Υ	
LABQC         8260B         SUR         Surrogate-         49.2         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         51         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         51.9         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         54.9         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         54.2         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         55         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         48         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         50.8         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         50.8         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         48.9         ug/kg         1 Y	SIW-SS-CDUP-001	8260B	REA	Vinyl chlor	i 11		11	ug/kg	U	UJ	106	1	Υ	
LABQC     8260B     SUR     Surrogate-     51     ug/kg     1 Y       LABQC     8260B     SUR     Surrogate-     51.9     ug/kg     1 Y       LABQC     8260B     SUR     Surrogate-     54.9     ug/kg     1 Y       LABQC     8260B     SUR     Surrogate-     54.2     ug/kg     1 Y       LABQC     8260B     SUR     Surrogate-     55     ug/kg     1 Y       LABQC     8260B     SUR     Surrogate-     48     ug/kg     1 Y       LABQC     8260B     SUR     Surrogate-     50.8     ug/kg     1 Y       LABQC     8260B     SUR     Surrogate-     50.8     ug/kg     1 Y       LABQC     8260B     SUR     Surrogate-     48.9     ug/kg     1 Y				,			11	0	J	J	I06; G01		1	
LABQC         8260B         SUR         Surrogate-         51.9         ug/kg         1         Y           LABQC         8260B         SUR         Surrogate-         54.9         ug/kg         1         I Y           LABQC         8260B         SUR         Surrogate-         54.2         ug/kg         1         I Y           LABQC         8260B         SUR         Surrogate-         55         ug/kg         1         I Y           LABQC         8260B         SUR         Surrogate-         48         ug/kg         1         I Y           LABQC         8260B         SUR         Surrogate-         50.8         ug/kg         1         I Y           LABQC         8260B         SUR         Surrogate-         48.9         ug/kg         1         I Y														
LABQC         8260B         SUR         Surrogate-         54.9         ug/kg         1         Y           LABQC         8260B         SUR         Surrogate-         54.2         ug/kg         1         1 Y           LABQC         8260B         SUR         Surrogate-         55         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         48         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         50.8         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         48.9         ug/kg         1 Y														
LABQC         8260B         SUR         Surrogate-         54.2         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         55         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         48         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         50.8         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         48.9         ug/kg         1 Y														
LABQC         8260B         SUR         Surrogate-         55         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         48         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         50.8         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         48.9         ug/kg         1 Y														
LABQC         8260B         SUR         Surrogate-         48         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         50.8         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         48.9         ug/kg         1 Y														
LABQC         8260B         SUR         Surrogate-         50.8         ug/kg         1 Y           LABQC         8260B         SUR         Surrogate-         48.9         ug/kg         1 Y														
LABQC         8260B         SUR         Surrogate-         48.9         ug/kg         1 Y														
LABQC   8260B   SUR   Surrogate-	LABQC	8260B	SUR		48.9							1	Υ	
LABQC         8260B         SUR         Surrogate-         53         ug/kg         1/Y									1					
LABQC 8260B SUR Surrogate- 55 ug/kg 1 Y									-					
SIW-SS-041PC-0.0-2.0         8260B         SUR         Surrogate-         50         ug/kg         1 Y           SIW-SS-041PC-0.0-2.0         8260B         SUR         Surrogate-         67         ug/kg         *         1 Y									*					
SIW-SS-041PC-0.0-2.0   8260B   SUR   Surrogate-   45   ug/kg   1   Y									<b>+</b>					
SIW-SS-041PC-0.0-2.0   8260B   SUR   Surrogate-   53   ug/kg   1   Y														
SW-SS-042PC-0.0-2.0 8260B SUR Surrogate- 57 lug/kg 11Y														
SIW-SS-042PC-0.0-2.0 8260B SUR Surrogate- 100 ug/kg * 1 Y									*					
SIW-SS-042PC-0.0-2.0 8260B SUR Surrogate- 51 ug/kg 1 Y								ug/kg						
SIW-SS-042PC-0.0-2.0 8260B SUR Surrogate- 70 ug/kg * 1 Y									*					
SIW-SS-043PC-0.0-2.0 8260B SUR Surrogate- 110 ug/kg * 11Y									*					
SIW-SS-043PC-0.0-2.0 8260B SUR Surrogate- 160 ug/kg * 1 Y									^					
SIW-SS-043PC-0.0-2.0   8260B   SUR   Surrogate-  94   ug/kg   1   Y   SIW-SS-043PC-0.0-2.0   8260B   SUR   Surrogate-  140   ug/kg   * 1   Y									*					
SIW-SS-043PC-0.0-2.0   8260B   SUR   Surrogate-1   140									*					
SIW-SS-044PC-0.0-2.0   8260B   SUR   Surrogate-   84									*					
SIW-SS-044PC-0.0-2.0   8260B   SUR   Surrogate-1   66									<b>†</b>					
SIW-SS-044PC-0.0-2.0 8260B SUR Surrogate- 88 lug/kg * 11Y									*					
SIW-SS-CDUP-001 8260B SUR Surrogate- 79 ug/kg 1 Y														
SIW-SS-CDUP-001 8260B SUR Surrogate- 99 ug/kg * 1 Y	SIW-SS-CDUP-001	8260B	SUR		99				*					
SIW-SS-CDUP-001         8260B         SUR         Surrogate-         67         ug/kg         1 Y														
SIW-SS-CDUP-001   8260B   SUR   Surrogate-   94   ug/kg   *   1   Y	SIW-SS-CDUP-001	8260B	SUR	Surrogate-	] 94			ug/kg	*			<u> </u>	Υ	

Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
LABQC	8270C	BLK	1,2,4-Trich	330		330	ug/kg	U			1	Υ	
LABQC	8270C	BLK	1,2-Dichlor	330			ug/kg	U			1	Υ	
LABQC	8270C	BLK	1,3-Dichlor	330			ug/kg	U				Υ	
LABQC	8270C	BLK	1,4-Dichlor	330			ug/kg	U				Υ	
LABQC LABQC	8270C 8270C	BLK BLK	2,4,5-Trich	330 330			ug/kg ug/kg	U				Y	
LABQC	8270C	BLK	2,4,6-Trich 2,4-Dichlor	330				U				Y	
LABQC	8270C	BLK	2,4-Dimeth	330			ug/kg	U				Y	
LABQC	8270C	BLK	2,4-Dinitro	1600		1600		U				Y	
LABQC	8270C	BLK	2,4-Dinitrot	330		330	ug/kg	U				Υ	
LABQC	8270C	BLK	2,6-Dinitrot	330			ug/kg	U				Υ	
LABQC LABQC	8270C	BLK BLK	2-Chlorona	330 330			-99	U				Y	
	8270C 8270C	BLK	2-Chloroph 2-Methylna	330			ug/kg ug/kg	U				Y	
LABQC	8270C	BLK	2-Methylph	330			ug/kg	U				Y	
LABQC	8270C	BLK	2-Nitroanili	330				U				Y	
LABQC	8270C	BLK	2-Nitropher	330			ug/kg	U				Υ	
	8270C	BLK	3,3'-Dichlor	1600		1600		U				Υ	
LABQC	8270C	BLK	3-Methylph	660			ug/kg	U				Υ	
LABQC LABQC	8270C 8270C	BLK BLK	3-Nitroanili 4,6-Dinitro-	330 1600		330 1600	ug/kg	U				Y	
LABQC	8270C	BLK	4-Bromoph	330			ug/kg ug/kg	U				Y	
LABQC	8270C	BLK	4-Chloro-3	330				U				Y	
LABQC	8270C	BLK	4-Chloroan	330		330	ug/kg	U			1	Υ	
LABQC	8270C	BLK	4-Chloroph	330			ug/kg	U		-		Υ	
LABQC	8270C	BLK	4-Nitroanili	1600		1600	. 5	U				Υ	
LABOC	8270C	BLK	4-Nitrophei	1600			ug/kg	U				Y	
	8270C 8270C	BLK BLK	Acenaphth Acenaphth	330 330			ug/kg ug/kg	U				Y	
	8270C	BLK	Aniline	330				U				Y	
LABQC	8270C	BLK	Anthracene	330			ug/kg	U				Υ	
	8270C	BLK	Azobenzen	330			ug/kg	U				Υ	
LABQC	8270C	BLK	Benzidine	330			ug/kg	U				Υ	
	8270C	BLK	Benzo(a)ar	330			-99	U				Υ	
LABQC LABQC	8270C 8270C	BLK BLK	Benzo(a)py Benzo(b)flu	330 330			ug/kg ug/kg	IJ				Y	
LABQC	8270C	BLK	Benzo(ghi)	330				U				Y	
LABQC	8270C	BLK	Benzo(k)flu	330			ug/kg	U				Y	
	8270C	BLK	Benzoic ac	1600		1600		U				Υ	
LABQC	8270C	BLK	Benzyl alco	330			ug/kg	U				Υ	
LABOC	8270C	BLK	bis(2-Chlor	330			-99	U				Y	
LABQC LABQC	8270C 8270C	BLK BLK	bis(2-Chlor bis(2-Chlor	330 330			ug/kg ug/kg	U				Y	
LABQC	8270C	BLK	bis(2-Ethyll	330			ug/kg	U				Y	
LABQC	8270C	BLK	Butyl benzy	330			ug/kg	U				Υ	
	8270C	BLK	Carbazole	330			ug/kg	U				Υ	
LABQC	8270C	BLK	Chrysene	330			ug/kg	U				Υ	
	8270C 8270C	BLK BLK	Dibenz(a,h Dibenzofur	330 330			ug/kg ug/kg	U U				Y	
	8270C	BLK	Diethyl phtl	330				U				Y	
LABQC	8270C	BLK	Dimethyl pl	330			ug/kg	U				Y	
LABQC	8270C	BLK	Di-n-butyl p	330		330	ug/kg	U			1	Υ	
	8270C	BLK	Di-n-octyl p	330			,	U				Υ	
	8270C	BLK	Fluoranthe	330			0 0	U				Y	
	8270C 8270C	BLK BLK	Fluorene Hexachloro	330 330			ug/kg ug/kg	U				Y	
	8270C	BLK	Hexachlord	330				U				Y	
LABQC	8270C	BLK	Hexachlord	1600		1600		U				Y	
	8270C	BLK	Hexachloro	330		330	ug/kg	U				Υ	
	8270C	BLK	Indeno(1,2	330			,	U				Υ	
	8270C	BLK	Isophorone	330			ug/kg ug/kg	U				Y	
	8270C 8270C	BLK BLK	Naphthaler Nitrobenze	330 330			ug/kg ug/kg	U				Y	
	8270C	BLK	N-Nitrosod	330			ug/kg ug/kg	U				Y	
LABQC	8270C	BLK	N-Nitrosod	330		330	ug/kg	U			1	Υ	
	8270C	BLK	Pentachlor	660			-99	U				Υ	
	8270C	BLK	Phenanthre	330				U				Υ	
LABQC LABQC	8270C	BLK	Phenol	330 330			,	U				Y	
LABQC	8270C 8270C	BLK BLK	Pyrene Pyridine	660			ug/kg ug/kg	U				Y	
	8270C	LCS	1,2,4-Trich	77			%	,				Y	
	8270C	LCS	1,2-Dichlor	72			%				1	Υ	
	8270C	LCS	1,3-Dichlor	70			%					Υ	
	8270C	LCS	1,4-Dichlor	69			%					Υ	
	8270C	LCS	2,4,5-Trich	70			%					Y	
LABQC LABQC	8270C 8270C	LCS LCS	2,4,6-Trich 2,4-Dichlor	72 69			% %					Y	
	8270C	LCS	2,4-Dicriion	71			%					Y	
					•				•			•	

ABADIC   8270C   LOS   Z.4 Delinitor   45   %	Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
ABADIC   B370C   LCS   2.4 Entries   79	_			,					LQ	7 Q	110			rintorou
ABADIC   BSTOC   LOS   2.6 Indirect   77														
ABAGC   8700   LCS   2-Ghieron   72   94   95   1   Y														
ABOC   B2700   CS   2-Chirospt   71   %   %   1 Y														
ABOC   B870C   LCS   2-Mergarity   S9														
ABOC   B270C   CS   2-Ntrophil   80   %   1 Y   ABOC   B270C   CS   3-Ntrophil   75   %   1 Y   ABOC   B270C   CS   3-3-Deficies   75   %   1 Y   ABOC   B270C   CS   3-3-Deficies   75   %   1 Y   ABOC   B270C   CS   3-3-Deficies   75   %   1 Y   ABOC   B270C   CS   3-Ntrophil   70   %   1 Y   ABOC   B270C   CS   3-		8270C	LCS		69							1	Υ	
ABBOC   8770C   CS   2 Alfraghe   75   %   1   Y   ABBOC   270C   CS   3.4 Delicity   77   %   1   Y   ABBOC   220C   CS   3.4 Delicity   77   %   1   Y   ABBOC   220C   CS   3.4 Delicity   77   %   1   Y   ABBOC   220C   CS   3.4 Delicity   77   %   1   Y   ABBOC   220C   CS   4.6 Delicity   77   %   1   Y   ABBOC   220C   CS   4.6 Delicity   78   %   1   Y   ABBOC   220C   CS   4.6 Delicity   78   %   1   Y   ABBOC   220C   CS   4.6 Delicity   78   %   1   Y   ABBOC   220C   CS   4.6 Delicity   78   %   1   Y   ABBOC   220C   CS   4.6 Delicity   78   %   1   Y   ABBOC   220C   CS   4.6 Delicity   78   %   1   Y   ABBOC   220C   CS   4.6 Delicity   78   %   1   Y   ABBOC   220C   CS   4.6 Delicity   78   %   1   Y   ABBOC   220C   CS   4.6 Delicity   78   6   Mellicity   78   %   1   Y   ABBOC   220C   CS   4.6 Delicity   78   6   Mellicity   78   %   1   Y   ABBOC   220C   CS   4.6 Delicity   78   6   Mellicity   78   %   1   Y   ABBOC   220C   CS   Abendaphith   74   %   %   1   Y   ABBOC   220C   CS   Adentaphith   74   %   %   1   Y   ABBOC   220C   CS   Adentaphith   74   %   %   1   Y   ABBOC   220C   CS   Adentaphith   74   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C   CS   Benurolity   79   %   %   1   Y   ABBOC   220C	LABQC	8270C	LCS	2-Methylph	69			%				1	Υ	
ABOC   S270C   CS   3.4 Delote   67	LABQC	8270C	LCS	2-Nitroanili	80			%				1	Υ	
ABOC   B270C   CS   Shehrylpt   77   %   1 Y   ABOC   B270C   CS   Shehrylpt   77   %   1 Y   ABOC   B270C   CS   Shehrylpt   78   %   1 Y   ABOC   B270C   CS   Shehrylpt   78   %   1 Y   ABOC   B270C   CS   Shehrylpt   78   %   1 Y   ABOC   B270C   CS   Shehrylpt   78   %   1 Y   ABOC   B270C   CS   Shehrylpt   78   %   1 Y   ABOC   B270C   CS   Shehrylpt   78   %   1 Y   ABOC   B270C   CS   Shehrylpt   78   %   1 Y   ABOC   B270C   CS   Shehrylpt   78   %   1 Y   ABOC   B270C   CS   Shehrylpt   74   %   %   1 Y   ABOC   B270C   CS   Shehrylpt   74   %   %   1 Y   ABOC   B270C   CS   Shehrylpt   74   %   %   1 Y   ABOC   B270C   CS   Shehrylpt   74   %   %   1 Y   ABOC   B270C   CS   Shehrylpt   74   %   %   1 Y   ABOC   B270C   CS   Shehrylpt   74   %   %   1 Y   ABOC   B270C   CS   Shehrylpt   74   %   %   1 Y   ABOC   B270C   CS   Shehrylpt   74   %   %   1 Y   ABOC   B270C   CS   Shehrylpt   78   %   1 Y   ABOC   B270C   CS   Shehrylpt   79   %   %   1 Y		8270C		2-Nitropher								1	Υ	
ABACC   B270C   CS   Al-Drinton   76   %   1   Y   ABACC   B270C   LS   Al-Drinton   76   %   1   Y   ABACC   B270C   LS   Al-Drinton   78   %   1   Y   ABACC   B270C   LS   Al-Drinton   78   %   1   Y   ABACC   B270C   LS   Al-Drinton   78   %   1   Y   ABACC   B270C   CS   Al-Drinton   78   %   1   Y   ABACC   B270C   CS   Al-Drinton   78   %   1   Y   ABACC   B270C   CS   Al-Drinton   78   %   1   Y   ABACC   B270C   CS   Al-Drinton   74   %   1   Y   ABACC   B270C   CS   Al-Drinton   76   %   1   Y   ABACC   B270C   CS   Al-Drinton   76   %   1   Y   ABACC   B270C   CS   Al-Drinton   76   %   1   Y   ABACC   B270C   CS   Al-Drinton   76   %   1   Y   ABACC   B270C   CS   Al-Drinton   76   %   1   Y   ABACC   B270C   CS   Al-Drinton   76   %   1   Y   ABACC   B270C   CS   Al-Drinton   76   %   1   Y   ABACC   B270C   CS   Al-Drinton   76   %   1   Y   ABACC   B270C   CS   Al-Drinton   76   %   1   Y   ABACC   B270C   CS   Berrotoliph   70   %   1   Y   ABACC   B270C   CS   Berrotoliph   70   %   1   Y   ABACC   B270C   CS   Berrotoliph   70   %   1   Y   ABACC   B270C   CS   Berrotoliph   70   %   1   Y   ABACC   B270C   CS   Berrotoliph   70   %   1   Y   ABACC   B270C   CS   Berrotoliph   70   %   1   Y   ABACC   B270C   CS   Berrotoliph   70   %   1   Y   ABACC   B270C   CS   Berrotoliph   70   %   1   Y   ABACC   B270C   CS   B82C-blob   60   %   1   Y   ABACC   B270C   CS   B82C-blob   60   %   1   Y   ABACC   B270C   CS   B82C-blob   60   %   1   Y   ABACC   B270C   CS   B82C-blob   60   %   1   Y   ABACC   B270C   CS   B82C-blob   60   %   1   Y   ABACC   B270C   CS   B82C-blob   60   %   1   Y   ABACC   B270C   CS   B82C-blob   60   %   1   Y   ABACC   B270C   CS   B32C-blob   60   %   1   Y   ABACC   B2														
ABBOC   8270C   C.S.   4.6 Floring   78														
LABOC   S270C   LCS   4-Bronoph 78   5   1   V														
LABOC   S770C   LCS   4-Chtoral   52   52   52   52   53   53   54   54   54   54   54   54														
JABOC   8270C   LCS   4-Chioropt   74   %   1   Y   JABOC   8270C   LCS   4-Chioropt   74   %   1   Y   JABOC   8270C   LCS   4-Nitronil   76   %   1   Y   JABOC   8270C   LCS   4-Nitronil   76   %   1   Y   JABOC   8270C   LCS   4-Nitronil   76   %   1   Y   JABOC   8270C   LCS   4-Nitronil   77   77   %   %   1   Y   JABOC   8270C   LCS   4-Nitronil   77   77   %   %   1   Y   JABOC   8270C   LCS   4-Nitronil   77   %   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   82   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   78   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   78   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   78   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   78   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   101   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   101   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   101   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   101   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   101   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   101   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   101   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   83   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   83   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   83   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   83   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   82   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   82   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   82   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   82   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   82   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   82   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   70   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   70   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   70   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   70   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   70   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   70   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   70   %   1   Y   JABOC   8270C   LCS   8-Rinzolpil   70   %   1   Y   JABOC   8														
LABOC   S270C   LCS   A-Nirophi 74   %   1   Y     LABOC   S270C   LCS   A-Nirophi 74   %   1   Y     LABOC   S270C   LCS   A-Nirophi 74   %   1   Y     LABOC   S270C   LCS   A-Nirophi 74   %   1   Y     LABOC   S270C   LCS   A-Nirophi 74   %   1   Y     LABOC   S270C   LCS   A-Nirophi 74   %   1   Y     LABOC   S270C   LCS   A-Nirophi 74   %   1   Y     LABOC   S270C   LCS   A-Nirophi 74   %   1   Y     LABOC   S270C   LCS   A-Nirophi 74   %   1   Y     LABOC   S270C   LCS   Benzolaji 82   %   1   Y     LABOC   S270C   LCS   Benzolaji 82   %   1   Y     LABOC   S270C   LCS   Benzolaji 82   %   1   Y     LABOC   S270C   LCS   Benzolaji 79   %   1   Y     LABOC   S270C   LCS   Benzolaji 70   %   1   Y     LABOC   S270C   LCS   Benzolaji 101   %   1   Y     LABOC   S270C   LCS   Benzolaji 101   %   1   Y     LABOC   S270C   LCS   Benzolaji 101   %   1   Y     LABOC   S270C   LCS   Benzolaji 82   %   1   Y     LABOC   S270C   LCS   Benzolaji 82   %   1   Y     LABOC   S270C   LCS   Benzolaji 82   %   1   Y     LABOC   S270C   LCS   Benzolaji 82   %   1   Y     LABOC   S270C   LCS   Benzolaji 82   %   1   Y     LABOC   S270C   LCS   Buj2-Collol 70   %   1   Y     LABOC   S270C   LCS   Buj2-Collol 70   %   1   Y     LABOC   S270C   LCS   Buj2-Collol 70   %   1   Y     LABOC   S270C   LCS   Buj2-Collol 70   %   1   Y     LABOC   S270C   LCS   Buj2-Collol 70   %   1   Y     LABOC   S270C   LCS   Buj2-Collol 70   %   1   Y     LABOC   S270C   LCS   Buj2-Collol 70   %   1   Y     LABOC   S270C   LCS   Buj2-Collol 70   %   1   Y     LABOC   S270C   LCS   Buj2-Collol 70   %   1   Y     LABOC   S270C   LCS   Buj2-Collol 70   %   1   Y     LABOC   S270C   LCS   Buj2-Collol 70   %   1   Y     LABOC   S270C   LCS   Buj2-Collol 70   %   1   Y     LABOC   S270C   LCS   Buj2-Collol 70   %   1   Y     LABOC   S270C   LCS   Dub-collol 70   %   1   Y     LABOC   S270C   LCS														
LABOC   8270C   LCS   4-Nitrophile   84   %   1   Y														
LABOC   8270C   LCS   Achienghe   84														
LABOC   8270C   LCS   Acenaphth   74   %   1 Y   LABOC   8270C   LCS   Acenaphth   74   %   1 Y   LABOC   8270C   LCS   Acenaphth   74   %   1 Y   LABOC   8270C   LCS   Acenaphth   76   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Berodolph   78   %   1 Y   LABOC   8270C   LCS   Berodolph   78   %   1 Y   LABOC   8270C   LCS   Berodolph   78   %   1 Y   LABOC   8270C   LCS   Berodolph   78   %   1 Y   LABOC   8270C   LCS   Berodolph   78   %   1 Y   LABOC   8270C   LCS   Berodolph   78   %   1 Y   LABOC   8270C   LCS   Berodolph   78   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Berodolph   82   %   1 Y   LABOC   8270C   LCS   Conjuste   81   %   1 Y   LABOC   8270C   LCS   Conjuste   81   %   1 Y   LABOC   8270C   LCS   Conjuste   81   %   1 Y   LABOC   8270C   LCS   Conjuste   81   %   1 Y   LABOC   8270C   LCS   Conjuste   81   %   1 Y   LABOC   8270C   LCS   Conjuste   81   %   1 Y   LABOC   8270C   LCS   Debrodolph   71   %   1 Y   LABOC   8270C   LCS   Debrodolph   72   %   1 Y   1   1 Y   1   1   1   1   1   1														
LABOC   8270C   LCS   Anthrocent   74   %   1 Y   LABOC   8270C   LCS   Anthrocent   76   %   1 Y   LABOC   8270C   LCS   Benzolaby   79   %   1 Y   LABOC   8270C   LCS   Benzolaby   79   %   1 Y   LABOC   8270C   LCS   Benzolaby   79   %   1 Y   LABOC   8270C   LCS   Benzolaby   79   %   1 Y   LABOC   8270C   LCS   Benzolaby   79   %   1 Y   LABOC   8270C   LCS   Benzolaby   79   %   1 Y   LABOC   8270C   LCS   Benzolaby   79   %   1 Y   LABOC   8270C   LCS   Benzolaby   80   80   %   1 Y   LABOC   8270C   LCS   Benzolaby   80   80   %   1 Y   LABOC   8270C   LCS   Benzolaby   80   80   %   1 Y   LABOC   8270C   LCS   Benzolaby   80   80   %   1 Y   LABOC   8270C   LCS   Benzolaby   80   80   %   1 Y   LABOC   8270C   LCS   Benzolaby   80   80   %   1 Y   LABOC   8270C   LCS   Benzolaby   80   80   %   1 Y   LABOC   8270C   LCS   Benzolaby   80   80   %   1 Y   LABOC   8270C   LCS   Benzolaby   80   80   %   1 Y   LABOC   8270C   LCS   Benzolaby   80   80   %   1 Y   LABOC   8270C   LCS   Benzolaby   80   80   %   1 Y   LABOC   8270C   LCS   Benzolaby   80   80   %   1 Y   LABOC   8270C   LCS   Benzolaby   80   80   %   1 Y   LABOC   8270C   LCS   Benzolaby   70   80   80   %   1 Y   LABOC   8270C   LCS   Debenziah   90   90   90   90   90   90   90   9														
JABOC   8270C   LOS   Benzo(a)   19   19   19   19   19   19   19   1														
LABGC   B270C   LCS   Benzo(a)pt   P9														
LABGC   8270C   LCS   Benzo(a)p   79   %   1 Y     LABGC   8270C   LCS   Benzo(a)h   78   %   1 Y     LABGC   8270C   LCS   Benzo(a)h   78   %   1 Y     LABGC   8270C   LCS   Benzo(a)h   101   %   1 Y     LABGC   8270C   LCS   Benzo(a)h   101   %   1 Y     LABGC   8270C   LCS   Benzo(a)h   83   %   1 Y     LABGC   8270C   LCS   bis(2-Chlot   669   %   1 Y     LABGC   8270C   LCS   bis(2-Chlot   669   %   1 Y     LABGC   8270C   LCS   bis(2-Chlot   669   %   1 Y     LABGC   8270C   LCS   bis(2-Chlot   70   %   1 Y     LABGC   8270C   LCS   bis(2-Chlot   70   %   1 Y     LABGC   8270C   LCS   bis(2-Chlot   70   %   1 Y     LABGC   8270C   LCS   Carbusto   75   1														
LABGC   8270C   LCS   Benzo(pln)   76   %   1 Y														
LABGC   8270C   LCS   Demzo(ph)   101   %   1				\ /! 2										
LABOC   8270C   LCS   Benzo(kht   83   %														
LABOC   8270C   LCS   bis(2-Chlot)   69   %     1   Y														
LABOC   8270C   LCS   bis(2-Chlor)   69   %   1   Y														
LABOC   8270C   LCS   bis2-Chipf   70   %   1   Y     LABOC   8270C   LCS   bis2-Chipf   82   %   1   Y     LABOC   8270C   LCS   Bulyt benz   82   %   1   Y     LABOC   8270C   LCS   Bulyt benz   82   %   1   Y     LABOC   8270C   LCS   Chrysene   81   %   1   Y     LABOC   8270C   LCS   Chrysene   81   %   1   Y     LABOC   8270C   LCS   Chrysene   81   %   1   Y     LABOC   8270C   LCS   Dibenz(a.h. ) 99   %   1   Y     LABOC   8270C   LCS   Dibenz(a.h. ) 99   %   1   Y     LABOC   8270C   LCS   Dibenz(a.h. ) 99   %   1   Y     LABOC   8270C   LCS   Dibenz(a.h. ) 99   %   1   Y     LABOC   8270C   LCS   Dibenz(a.h. ) 76   %   1   Y     LABOC   8270C   LCS   Dibenz(a.h. ) 76   %   1   Y     LABOC   8270C   LCS   Dibenz(a.h. ) 76   %   1   Y     LABOC   8270C   LCS   Dibenz(a.h. ) 76   %   1   Y     LABOC   8270C   LCS   Dibenz(a.h. ) 76   %   1   Y     LABOC   8270C   LCS   Dibenz(a.h. ) 78   %   1   Y     LABOC   8270C   LCS   Pluranthe   79   %   %   1   Y     LABOC   8270C   LCS   Pluranthe   79   %   %   1   Y     LABOC   8270C   LCS   Pluranthe   79   %   %   1   Y     LABOC   8270C   LCS   Pluranthe   78   %     1   Y       LABOC   8270C   LCS   Heachbord   77   %   %     1   Y														
LABOC		8270C	LCS		70			%						
LABOC   8270C   LCS   Carbazole   75	LABQC	8270C	LCS	bis(2-Ethyll	82			%				1	Υ	
LABGC   8270C   LCS   Chrysene   81   9%   1   Y				Butyl benzy										
LABGC   8270C   LCS   Dibenzial,   99	LABQC			Carbazole										
LABGC				_										
LABGC 8270C LCS Diethylph 74														
LABQC														
LABGC				, .										
LABOC   8270C   LCS   Di-n-octyl   82   %														
LABGC 8270C LCS Fluoranthe 79														
LABGC 8270C LCS Hourse 76														
LABGC 8270C LCS Hexachlord 91														
LABQC 8270C LCS Hexachlorc 77														
LABQC 8270C LCS Hexachlorc 90 % 1 1 Y LABQC 8270C LCS Hexachlorc 74 % % 1 1 Y LABQC 8270C LCS losphoron 76 % 1 1 Y LABQC 8270C LCS losphoron 76 % 1 1 Y LABQC 8270C LCS Naphthaler 72 % % 1 1 Y LABQC 8270C LCS Naphthaler 72 % % 1 1 Y LABQC 8270C LCS Naphthaler 72 % % 1 1 Y LABQC 8270C LCS Naphthaler 72 % % 1 1 Y LABQC 8270C LCS Naphthaler 72 % % 1 1 Y LABQC 8270C LCS Naphthaler 72 % % 1 1 Y LABQC 8270C LCS Naphthaler 72 % % 1 1 Y LABQC 8270C LCS Naphthaler 72 % % 1 1 Y LABQC 8270C LCS Naphthaler 72 % % 1 1 Y LABQC 8270C LCS Naphthaler 75 % % 1 1 Y LABQC 8270C LCS Naphthaler 76 % 1 1 Y LABQC 8270C LCS Pentachlor 63 % 1 1 Y LABQC 8270C LCS Pentachlor 63 % 1 1 Y LABQC 8270C LCS Pentachlor 63 % 1 1 Y LABQC 8270C LCS Phenanthry 76 % 1 1 Y LABQC 8270C LCS Phenanthry 76 % 1 1 Y LABQC 8270C LCS Phenanthry 76 % 1 1 Y LABQC 8270C LCS Phenanthry 76 % 1 1 Y LABQC 8270C LCS Phenanthry 76 % 1 1 Y LABQC 8270C MS 1,2-4-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-4-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 77 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C MS 1,2-1-frigh 79 % 1 1 Y LABQC 8270C														
LABQC														
LABOC 8270C LCS Indeno(1,2 104														
LABQC 8270C LCS Isophorone 76 % 11 Y LABQC 8270C LCS Naphthaler 72 % 17 Y LABQC 8270C LCS Nitrobenze 72 % 17 Y LABQC 8270C LCS Nitrobenze 72 % 17 Y LABQC 8270C LCS Nitrobenze 75 % 17 Y LABQC 8270C LCS Nitrosed 75 % 17 Y LABQC 8270C LCS N-Nitrosed 94 % 17 Y LABQC 8270C LCS N-Nitrosed 94 % 17 Y LABQC 8270C LCS N-Nitrosed 94 % 17 Y LABQC 8270C LCS N-Nitrosed 94 % 17 Y LABQC 8270C LCS Pentachlor 63 % 17 Y LABQC 8270C LCS Pentachlor 66 % 17 Y LABQC 8270C LCS Phenol 66 % 17 Y LABQC 8270C LCS Phenol 66 % 17 Y LABQC 8270C LCS Phenol 66 % 17 Y LABQC 8270C LCS Phenol 66 % 17 Y LABQC 8270C LCS Phenol 66 % 17 Y LABQC 8270C LCS Phenol 66 % 17 Y LABQC 8270C LCS Phenol 66 % 17 Y LABQC 8270C LCS Phenol 66 % 17 Y LABQC 8270C MS 1,2,4-Trich 77 % 17 % 17 Y LABQC 8270C MS 1,2,4-Trich 77 % 18 W-SS-043PC-0.0-2.0 8270C MS 1,2-Dichlor 69 % 17 Y LABQC 8270C MS 1,3-Dichlor 69 % 17 Y LABQC 8270C MS 1,3-Dichlor 66 % 17 Y LABQC 8270C MS 1,3-Dichlor 66 % 17 Y LABQC 8270C MS 1,3-Dichlor 66 % 17 Y LABQC 8270C MS 1,3-Dichlor 66 % 17 Y LABQC 8270C MS 1,3-Dichlor 66 % 17 Y LABQC 8270C MS 1,3-Dichlor 67 % 17 Y LABQC 8270C MS 1,3-Dichlor 67 % 17 Y LABQC 8270C MS 1,3-Dichlor 67 % 17 Y LABQC 8270C MS 1,3-Dichlor 67 % 17 Y LABQC 8270C MS 1,3-Dichlor 67 % 17 Y LABQC 8270C MS 1,3-Dichlor 77 % 18 LABQC 8270C MS 1,3-Dichlor 77 % 18 LABQC 8270C MS 1,3-Dichlor 77 % 18 LABQC 8270C MS 1,3-Dichlor 77 % 18 LABQC 8270C MS 1,3-Dichlor 77 % 18 LABQC 8270C MS 1,3-Dichlor 77 % 18 LABQC 8270C MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 86 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-Dichlor 87 MS 1,3-D														
LABQC 8270C LCS Naphthaler 72 % % 1 Y LABQC 8270C LCS Nitrobenze 72 % % 1 Y LABQC 8270C LCS Nitrobenze 72 % % 1 Y LABQC 8270C LCS Nitrobenze 75 % 1 Y LABQC 8270C LCS Nitrosod 75 % 1 Y LABQC 8270C LCS Nitrosod 94 % 1 Y LABQC 8270C LCS Pentachlor 63 % 1 Y LABQC 8270C LCS Pentachlor 63 % 1 Y LABQC 8270C LCS Pentachlor 76 % 1 Y LABQC 8270C LCS Pentachlor 63 % 1 Y LABQC 8270C LCS Phenathre 76 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS 8270C LCS 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS 8270C														
LABQC 8270C LCS N-Nitrosod 75 % % 11 Y LABQC 8270C LCS N-Nitrosod 75 % % 11 Y LABQC 8270C LCS N-Nitrosod 94 % 11 Y LABQC 8270C LCS N-Nitrosod 94 % 11 Y LABQC 8270C LCS N-Nitrosod 94 % 11 Y LABQC 8270C LCS Pentachlor 63 % 11 Y LABQC 8270C LCS Pentachlor 63 % 12 Y LABQC 8270C LCS Pentachlor 65 % 11 Y LABQC 8270C LCS Phenol 66 % 11 Y LABQC 8270C LCS Phenol 66 % 11 Y LABQC 8270C LCS Phenol 66 % 11 Y LABQC 8270C LCS Phenol 66 % 11 Y LABQC 8270C LCS Phenol 66 % 11 Y LABQC 8270C LCS Phenol 66 % 11 Y LABQC 8270C LCS Phenol 66 % 11 Y LABQC 8270C LCS Phenol 66 % 11 Y LABQC 8270C LCS Phenol 66 % 11 Y LABQC 8270C LCS Phenol 66 % 11 Y LABQC 8270C LCS Phenol 66 % 11 Y LABQC 8270C LCS Phenol 66 % 11 Y LABQC 8270C LCS Phenol 66 % 11 Y LABQC 8270C MS 1,2-Dichlor 69 % 11 Y LABQC 8270C MS 1,2-Dichlor 69 % 11 Y LABQC 8270C MS 1,3-Dichlor 69 % 11 Y LABQC 8270C MS 1,3-Dichlor 66 % 11 Y LABQC 8270C MS 1,3-Dichlor 66 % 11 Y LABQC 8270C MS 1,3-Dichlor 65 % 11 Y LABQC 8270C MS 1,3-Dichlor 65 % 11 Y LABQC 8270C MS 1,4-Dichlor 70 % 11 Y LABQC 8270C MS 2,4-Dichlor 77 % 12 M LABQC 8270C MS 2,4-Dichlor 77 % 12 M LABQC 8270C MS 2,4-Dichlor 77 % 12 M LABQC 8270C MS 2,4-Dichlor 77 % 12 M LABQC 8270C MS 2,4-Dichlor 77 % 12 M LABQC 8270C MS 2,4-Dichlor 77 % 12 M LABQC 8270C MS 2,4-Dichlor 91 M				_										
LABQC 8270C LCS N-Nitrosod 75 % 1 Y LABQC 8270C LCS N-Nitrosod 94 % 6 1 Y LABQC 8270C LCS Pentachlor 63 % 1 Y LABQC 8270C LCS Pentachlor 63 % 1 Y LABQC 8270C LCS Pentachlor 65 % 1 Y LABQC 8270C LCS Pentachlor 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Phenol 66 % 1 Y LABQC 8270C LCS Pyrene 80 % 1 Y LABQC 8270C LCS Pyrene 80 % 1 Y LABQC 8270C LCS Pyrene 80 % 1 Y LABQC 8270C LCS Pyrene 80 % 1 Y LABQC 8270C LCS Pyrene 80 % 1 Y LABQC 8270C LCS Pyrene 80 % 1 Y LABQC 8270C LCS Pyrene 80 % 1 Y LABQC 1 Y LABQC 8270C MS 1,2-Dichlor 69 % 1 Y LABQC 1 Y LABQ	LABQC	8270C	LCS		72							1	Υ	
LABQC 8270C LCS N-Nitrosod 94 % % 1/Y LABQC 8270C LCS Pentachlor 63 % 1/Y LABQC 8270C LCS Pentachlor 63 % 1/Y LABQC 8270C LCS Pennanthra 76 % 1/Y LABQC 8270C LCS Phenol 66 % 1/Y LABQC 8270C LCS Phenol 66 % 1/Y LABQC 8270C LCS Phenol 66 % 1/Y LABQC 8270C LCS Pyrene 80 % 1/Y LABQC 8270C LCS Pyrene 80 % 1/Y LABQC 8270C LCS Pyrene 80 % 1/Y LABQC 8270C LCS Pyrene 80 % 1/Y LABQC 8270C MS 1,2,4-Trich 77 % % 1/Y LABQC 8270C MS 1,2,4-Trich 77 % % 1/Y LABQC 8270C MS 1,2,4-Trich 77 % % 1/Y LABQC 8270C MS 1,2,4-Trich 77 % % 1/Y LABQC 8270C MS 1,3-Dichlor 69 % 1/Y LABQC 8270C MS 1,3-Dichlor 66 % 1/Y LABQC 8270C MS 1,4-Dichlor 65 % 1/Y LABQC 8270C MS 1,4-Dichlor 65 % 1/Y LABQC 8270C MS 1,4-Dichlor 65 % 1/Y LABQC 8270C MS 1,4-Dichlor 65 % 1/Y LABQC 8270C MS 1,4-Dichlor 65 % 1/Y LABQC 8270C MS 2,4,6-Trich 80 % 1/Y LABQC 8270C MS 2,4-Dimbro 77 % 1/Y LABQC 8270C MS 2,4-Dimbro 77 % 1/Y LABQC 8270C MS 2,4-Dimbro 77 % 1/Y LABQC 8270C MS 2,4-Dimbro 77 % 1/Y LABQC 8270C MS 2,4-Dimbro 77 % 1/Y LABQC 8270C MS 2,4-Dimbro 77 % 1/Y LABQC 8270C MS 2,4-Dimbro 77 % 1/Y LABQC 8270C MS 2,4-Dimbro 80 % 1/Y LABQC 8270C MS 2,4-Dimbro 80 % 1/Y LABQC 8270C MS 2,4-Dimbro 80 % 1/Y LABQC 8270C MS 2,4-Dimbro 91 % 1/Y LABQC 8270C	LABQC													
LABQC         8270C         LCS         Phenothe         76         %         1 Y           LABQC         8270C         LCS         Phenot         66         %         1 Y           LABQC         8270C         LCS         Phenot         66         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         1,2,4-Trich         77         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         1,2-Dichlor         69         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         1,3-Dichlor         66         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         1,4-Dichlor         65         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-5-Trich         80         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-5-Trich         80         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-birthor         77         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dimitro         77         %         1 Y <td< td=""><td>LABQC</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	LABQC													
LABQC         8270C         LCS         Phenol         66         %         1 Y           LABQC         8270C         LCS         Pyrene         80         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         1,2-Dichlor         69         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         1,2-Dichlor         69         %           SIW-SS-043PC-0.0-2.0         8270C         MS         1,3-Dichlor         66         %           SIW-SS-043PC-0.0-2.0         8270C         MS         1,4-Dichlor         66         %           SIW-SS-043PC-0.0-2.0         8270C         MS         1,4-Dichlor         66         %           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4,5-Trich         80         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4,6-Trich         79         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Direith         77         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Direith         77         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-	LABQC	8270C	LCS	Pentachlor	63			%				1	Υ	
LABQC         8270C         LCS         Pyrene         80         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         1,2,4-Trich         77         %         1         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         1,2-Dichlor         69         %         1 1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         1,3-Dichlor         66         %         1 1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         1,4-Dichlor         65         %         1 1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-5-Trich         80         %         1 1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-6-Trich         79         %         1 1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinhort         77         %         1 1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinhort         77         %         1 1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinhort         70         %         1 1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinhort														
SIW-SS-043PC-0.0-2.0         8270C         MS         1,2,4-Trich         77         %         1 Y         1 Y         SIW-SS-043PC-0.0-2.0         8270C         MS         1,2-Dichlor         69         %         1 Y         1 Y         SIW-SS-043PC-0.0-2.0         8270C         MS         1,3-Dichlor         66         %         1 Y         1 Y         SIW-SS-043PC-0.0-2.0         8270C         MS         1,4-Dichlor         65         %         1 Y         1 Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4,5-Trich         80         %         1 Y         1 Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4,5-Trich         79         %         1 Y         1 Y         1 Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dichlor         77         %         1 Y														
SIW-SS-043PC-0.0-2.0         8270C         MS         1,2-Dichlor         69         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         1,3-Dichlor         66         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         1,4-Dichlor         65         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-5-Trich         80         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dichlor         77         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dichlor         77         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dimeth         77         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         20         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitrol         86         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitrol         86         %         1 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>														
SIW-SS-043PC-0.0-2.0         8270C         MS         1,3-Dichlor         66         %         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         1,4-Dichlor         65         %         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4,5-Trich         80         %         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4,5-Trich         79         %         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dichlor         77         %         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dichlor         77         %         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dineth         77         %         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         20         %         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         91         %         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitrol         86         %         1         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitrol         86         %														
SIW-SS-043PC-0.0-2.0         8270C         MS         1,4-Dichlor         65         %         1         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4,5-Trich         80         %         1         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4,6-Trich         79         %         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dichlor         77         %         1         Y         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dimeth         77         %         1         Y         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dimitrol         20         %         1         Y         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dimitrol         91         %         1         Y         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dimitrol         91         %         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dimitrol         91         %         1         Y         SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dimitrol         91         %         1         Y         SIW-SS-043PC-0.0-2.0         <														
SIW-SS-043PC-0.0-2.0         8270C         MS         2,4,5-Trich         80         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4,6-Trich         79         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dichlor         77         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         20         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         20         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         91         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         91         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitrol         86         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Chlorona         77         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Methylna         75         %         1 <t< td=""><td></td><td></td><td></td><td>,</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>				,										
SIW-SS-043PC-0.0-2.0         8270C         MS         2,4,6-Trich         79         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinlord         77         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         77         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         91         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         91         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         91         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitrol         86         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Chloropa         77         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Chloroph         74         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Methylph         75         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Nitroaniti         92														
SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dichlor         77         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         20         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         20         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         91         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitrol         86         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitrol         86         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitrol         86         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,0-Introple         74         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,0-Methylph         76         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,0-Methylph         76         %         1										-				
SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dimeth         77         %           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitroj         20         %           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitroj         91         %           SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitroj         86         %           SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitroj         86         %           SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitroj         86         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitroj         86         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,2-Chlorona         77         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,2-Chloroph         74         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitroj         75         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitroj         76         %         1 Y           SIW-SS-043PC-0.0-2.0         82														
SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitroj         20         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitroj         91         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitroj         86         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Chloropa         77         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Chloroph         74         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Methylna         75         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Methylph         76         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Nitrophe         76         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3,3'-Dichlo         13         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3,Methylph         87         %         1         Y <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
SIW-SS-043PC-0.0-2.0         8270C         MS         2,4-Dinitrol         91         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitrol         86         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Chlorona         77         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Chloroph         74         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Methylna         75         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Methylph         76         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Nitroanili         92         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Nitrophe         76         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3,3'-Dichlo         13         %         a         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3-Methylph         87         %         1 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
SIW-SS-043PC-0.0-2.0         8270C         MS         2,6-Dinitrol         86         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Chloropa         77         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Chloroph         74         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Methylna         75         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Methylph         76         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Nitroanili         92         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Nitrophe         76         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3,3'-Dichlol         13         %         a         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3-Methylph         87         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3-Nitroanili         59         %         1 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
SIW-SS-043PC-0.0-2.0         8270C         MS         2-Chlorona         77         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Chloroph         74         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Methylna         75         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Methylph         76         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Nitroanili         92         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Nitrophel         76         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3,3'-Dichlol         13         %         a         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3-Methylph         87         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3-Nitroanili         59         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3-Nitroanili         59         %         1 Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3-Nitroanili         59 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
SIW-SS-043PC-0.0-2.0       8270C       MS       2-Chloroph       74       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       2-Methylna       75       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       2-Methylph       76       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       2-Nitroanili       92       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       2-Nitrophel       76       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       3,3'-Dichlol       13       %       a       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       3-Methylph       87       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       3-Nitroanili       59       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       3-Nitroanili       59       %       a       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       3-Nitroanili       59       %       a       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS <td></td> <td></td> <td></td> <td>,</td> <td></td>				,										
SIW-SS-043PC-0.0-2.0         8270C         MS         2-Methylna         75         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Methylph         76         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Nitroaniii         92         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         2-Nitrophei         76         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3,3'-Dichlol         13         %         a         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3-Methylph         87         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3-Nitroaniii         59         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         3-Nitroaniii         59         %         1         Y           SIW-SS-043PC-0.0-2.0         8270C         MS         4,6-Dinitro-         29         %         a         1         Y														
SIW-SS-043PC-0.0-2.0       8270C       MS       2-Methylph       76       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       2-Nitroanili       92       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       2-Nitrophei       76       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       3,3'-Dichlol       13       %       a       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       3-Methylph       87       %       1       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       3-Nitroanili       59       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       3-Nitroanili       59       %       a       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       4,6-Dinitro-       29       %       a       1       Y														
SIW-SS-043PC-0.0-2.0       8270C       MS       2-Nitroanili       92       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       2-Nitrophel       76       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       3,3'-Dichlo       13       %       a       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       3-Methylph       87       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       3-Nitroanili       59       %       1       Y         SIW-SS-043PC-0.0-2.0       8270C       MS       4,6-Dinitro-       29       %       a       1       Y														
SIW-SS-043PC-0.0-2.0     8270C     MS     2-Nitrophel     76     %     1     Y       SIW-SS-043PC-0.0-2.0     8270C     MS     3,3'-Dichlol     13     %     a     1     Y       SIW-SS-043PC-0.0-2.0     8270C     MS     3-Methylph     87     %     1     Y       SIW-SS-043PC-0.0-2.0     8270C     MS     3-Nitroanili     59     %     1     Y       SIW-SS-043PC-0.0-2.0     8270C     MS     4,6-Dinitro-     29     %     a     1     Y	SIW-SS-043PC-0.0-2.0	8270C	MS		92									
SIW-SS-043PC-0.0-2.0     8270C     MS     3-Methylph     87     %     1     Y       SIW-SS-043PC-0.0-2.0     8270C     MS     3-Nitroanili     59     %     1     Y       SIW-SS-043PC-0.0-2.0     8270C     MS     4,6-Dinitro-     29     %     a     1     Y	SIW-SS-043PC-0.0-2.0	8270C		2-Nitropher	76			%						
SIW-SS-043PC-0.0-2.0     8270C     MS     3-Nitroanili     59     %     1     Y       SIW-SS-043PC-0.0-2.0     8270C     MS     4,6-Dinitro-     29     %     a     1     Y	SIW-SS-043PC-0.0-2.0	8270C	MS						а					
SIW-SS-043PC-0.0-2.0 8270C MS 4,6-Dinitro- 29 % a 1 Y														
SIW-SS-043PC-0.0-2.0   8270C   MS   4-Bromoph   79									а					
<u> </u>	SIW-SS-043PC-0.0-2.0	8270C	MS	4-Bromoph	79			%		]		1	Υ	

Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
		•						LQ	VQ	NO			i iitereu
	8270C	MS	4-Chloro-3	82			%					Υ	$\vdash$
	8270C	MS	4-Chloroan	43			%					Υ	<b> </b>
	8270C	MS	4-Chloroph	82			%					Υ	
	8270C	MS	4-Nitroanili	58			%					Υ	
	8270C	MS	4-Nitropher	104			%					Υ	
	8270C	MS	Acenaphthe	83			%					Υ	ı
SIW-SS-043PC-0.0-2.0	8270C	MS	Acenaphth	96			%				1	Υ	ĺ
SIW-SS-043PC-0.0-2.0	8270C	MS	Anthracene	86			%				1	Υ	1
SIW-SS-043PC-0.0-2.0	8270C	MS	Benzo(a)ar	95			%				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	MS	Benzo(a)py	106			%				1	Υ	
	8270C	MS	Benzo(b)flu	119			%	а				Υ	
	8270C	MS	Benzo(ghi)	104			%					Y	
	8270C	MS	Benzo(k)flu	94			%					Y	
	8270C	MS	bis(2-Chlor	74			%					Y	
	8270C	MS	bis(2-Chlor	69			%					Y	$\vdash$
	8270C	MS		70			%					Y	$\vdash$
			bis(2-Chlor										
	8270C	MS	bis(2-Ethyll	68			%					Y	⊢——
	8270C	MS	Butyl benzy	73			%					Υ	<b> </b>
	8270C	MS	Carbazole	81			%					Υ	
	8270C	MS	Chrysene	94			%					Υ	
	8270C	MS	Dibenz(a,h	83			%					Υ	
	8270C	MS	Dibenzofur	79			%				1	Υ	i .
SIW-SS-043PC-0.0-2.0	8270C	MS	Diethyl phtl	85			%				1	Υ	1
SIW-SS-043PC-0.0-2.0	8270C	MS	Dimethyl pl	82			%				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	MS	Di-n-butyl p	82			%				1	Υ	
	8270C	MS	Di-n-octyl p	86			%					Υ	
	8270C	MS	Fluoranthe	105			%					Y	
	8270C	MS	Fluorene	85			%					Y	
	8270C	MS	Hexachloro	83			%					Y	
	8270C	MS	Hexachlord	74			%					Y	
	8270C	MS	Hexachloro	42			%					Y	$\vdash$
	8270C	MS	Hexachlord	68								Y	$\vdash$
							%						<b></b>
	8270C	MS	Indeno(1,2	108			%					Υ	$\vdash$
	8270C	MS	Isophorone	83			%					Υ	<b></b>
	8270C	MS	Naphthaler	74			%					Υ	
	8270C	MS	Nitrobenze	74			%					Υ	
	8270C	MS	N-Nitrosod	84			%					Υ	
	8270C	MS	N-Nitrosod	93			%					Υ	
SIW-SS-043PC-0.0-2.0	8270C	MS	Pentachlor	68			%					Υ	ı
SIW-SS-043PC-0.0-2.0	8270C	MS	Phenanthre	85			%				1	Υ	1
SIW-SS-043PC-0.0-2.0	8270C	MS	Phenol	72			%				1	Υ	1
SIW-SS-043PC-0.0-2.0	8270C	MS	Pyrene	74			%				1	Υ	i
SIW-SS-043PC-0.0-2.0	8270C	MSD	1,2,4-Trich	0.27			%				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	1,2-Dichlor	0.56			%				1	Υ	
	8270C	MSD	1,3-Dichlor	0.63			%					Υ	
	8270C	MSD	1,4-Dichlor	1.2			%					Y	
	8270C	MSD	2,4,5-Trich	0.41			%					Y	$\vdash$
	8270C	MSD	2,4,6-Trich	0.41			%					Y	<b>—</b>
SIW-SS-043PC-0.0-2.0	8270C	MSD	2,4-Dichlor	1.4			%					Y	$\vdash$
			2,4-Dicrilor									Y	<b>—</b>
		MSD	,	1.2			%						⊢——
	8270C	MSD	2,4-Dinitro	24			%					Υ	<b> </b>
	8270C	MSD	2,4-Dinitrot	3			%					Υ	<b></b>
	8270C	MSD	2,6-Dinitrot	2.5			%					Υ	
SIW-SS-043PC-0.0-2.0		MSD	2-Chlorona	1.8			%					Υ	
	8270C	MSD	2-Chloroph	1.6			%					Υ	
SIW-SS-043PC-0.0-2.0		MSD	2-Methylna	0.55			%					Υ	
		MSD	2-Methylph	2.2			%					Υ	
	8270C	MSD	2-Nitroanili	1.2			%					Υ	
	8270C	MSD	2-Nitropher	2.6			%					Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	3,3'-Dichlor	18			%	а			1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	3-Methylph	3			%				1	Υ	
	8270C	MSD	3-Nitroanili	8.6			%				1	Υ	
	8270C	MSD	4,6-Dinitro-	39			%	ар				Y	
		MSD	4-Bromoph	0.56			%					Υ	
	8270C	MSD	4-Chloro-3	1.5			%					Y	
	8270C	MSD	4-Chloroan	9.9			%					Y	
	8270C	MSD	4-Chloroph	1.5			%					Y	
	8270C	MSD	4-Chioroph 4-Nitroanili	5.9			%					Υ	$\vdash$
													$\vdash$
	8270C	MSD	4-Nitrophe	3.5			%					Y	$\vdash$
	8270C	MSD	Acenaphth	1.8			%					Y	<b></b>
	8270C	MSD	Acenaphth	6			%					Υ	
	8270C	MSD	Anthracene	6.8			%					Υ	<b></b>
	8270C	MSD	Benzo(a)ar	6.4			%					Υ	
	8270C		Benzo(a)py	9.9			%					Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Benzo(b)flu	4.9				а				Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Benzo(ghi)	21			%	а			1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Benzo(k)flu	8			%				1	Υ	
	8270C	MSD	bis(2-Chlor	0.28			%					Υ	
· · · · · · · · · · · · · · · · · · ·				· · · · ·	-								

Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
SIW-SS-043PC-0.0-2.0	8270C	MSD	bis(2-Chlor				%					Y	
SIW-SS-043PC-0.0-2.0	8270C	MSD	bis(2-Chlor	2.6			%					Y	
	8270C	MSD	bis(2-Ethyl	5.7			%					Y	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Butyl benz	4.8			%				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Carbazole	1.4			%				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Chrysene	7.4			%				1	Υ	
	8270C	MSD	Dibenz(a,h	11			%					Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Dibenzofur				%					Υ	
	8270C	MSD	Diethyl pht				%					Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Dimethyl p				%					Y	
SIW-SS-043PC-0.0-2.0 SIW-SS-043PC-0.0-2.0	8270C 8270C	MSD MSD	Di-n-butyl p	0.94 0.7			%					Y	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Fluoranthe	8.2			%	а				Y	
	8270C	MSD	Fluorene	1.8			%	а				Y	
	8270C	MSD	Hexachlor				%					Y	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Hexachlor				%					Y	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Hexachlor				%	ар				Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Hexachloro	4.2			%				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Indeno(1,2	20			%	а			1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Isophorone				%					Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Naphthaler	1.1			%					Υ	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Nitrobenze	1.1	<b></b>		%	<b></b>				Y	
	8270C	MSD	N-Nitrosod	2.2	-		%					Y	
SIW-SS-043PC-0.0-2.0 SIW-SS-043PC-0.0-2.0	8270C	MSD MSD	N-Nitrosod Pentachlor	1.2 1.9	-		% %	<del>                                     </del>				Y	
	8270C 8270C	MSD	Phenanthre		-		%	-				Y	
SIW-SS-043PC-0.0-2.0	8270C	MSD	Phenol	0.7	<b> </b>		%	<b> </b>				Y	
	8270C	MSD	Pyrene	14	<u> </u>		%	<u> </u>				Y	
	8270C	REA	Anthracene			1800	ug/kg	D	J	G01		Y	
SIW-SS-CDUP-001	8270C	REA	Anthracene				ug/kg	D	J	G04	10		
SIW-SS-CDUP-001	8270C	REA	Carbazole	13000		3600	ug/kg	D	J	G04	10	Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	1,2,4-Trich	380		380	ug/kg	U	U	H02,P02	1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	1,2-Dichlor				ug/kg	U	U	H02,P02	1	Υ	
	8270C	REG	1,3-Dichlor	380			ug/kg	U	U	H02,P02		Υ	
	8270C	REG	1,4-Dichlor				ug/kg	U	U	H02,P02		Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	2,4,5-Trich	380			ug/kg	U	U	P02		Υ	
	8270C	REG	2,4,6-Trich	380			ug/kg	U	U	H02,P02		Y	
SIW-SS-041PC-0.0-2.0 SIW-SS-041PC-0.0-2.0	8270C 8270C	REG REG	2,4-Dichlor 2,4-Dimeth	380 380			ug/kg ug/kg	U	U	H02,P02 H02,P02		Y	
	8270C	REG	2,4-Dinitro	1800			ug/kg ug/kg	U	U	H04,H02,P		Y	
	8270C	REG	2,4-Dinitro	380			ug/kg	U	U	P02		Y	
SIW-SS-041PC-0.0-2.0	8270C	REG	2,6-Dinitro	380			ug/kg	U	U	P02		Y	
SIW-SS-041PC-0.0-2.0	8270C	REG	2-Chlorona				ug/kg	U	U	H02,P02	1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	2-Chloroph	380			ug/kg	U	U	H02,P02	1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	2-Methylna	380		380	ug/kg	U	U	H02,P02	1	Υ	
	8270C	REG	2-Methylph				ug/kg	U	U	H02,P02		Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	2-Nitroanili	380			ug/kg	U	U			Υ	
	8270C	REG	2-Nitrophe				ug/kg	U	U	H02,P02		Υ	
	8270C	REG	3,3'-Dichlo	1800			ug/kg	U	UJ	H02		Y	
SIW-SS-041PC-0.0-2.0 SIW-SS-041PC-0.0-2.0	8270C 8270C	REG REG	3-Methylph 3-Nitroanili	750 380			ug/kg ug/kg	U	U	P02 H02,P02		Y	
	8270C	REG	4,6-Dinitro				ug/kg ug/kg	U	UJ	H01; H04		Y	
	8270C	REG	4-Bromoph				ug/kg	U	U	P02,H02		Y	
SIW-SS-041PC-0.0-2.0		REG	4-Chloro-3				ug/kg		U	P02		Y	
SIW-SS-041PC-0.0-2.0		REG	4-Chloroar				ug/kg	U	U	H02,P02		Y	
SIW-SS-041PC-0.0-2.0	8270C	REG	4-Chloroph	380			ug/kg	U	Ü	P02	1	Υ	
SIW-SS-041PC-0.0-2.0		REG	4-Nitroanili				ug/kg	U	U	H02,P02		Υ	
SIW-SS-041PC-0.0-2.0		REG	4-Nitrophe				ug/kg	U	U			Υ	
SIW-SS-041PC-0.0-2.0		REG	Acenaphth				ug/kg		U	P02		Υ	
SIW-SS-041PC-0.0-2.0		REG	Acenaphth				ug/kg	J	J	G01		Y	
SIW-SS-041PC-0.0-2.0		REG	Aniline	380			ug/kg	U	U	C01		Y	
SIW-SS-041PC-0.0-2.0 SIW-SS-041PC-0.0-2.0		REG REG	Anthracene Azobenzer				ug/kg ug/kg	J	J U	G01		Y	
SIW-SS-041PC-0.0-2.0 SIW-SS-041PC-0.0-2.0		REG	Benzidine	380			ug/kg ug/kg	U	U			Y	
SIW-SS-041PC-0.0-2.0		REG	Benzo(a)aı				ug/kg ug/kg	J	J	G01		Y	
SIW-SS-041PC-0.0-2.0		REG	Benzo(a)p				ug/kg	ľ	=	G01		Y	
	8270C	REG	Benzo(b)flu				ug/kg	İ	J	H01		Y	
SIW-SS-041PC-0.0-2.0		REG	Benzo(ghi)	230		380	ug/kg	J	J	H01	1	Υ	
SIW-SS-041PC-0.0-2.0		REG	Benzo(k)flu				ug/kg	J	J	G01		Υ	
SIW-SS-041PC-0.0-2.0		REG	Benzoic ac				ug/kg	U	U			Υ	
SIW-SS-041PC-0.0-2.0		REG	Benzyl alco				ug/kg	U	U			Υ	
SIW-SS-041PC-0.0-2.0		REG	bis(2-Chlor				ug/kg	U	U	H02,P02		Y	
SIW-SS-041PC-0.0-2.0		REG	bis(2-Chlor				ug/kg		U	H02,P02		Y	
SIW-SS-041PC-0.0-2.0		REG REG	bis(2-Chlor				ug/kg	U	U	H02,P02 H02		Y	
SIW-SS-041PC-0.0-2.0 SIW-SS-041PC-0.0-2.0		REG	bis(2-Ethyl Butyl benz				ug/kg ug/kg	U	U	H02 H02		Y	
SIW-SS-041PC-0.0-2.0		REG	Carbazole	380			ug/kg ug/kg		U	P02		Y	
SIW-SS-041PC-0.0-2.0		REG	Chrysene	310			ug/kg	J	J	G01		Y	
			,								·		

0	NA . II I	<b>T</b>	A 1 1 -	D II		DI	11.20	10	V/O	DO.	Dil Con		Ett.
Sample Id	Method	Туре	,	Result	Error			LQ		RC	Dilution	Use?	Filtered
SIW-SS-041PC-0.0-2.0	8270C	REG	Dibenz(a,h	380			99	U	U			Υ	
	8270C	REG	Dibenzofur	380			99	U		H02,P02		Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	Diethyl phtl	380			-99	U	U	P02		Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	Dimethyl pl	380		380	ug/kg	U	U	P02	1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	Di-n-butyl p	380			-99	U		P02		Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	Di-n-octyl p	380		380	ug/kg	U	U		1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	Fluoranthei	300		380	ug/kg	J	J	H02; H04	1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	Fluorene	380		380	ug/kg	U	U	P02	1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	Hexachlord	380		380	ug/kg	U	U		1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	Hexachloro	380			ug/kg	U	U	H02,P02	1	Υ	
	8270C	REG	Hexachlord	1800		1800		U		H01	1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	Hexachlord	380				U		H02,P02		Y	
	8270C	REG	Indeno(1,2	250			ug/kg	J	_	H01		Y	
SIW-SS-041PC-0.0-2.0	8270C	REG	Isophorone	380				U	~	P02		Y	
	8270C	REG	Naphthaler	380			ug/kg ug/kg	U		H02,P02		Y	
	8270C	REG	_	380				U	U	H02,P02		Y	-
			Nitrobenze	380			99	U		P02		Y	-
	8270C	REG	N-Nitrosod				-99	_	_	P02			
	8270C	REG	N-Nitrosod	380			ug,g	U	U			Υ	
	8270C	REG	Pentachlor	750			-99	U		H02,P02		Υ	
	8270C	REG	Phenanthre	97				J		G01		Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	Phenol	380			ug, ng	U	U	H02,P02		Υ	
SIW-SS-041PC-0.0-2.0	8270C	REG	Pyrene	200			ug/kg	J	J	G01		Υ	
	8270C	REG	Pyridine	750			ug/kg	U	U			Υ	
SIW-SS-042PC-0.0-2.0	8270C	REG	1,2,4-Trich	340			ug/kg	U	U	H02,P02	1	Υ	
SIW-SS-042PC-0.0-2.0	8270C	REG	1,2-Dichlor	340		340	ug/kg	U	U	H02,P02	1	Υ	
	8270C	REG	1,3-Dichlor	340				U	U	H02,P02	1	Υ	
	8270C	REG	1,4-Dichlor	340				U		H02,P02		Υ	
SIW-SS-042PC-0.0-2.0	8270C	REG	2,4,5-Trich	340				U		P02		Y	
	8270C	REG	2,4,6-Trich	340			-99	U	_	H02,P02		Y	
	8270C	REG	2,4-Dichlor	340				U	U	H02,P02		Y	
	8270C	REG	2,4-Dimeth	340			ug/kg	U		H02,P02		Y	
SIW-SS-042PC-0.0-2.0	8270C	REG	2,4-Dinitro	1700		1700		П	U	H04,H02,P		Y	
SIW-SS-042PC-0.0-2.0	8270C	REG	2,4-Dinitrot	340				U	_	P02		Y	-
				340			99	U		P02		Y	-
	8270C	REG	2,6-Dinitrot					_					
SIW-SS-042PC-0.0-2.0	8270C	REG	2-Chlorona	340			ug/kg	U	U	H02,P02		Υ	
	8270C	REG	2-Chloroph	340			99			H02,P02		Υ	
	8270C	REG	2-Methylna	110			ug/kg	J		G01		Υ	
	8270C	REG	2-Methylph	340			ug, ng	U		H02,P02		Υ	
SIW-SS-042PC-0.0-2.0	8270C	REG	2-Nitroanili	340			-99	U	U			Υ	
SIW-SS-042PC-0.0-2.0	8270C	REG	2-Nitropher	340		340	ug/kg	U	U	H02,P02	1	Υ	
SIW-SS-042PC-0.0-2.0	8270C	REG	3,3'-Dichlor	1700		1700	ug/kg	U		H02		Υ	
SIW-SS-042PC-0.0-2.0	8270C	REG	3-Methylph	680		680	ug/kg	U	U	P02	1	Υ	
SIW-SS-042PC-0.0-2.0	8270C	REG	3-Nitroanili	340		340	ug/kg	U	U	H02,P02	1	Υ	
SIW-SS-042PC-0.0-2.0	8270C	REG	4,6-Dinitro-	1700		1700	ug/kg	U	UJ	H04,H02	1	Υ	
SIW-SS-042PC-0.0-2.0	8270C	REG	4-Bromoph	340				U	U	P02,H02	1	Υ	
SIW-SS-042PC-0.0-2.0	8270C	REG	4-Chloro-3-	340			ug/kg	U		P02		Υ	
	8270C	REG	4-Chloroan	340				U	_	H02,P02		Y	
	8270C		4-Chloroph	340				U		P02		Y	
	8270C	REG	4-Nitroanili	1700		1700		II		H02,P02		Y	
SIW-SS-042PC-0.0-2.0	8270C	REG	4-Nitrophei	1700		1700		U	U	1102,1 02		Y	
SIW-SS-042PC-0.0-2.0		REG					ug/kg ug/kg	-	_	G01		Y	-
	8270C		Acenaphth	130				J	J =				-
	8270C	REG	Acenaphth	350			ug/kg			G01		Y	
	8270C		Aniline	340			-99	U	U	004		Υ	ļ
	8270C	REG	Anthracene	830			ug/kg			G01		Y	
	8270C	REG	Azobenzen	340			, ,	U	U			Υ	<b></b>
	8270C	REG	Benzidine	340			99	U	U	004		Υ	
	8270C	REG	Benzo(a)ar	1800			ug/kg			G01		Υ	
	8270C	REG	Benzo(a)py	1200			ug/kg			G01		Υ	
	8270C	REG	Benzo(b)flu	1900			ug/kg			H01		Υ	
SIW-SS-042PC-0.0-2.0		REG	Benzo(ghi)	690			ug/kg			H01		Υ	
	8270C	REG	Benzo(k)flu	720		340	ug/kg			G01		Υ	
	8270C	REG	Benzoic ac	170		170	ug/kg	U	U		1	Υ	
SIW-SS-042PC-0.0-2.0	8270C	REG	Benzyl alco	340				U	U	•	1	Υ	
	8270C	REG	bis(2-Chlor	340				U	Ū	H02,P02		Υ	
	8270C	REG	bis(2-Chlor	340				U		H02,P02		Υ	
	8270C	REG	bis(2-Chlor	340				U		H02,P02		Υ	
	8270C	REG	bis(2-Ethyll	340				U		H02		Y	
	8270C	REG	Butyl benzy	340			-99	U		H02		Y	
	8270C	REG	Carbazole	330				J		G01		Y	$\vdash$
	8270C	REG	Chrysene	1800			ug/kg ug/kg	·	_	G01		Y	$\vdash$
				230				J		G01		Y	
	8270C	REG	Dibenz(a,h				ug/kg	_					<del>  </del>
	8270C	REG	Dibenzofur	290			ug/ng	J		G01		Y	
	8270C	REG	Diethyl phtl	340			99	U		P02		Y	<b></b>
	8270C	REG	Dimethyl pl	340			ug/kg	U		P02		Υ	<b></b>
	8270C	REG	Di-n-butyl p	340			-99	U		P02		Υ	
	8270C	REG	Di-n-octyl p	340			99	U	U			Υ	
	8270C	REG	Fluoranthe	4600			ug/kg			H02, H04		Υ	
SIW-SS-042PC-0.0-2.0	8270C	REG	Fluorene	490		340	ug/kg		=	G01	1	Υ	

Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
SIW-SS-042PC-0.0-2.0	8270C	REG	Hexachlor		LITOI		ug/kg	U	U	NO		Y	riitereu
	8270C 8270C	REG	Hexachlor					U	U	HO2 DO2		Y	
SIW-SS-042PC-0.0-2.0							ug/kg		_	H02,P02			
SIW-SS-042PC-0.0-2.0	8270C	REG	Hexachlor				ug/kg	U	UJ	H04,H02		Y	
SIW-SS-042PC-0.0-2.0	8270C	REG	Hexachlor				ug/kg	U	U =	H02,P02		Y	
SIW-SS-042PC-0.0-2.0	8270C	REG	Indeno(1,2	790			ug/kg	U	u U	H01 P02		Y	
SIW-SS-042PC-0.0-2.0	8270C	REG	Isophorone				ug/kg	1		_			
SIW-SS-042PC-0.0-2.0	8270C	REG	Naphthaler	99			ug/kg	J	J	G01		Y	
SIW-SS-042PC-0.0-2.0	8270C	REG	Nitrobenze	340			ug/kg	U	U	H02,P02		Y	
SIW-SS-042PC-0.0-2.0	8270C	REG	N-Nitrosod	340			ug/kg	U	U	P02		Y	
SIW-SS-042PC-0.0-2.0	8270C	REG REG	N-Nitrosod	340 680			ug/kg	U	U	1100 D00		Y	
SIW-SS-042PC-0.0-2.0 SIW-SS-042PC-0.0-2.0	8270C		Pentachlor				ug/kg	U	=	H02,P02		Y	
SIW-SS-042PC-0.0-2.0	8270C 8270C	REG REG	Phenanthre Phenol	3600 340			ug/kg ug/kg	U	– U	G01 H02.P02		Y	
SIW-SS-042PC-0.0-2.0	8270C	REG	Pyrene	3200			ug/kg ug/kg	U	=	G01		Y	
SIW-SS-042PC-0.0-2.0	8270C	REG	Pyridine	680			ug/kg ug/kg	U	– U	GUI		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	1,2,4-Trich	360			ug/kg ug/kg	U	U	H02,P02		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	1,2-Dichlor				ug/kg ug/kg	U	U	H02,P02		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	1,3-Dichlor	360			ug/kg	U	U	H02,P02		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	1,4-Dichlor				ug/kg	U	U	H02,P02		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	2,4,5-Trich	360			ug/kg	U	U	P02		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	2,4,6-Trich	360			ug/kg	U	U	H02,P02		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	2,4-Dichlor	360			ug/kg ug/kg	U	U	H02,P02		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	2,4-Dichiol				ug/kg	U	U	H02,P02		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	2,4-Dinitro	1700			ug/kg	U	U	H04,H02,F		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	2,4-Dinitro	360			ug/kg	U	U	P02		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	2,6-Dinitro	360			ug/kg	U	U	P02		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	2-Chlorona				ug/kg	U	U	H02,P02		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	2-Chloroph				ug/kg	U	U	H02,P02		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	2-Methylna				ug/kg	J	J	G01		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	2-Methylph			360	ug/kg	U	U	H02,P02	1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	2-Nitroanili	360		360	ug/kg	U	U		1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	2-Nitrophe	360			ug/kg	U	U	H02,P02	1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	3,3'-Dichlo	1700		1700	ug/kg	U	UJ	H02	1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	3-Methylph	720		720	ug/kg	U	U	P02	1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	3-Nitroanili	360		360	ug/kg	U	U	H02,P02	1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	4,6-Dinitro	1700		1700	ug/kg	U	UJ	H02, H04	1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	4-Bromoph	360		360	ug/kg	U	U	P02,H02	1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	4-Chloro-3	360			ug/kg	U	U	P02	1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	4-Chloroar	360			ug/kg	U	U	H02,P02		Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	4-Chloroph	360			ug/kg	U	U	P02		Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	4-Nitroanili				ug/kg	U	U	H02,P02		Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	4-Nitrophe				ug/kg	U	U			Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	Acenaphth				ug/kg	U	U	P02		Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	Acenaphth				ug/kg		=	G01		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	Aniline	360			ug/kg	U	U	004		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	Anthracene				ug/kg	1	= U	G01		Y	
SIW-SS-043PC-0.0-2.0	8270C 8270C	REG REG	Azobenzer	360 360			ug/kg	U	U			Y	
SIW-SS-043PC-0.0-2.0 SIW-SS-043PC-0.0-2.0	8270C	REG	Benzidine	1000			ug/kg	U	=	H01		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	Benzo(a)aı Benzo(a)p	1300			ug/kg ug/kg	+	=	G01		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	Benzo(b)flu	2000			ug/kg ug/kg	+	.1	H01		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	Benzo(ghi)				ug/kg ug/kg		J	H01		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	Benzo(k)flu				ug/kg ug/kg	1	_	G01		Y	
SIW-SS-043PC-0.0-2.0	1		Benzoic ac				ug/kg ug/kg	U	– U	JU 1		Y	
SIW-SS-043PC-0.0-2.0			Benzyl alco				ug/kg ug/kg	U	U			Y	
SIW-SS-043PC-0.0-2.0		REG	bis(2-Chlor				ug/kg ug/kg	U	U	H02,P02		Y	
SIW-SS-043PC-0.0-2.0			bis(2-Chlor				ug/kg		U	H02,P02		Y	
SIW-SS-043PC-0.0-2.0			bis(2-Chlor				ug/kg	U	U	H02,P02		Y	
SIW-SS-043PC-0.0-2.0			bis(2-Ethyl				ug/kg	†	=	G01		Y	
	8270C	REG	Butyl benz				ug/kg	J	J	G01		Y	
SIW-SS-043PC-0.0-2.0		REG	Carbazole	160			ug/kg	J	J	G01		Y	
SIW-SS-043PC-0.0-2.0		REG	Chrysene	1200			ug/kg	1	=	G01		Y	
SIW-SS-043PC-0.0-2.0		REG	Dibenz(a,h	270			ug/kg	J	J	G01		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	Dibenzofur				ug/kg	U	U	H02,P02		Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	Diethyl pht	360			ug/kg	U	U	P02	1	Υ	
SIW-SS-043PC-0.0-2.0			Dimethyl p				ug/kg	U	U	P02		Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	Di-n-butyl				ug/kg	U	U	P02		Υ	
SIW-SS-043PC-0.0-2.0		REG	Di-n-octyl p				ug/kg	J	J	G01		Υ	
SIW-SS-043PC-0.0-2.0		REG	Fluoranthe				ug/kg		J	H02; H04		Υ	
SIW-SS-043PC-0.0-2.0		REG	Fluorene	69			ug/kg	J	J	G01		Υ	
SIW-SS-043PC-0.0-2.0		REG	Hexachlor				ug/kg	U	U			Υ	
SIW-SS-043PC-0.0-2.0		REG	Hexachlor				ug/kg	U	U	H02,P02		Y	ļ
SIW-SS-043PC-0.0-2.0		REG	Hexachlor				ug/kg	U	UJ	H01		Y	
SIW-SS-043PC-0.0-2.0		REG	Hexachlor				ug/kg	U	U	H02,P02		Y	
SIW-SS-043PC-0.0-2.0			Indeno(1,2				ug/kg	<u> </u>	=	H01		Y	
SIW-SS-043PC-0.0-2.0		REG	Isophorone				ug/kg	U	U J	P02		Y	
SIW-SS-043PC-0.0-2.0			Naphthale				ug/kg	J	J U	G01		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	Nitrobenze	360	<u> </u>	360	ug/kg	U	Įυ	H02,P02	1 1	Υ	

Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
SIW-SS-043PC-0.0-2.0	8270C	REG	N-Nitrosod				ug/kg	U	U	P02		Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	N-Nitrosod				ug/kg	Ü	U	. 02		Y	
	8270C	REG	Pentachlor				ug/kg	Ū	U	H02.P02		Y	
SIW-SS-043PC-0.0-2.0	8270C	REG	Phenanthre				ug/kg		=	G01	1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	Phenol	1300		360	ug/kg	U	U	H02,P02	1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	REG	Pyrene	1300			ug/kg		=	G01	1	Υ	
	8270C		Pyridine	720			ug/kg	U	U			Υ	
SIW-SS-044PC-0.0-2.0	8270C	REG	1,2,4-Trich				ug/kg	U	U	H02,P02		Υ	
	8270C	REG	1,2-Dichlor				ug/kg	U	U	H02,P02		Y	
	8270C	REG	1,3-Dichlor				ug/kg	U	U	H02,P02		Y	
SIW-SS-044PC-0.0-2.0 SIW-SS-044PC-0.0-2.0	8270C 8270C	REG REG	1,4-Dichlor 2,4,5-Trich	360 360			ug/kg ug/kg	U	U	H02,P02 P02		Y	
SIW-SS-044PC-0.0-2.0	8270C	REG	2,4,5-Trich	360			ug/kg ug/kg	U	U	H02,P02		Y	
	8270C	REG	2,4-Dichlor				ug/kg ug/kg	U	U	H02,P02		Y	
	8270C	REG	2,4-Dimeth				ug/kg ug/kg	U	U	H02,P02		Y	
	8270C	REG	2,4-Dinitro				ug/kg		U	H04,H02,F		Y	
SIW-SS-044PC-0.0-2.0	8270C	REG	2,4-Dinitro				ug/kg	Ü	U	P02		Y	
SIW-SS-044PC-0.0-2.0	8270C	REG	2,6-Dinitro	360			ug/kg	U	U	P02	1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	REG	2-Chlorona	360		360	ug/kg	U	U	H02,P02	1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	REG	2-Chloroph	360			ug/kg	U	U	H02,P02	1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	REG	2-Methylna				ug/kg	J	J	G01		Υ	
SIW-SS-044PC-0.0-2.0	8270C	REG	2-Methylph				ug/kg	U	U	H02,P02		Υ	
	8270C	REG	2-Nitroanili	360			ug/kg	1 -	U	1105 = : :		Y	
	8270C	REG	2-Nitrophe	360			ug/kg	U	U	H02,P02		Y	
SIW-SS-044PC-0.0-2.0	8270C	REG	3,3'-Dichlo				ug/kg	U	UJ	H02		Y	
	8270C	REG	3-Methylph				ug/kg	U	U	P02		Y	
SIW-SS-044PC-0.0-2.0 SIW-SS-044PC-0.0-2.0	8270C 8270C	REG REG	3-Nitroanili 4,6-Dinitro	360 1700	1		ug/kg ug/kg	U	UJ	H02,P02 H04,H02		Y	
SIW-SS-044PC-0.0-2.0	8270C 8270C	REG	4,6-Dinitro 4-Bromoph				ug/kg ug/kg	U	U	P02,H02		Y	
	8270C	REG	4-Bromopi 4-Chloro-3				ug/kg ug/kg		U	P02,H02		Y	
SIW-SS-044PC-0.0-2.0	8270C	REG	4-Chloroar				ug/kg ug/kg	U	U	H02,P02		Y	
	8270C	REG	4-Chloroph				ug/kg	U	U	P02		Y	
SIW-SS-044PC-0.0-2.0	8270C	REG	4-Nitroanili	1700			ug/kg	U	U	H02,P02		Y	
SIW-SS-044PC-0.0-2.0	8270C	REG	4-Nitrophe				ug/kg	Ü	U	,		Y	
SIW-SS-044PC-0.0-2.0	8270C	REG	Acenaphth	360		360	ug/kg	U	U	P02	1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	REG	Acenaphth	1800		360	ug/kg		=	G01	1	Υ	
	8270C	REG	Aniline	360			ug/kg	U	U		1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	REG	Azobenzer				ug/kg	U	U		1	Υ	
	8270C	REG	Benzidine	360			ug/kg	U	U			Υ	
	8270C	REG	Benzo(a)a				ug/kg		=	G01		Υ	
	8270C	REG	Benzo(a)p	4300			ug/kg		=	G01		Y	
SIW-SS-044PC-0.0-2.0	8270C	REG	Benzo(b)fli				ug/kg		J .I	H01		Y	
SIW-SS-044PC-0.0-2.0 SIW-SS-044PC-0.0-2.0	8270C 8270C	REG REG	Benzo(ghi) Benzo(k)fli				ug/kg ug/kg		J =	H01 G01		Y	
SIW-SS-044PC-0.0-2.0	8270C	REG	Benzoic ac				ug/kg ug/kg	U	– U	GUI		Y	
	8270C	REG	Benzyl alc				ug/kg ug/kg	U	U			Y	
SIW-SS-044PC-0.0-2.0	8270C	REG	bis(2-Chlo				ug/kg ug/kg	U	U	H02,P02		Y	
	8270C		bis(2-Chlo				ug/kg		U	H02,P02		Y	
	8270C	REG	bis(2-Chlo				ug/kg	U	U	H02,P02		Υ	
SIW-SS-044PC-0.0-2.0	8270C	REG	bis(2-Ethyl				ug/kg	J	J	G01	1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	REG	Butyl benz	360		360	ug/kg	U	U	H02	1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	REG	Carbazole	3800			ug/kg		=	G01	1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	REG	Chrysene	4900		360	ug/kg		=	G01	1	Υ	
SIW-SS-044PC-0.0-2.0			Dibenz(a,h				ug/kg	U	U			Υ	
SIW-SS-044PC-0.0-2.0		REG	Dibenzofur				ug/kg	ļ.,	=	G01		Y	
SIW-SS-044PC-0.0-2.0		REG	Diethyl pht				ug/kg	U	U	P02		Y	
SIW-SS-044PC-0.0-2.0 SIW-SS-044PC-0.0-2.0		REG REG	Dimethyl p Di-n-butyl				ug/kg ug/kg	U	U	P02 P02		Y	
	8270C 8270C		Di-n-butyl				ug/kg ug/kg		U	1 02		Y	
SIW-SS-044PC-0.0-2.0			Fluoranthe				ug/kg ug/kg		J	H02; H04		Y	
SIW-SS-044PC-0.0-2.0		REG	Fluorene	480			ug/kg ug/kg		=	G01		Y	
SIW-SS-044PC-0.0-2.0		REG	Hexachlor				ug/kg	U	U	T		Y	
SIW-SS-044PC-0.0-2.0		REG	Hexachlor				ug/kg	U	U	H02,P02		Y	
	8270C	REG	Hexachlor				ug/kg	Ü	Ü	H04,H02	1	Υ	
SIW-SS-044PC-0.0-2.0		REG	Hexachlor				ug/kg	U	U	H02,P02		Υ	
	8270C		Indeno(1,2				ug/kg	ļ	=	H01		Υ	
	8270C	REG	Isophorone				ug/kg	U	U	P02		Υ	
SIW-SS-044PC-0.0-2.0			Naphthale				ug/kg	J	J	G01		Y	
	8270C	REG	Nitrobenze				ug/kg	U	U	H02,P02		Y	
SIW-SS-044PC-0.0-2.0		REG	N-Nitrosod				ug/kg	U	U	P02		Y	
SIW-SS-044PC-0.0-2.0 SIW-SS-044PC-0.0-2.0			N-Nitrosod				ug/kg	U	U	HU3 DOS		Y	<b> </b>
	8270C 8270C	REG REG	Pentachlor Phenanthro				ug/kg ug/kg	U	=	H02,P02 G01		Y	
SIW-SS-044PC-0.0-2.0		REG	Phenol	360			ug/kg ug/kg	U	– U	H02,P02		Y	
	8270C		Pyrene	4500			ug/kg ug/kg		=	G01		Y	
SIW-SS-044PC-0.0-2.0			Pyridine	720			ug/kg ug/kg	U	– U	501		Y	
	8270C	REG	1,2,4-Trich				ug/kg		U	G02		Y	
SIW-SS-CDUP-001	8270C	REG	1,2-Dichlor				ug/kg	U	U	G02		Υ	
•													

Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
	8270C	REG	1,3-Dichlor	360			ug/kg	U	U	G02		Y	. morea
	8270C	REG	1,4-Dichlor	360			ug/kg	U	U	G02		Y	
	8270C	REG	2.4.5-Trich	360			ug/kg	U	U	G02		Y	+
	8270C	REG	2,4,6-Trich	360			ug/kg	U	U	G02		Y	
	8270C	REG	2,4-Dichlor	360				U	U	G02		Y	
SIW-SS-CDUP-001	8270C	REG	2,4-Dimeth	360			ug/kg	U	U	G02		Y	
	8270C	REG	2,4-Dinitro	1700		1700		U	U	G02		Y	
	8270C	REG	2,4-Dinitrot	360			ug/kg	U	U	G02		Y	
	8270C	REG	2,6-Dinitrot	360			ug/kg	U	U	G02		Y	
	8270C	REG	2-Chlorona	360				U	U	G02		Y	
	8270C	REG	2-Chloroph	360			ug/kg	U	U	G02		Y	
	8270C	REG	2-Methylna	130			ug/kg	J	J	G01,G02		Y	
	8270C	REG	2-Methylph	360			ug/kg	U	U	G02		Y	
	8270C	REG	2-Nitroanili	360				U	U	G02		Y	
	8270C	REG	2-Nitropher	360			ug/kg	U	U	G02		Y	
	8270C	REG	3.3'-Dichlor	1700		1700		U	UJ	H02		Y	
SIW-SS-CDUP-001	8270C	REG	3-Methylph	720			ug/kg	U	U	G02		Y	
	8270C	REG	3-Nitroanili	360			ug/kg	U	U	G02		Y	
	8270C	REG	4,6-Dinitro-	1700		1700		U	UJ	H02, H04		Y	
	8270C	REG	4-Bromoph	360			ug/kg	U	U	G02		Y	
	8270C	REG	4-Chloro-3	360				U	Ü	G02		Y	
	8270C	REG	4-Chloroan	360			ug/kg	U	U	G02		Y	
	8270C	REG	4-Chloroph	360			ug/kg	U	U	G02		Y	
	8270C	REG	4-Nitroanili	1700		1700		U	U	G02		Y	
	8270C	REG	4-Nitropher	1700		1700		U	U	G02		Y	<del>                                     </del>
	8270C	REG	Acenaphth	360			ug/kg	U	U	G02		Y	
	8270C	REG	Acenaphth	1300			ug/kg	-	=	G01,G02		Y	
	8270C	REG	Aniline	360			ug/kg	U	U	G01,G02		Y	$\vdash$
	8270C	REG	Azobenzen	360			ug/kg	U	U	G02		Y	$\vdash$
	8270C	REG	Benzidine	360	1		ug/kg ug/kg	U	U	G02		Y	
SIW-SS-CDUP-001	8270C	REG	Benzo(a)ar	1900			ug/kg		=	G01.G02		Y	+
	8270C	REG	Benzo(a)py	3000			ug/kg		=	G01,G02		Y	+
	8270C	REG	Benzo(b)flu	4000			ug/kg		J	H01		Y	
	8270C	REG	Benzo(ghi)	4600			ug/kg		J	H01		Y	
	8270C	REG	Benzo(k)flu	1400			ug/kg		=	G01,G02		Y	
	8270C	REG	Benzoic ac	1700			ug/kg	U	U	G01,G02		Y	
	8270C	REG	Benzyl alco	360			ug/kg	U	U	G02		Y	+
	8270C	REG	bis(2-Chlor	360			ug/kg ug/kg	U	U	G02		Y	1
	8270C	REG	bis(2-Chlor	360				U	U	G02		Y	
	8270C	REG	bis(2-Chlor	360			ug/kg	U	U	G02		Y	
	8270C	REG	bis(2-Ethyll	94			ug/kg	J	J	G01,G02		Y	
SIW-SS-CDUP-001	8270C	REG	Butyl benzy	360			ug/kg	U	U	G01,G02		Y	
	8270C	REG	Chrysene	4600			ug/kg	•	=	G01,G02		Y	
	8270C	REG	Dibenz(a,h	920			ug/kg		=	G01,G02		Y	+
	8270C	REG	Dibenzofur	290			ug/kg	1	J	G01,G02		Y	
	8270C	REG	Diethyl phtl	360				U	U	G02		Y	
	8270C	REG	Dimethyl pl	360			ug/kg	U	U	G02		Y	+
	8270C	REG	Di-n-butyl p	360				U	U	G02		Y	+
	8270C	REG	Di-n-octyl p	360			ug/kg	U	U	G02		Y	+
	8270C	REG	Fluoranthe	2800			ug/kg		J	H02; H04		Y	+
	8270C	REG	Fluorene	540			ug/kg		=	G01.G02		Y	+
	8270C	REG	Hexachlord	360			ug/kg ug/kg	U	U	G01,G02		Y	
	8270C	REG	Hexachlord	360			ug/kg	U	U	G02		Y	1
		REG	Hexachlord	1700				U	_	H01		Y	
	8270C	REG	Hexachlord	360			ug/kg	U	U	G02		Y	
	8270C	REG	Indeno(1,2	3200			ug/kg		=	H01		Y	<del>                                     </del>
	8270C	REG	Isophorone	360				U	U	G02		Y	
	8270C	REG	Naphthaler	210			ug/kg	J	J	G01,G02		Y	$\vdash$
	8270C	REG	Nitrobenze	360				U	U	G01,G02		Y	
	8270C	REG	N-Nitrosod	360				U	U	G02		Y	$\vdash$
	8270C	REG	N-Nitrosod	360			ug/kg	U	U	G02		Y	$\vdash$
	8270C	REG	Pentachlor	720			ug/kg ug/kg	U	U	G02		Y	$\vdash$
	8270C	REG	Phenanthre	2600			ug/kg		=	G01,G02		Y	<del>                                     </del>
	8270C	REG	Phenol	360			ug/kg	U	U	G01,G02		Y	<del>                                     </del>
	8270C	REG	Pyrene	2700			ug/kg ug/kg		=	G01,G02		Y	
	8270C	REG	Pyridine	720			ug/kg	U	U	G02		Y	
LABQC	8270C	SUR	Surrogate-2	1900		120	ug/kg			JUL		Y	<del>                                     </del>
	8270C	SUR	Surrogate-2	2100			ug/kg ug/kg					Y	
	8270C	SUR	Surrogate-2	1300			ug/kg					Y	<del>                                     </del>
	8270C	SUR	Surrogate-2	1240			ug/kg ug/kg					Y	
LABQC	8270C	SUR	Surrogate-2	1790			ug/kg ug/kg					Y	
LABQC	8270C	SUR	Surrogate-2	1800			ug/kg ug/kg					Y	<del>                                     </del>
	8270C	SUR	Surrogate-I	1300			ug/kg ug/kg					Y	<del>                                     </del>
LABQC	8270C	SUR	Surrogate-I	1270			ug/kg ug/kg					Y	<del>                                     </del>
	8270C	SUR	Surrogate-I	1890			ug/kg ug/kg					Y	-
LABQC	8270C	SUR	Surrogate-I	2000			ug/kg ug/kg					Y	-
	8270C	SUR	Surrogate-	1570			ug/kg ug/kg					Y	<del>                                     </del>
LABQC	8270C	SUR	Surrogate-	1600			ug/kg					Y	<del>                                     </del>
7,7040	02100	JUIN	Jun Oyale-	1000	1	1	ugrng		l .		'	<u> </u>	

Sample Id	Method	Туре	Analyte	Result	Error	DL	Units	LQ	VQ	RC	Dilution	Use?	Filtered
SIW-SS-041PC-0.0-2.0	8270C	SUR	Surrogate-	4200		380	ug/kg				1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	SUR	Surrogate-	2400		380	ug/kg				1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	SUR	Surrogate-	3300		380	ug/kg				1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	SUR	Surrogate-	2500		380	ug/kg				1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	SUR	Surrogate-	3600		380	ug/kg				1	Υ	
SIW-SS-041PC-0.0-2.0	8270C	SUR	Surrogate-	2400		380	ug/kg				1	Υ	
SIW-SS-042PC-0.0-2.0	8270C	SUR	Surrogate-	1600			ug/kg				1	Υ	
SIW-SS-042PC-0.0-2.0	8270C	SUR	Surrogate-	950			ug/kg				1	Υ	
SIW-SS-042PC-0.0-2.0	8270C	SUR	Surrogate-	1500			ug/kg				1	Υ	
SIW-SS-042PC-0.0-2.0	8270C	SUR	Surrogate-	1100			ug/kg				1	Υ	
SIW-SS-042PC-0.0-2.0	8270C	SUR	Surrogate-	1700			ug/kg				1	Υ	
SIW-SS-042PC-0.0-2.0	8270C	SUR	Surrogate-	1300			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	2100			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	2520			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-:	2460			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	1400			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	1420			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	1430			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	2030			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	2050			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	2000			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	1450			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	1470			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	1500			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	2240			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	2270			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	2100			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	1400			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	1450			ug/kg				1	Υ	
SIW-SS-043PC-0.0-2.0	8270C	SUR	Surrogate-	1300			ug/kg				1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	SUR	Surrogate-	1900			ug/kg				5	Υ	
SIW-SS-044PC-0.0-2.0	8270C	SUR	Surrogate-	2700			ug/kg				1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	SUR	Surrogate-	1200			ug/kg				5	Υ	
SIW-SS-044PC-0.0-2.0	8270C	SUR	Surrogate-	1700			ug/kg				1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	SUR	Surrogate-	1900			ug/kg				5	Υ	
SIW-SS-044PC-0.0-2.0	8270C	SUR	Surrogate-	2500			ug/kg				1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	SUR	Surrogate-	1800			ug/kg				1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	SUR	Surrogate-	1300			ug/kg				5	Υ	
SIW-SS-044PC-0.0-2.0	8270C	SUR	Surrogate-	2700			ug/kg				1	Υ	
SIW-SS-044PC-0.0-2.0	8270C	SUR	Surrogate-	2000			ug/kg				5	Υ	
SIW-SS-044PC-0.0-2.0	8270C	SUR	Surrogate-	1300			ug/kg				5	Υ	
SIW-SS-044PC-0.0-2.0	8270C	SUR	Surrogate-	1800			ug/kg				1	Υ	
SIW-SS-CDUP-001	8270C	SUR	Surrogate-	2000			ug/kg				1	Υ	
SIW-SS-CDUP-001	8270C	SUR	Surrogate-	0			ug/kg	DIL *			10	Υ	
SIW-SS-CDUP-001	8270C	SUR	Surrogate-	0			ug/kg	DIL *			10	Υ	
SIW-SS-CDUP-001	8270C	SUR	Surrogate-	1300			ug/kg				1	Υ	
SIW-SS-CDUP-001	8270C	SUR	Surrogate-	0			ug/kg	DIL *			10	Υ	
SIW-SS-CDUP-001	8270C	SUR	Surrogate-	2100			ug/kg				1	Υ	
SIW-SS-CDUP-001	8270C	SUR	Surrogate-	1500			ug/kg				1	Υ	
SIW-SS-CDUP-001	8270C	SUR	Surrogate-	0			ug/kg	DIL *			10	Υ	
SIW-SS-CDUP-001	8270C	SUR	Surrogate-	2200			ug/kg				1	Υ	
SIW-SS-CDUP-001	8270C	SUR	Surrogate-	0			ug/kg	DIL *			10	Υ	
SIW-SS-CDUP-001	8270C	SUR	Surrogate-	1600			ug/kg				1	Υ	
SIW-SS-CDUP-001	8270C	SUR	Surrogate-	0			ug/kg	DIL *			10	Υ	
		1	2 3 2.10				· J. · · · J		1	1			

## APPENDIX D PHOTOGRAPH LOGS



## Staten Island Warehouse

Photographic Documentation

July 2011



View of Bayonne Bridge facing North



View of Bayonne Bridge facing West



View of the Site and Bayonne Bridge facing West



View of the Bayonne Bridge facing Northwest



Preparing equipment during Site setup



Preparing equipment during Site setup



Brush clearing



Brush clearing





Brush clearing

Brush clearing



Subsurface sample collection



View of sample logging area



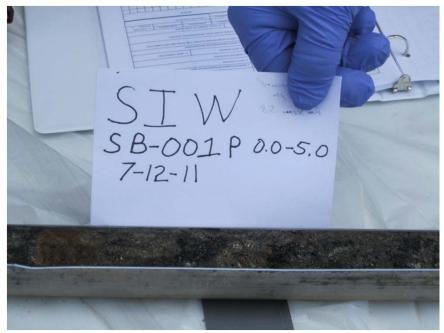
Subsurface sample collection within exclusion zone



Subsurface sample collection on beach



Subsurface sample collection on beach



Soil core from SB-001



Soil core from SB-001



Rad scanning SB-001 soil core



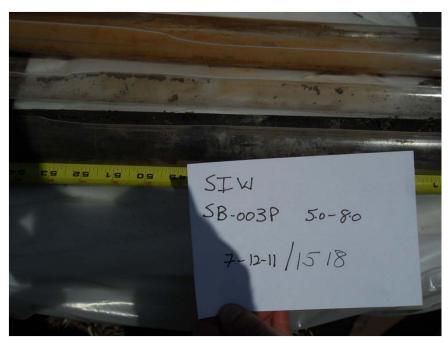
Soil core from SB-001



Soil core from SB-002



Soil core from SB-003



Soil core from SB-003



Soil core from SB-004



Soil core from SB-004



SIW SB-005P. 5.0-8.0 7/13/11 1036

Soil core from SB-005

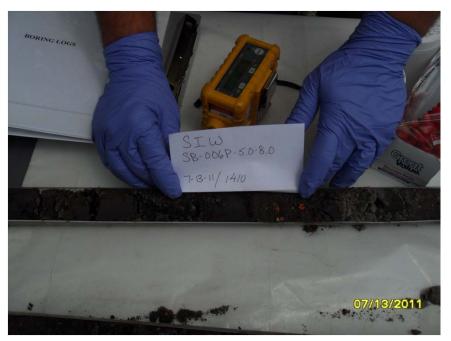
Soil core from SB-005



Soil core from SB-006



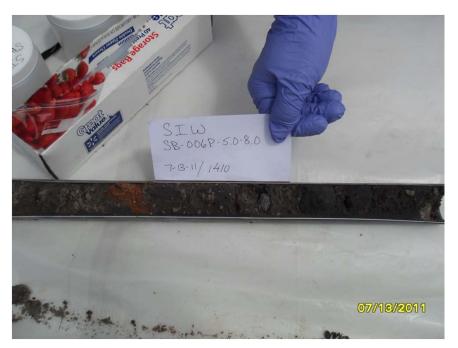
Soil core from SB-006



Soil core from SB-006



Soil core from SB-006



Soil core from SB-006



Soil core from SB-007



Soil core from SB-007



Soil core from SB-007



Soil core from SB-007



Soil core from SB-008



Soil core from SB-008



Soil core from SB-009



Soil core from SB-009



Soil core from SB-009



Soil core from SB-009



Soil core from SB-010



Soil core from SB-010



Soil core from SB-010



Soil core from SB-010



Soil core from SB-011



Soil core from SB-011



Soil core from SB-011



Soil core from SB-011



Soil core from SB-011



Soil core from SB-012



Soil core from SB-012



Soil core from SB-013



Soil core from SB-013



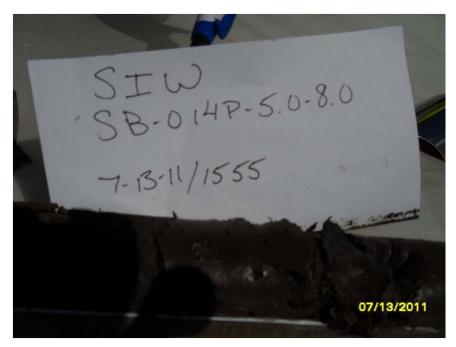
Soil core from SB-014



Soil core from SB-014



Soil core from SB-014



Soil core from SB-014



Soil core from SB-014



Soil core from SB-015



Soil core from SB-016



Soil core from SB-016



Soil core from SB-016



Soil core from SB-016



Soil core from SB-017



Soil core from SB-017



Soil core from SB-018



Soil core from SB-018



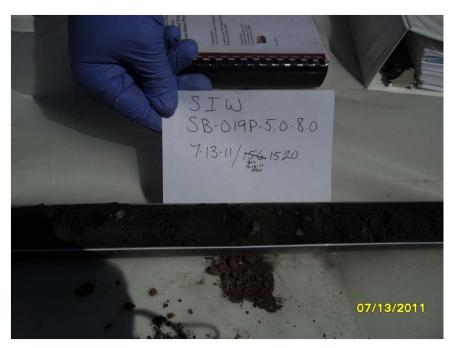
Soil core from SB-019



Soil core from SB-019



Soil core from SB-019



Soil core from SB-019



Soil core from SB-019



Soil core from SB-021



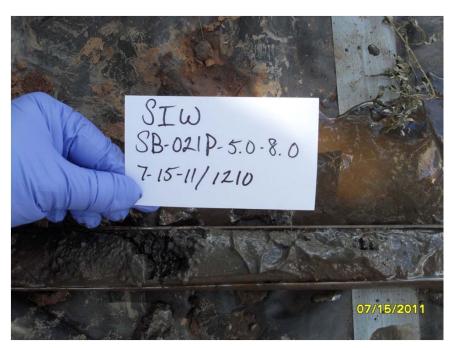
Soil core from SB-021



Soil core from SB-021



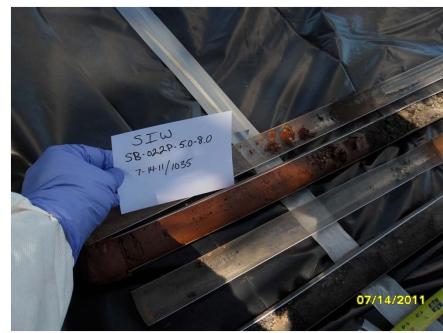
Soil core from SB-021



Soil core from SB-021



Soil core from SB-022



Soil core from SB-022



Soil core from SB-023



Soil core from SB-023



Soil core from SB-024



Soil core from SB-025



Soil core from SB-025



Soil core from SB-026



Soil core from SB-026



Soil core from SB-026



View of DPT rig setup



Surface soil sample collection



Surface soil sample collection



View of test pit excavation



View of test pit excavation



View of test pit excavation



View of test pit excavation



View of test pit excavation



View of test pit soil and fill



View of test pit soil and fill



View of Test Pit TP-01



View of Test Pit TP-01



View of Test Pit TP-01



View of Soil and Debris From Test Pit TP-01



Typical view of test pit



Soil and debris removed from Test Pit TP-02



Soil and debris removed from Test Pit TP-02



View of fill from Test Pit TP-02



View of Test Pit TP-02



View of Test Pit TP-02



View of Test Pit TP-02 material



View of Test Pit TP-02



View of Test Pit TP-02



View of Test Pit excavation



View of Test Pit TP-03



View of Test Pit TP-03



TP-03 digging operations



Test Pit TP-03





Test Pit TP-03

Test Pit TP-03



Test Pit TP-03



Soil removed from Test Pit TP-04



Soil removed from Test Pit TP-04

## APPENDIX E

#### LABORATORY DATA PACKAGES

(electronic copy only – provided on the disc located at the front of this document)



### APPENDIX F

#### ELECTRONIC DATA DELIVERABLES

(electronic copy only – provided on the disc located at the front of this document)



## APPENDIX G

**GIS DATA** 

 $(electronic\ copy\ only-provided\ on\ the\ disc\ located\ at\ the\ front\ of\ this\ document)$ 



# APPENDIX H RADIOLOGICAL SCAN DATA SHEETS



**Occupational Air Sample Report** 

Date: 7/44/0044	•	Cample ID:	D7 074444 0	14		HSWP#:	SI-11-001.0
Date: 7/11/2011	0.005.44	Sample ID:	BZ-071111-0		VC value:		
Alpha DAC value:		μCi/ml (H)			AC value:	8.00E-11	μCi/ml (H)
General Area:	Boundary:	1	5 " "	Breathing Z		IV	
Site: Staten Island W				les: Gross A			
Location: Staten Island W				ampled By:	David Lawso	<u> </u>	
Activity Performed:			ng				
Wearer (if applicable):							
Monitor Workers:	Brad Goug	h and Sam Martir	1				
Pump Model:		S/N:	691427		Calibration D		11/17/2011
Flow Meter: SM-6		S/N:	N/A		Calibration D	ue Date:	11/17/2011
Date & Time		Date & T	ime	Date	& Time		Flow
	Start	7/11/11 1	1:45				Rate (Ipm)
	Stop	7/11/11 1	7:00			Start	4
		·				Stop	4
		Total minutes	315		Average F	low Rate:	4
Min. Occupational Air Sample Volu	me= 720 I		3,0				
Sample Volume =		(lpm) x	315	(minutes) =	1.26E+03	Liters (A)	
Remarks:	1 - 4	(Ipili) X	0.0	(minutes)	1.202.00	2.10.0 (2.1)	
Remarks.			•	·			
<u>-</u>							
Sent to lab <b>after</b> a screen for fi	nal count	Г	Sent to Jah w	ithout a scre	en for final cou	nt	
						2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Instrument Information	Serial N		Cal. Due		1st Count	2 Count	3 Count
Instrument Type	meter	detector	meter	detector		-	
Ludlum 43-10-1 "A"	147736		5/31/2012		<u> </u>		13/
Ludium 43-10-1 "B"	166716	170380	4/26/2012	4/26/2012	P		
Ludlum 43-10-1 "D"	157320	157821	6/21/2012	6/21/2012	Tri .	1	Γ
Ludlum 43-10-1 "D" Screening Count Information			ALPHA		Г	BETA	Γ
		157821 1 <sup>st</sup> Count			1st Count	BETA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Screening Count Information			ALPHA		1st Count 07/12/11		3 <sup>rd</sup> Count
Screening Count Information Variables		1 <sup>st</sup> Count	ALPHA				3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time	Units	1 <sup>st</sup> Count 07/12/11 730	ALPHA		07/12/11		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time Sample Count Time		1 <sup>st</sup> Count 07/12/11	ALPHA		07/12/11 730		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count	Units Minutes	1 <sup>st</sup> Count 07/12/11 730 10 0	ALPHA		07/12/11 730 10		3 <sup>rd</sup> Count #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate	Units Minutes CPM	1 <sup>st</sup> Count 07/12/11 730 10	ALPHA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	07/12/11 730 10 451	2 <sup>nd</sup> Count	
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate	Units Minutes CPM CPM	1 <sup>st</sup> Count 07/12/11 730 10 0 0.00	ALPHA 2 <sup>nd</sup> Count #DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/12/11 730 10 451 45.1 47.0	2 <sup>nd</sup> Count	
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A)	Units Minutes CPM CPM Liters	1 <sup>st</sup> Count 07/12/11 730 10 0 0.00 0.1 1.26E+03	#DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03	#DIV/0!	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B)	Units Minutes CPM CPM	1 <sup>st</sup> Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10	ALPHA 2 <sup>nd</sup> Count #DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03	2 <sup>nd</sup> Count	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C)	Minutes  CPM CPM Liters CPM	1 <sup>st</sup> Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372	#DIV/0! 1.26E+03 #DIV/0!	3 <sup>rd</sup> Count #DIV/0! 1.26E+03 #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297	#DIV/0! 1.26E+03 #DIV/0!	#DIV/0! 1.26E+03 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D)	Units Minutes CPM CPM Liters	1 <sup>st</sup> Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372 0.99	#DIV/0! 1.26E+03 #DIV/0!	3 <sup>rd</sup> Count #DIV/0! 1.26E+03 #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297 0.99	#DIV/0! 1.26E+03 #DIV/0!	#DIV/0! 1.26E+03 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E)	Units  Minutes  CPM CPM Liters CPM 0.99	1st Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372 0.99 0.368	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00	3 <sup>rd</sup> Count #DIV/0! 1.26E+03 #DIV/0! 0.99 0.00	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297 0.99	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F)	Minutes  CPM CPM Liters CPM 0.99	1st Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372 0.99 0.368 -0.27	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297 0.99 0.29 -6.46	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G)	Units  Minutes  CPM CPM Liters CPM 0.99	1st Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372 0.99 0.368 -0.27 -9.7073E-14	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297 0.99 0.29 -6.46 -2.31E-12	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H)	Minutes  CPM CPM Liters CPM 0.99	1st Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372 0.99 0.368 -0.27 -9.7073E-14	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297 0.99 0.29 -6.46 -2.31E-12 -0.03	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Minutes  CPM CPM Liters CPM  0.99  DPM  µCi/ml	1st Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372 0.99 0.368 -0.27 -9.7073E-14 -0.0012	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297 0.99 0.29 -6.46 -2.31E-12	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Minutes  CPM CPM Liters CPM  0.99  DPM  µCi/ml	1st Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372 0.99 0.368 -0.27 -9.7073E-14 -0.0012	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297 0.99 0.29 -6.46 -2.31E-12 -0.03	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Minutes  CPM CPM Liters CPM  0.99  DPM  µCi/ml	1st Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372 0.99 0.368 -0.27 -9.7073E-14 -0.0012	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297 0.99 0.29 -6.46 -2.31E-12 -0.03	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Minutes  CPM CPM Liters CPM  0.99  DPM  µCi/ml	1st Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372 0.99 0.368 -0.27 -9.7073E-14 -0.0012	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297 0.99 0.29 -6.46 -2.31E-12 -0.03	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6 RPM Notified	Minutes  CPM CPM Liters CPM  0.99  DPM  µCi/ml	1st Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372 0.99 0.368 -0.27 -9.7073E-14 -0.0012	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297 0.99 0.29 -6.46 -2.31E-12 -0.03	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Minutes  CPM CPM Liters CPM  0.99  DPM  µCi/ml	1st Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372 0.99 0.368 -0.27 -9.7073E-14 -0.0012	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297 0.99 0.29 -6.46 -2.31E-12 -0.03	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6 RPM Notified  Calculated By:	Minutes  CPM CPM Liters CPM  0.99  DPM  µCi/ml	1st Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372 0.99 0.368 -0.27 -9.7073E-14 -0.0012	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297 0.99 0.29 -6.46 -2.31E-12 -0.03	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6 RPM Notified	Minutes  CPM CPM Liters CPM  0.99  DPM  µCi/ml	1st Count 07/12/11 730 10 0 0.00 0.1 1.26E+03 -0.10 0.372 0.99 0.368 -0.27 -9.7073E-14 -0.0012	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 730 10 451 45.1 47.0 1.26E+03 -1.9 0.297 0.99 0.29 -6.46 -2.31E-12 -0.03	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.26E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!

**Occupational Air Sample Report** 

Date: 7/12/2011		Sample ID:	BZ-071211-0	11		HSWP#	SI-11-001.0
Alpha DAC value:	8 00F-11	μCi/ml (H)	DZ-011Z111		AC value:		μCi/ml (H)
General Area:	Boundary:	F		Breathing 2		₩	<u> </u>
Site: Staten Island W		I ISPAP Sita	Radionuclio			,	
Location: Staten Island W					David Lawso	n .	
Activity Performed:				ampica by.	David Lavioc	~1	
Wearer (if applicable):			19			· -	
Monitor Workers:	Brad Goug	h and Sam Martir	`				
Widnitor Workers.	Diad Cody	II and Cam Warti	<u> </u>				
Pump Model:		S/N:	691427		Calibration D	ue Date:	11/17/2011
Flow Meter: SM-6		S/N:	N/A		Calibration D		11/17/2011
Date & Time		Date & T		Date	& Time		Flow
Date & Tille	Start				1 11:35		Rate (lpm)
	Start				1 12:45	Start	
	Olop	7712/111	1.00	1112/1	1 12.40	Stop	4
		Total minutes	210		Average F		4
Min. Occupational Air Comple Vol.	720 1	1 Otal Illinutes	210		Average	iow reacc.	
Min. Occupational Air Sample Volu		/lnm) v	210	/minutes) =	8.40E+02	Litere (A)	
Sample Volume =	1 4	(lpm) x	210	(minutes) =	0.4VETUZ	LIC13 (A)	
Remarks:		<u> </u>					
				·			
Sent to lab <b>after</b> a screen for fi	nal count	E	Sent to lah w	rithout a scre	en for final cou	nt	
							3 <sup>rd</sup> Count
Instrument Information	Serial N		Cal. Due		1st Count	2 Count	3 Count
Instrument Type	meter	detector	meter	detector			
Ludium 43-10-1 "A"	147736		5/31/2012			П	
Ludlum 43-10-1 "B"	166716		4/26/2012		<u> </u>		
Ludlum 43-10-1 "D"	157320	157821	6/21/2012	6/21/2012	П	(III)	П
Screening Count Information			ALPHA		BETA		
Variables	Units	1 <sup>st</sup> Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Count Date	None and A	07/13/11			07/13/11		
Count Time		730			730		
Sample Count Time	Minutes	10			10		
Total Count		2			482		
Sample Count Rate	СРМ	0.20	#DIV/0!	#DIV/0!	48.2	#DIV/0!	#DIV/0!
Background Count Rate	СРМ	0.1			47.0		
Volume of Air (Liters) (A)	Liters	8.40E+02	8.40E+02	8.40E+02	8.40E+02	8.40E+02	8.40E+02
Net count Rate (CPM) (B)	СРМ	0.10	#DIV/0!	#DIV/0!	1.2	#DIV/0!	#DIV/0!
Counter Efficiency (C)	Alle Alexander	0.372			0.297		
Collection Efficiency (D)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Efficiency = (C)*(D) (E)	41	0.368	0.00	0.00	0.29	0.00	0.00
Activity (DPM)= (B) / (E) (F)	DPM	0.27	#DIV/0!	#DIV/0!	4.08	#DIV/0!	#DIV/0!
Conc.=(F) / (2.22E9*(A)) (G)	μCi/ml	1.45609E-13	#DIV/0!	#DIV/0!	2.189E-12	#DIV/0!	#DIV/0!
DAC/AE Fraction = (G)/(H)		0.0018	#DIV/0!	#DIV/0!	0.03	#DIV/0!	#DIV/0!
Final Count?		V	Г		V		
			_				
Note: DAC/AE Fractions > 1.0 requires immediate RPM notification.  RPM Notified							
RPM Notified	requires in	nmediate RPM r	notificatio <u>n.</u>				
	) requires i	nmediate RPM r	otification.				
	requires in	nmediate RPM r	notification.				
RPM Notified	requires in	nmediate RPM r	notification.		Date:	7/13/1ı	
	requires in	nmediate RPM r	notification.		Date:	2/13/14	
RPM Notified	requires in	nmediate RPM r	notification.		Date:	0/13/1 <sub>1</sub> 124/11	

Occupational Air Sample Report

Date: 7/12/2011		Sample ID:	BZ-071211-0				SI-11-005.0
Alpha DAC value:	8.00E-11	μCi/ml (H)			AC value:		μCi/ml ( <b>H</b> )
General Area:	Boundary:	<u>[]</u>		Breathing Z	ione:	V	
Site: Staten Island W	/arehouse F	USRAP Site	Radionuclid	les: Gross A	lpha		
Location: Staten Island W	/arehouse F	USRAP Site	S	ampled By:	David Lawso	n	
Activity Performed:	Geoprobe S	Soil Sampling					
Wearer (if applicable):	Brian Swee	eney					
Monitor Workers:	David Laws	son, Howard Ham	mel, Brad G	Sough and S	am Martin		
Pump Model:		S/N:	691398		Calibration D		
Flow Meter: SM-6		S/N:	N/A		Calibration D	ue Date:	11/17/2011
Date & Time		Date & T		Date	& Time		Flow
	Start						Rate (ipm)
	Stop	7/12/11 1	5:45			Start	
<del>-</del>						Stop	4
		Total minutes	120		Average F	low Rate:	4
Min. Occupational Air Sample Volu							
Sample Volume =	4	(lpm) x	120	(minutes) =	4.80E+02	Liters (A)	
Remarks:							
Sent to lab after a screen for fi	nal count	Г	Sent to lab w	rithout a scre	en for final cou		
Instrument Information	Serial N	umber	Cal. Due	Date	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Instrument Type	meter	detector		detector	1077.00	2432	
Ludium 43-10-1 "A"	147736	150788	5/31/2012	5/31/2012			
Ludlum 43-10-1 "B"	166716		4/26/2012		F	Г	
Ludlum 43-10-1 "D"	157320	157821	6/21/2012	6/24/2012			
		10/021	0/21/2012	0/2 1/2012	1,000		
Screening Count Information		10/021	ALPHA	0/2 1/2012	1,000	BETA	
					1st Count	BETA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Screening Count Information		1 <sup>st</sup> Count 07/13/11	ALPHA		1st Count 07/13/11		3 <sup>rd</sup> Count
Screening Count Information Variables		1 <sup>st</sup> Count	ALPHA				3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time		1 <sup>st</sup> Count 07/13/11	ALPHA		07/13/11		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date	Units	1 <sup>st</sup> Count 07/13/11 740	ALPHA		07/13/11 740		
Screening Count Information Variables Count Date Count Time Sample Count Time	Units	1 <sup>st</sup> Count 07/13/11 740 10	ALPHA		07/13/11 740 10		3 <sup>rd</sup> Count #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate	Units Minutes	1 <sup>st</sup> Count 07/13/11 740 10 2	ALPHA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count #DIV/0!	07/13/11 740 10 485 48.5 47.0	2 <sup>nd</sup> Count	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate	Units Minutes CPM CPM Liters	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20	#DIV/0!	3 <sup>rd</sup> Count #DIV/0! 4.80E+02	07/13/11 740 10 485 48.5 47.0 4.80E+02	#DIV/0! 4.80E+02	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B)	Units Minutes CPM CPM	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20 0.1 4.80E+02	#DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/13/11 740 10 485 48.5 47.0 4.80E+02	2 <sup>nd</sup> Count	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A)	Units Minutes CPM CPM Liters	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20 0.1 4.80E+02	#DIV/0!	3 <sup>rd</sup> Count #DIV/0! 4.80E+02	07/13/11 740 10 485 48.5 47.0 4.80E+02	#DIV/0! 4.80E+02 #DIV/0!	#DIV/0! 4.80E+02 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D)	Units Minutes CPM CPM Liters	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20 0.1 4.80E+02 0.10 0.372 0.99	#DIV/0! 4.80E+02 #DIV/0!	3 <sup>rd</sup> Count #DIV/0! 4.80E+02 #DIV/0! 0.99	07/13/11 740 10 485 48.5 47.0 4.80E+02 1.5 0.297 0.99	#DIV/0! 4.80E+02 #DIV/0!	#DIV/0! 4.80E+02 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E)	Minutes  CPM CPM Liters CPM	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20 0.1 4.80E+02 0.10 0.372 0.99 0.368	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00	3 <sup>rd</sup> Count #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00	07/13/11 740 10 485 48.5 47.0 4.80E+02 1.5 0.297 0.99	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F)	Minutes  CPM CPM Liters CPM 0.99	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20 0.1 4.80E+02 0.10 0.372 0.99 0.368 0.27	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0!	07/13/11 740 10 485 48.5 47.0 4.80E+02 1.5 0.297 0.99 0.29 5.10	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G)	Minutes  CPM CPM Liters CPM	1st Count 07/13/11 740 10 2 0.20 0.1 4.80E+02 0.10 0.372 0.99 0.368 0.27 2.54817E-13	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/13/11 740 10 485 48.5 47.0 4.80E+02 1.5 0.297 0.99 0.29 5.10 4.787E-12	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H)	Minutes  CPM CPM Liters CPM 0.99	1st Count 07/13/11 740 10 2 0.20 0.1 4.80E+02 0.10 0.372 0.99 0.368 0.27 2.54817E-13	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0!	07/13/11 740 10 485 48.5 47.0 4.80E+02 1.5 0.297 0.99 0.29 5.10 4.787E-12 0.06	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20 0.1 4.80E+02 0.10 0.372 0.99 0.368 0.27 2.54817E-13 0.0032	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/13/11 740 10 485 48.5 47.0 4.80E+02 1.5 0.297 0.99 0.29 5.10 4.787E-12	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20 0.1 4.80E+02 0.10 0.372 0.99 0.368 0.27 2.54817E-13 0.0032	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/13/11 740 10 485 48.5 47.0 4.80E+02 1.5 0.297 0.99 0.29 5.10 4.787E-12 0.06	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20 0.1 4.80E+02 0.10 0.372 0.99 0.368 0.27 2.54817E-13 0.0032	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/13/11 740 10 485 48.5 47.0 4.80E+02 1.5 0.297 0.99 0.29 5.10 4.787E-12 0.06	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20 0.1 4.80E+02 0.10 0.372 0.99 0.368 0.27 2.54817E-13 0.0032	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/13/11 740 10 485 48.5 47.0 4.80E+02 1.5 0.297 0.99 0.29 5.10 4.787E-12 0.06	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6 RPM Notified	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20 0.1 4.80E+02 0.10 0.372 0.99 0.368 0.27 2.54817E-13 0.0032	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/13/11 740 10 485 48.5 47.0 4.80E+02 1.5 0.297 0.99 0.29 5.10 4.787E-12 0.06 ▼	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20 0.1 4.80E+02 0.10 0.372 0.99 0.368 0.27 2.54817E-13 0.0032	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/13/11 740 10 485 48.5 47.0 4.80E+02 1.5 0.297 0.99 0.29 5.10 4.787E-12 0.06	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6 RPM Notified  Calculated By:	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20 0.1 4.80E+02 0.10 0.372 0.99 0.368 0.27 2.54817E-13 0.0032	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/13/11 740 10 485 48.5 47.0 4.80E+02 1.5 0.297 0.99 0.29 5.10 4.787E-12 0.06 ✓	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6 RPM Notified	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/13/11 740 10 2 0.20 0.1 4.80E+02 0.10 0.372 0.99 0.368 0.27 2.54817E-13 0.0032	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! #DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/13/11 740 10 485 48.5 47.0 4.80E+02 1.5 0.297 0.99 0.29 5.10 4.787E-12 0.06 ▼	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 4.80E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!

Date: 7/13/2011		Sample ID:	BZ-071311-0	11		HSWP#:	SI-11-005.0
Alpha DAC value	9 00E 11	μCi/ml (H)	D2-07 1011-0		AC value:		μCi/ml (H)
General Area:	Boundary:	μενιιι (n)		Breathing Z		6.00 <u>L</u> -11	дени (11)
		LIODAD OX-	D = 0 = 0 =			JV	
Site: Staten Island V				les: Gross A			
Location: Staten Island V				ampled By:	David Lawso	on	
Activity Performed							
Wearer (if applicable)							
Monitor Workers:	David Laws	son, Howard Ham	imel, Brad C	Sough and S	Sam Martin		
Pump Model:		S/N:	691398		Calibration D	ue Date:	
Flow Meter: SM-6		S/N:	N/A	_	Calibration D	ue Date:	11/17/2011
Date & Time		Date & T	ime	Date	& Time		Flow
	Start	7/13/11	9:55	7/13/1	1 13:15		Rate (lpm)
	Stop	7/13/11 1	2:04	7/13/1	1 16:17	Start	4
14						Stop	4
		Total minutes	311		Average F		4
Min. Occupational Air Sample Volu	me= 720 I						
Sample Volume =		(lpm) x	311	(minutes) =	1,24F+03	Liters (A)	
Remarks:		(19/11// ^	911	(	700	(**/	<u> </u>
incinains.							
					<u> </u>		
Sent to lab <b>after</b> a screen for f	nal count		Sent to Jah w	ithout a scre	en for final cou	int	
		1.					lord o
Instrument Information	Serial N	umber	Cal. Due	e Date	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Instrument Type	meter	detector	meter	detector	100000	35.45.2515	2.22
Ludlum 43-10-1 "A"	147736	150788	5/31/2012	5/31/2012		Г	
Ludlum 43-10-1 "B"	166716	170380	4/26/2012	4/26/2012	₩ V	Г	П
Ludlum 43-10-1 "D"	157320	157821	6/21/2012	6/21/2012		П	
Screening Count Information	1		ALPHA			BETA	
Screening Count Information		1st Count	ALPHA	2 <sup>rd</sup> Count	1et Count	BETA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Variables	Units	1 <sup>st</sup> Count		3 <sup>rd</sup> Count	1st Count	BETA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Variables Count Date		07/14/11		3 <sup>rd</sup> Count	07/14/11		3 <sup>rd</sup> Count
Variables Count Date Count Time	Units	07/14/11 730		3 <sup>rd</sup> Count	07/14/11 730		3 <sup>rd</sup> Count
Variables Count Date Count Time Sample Count Time		07/14/11 730 10		3 <sup>rd</sup> Count	07/14/11 730 10		3 <sup>rd</sup> Count
Variables Count Date Count Time Sample Count Time Total Count	Units Minutes	07/14/11 730 10 1	2 <sup>nd</sup> Count		07/14/11 730 10 449	2 <sup>nd</sup> Count	
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate	Units Minutes CPM	07/14/11 730 10 1 0.10		3 <sup>rd</sup> Count #DIV/0!	07/14/11 730 10 449 44.9		3 <sup>rd</sup> Count #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate	Minutes  CPM CPM	07/14/11 730 10 1 0.10 0.1	2 <sup>nd</sup> Count	#DIV/0!	07/14/11 730 10 449 44.9 47.0	2 <sup>nd</sup> Count	#DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A)	Minutes  CPM CPM Liters	07/14/11 730 10 1 0.10 0.1 1.24E+03	#DIV/0!	#DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03	#DIV/0!	#DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B)	Minutes  CPM CPM	07/14/11 730 10 1 0.10 0.1 1.24E+03	2 <sup>nd</sup> Count	#DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03	2 <sup>nd</sup> Count	#DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C)	Minutes  CPM CPM Liters CPM	07/14/11 730 10 1 0.10 0.1 1.24E+03 0.00 0.372	#DIV/0! 1.24E+03 #DIV/0!	#DIV/0! 1.24E+03 #DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297	#DIV/0! 1.24E+03 #DIV/0!	#DIV/0! 1.24E+03 #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D)	Minutes  CPM CPM Liters	07/14/11 730 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99	#DIV/0! 1.24E+03 #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99	#DIV/0! 1.24E+03 #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C)	Minutes  CPM CPM Liters CPM	07/14/11 730 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99 0.368	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D)	Minutes  CPM CPM Liters CPM	07/14/11 730 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99	#DIV/0! 1.24E+03 #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29 -7.14	#DIV/0! 1.24E+03 #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E)	Minutes  CPM CPM Liters CPM	07/14/11 730 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99 0.368	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F)	Minutes  CPM CPM Liters CPM 0.99	07/14/11 730 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99 0.368 0.00	#DIV/0!  1.24E+03 #DIV/0!  0.99 0.00 #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29 -7.14	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H)	Minutes  CPM CPM Liters CPM 0.99	07/14/11 730 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99 0.368 0.00 0	#DIV/0!  1.24E+03 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29 -7.14 -2.586E-12	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/14/11 730 10 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29 -7.14 -2.586E-12	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/14/11 730 10 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29 -7.14 -2.586E-12	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/14/11 730 10 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29 -7.14 -2.586E-12	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/14/11 730 10 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29 -7.14 -2.586E-12	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/14/11 730 10 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29 -7.14 -2.586E-12 -0.03	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/14/11 730 10 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29 -7.14 -2.586E-12	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6 RPM Notified  Calculated By:	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/14/11 730 10 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29 -7.14 -2.586E-12 -0.03	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/14/11 730 10 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29 -7.14 -2.586E-12 -0.03	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6 RPM Notified  Calculated By:	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/14/11 730 10 10 1 0.10 0.1 1.24E+03 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/14/11 730 10 449 44.9 47.0 1.24E+03 -2.1 0.297 0.99 0.29 -7.14 -2.586E-12 -0.03	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.24E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!

Date: 7/14/2011		Sample ID:	BZ-071411-0	)1		HSWP#:	SI-11-003.0
Alpha DAC value	8 00F-11	μCi/ml (H)	<u> </u>		AC value:		μCi/ml (H)
General Area:	Boundary:	F F		Breathing Z		<u> </u>	()
Site: Staten Island W		LISRAP Site	Radionuclio	des: Gross A		•	· · · · · ·
Location: Staten Island W					David Lawso	n e	
Activity Performed:				ampica by.	David Lavide		
Wearer (if applicable):							
Monitor Workers:			······				
Wieringt Werkere.	Diad Codg	n and Cam mare	•				
Pump Model:		S/N:	691427		Calibration E	ue Date:	
Flow Meter: SM-6		S/N:	N/A		Calibration E		11/17/2011
Date & Time		Date & T			& Time		Flow
Date of Time	Start				1 13:56	1	Rate (lpm)
	Stop				1 16 55	Start	
	0.05	771 1171		77.00	1 10.00	Stop	
		Total minutes	391		Average F		4
Min. Occupational Air Sample Volu	me= 720 l	, otal minatos	33.		7.1. G. G. G. G.		
Sample Volume =		(lpm) x	391	(minutes) =	1.56E+03	Liters (A)	
Remarks:	<u> </u>	(ipin) X		(minutes)	11002.00		
rtomanto.				<del></del>			
Sent to lab after a screen for fi	nal count		Sent to lab w	rithout a scre	en for final cou	int	Г
	Serial N		Cal. Due		1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Instrument Information					1st Count	2 000111	o count
Instrument Type	meter	detector		detector			
Ludlum 43-10-1 "A"	147736		5/31/2012		1 7		
Ludlum 43-10-1 "B" Ludlum 43-10-1 "D"	166716			4/26/2012	<u>प</u>		-
	157320	157821		6/21/2012		<u> </u>	
Screening Count Information			ALPHA			BETA	
Variables	Units	1 <sup>st</sup> Count	2 <sup>nd</sup> Count	3 <sup>ra</sup> Count	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Count Date	7	07/15/11			07/15/11		
Count Time		730			730		
Sample Count Time	Minutes	10			10		
Total Count		1			469		
Sample Count Rate	СРМ	0.10	#DIV/0!	#DIV/0!	46.9	#DIV/0!	#DIV/0!
Background Count Rate	СРМ	0.1			47.0		
Volume of Air (Liters) (A)	Liters	1.56E+03	1.56E+03	1.56E+03	1.56E+03	1.56E+03	1.56E+03
Net count Rate (CPM) (B)	СРМ	0.00	#DIV/0!	#DIV/0!	-0.1	#DIV/0!	#DIV/0!
Counter Efficiency (C)	2.22	0.372	2.22	2.22	0.297	0.00	0.00
Collection Efficiency (D)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Efficiency = $(C)*(D)$ (E)	D.C.	0.368	0.00	0.00	0.29	0.00	0.00
Activity (DPM)= (B) / (E) (F)	DPM	0.00	#DIV/0!	#DIV/0!	-0.34	#DIV/0!	#DIV/0!
Conc.=(F) / (2.22E9*(A)) (G)	μCi/ml	0	#DIV/0!	#DIV/0!	-9.795E-14	#DIV/0!	#DIV/0!
DAC/AE Fraction = (G)/(H)		0.0000	#DIV/0!	#DIV/0!	0.00	#DIV/0!	#DIV/0!
Final Count?		1.5	- 4161 41		<b>M</b>		100
Note: DAC/AE Fractions > 1.0	requires ir	nmediate RPM n	otification.				
RPM Notified							· · ·
	1						
	/ /	<i>i</i> _			D-4	Just.	
Calculated By:	mi,	-			Date:	<u>// 15/ [[</u>	
Davisoned Don	V/11.				Data:	Politie	
Reviewed By:					Date: //	4/11	

Date: 7/14/2011		Sample ID:	BZ-071411-0				SI-11-005.0
Alpha DAC value:		μCi/ml (H)			AC value:		μCi/ml ( <b>H</b> )
General Area:	Boundary:	<u> </u>		Breathing Z		<u> </u>	
Site: Staten Island W				les: Gross A			
Location: Staten Island V			S	ampled By:	David Lawso	n	
Activity Performed:	Geoprobe	Soil Sampling					
Wearer (if applicable):	Brian Swee	eney					
Monitor Workers:	David Laws	son and Howard I	-lammel				
Pump Model:		S/N:			Calibration D		
Flow Meter: SM-6		S/N:	N/A		Calibration D	ue Date:	11/17/2011
Date & Time		Date & T			& Time		Flow
	Start				1 13:56	_	Rate (lpm)
	Stop	7/14/11 1	2:52	7/14/1	1 16:55	Start	
						Stop	
		Total minutes	391		Average F	low Rate:	4
Min. Occupational Air Sample Volu	ıme= 720 L						
Sample Volume =	4	(lpm) x	391	(minutes) =	1.56E+03	Liters (A)	
Remarks:							
Sent to lab <b>after</b> a screen for fi	nal count	Γ	Sent to lab w	<b>/itho</b> ut a scre	en for final cou		
Instrument Information	Serial N	umber	Cal. Due	Date	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Instrument Type	meter	detector	meter	detector			
Ludlum 43-10-1 "A"	147736		5/31/2012		Г	Г	12
Ludium 43-10-1 "B"	166716		4/26/2012		V	Г	
Ludlum 43-10-1 "D"	157320		6/21/2012			Г	П
Screening Count Information	1		ALPHA			BETA	
Screening Count Information		1 <sup>st</sup> Count		3 <sup>rd</sup> Count	1st Count		3 <sup>rd</sup> Count
Variables	Units	1 <sup>st</sup> Count 07/15/11	ALPHA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	1st Count 07/15/11	BETA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Variables Count Date		07/15/11		3 <sup>rd</sup> Count	07/15/11		3 <sup>rd</sup> Count
Variables Count Date Count Time	Units	07/15/11 740		3 <sup>rd</sup> Count	07/15/11 740		3 <sup>rd</sup> Count
Variables Count Date Count Time Sample Count Time		07/15/11 740 10		3 <sup>rd</sup> Count	07/15/11 740 10		3 <sup>rd</sup> Count
Variables Count Date Count Time Sample Count Time Total Count	Units Minutes	07/15/11 740 10 3	2 <sup>nd</sup> Count		07/15/11 740 10 469	2 <sup>nd</sup> Count	
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate	Minutes CPM	07/15/11 740 10 3 0.30		3 <sup>rd</sup> Count #DIV/0!	07/15/11 740 10 469 46.9		3 <sup>rd</sup> Count
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate	Minutes  CPM CPM	07/15/11 740 10 3 0.30 0.1	2 <sup>nd</sup> Count	#DIV/0!	07/15/11 740 10 469 46.9 47.0	2 <sup>nd</sup> Count	#DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A)	Minutes  CPM CPM Liters	07/15/11 740 10 3 0.30 0.1 1.56E+03	#DIV/0!	#DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03	#DIV/0!	
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B)	Minutes  CPM CPM	07/15/11 740 10 3 0.30 0.1	2 <sup>nd</sup> Count	#DIV/0!	07/15/11 740 10 469 46.9 47.0	2 <sup>nd</sup> Count	#DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C)	Minutes  CPM CPM Liters CPM	07/15/11 740 10 3 0.30 0.1 1.56E+03 0.20 0.372	#DIV/0! 1.56E+03 #DIV/0!	#DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03	#DIV/0!	#DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D)	Minutes  CPM CPM Liters	07/15/11 740 10 3 0.30 0.1 1.56E+03	#DIV/0!	#DIV/0! 1.56E+03 #DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03 -0.1 0.297	#DIV/0! 1.56E+03 #DIV/0!	#DIV/0! 1.56E+03 #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E)	Minutes  CPM CPM Liters CPM	07/15/11 740 10 3 0.30 0.1 1.56E+03 0.20 0.372 0.99	#DIV/0! 1.56E+03 #DIV/0!	#DIV/0! 1.56E+03 #DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03 -0.1 0.297 0.99	#DIV/0! 1.56E+03 #DIV/0!	#DIV/0! 1.56E+03 #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F)	Minutes  CPM CPM Liters CPM 0.99	07/15/11 740 10 3 0.30 0.1 1.56E+03 0.20 0.372 0.99 0.368 0.54	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03 -0.1 0.297 0.99	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G)	Minutes  CPM CPM Liters CPM 0.99	07/15/11 740 10 3 0.30 0.1 1.56E+03 0.20 0.372 0.99 0.368 0.54 1.56409E-13	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03 -0.1 0.297 0.99 0.29 -0.34 -9.795E-14	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H)	Minutes  CPM CPM Liters CPM 0.99	07/15/11 740 10 3 0.30 0.1 1.56E+03 0.20 0.372 0.99 0.368 0.54	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03 -0.1 0.297 0.99 0.29 -0.34	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/15/11 740 10 3 0.30 0.1 1.56E+03 0.20 0.372 0.99 0.368 0.54 1.56409E-13 0.0020	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03 -0.1 0.297 0.99 0.29 -0.34 -9.795E-14	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/15/11 740 10 3 0.30 0.1 1.56E+03 0.20 0.372 0.99 0.368 0.54 1.56409E-13 0.0020	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03 -0.1 0.297 0.99 0.29 -0.34 -9.795E-14	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/15/11 740 10 3 0.30 0.1 1.56E+03 0.20 0.372 0.99 0.368 0.54 1.56409E-13 0.0020	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03 -0.1 0.297 0.99 0.29 -0.34 -9.795E-14	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/15/11 740 10 3 0.30 0.1 1.56E+03 0.20 0.372 0.99 0.368 0.54 1.56409E-13 0.0020	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03 -0.1 0.297 0.99 0.29 -0.34 -9.795E-14	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6 RPM Notified	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/15/11 740 10 3 0.30 0.1 1.56E+03 0.20 0.372 0.99 0.368 0.54 1.56409E-13 0.0020	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03 -0.1 0.297 0.99 0.29 -0.34 -9.795E-14 0.00  ✓	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6 RPM Notified	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/15/11 740 10 3 0.30 0.1 1.56E+03 0.20 0.372 0.99 0.368 0.54 1.56409E-13 0.0020	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03 -0.1 0.297 0.99 0.29 -0.34 -9.795E-14	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6 RPM Notified  Calculated By:	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/15/11 740 10 3 0.30 0.1 1.56E+03 0.20 0.372 0.99 0.368 0.54 1.56409E-13 0.0020	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03 -0.1 0.297 0.99 0.29 -0.34 -9.795E-14 0.00  ✓	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	07/15/11 740 10 3 0.30 0.1 1.56E+03 0.20 0.372 0.99 0.368 0.54 1.56409E-13 0.0020	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/15/11 740 10 469 46.9 47.0 1.56E+03 -0.1 0.297 0.99 0.29 -0.34 -9.795E-14 0.00	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.56E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!

Date: 7/15/2011		Sample ID:	BZ-071511-0	)1		HSWP#:	S1-11-005.0
Alpha DAC value:	8.00E-11	μCi/ml (H)			AC value:	8.00E-11	μCi/ml ( <b>H</b> )
General Area:	Boundary:			Breathing Z	one:	F	
Site: Staten Island W		USRAP Site	Radionuclio	les: Gross A	lpha		
Location: Staten Island W	/arehouse F	USRAP Site	S	ampled By:	David Lawso	ภา	
Activity Performed:	Geoprobe S	Soil Sampling					
Wearer (if applicable):							
Monitor Workers:			-tammel				·
Pump Model:		S/N:	691398		Calibration D	ue Date:	
Flow Meter: SM-6		S/N:	N/A		Calibration D	ue Date:	11/17/2011
Date & Time		Date & T	ïme	Date	& Time		Flow
	Start	7/15/11 9	9:15			1	Rate (lpm)
	Stop	7/15/11 1	2:40			Start	4
						Stop	4
		Total minutes	205		Average F	low Rate:	4
Min. Occupational Air Sample Volu	ıme= 720 L						
Sample Volume =		(lpm) x	205	(minutes) =	8.20E+02	Liters (A)	
Remarks:	1						
		20.00				-	
Sent to lab after a screen for fi	nal count	Г	Sent to lab w	ithout a scre	en for final cou	int	
Instrument Information	Şerial N	umber	Cal. Due	e Date	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Instrument Type	meter	detector	meter	detector			
Ludlum 43-10-1 "A"	147736		5/31/2012		Г	Г	
Ludlum 43-10-1 "B"	166716		4/26/2012		V	Г	Г
Ludlum 43-10-1 "D"	157320	157821	6/21/2012	6/21/2012		Г	
Ludlum 43-10-1 "D" Screening Count Information	157320	157821	6/21/2012 <b>ALPHA</b>	6/21/2012	П	BETA	Γ
Screening Count Information			ALPHA		1st Count		3 <sup>rd</sup> Count
Screening Count Information Variables		1 <sup>st</sup> Count		6/21/2012 3 <sup>rd</sup> Count	1st Count 07/16/11	BETA  2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Screening Count Information Variables Count Date		1 <sup>st</sup> Count 07/16/11	ALPHA		07/16/11		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time	Units	1 <sup>st</sup> Count 07/16/11 730	ALPHA				3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time Sample Count Time		1 <sup>st</sup> Count 07/16/11	ALPHA		07/16/11 730		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count	Units	1 <sup>st</sup> Count 07/16/11 730 10	ALPHA		07/16/11 730 10		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate	Units Minutes	1 <sup>st</sup> Count 07/16/11 730 10	ALPHA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	07/16/11 730 10 424	2 <sup>nd</sup> Count	
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate	Units Minutes CPM	1 <sup>st</sup> Count 07/16/11 730 10 1 0.10	ALPHA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	07/16/11 730 10 424 42.4	2 <sup>nd</sup> Count	
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate	Units Minutes CPM CPM	1 <sup>st</sup> Count 07/16/11 730 10 1 0.10 0.1	#DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/16/11 730 10 424 42.4 47.0	2 <sup>nd</sup> Count	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A)	Units  Minutes  CPM CPM Liters	1 <sup>st</sup> Count 07/16/11 730 10 1 0.10 0.1 8.20E+02	#DIV/0!	3 <sup>rd</sup> Count #DIV/0! 8.20E+02	07/16/11 730 10 424 42.4 47.0 8.20E+02	#DIV/0! 8.20E+02	#DIV/0! 8.20E+02
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C)	Units  Minutes  CPM CPM Liters	1 <sup>st</sup> Count 07/16/11 730 10 1 0.10 0.1 8.20E+02	#DIV/0!	3 <sup>rd</sup> Count #DIV/0! 8.20E+02	07/16/11 730 10 424 42.4 47.0 8.20E+02 -4.6	#DIV/0! 8.20E+02	#DIV/0! 8.20E+02
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C)	Minutes  CPM CPM Liters CPM	1 <sup>st</sup> Count 07/16/11 730 10 1 0.10 0.1 8.20E+02 0.00 0.372	#DIV/0! 8.20E+02 #DIV/0!	3 <sup>rd</sup> Count #DIV/0! 8.20E+02 #DIV/0!	07/16/11 730 10 424 42.4 47.0 8.20E+02 -4.6 0.297	#DIV/0! 8.20E+02 #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D)	Minutes  CPM CPM Liters CPM	1 <sup>st</sup> Count 07/16/11 730 10 1 0.10 0.1 8.20E+02 0.00 0.372 0.99	#DIV/0! 8.20E+02 #DIV/0!	3 <sup>rd</sup> Count #DIV/0! 8.20E+02 #DIV/0!	07/16/11 730 10 424 42.4 47.0 8.20E+02 -4.6 0.297 0.99	#DIV/0! 8.20E+02 #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F)	Minutes  CPM CPM Liters CPM	1 <sup>st</sup> Count 07/16/11 730 10 1 0.10 0.1 8.20E+02 0.00 0.372 0.99 0.368	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00	07/16/11 730 10 424 42.4 47.0 8.20E+02 -4.6 0.297 0.99	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G)	Minutes  CPM CPM Liters CPM 0.99	1st Count 07/16/11 730 10 1 0.10 0.1 8.20E+02 0.00 0.372 0.99 0.368 0.00	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0!	07/16/11 730 10 424 42.4 47.0 8.20E+02 -4.6 0.297 0.99 0.29 -15.64 -8.594E-12	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/16/11 730 10 1 0.10 0.1 8.20E+02 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/16/11 730 10 424 42.4 47.0 8.20E+02 -4.6 0.297 0.99 0.29 -15.64 -8.594E-12	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.4	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/16/11 730 10 1 0.10 0.1 8.20E+02 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/16/11 730 10 424 42.4 47.0 8.20E+02 -4.6 0.297 0.99 0.29 -15.64 -8.594E-12	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.4	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/16/11 730 10 1 0.10 0.1 8.20E+02 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/16/11 730 10 424 42.4 47.0 8.20E+02 -4.6 0.297 0.99 0.29 -15.64 -8.594E-12	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/16/11 730 10 1 0.10 0.1 8.20E+02 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/16/11 730 10 424 42.4 47.0 8.20E+02 -4.6 0.297 0.99 0.29 -15.64 -8.594E-12	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.4	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/16/11 730 10 1 0.10 0.1 8.20E+02 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/16/11 730 10 424 42.4 47.0 8.20E+02 -4.6 0.297 0.99 0.29 -15.64 -8.594E-12	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.4	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/16/11 730 10 1 0.10 0.1 8.20E+02 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/16/11 730 10 424 42.4 47.0 8.20E+02 -4.6 0.297 0.99 0.29 -15.64 -8.594E-12	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.5	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/16/11 730 10 1 0.10 0.1 8.20E+02 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/16/11 730 10 424 42.4 47.0 8.20E+02 -4.6 0.297 0.99 0.29 -15.64 -8.594E-12 -0.11	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.5 RPM Notified	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/16/11 730 10 1 0.10 0.1 8.20E+02 0.00 0.372 0.99 0.368 0.00 0 0.0000	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/16/11 730 10 424 42.4 47.0 8.20E+02 -4.6 0.297 0.99 0.29 -15.64 -8.594E-12 -0.11	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.20E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!

Date: 7/15/2011		Sample ID:	BZ-071511-0	)2	·	HSWP#:	SI-11-004.0
Alpha DAC value:	8.00E-11	μCi/ml (H)		Beta D/	AC value:	8.00E-11	μCi/ml (H)
General Area:	Boundary:	F		Breathing Z	one:	V	
Site: Staten Island W	/arehouse F	USRAP Site	Radionuclio	les: Gross A	lpha		
Location: Staten Island W	/arehouse F	USRAP Site	S	ampled By:	David Lawso	n	
Activity Performed:							
Wearer (if applicable):							
Monitor Workers:	Brad Goug	h and Sam Martir	1				
		-		_			
Pump Model:		S/N:	691427		Calibration D	ue Date:	
Flow Meter: SM-6		S/N:	N/A		Calibration D	ue Date:	11/17/2011
Date & Time		Date & T	ïme	Date	& Time		Flow
	Start		9:15	7/15/1	1 16:08		Rate (Ipm)
	Stop	7/15/11 1	3:00	7/15/1	1 18:21	Start	4
						Stop	4
		Total minutes	358		Average F	low Rate:	4
Min, Occupational Air Sample Volu	me= 720 L						
Sample Volume =		(lpm) x	358	(minutes) =	1.43E+03	Liters (A)	
Remarks:	•	<u> </u>					
Sent to lab after a screen for fi	nal count	Γ	Sent to lab w	rithout a scre	en for final cou		
Instrument Information	Serial N	umber	Cal. Due	Date	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Instrument Type	meter	detector	meter	detector			
Ludlum 43-10-1 "A"	147736			5/31/2012	Г	Г	
Ludlum 43-10-1 "B"	166716	· .		4/26/2012	V	T F	i i
Ludlum 43-10-1 "D"	157320	157821			Г	F	
Screening Count Information			ALPHA	-		BETA	
Variables	Units	1 <sup>st</sup> Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Count Date	Offics	07/16/11	2 Count	3 Count	07/16/11	Z Octanic	o oddiic
Count Time		740	<u> </u>		740		
Sample Count Time	Minutes	10			10		
Total Count	Will lates	4	_		502		
Sample Count Rate	СРМ	0.40	#DIV/0!	#DIV/0!	50.2	#DIV/0!	#DIV/0!
Background Count Rate	CPM	0.1	#51070.	#3.470.	47.0	<u> </u>	
Volume of Air (Liters) (A)	Liters	1.43E+03	1.43E+03	1.43E+03	1.43E+03	1.43E+03	1.43E+03
Net count Rate (CPM) (B)	CPM	0.30	#DIV/0!	#DIV/0!	3.2	#DIV/0!	#DIV/0!
Counter Efficiency (C)	(All 1997)	0.372			0.297		
Collection Efficiency (D)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Efficiency = (C)*(D) (E)	0	0.368	0.00	0.00	0.29	0.00	0.00
Activity (DPM)= (B) / (E) (F)	DPM	0.81	#DIV/0!	#DIV/0!	10.88	#DIV/0!	#DIV/0!
Conc.=(F) / (2.22E9*(A)) (G)	μCi/ml	2.5624E-13	#DIV/0!	#DIV/0!	3.423E-12	#DIV/0!	#DIV/0!
DAC/AE Fraction = (G)/(H)		0.0032	#DIV/0!	#DIV/0!	0.04	#DIV/0!	#DIV/0!
Final Count?		V	Г	Г	V	Г	
Note: DAC/AE Fractions > 1.0	) requires i	nmediate RPM r	otification.	-17	· · · · · · · · · · · · · · · · · · ·		
RPM Notified							
_	7 0	r				//	
Calculated By:	m/ L				Date: フ	16/11	
			<u> </u>		4	17/	
Reviewed By: 1V		900			Date:	124/11	
	<del>77   66  </del>		·		- '7	/	

Date: 7/16/2011		Sample ID:	BZ-071611-0	1			SI-11-005.0
Alpha DAC value:	8.00E-11	μCi/ml (H)		Beta D/	AC value:		μCi/ml (H)
General Area:	Boundary:	Г		Breathing Z	one:	F	
Site: Staten Island W	arehouse F	USRAP Site	Radionuclid	les: Gross A	lpha	_	
Location: Staten Island W					David Lawso	n	
Activity Performed:	Excavatorin	ng Test Pits					
Wearer (if applicable):						-	
Monitor Workers:			ıgh				
				_			
Pump Model:		S/N:	691398		Calibration D		
Flow Meter: SM-6		S/N:	N/A		Calibration D	ue Date:	11/17/2011
Date & Time		Date & T	ime	Date	& Time		Flow
	Start	7/16/11 1	2:00				Rate (lpm)
, ,	Stop	7/16/11 1	8:40			Start	4
						Stop	4
		Total minutes	400		Average F	low Rate:	4
Min. Occupational Air Sample Volu	me= 720 L					<del>.</del> . –	
Sample Volume =		(lpm) x	400	(minutes) =	1.60E+03	Liters (A)	
Remarks:							
				•			
Sent to lab <b>after</b> a screen for fi	nal count	Г	Sent to lab w	ithout a scre	en for final cou	nt	
Instrument Information	Serial N	umber	Cal. Due	Date	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Instrument Type	meter	detector	meter	detector		S = 10	
Ludium 43-10-1 "A"	147736	150788	5/31/2012	5/31/2012	Г	E/S	
Ludlum 43-10-1 "B"	166716	170380	4/26/2012	4/26/2012	V	Г	
Ludlum 43-10-1 "D"	157320	157821	6/21/2012	6/21/2012	Г	Г	
Ludlum 43-10-1 "D" Screening Count Information			6/21/2012 <b>ALPHA</b>	6/21/2012		BETA	Γ
Screening Count Information			ALPHA		1st Count		3 <sup>rd</sup> Count
Screening Count Information Variables		1 <sup>st</sup> Count			1st Count 07/17/11	BETA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Screening Count Information Variables Count Date		1 <sup>st</sup> Count 07/17/11	ALPHA		07/17/11		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time	Units	1 <sup>st</sup> Count 07/17/11 730	ALPHA				3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time Sample Count Time		1 <sup>st</sup> Count 07/17/11 730 10	ALPHA		07/17/11 730		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count	Units Minutes	1 <sup>st</sup> Count 07/17/11 730	ALPHA		07/17/11 730 10		3 <sup>rd</sup> Count #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate	Units Minutes CPM	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60	ALPHA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	07/17/11 730 10 453	2 <sup>nd</sup> Count	
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate	Units Minutes CPM CPM	1 <sup>st</sup> Count 07/17/11 730 10 6	ALPHA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	07/17/11 730 10 453 45.3	2 <sup>nd</sup> Count	
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate	Units Minutes CPM	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1	#DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/17/11 730 10 453 45.3 47.0	2 <sup>nd</sup> Count	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A)	Units Minutes CPM CPM Liters	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03	#DIV/0! 1.60E+03 #DIV/0!	#DIV/0! 1.60E+03 #DIV/0!	07/17/11 730 10 453 45.3 47.0 1.60E+03 -1.7 0.297	#DIV/0! 1.60E+03 #DIV/0!	#DIV/0! 1.60E+03 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C)	Units Minutes CPM CPM Liters	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03	#DIV/0!	3 <sup>rd</sup> Count #DIV/0! 1.60E+03	07/17/11 730 10 453 45.3 47.0 1.60E+03	#DIV/0!	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D)	Minutes  CPM CPM Liters CPM	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03 0.50 0.372	#DIV/0! 1.60E+03 #DIV/0!	#DIV/0! 1.60E+03 #DIV/0!	07/17/11 730 10 453 45.3 47.0 1.60E+03 -1.7 0.297	#DIV/0! 1.60E+03 #DIV/0!	#DIV/0! 1.60E+03 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E)	Minutes  CPM CPM Liters CPM	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03 0.50 0.372 0.99	#DIV/0! 1.60E+03 #DIV/0!	#DIV/0! 1.60E+03 #DIV/0!	07/17/11 730 10 453 45.3 47.0 1.60E+03 -1.7 0.297 0.99	#DIV/0!  1.60E+03 #DIV/0!  0.99 0.00 #DIV/0!	#DIV/0! 1.60E+03 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F)	Minutes  CPM CPM Liters CPM	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03 0.50 0.372 0.99 0.368	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/17/11 730 10 453 45.3 47.0 1.60E+03 -1.7 0.297 0.99 0.29	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F)	Minutes  CPM CPM Liters CPM 0.99	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03 0.50 0.372 0.99 0.368 1.36	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0!	07/17/11 730 10 453 45.3 47.0 1.60E+03 -1.7 0.297 0.99 0.29 -5.78	#DIV/0!  1.60E+03 #DIV/0!  0.99 0.00 #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03 0.50 0.372 0.99 0.368 1.36 3.82225E-13 0.0048	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 730 10 453 45.3 47.0 1.60E+03 -1.7 0.297 0.99 0.29 -5.78 -1.628E-12	#DIV/0!  1.60E+03 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H)	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03 0.50 0.372 0.99 0.368 1.36 3.82225E-13 0.0048	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 730 10 453 45.3 47.0 1.60E+03 -1.7 0.297 0.99 0.29 -5.78 -1.628E-12 -0.02	#DIV/0!  1.60E+03 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03 0.50 0.372 0.99 0.368 1.36 3.82225E-13 0.0048	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 730 10 453 45.3 47.0 1.60E+03 -1.7 0.297 0.99 0.29 -5.78 -1.628E-12 -0.02	#DIV/0!  1.60E+03 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03 0.50 0.372 0.99 0.368 1.36 3.82225E-13 0.0048	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 730 10 453 45.3 47.0 1.60E+03 -1.7 0.297 0.99 0.29 -5.78 -1.628E-12 -0.02	#DIV/0!  1.60E+03 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03 0.50 0.372 0.99 0.368 1.36 3.82225E-13 0.0048	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 730 10 453 45.3 47.0 1.60E+03 -1.7 0.297 0.99 0.29 -5.78 -1.628E-12 -0.02	#DIV/0!  1.60E+03 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03 0.50 0.372 0.99 0.368 1.36 3.82225E-13 0.0048	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 730 10 453 45.3 47.0 1.60E+03 -1.7 0.297 0.99 0.29 -5.78 -1.628E-12 -0.02	#DIV/0!  1.60E+03 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03 0.50 0.372 0.99 0.368 1.36 3.82225E-13 0.0048	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 730 10 453 45.3 47.0 1.60E+03 -1.7 0.297 0.99 0.29 -5.78 -1.628E-12 -0.02	#DIV/0!  1.60E+03 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6 RPM Notified	Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/17/11 730 10 6 0.60 0.1 1.60E+03 0.50 0.372 0.99 0.368 1.36 3.82225E-13 0.0048	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 730 10 453 45.3 47.0 1.60E+03 -1.7 0.297 0.99 0.29 -5.78 -1.628E-12 -0.02	#DIV/0!  1.60E+03 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.60E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!

Date: 7/16/2011		Sample ID:	BZ-071611-0			HSWP#:	SI-11-004.0
Alpha DAC value:	8.00E-11	μCi/ml (H)			∖C value:		μCi/ml ( <b>H</b> )
General Area:	Boundary:	Γ		Breathing Z	one:	V	
Site: Staten Island W			Radionuclio	les: Gross A	lpha		
Location: Staten Island W	/arehouse F	USRAP Site	S	ampled By:	David Lawso	n	
Activity Performed:							
Wearer (if applicable):							
Monitor Workers:	David Laws	on, Brad Gough	and Sam Ma	artin			
Pump Model:		S/N:			Calibration D		
Flow Meter: SM-6		S/N:			Calibration D	ue Date:	11/17/2011
Date & Time		Date & T		Date	& Time		Flow
	Start	7/16/11 8		_			Rate (Ipm)
	Stop	7/16/11 1	1:28			Start	
38						Stop	
		Total minutes	202		Average F	low Rate:	4
Min. Occupational Air Sample Volu							U
Sample Volume =	4	(lpm) x	202	(minutes) =	8.08E+02	Liters (A)	
Remarks:						·	
		BOSE			100		
Sent to lab after a screen for fi	nal count	Г	Sent to lab w	ithout a scre	en for final cou		П
Instrument Information	Serial N	umber	Cal. Due	e Date	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Instrument Type	meter	detector	meter	detector			
Ludlum 43-10-1 "A"	147736	150788	5/31/2012	5/31/2012	Г	Г	Г
Ludlum 43-10-1 "B"	166716	170380	4/26/2012	4/26/2012	<del>\( \frac{\frac{1}{2}}{\frac{1}{2}} \)</del>	Г	T <sub>2</sub>
Ludlum 43-10-1 "D"	157320	157821	6/21/2012	6/21/2012	Г		E <sub>1</sub>
	10,020	101021	0/21/2012	0/2 1/2012			P 111
Screening Count Information		101021	ALPHA	0/2//2012	,	BETA	P apr
Screening Count Information			ALPHA		1st Count		3 <sup>rd</sup> Count
Screening Count Information Variables		1 <sup>st</sup> Count 07/17/11			1st Count 07/17/11		3 <sup>rd</sup> Count
Screening Count Information		1 <sup>st</sup> Count	ALPHA				3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time		1 <sup>st</sup> Count 07/17/11	ALPHA		07/17/11		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date	Units	1 <sup>st</sup> Count 07/17/11 740	ALPHA		07/17/11 740		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time Sample Count Time	Units	1 <sup>st</sup> Count 07/17/11 740 10	ALPHA		07/17/11 740 10		3 <sup>rd</sup> Count #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count	Units Minutes	1 <sup>st</sup> Count 07/17/11 740 10	ALPHA 2 <sup>nd</sup> Count #DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/17/11 740 10 468 46.8 47.0	2 <sup>nd</sup> Count	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate	Units Minutes CPM	1 <sup>st</sup> Count 07/17/11 740 10 1	ALPHA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count #DIV/0!	07/17/11 740 10 468 46.8	2 <sup>nd</sup> Count	
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate	Units Minutes CPM CPM	1 <sup>st</sup> Count 07/17/11 740 10 1 0.10 0.1	ALPHA 2 <sup>nd</sup> Count #DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/17/11 740 10 468 46.8 47.0 8.08E+02 -0.2	2 <sup>nd</sup> Count	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A)	Units Minutes CPM CPM Liters	1 <sup>st</sup> Count 07/17/11 740 10 1 0.10 0.1 8.08E+02	#DIV/0! 8.08E+02 #DIV/0!	#DIV/0! 8.08E+02 #DIV/0!	07/17/11 740 10 468 46.8 47.0 8.08E+02 -0.2 0.297	#DIV/0! 8.08E+02 #DIV/0!	#DIV/0! 8.08E+02 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C)	Units Minutes CPM CPM Liters	1 <sup>st</sup> Count 07/17/11 740 10 1 0.10 0.1 8.08E+02 0.00 0.372 0.99	#DIV/0! 8.08E+02 #DIV/0!	3 <sup>rd</sup> Count #DIV/0! 8.08E+02 #DIV/0! 0.99	07/17/11 740 10 468 46.8 47.0 8.08E+02 -0.2 0.297 0.99	#DIV/0! 8.08E+02 #DIV/0!	#DIV/0! 8.08E+02 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D)	Units  Minutes  CPM CPM Liters CPM 0.99	1st Count 07/17/11 740 10 1 0.10 0.1 8.08E+02 0.00 0.372 0.99 0.368	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00	07/17/11 740 10 468 46.8 47.0 8.08E+02 -0.2 0.297 0.99	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E)	Minutes  CPM CPM Liters CPM	1st Count 07/17/11 740 10 1 0.10 0.1 8.08E+02 0.00 0.372 0.99 0.368 0.00	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0!	07/17/11 740 10 468 46.8 47.0 8.08E+02 -0.2 0.297 0.99 0.29 -0.68	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc = (F) / (2.22E9*(A)) (G)	Units  Minutes  CPM CPM Liters CPM 0.99	1st Count 07/17/11 740 10 1 0.10 0.1 8.08E+02 0.00 0.372 0.99 0.368 0.00	#DIV/0!  8.08E+02 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/17/11 740 10 468 46.8 47.0 8.08E+02 -0.2 0.297 0.99 0.29 -0.68 -3.792E-13	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc = (F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H)	Minutes  CPM CPM Liters CPM 0.99	1st Count 07/17/11 740 10 1 0.10 0.1 8.08E+02 0.00 0.372 0.99 0.368 0.00 0	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0!	07/17/11 740 10 468 46.8 47.0 8.08E+02 -0.2 0.297 0.99 0.29 -0.68 -3.792E-13	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc = (F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/17/11 740 10 1 0.10 0.1 8.08E+02 0.00 0.372 0.99 0.368 0.00 0	#DIV/0!  8.08E+02 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 740 10 468 46.8 47.0 8.08E+02 -0.2 0.297 0.99 0.29 -0.68 -3.792E-13	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/17/11 740 10 1 0.10 0.1 8.08E+02 0.00 0.372 0.99 0.368 0.00 0	#DIV/0!  8.08E+02 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 740 10 468 46.8 47.0 8.08E+02 -0.2 0.297 0.99 0.29 -0.68 -3.792E-13	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc = (F) / (2.22E9*(A)) (G)	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/17/11 740 10 1 0.10 0.1 8.08E+02 0.00 0.372 0.99 0.368 0.00 0	#DIV/0!  8.08E+02 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 740 10 468 46.8 47.0 8.08E+02 -0.2 0.297 0.99 0.29 -0.68 -3.792E-13	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6 RPM Notified  Calculated By:	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/17/11 740 10 1 0.10 0.1 8.08E+02 0.00 0.372 0.99 0.368 0.00 0	#DIV/0!  8.08E+02 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 740 10 468 46.8 47.0 8.08E+02 -0.2 0.297 0.99 0.29 -0.68 -3.792E-13 0.00  ✓	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.6	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/17/11 740 10 1 0.10 0.1 8.08E+02 0.00 0.372 0.99 0.368 0.00 0	#DIV/0!  8.08E+02 #DIV/0!  0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 740 10 468 46.8 47.0 8.08E+02 -0.2 0.297 0.99 0.29 -0.68 -3.792E-13 0.00	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 8.08E+02 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!

· Data 7/47/0044		A 1 1-	07.651611		-	110115	OL 44 00 1 0
Date: 7/17/2011		Sample ID:	BZ-071711-0		10		SI-11-004.0
Alpha DAC value:		μCi/ml (H)			AC value:		μCi/ml (H)
General Area:	Boundary:	<u></u>	5 " " "	Breathing Z		<u></u>	
Site: Staten Island W				des: Gross A			
Location: Staten Island W				ampled By:	David Lawso	n II	
Activity Performed:			a Kemoval				
Wearer (if applicable):							
Monitor Workers:	Sam Martir	1					
Dismon Markeli		<b>△</b> # 1.	604407		Calibration	us Detai	
Pump Model: Flow Meter: SM-6		S/N:	691427 N/A		Calibration D		11/17/2011
		S/N:		D=4=		rue Dale.	Flow
Date & Time	Chart	Date & T			& Time 1 13:15		Rate (lpm)
	Start			N-	1 15:55	Start	
	Stop	7/17/11 1	3:00	11   11	1 10.00	Start	
		Total minutes	430		Average F		4
Stin One mational Siz Consult Male	7001	i Otal IIIIIIU(ES	430		Average	IOW INDIE.	-4
Min. Occupational Air Sample Volume		(lpm) v	430	(minutos) =	1.72E+03	Litere (A)	
Sample Volume = Remarks:	1 4	(lpm) x	430	(minutes) =	1.725703	LICIS (A)	
remarks.							
Sent to lab <b>after</b> a screen for fi	nal count	Г	Sent to lah w	rithout a scre	en for final cou	nt	
		· · · · · · · · · · · · · · · · · · ·					3 <sup>rd</sup> Count
Instrument Information	Serial N		Cal. Due		1st Count	Z Count	O COURT
Instrument Type	meter	detector	meter	detector		<del></del> _	
Ludlum 43-10-1 "A"	147736			5/31/2012			
Ludlum 43-10-1 "B"	166716		4/26/2012	6/21/2012	V	1	
Ludlum 43-10-1 "D"	157320	157821	L 0/21/2012	L D// 1/2017	100	1 (	
		10.02.		0/2 1/2012	501	DET 6	
Screening Count Information			ALPHA			BETA	- rd -
Screening Count Information Variables		1 <sup>st</sup> Count	ALPHA		1st Count		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date		1 <sup>st</sup> Count 07/17/11	ALPHA		07/17/11		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time	Units	1 <sup>st</sup> Count 07/17/11 1930	ALPHA		07/17/11 1930		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time Sample Count Time		1 <sup>st</sup> Count 07/17/11 1930 10	ALPHA		07/17/11 1930 10		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count	Units Minutes	1 <sup>st</sup> Count 07/17/11 1930 10 0	ALPHA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	07/17/11 1930 10 457	2 <sup>nd</sup> Count	
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate	Units Minutes CPM	1 <sup>st</sup> Count 07/17/11 1930 10 0	ALPHA		07/17/11 1930 10 457 45.7		3 <sup>rd</sup> Count #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate	Units Minutes CPM CPM	1 <sup>st</sup> Count 07/17/11 1930 10 0 0.00	ALPHA 2 <sup>nd</sup> Count #DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/17/11 1930 10 457 45.7 47.0	2 <sup>nd</sup> Count	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A)	Units Minutes CPM CPM Liters	1 <sup>st</sup> Count 07/17/11 1930 10 0 0.00 0.1 1.72E+03	#DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/17/11 1930 10 457 45.7 47.0 1.72E+03	#DIV/0!	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B)	Units Minutes CPM CPM	1 <sup>st</sup> Count 07/17/11 1930 10 0 0.00 0.1 1.72E+03 -0.10	ALPHA 2 <sup>nd</sup> Count #DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/17/11 1930 10 457 45.7 47.0 1.72E+03	2 <sup>nd</sup> Count	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C)	Minutes  CPM CPM Liters CPM	1 <sup>st</sup> Count 07/17/11 1930 10 0 0.00 0.1 1.72E+03 -0.10 0.372	#DIV/0! 1.72E+03 #DIV/0!	#DIV/0! 1.72E+03 #DIV/0!	07/17/11 1930 10 457 45.7 47.0 1.72E+03 -1.3 0.297	#DIV/0! 1.72E+03 #DIV/0!	#DIV/0! 1.72E+03 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D)	Units Minutes CPM CPM Liters	1st Count 07/17/11 1930 10 0 0.00 0.1 1.72E+03 -0.10 0.372 0.99	#DIV/0! 1.72E+03 #DIV/0!	#DIV/0! 1.72E+03 #DIV/0!	07/17/11 1930 10 457 45.7 47.0 1.72E+03 -1.3 0.297 0.99	#DIV/0! 1.72E+03 #DIV/0!	#DIV/0! 1.72E+03 #DIV/0! 0.99
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E)	Minutes  CPM CPM Liters CPM	1st Count 07/17/11 1930 10 0 0.00 0.1 1.72E+03 -0.10 0.372 0.99 0.368	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00	07/17/11 1930 10 457 45.7 47.0 1.72E+03 -1.3 0.297 0.99	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F)	Minutes  CPM CPM Liters CPM 0.99	1st Count 07/17/11 1930 10 0 0.00 0.1 1.72E+03 -0.10 0.372 0.99 0.368 -0.27	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0!	07/17/11 1930 10 457 45.7 47.0 1.72E+03 -1.3 0.297 0.99 0.29 -4.42	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G)	Minutes  CPM CPM Liters CPM	1st Count 07/17/11 1930 10 0 0.00 0.1 1.72E+03 -0.10 0.372 0.99 0.368 -0.27 -7.11116E-14	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/17/11 1930 10 457 45.7 47.0 1.72E+03 -1.3 0.297 0.99 0.29 -4.42 -1.158E-12	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H)	Minutes  CPM CPM Liters CPM 0.99	1st Count 07/17/11 1930 10 0 0.00 0.1 1.72E+03 -0.10 0.372 0.99 0.368 -0.27 -7.11116E-14	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0!	07/17/11 1930 10 457 45.7 47.0 1.72E+03 -1.3 0.297 0.99 0.29 -4.42 -1.158E-12	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM) = (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/17/11 1930 10 0 0.00 0.1 1.72E+03 -0.10 0.372 0.99 0.368 -0.27 -7.11116E-14 -0.0009	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 1930 10 457 45.7 47.0 1.72E+03 -1.3 0.297 0.99 0.29 -4.42 -1.158E-12	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.0	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/17/11 1930 10 0 0.00 0.1 1.72E+03 -0.10 0.372 0.99 0.368 -0.27 -7.11116E-14 -0.0009	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 1930 10 457 45.7 47.0 1.72E+03 -1.3 0.297 0.99 0.29 -4.42 -1.158E-12	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F)	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1st Count 07/17/11 1930 10 0 0.00 0.1 1.72E+03 -0.10 0.372 0.99 0.368 -0.27 -7.11116E-14 -0.0009	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/17/11 1930 10 457 45.7 47.0 1.72E+03 -1.3 0.297 0.99 0.29 -4.42 -1.158E-12	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.72E+03 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!

			<del></del>				
Date: 7/17/2011		Sample ID:	BZ-071711-0		0.00		SI-11-004.0
Alpha DAC value:		μCi/ml (H)			AC value:		μCi/ml (H)
General Area:	Boundary:	Г		Breathing Z		⊽	
Site: Staten Island W				les: Gross A			
Location: Staten Island W				ampled By:	David Lawso	n	
Activity Performed:				<del> </del>			
Wearer (if applicable):						<del></del>	
Monitor Workers:	David Law	son and Brad Gou	ugh				
		0/11	004000		O a lile a a Ai a a a D	D-1	
Pump Model:		S/N:			Calibration D		44/47/2044
Flow Meter: SM-6		S/N:			Calibration D	ue Date:	11/17/2011
Date & Time	<u> </u>	Date & T			& Time		Flow
	Start				1 10:45		Rate (lpm)
	Stop	7/17/11 1	0:26	7/17/1	1 13:00	Start	
				l ,		Stop	4
		Total minutes	251		Average F	low Rate:	4
Min. Occupational Air Sample Volu							
Sample Volume =	4	(lpm) x	251	(minutes) =	1.00E+03	Liters (A)	
Remarks:							
			10 11 12	****	f f1		
Sent to lab <b>after</b> a screen for fi	nal count		Sent to lab w	rithout a scre	en for final cou		
Instrument Information	Serial N	umber	Cal. Due	e Date	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Instrument Type	meter	detector	meter	detector			
Ludlum 43-10-1 "A"	147736	150788	5/31/2012	5/31/2012	П	Г	П
Ludlum 43-10-1 "B"	166716	170380	4/26/2012	4/26/2012	<u> </u>		П
Ludlum 43-10-1 "D"	157320	157821	6/21/2012	6/21/2012	П	П	П
Screening Count Information	1		ALPHA			BETA	
Variables	Units	1 <sup>st</sup> Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Count Date		07/17/11	-		07/17/11		
Count Time	885-8	1940			1940		-
Sample Count Time	Minutes	10			10		
Total Count	San Service	1			411		
Sample Count Rate	CPM	0.10	#DIV/0!	#DIV/0!	41.1	#DIV/0!	#DIV/0!
Background Count Rate	СРМ	0.1			47.0		
Volume of Air (Liters) (A)	Liters	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
Net count Rate (CPM) (B)	CPM	0.00	#DIV/0!	#DIV/0!	-5.9	#DIV/0!	#DIV/0!
Counter Efficiency (C)		0.372			0.297		
Collection Efficiency (D)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Efficiency = $(C)*(D)$ (E)		0.368	0.00	0.00	0.29	0.00	0.00
Activity (DPM)= (B) / (E) (F)	DPM	0.00	#DIV/0!	#DIV/0!	-20.07	#DIV/0!	#DIV/0!
Conc.=(F) / (2.22E9*(A)) (G)	μCi/ml	0	#DIV/0!	#DIV/0!	-9.003E-12	#DIV/0!	#DIV/0!
DAC/AE Fraction = (G)/(H)		0.0000	#DIV/0!	#DIV/0!	-0.11	#DIV/0!	#DIV/0!
Final Count?	David China Grid	Ų.	_ [□	, F	V	Г	Г
Note: DAC/AE Fractions > 1.0	requires in	nmediate RPM r	notification.				
RPM Notified							
	7 11				_	101	
Calculated By:	2// 6	1			Date: 7	/11/11	
1	11 1	///					
///	/   ///	<b>//</b>			· · · · · · · · · · · · · · · · · · ·	1/ ' . /.	
Reviewed By:	1/1				Date:	24/11	

Date: 7/12/2011		Sample ID:	GA-071211-0	01	•	RWP#:	SI-11-005.0
Alpha AE value:	4.00E-14	μCi/ml (H)			E value:	4.00E-14	μCi/ml (H)
General Area:	Boundary:	V		Breathing Z	one:		
Site: Staten Island W		USRAP Site	Radionuclid	es: Gross A	lpha		
Location: Property Bound					David Lawso	n	
Activity Performed:	Grass cutti	ng, brush clearing					
Wearer (if applicable):		<b>J</b> ,		<del></del>	T V		
Monitor Workers:							
						-	
Pump Model: LV-1		S/N:	81283		Calibration D	ue Date:	5/31/2012
Flow Meter: Integral on pum	р	S/N:	N/A		Calibration D	ue Date:	N/A
Sample Information	Ì	Date & T	ime	Date	& Time		Flow
, , , , , , , , , , , , , , , , , , ,	Start	7/12/11		-		1	Rate (ipm)
	Stop	7/12/11 1	6:40			Start	40
						Stop	40
		Total minutes	485	ĺ	Average F	low Rate:	40
Min. Non-Occupational Air Sample	Volume= 570				<u> </u>		
Sample Volume =		(lpm) x	485	(minutes) =	1.94E+04	Liters (A)	
Remarks: Collected on the							
Nomana. Concetta on the	эргоролу ос						
-							
Sent to lab after a screen for fi	nal count	Г	Sent to lab w	rithout a scre	en for final cou	nt	Г
Instrument Information	Serial N	umber	Cal. Due	Data	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
-	-				13t Count		
Instrument Type		detector		detector 5/31/2012			
Ludlum 43-10-1 "A"	147736	150788			⊽	-	
Ludlum 43-10-1 "B"	166716			4/26/2012	IV.	/I	
1 1	467220	207054	E/24/2042	<i>E124/2042</i>	E		
Ludlum 43-10-1 "C"	157329	207851	5/31/2012	5/31/2012	П	DETA	<u> </u>
Ludlum 43-10-1 "C" Screening Count Information			ALPHA		П	BETA	
Screening Count Information Variables		1 <sup>st</sup> Count			1st Count	BETA  2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Screening Count Information Variables Count Date		1 <sup>st</sup> Count 07/12/11	ALPHA		07/12/11		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time	Units	1 <sup>st</sup> Count 07/12/11 1900	ALPHA		07/12/11 1900		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time Sample Count Time		1 <sup>st</sup> Count 07/12/11 1900 100	ALPHA		07/12/11 1900 100		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count	Units Minutes	1 <sup>st</sup> Count 07/12/11 1900 100 64	ALPHA 2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	07/12/11 1900 100 3583	2 <sup>nd</sup> Count	
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate	Units Minutes CPM	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6	ALPHA		07/12/11 1900 100 3583 35.8		3 <sup>rd</sup> Count
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate	Units Minutes CPM CPM	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1	#DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/12/11 1900 100 3583 35.8 47.0	2 <sup>nd</sup> Count	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A)	Units Minutes CPM CPM Liters	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04	#DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04	#DIV/0!	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B)	Units Minutes CPM CPM	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04	#DIV/0!	3 <sup>rd</sup> Count #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2	2 <sup>nd</sup> Count	#DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C)	Minutes  CPM CPM Liters CPM	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.54 0.372	#DIV/0! 1.94E+04 #DIV/0!	#DIV/0! 1.94E+04 #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297	#DIV/0! 1.94E+04 #DIV/0!	#DIV/0! 1.94E+04 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D)	Units Minutes CPM CPM Liters	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.54 0.372 0.99	#DIV/0! 1.94E+04 #DIV/0!	3 <sup>rd</sup> Count #DIV/0! 1.94E+04 #DIV/0! 0.99	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297 0.99	#DIV/0! 1.94E+04 #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E)	Minutes  CPM CPM Liters CPM	1st Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.372 0.99 0.368	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297 0.99	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F)	Minutes  CPM CPM Liters CPM  O.99	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.54 0.372 0.99 0.368 1.47	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297 0.99 0.29 -37.99	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G)	Minutes  CPM CPM Liters CPM	1st Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.54 0.372 0.99 0.368 1.47 3.40456E-14	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297 0.99 0.29 -37.99 -8.821E-13	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM) = (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H)	Minutes  CPM CPM Liters CPM  O.99	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.54 0.372 0.99 0.368 1.47 3.40456E-14 0.8511	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297 0.99 0.29 -37.99 -8.821E-13	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.54 0.372 0.99 0.368 1.47 3.40456E-14	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297 0.99 0.29 -37.99 -8.821E-13	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.0	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.54 0.372 0.99 0.368 1.47 3.40456E-14	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297 0.99 0.29 -37.99 -8.821E-13	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count?	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.54 0.372 0.99 0.368 1.47 3.40456E-14	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297 0.99 0.29 -37.99 -8.821E-13	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.0	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.54 0.372 0.99 0.368 1.47 3.40456E-14	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297 0.99 0.29 -37.99 -8.821E-13	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.0 RPM Notifled	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.54 0.372 0.99 0.368 1.47 3.40456E-14	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297 0.99 0.29 -37.99 -8.821E-13 -22.05	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.0	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.54 0.372 0.99 0.368 1.47 3.40456E-14	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297 0.99 0.29 -37.99 -8.821E-13	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.0 RPM Notified  Calculated By:	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.54 0.372 0.99 0.368 1.47 3.40456E-14	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297 0.99 0.29 -37.99 -8.821E-13 -22.05	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!
Screening Count Information Variables Count Date Count Time Sample Count Time Total Count Sample Count Rate Background Count Rate Volume of Air (Liters) (A) Net count Rate (CPM) (B) Counter Efficiency (C) Collection Efficiency (D) Efficiency = (C)*(D) (E) Activity (DPM)= (B) / (E) (F) Conc.=(F) / (2.22E9*(A)) (G) DAC/AE Fraction = (G)/(H) Final Count? Note: DAC/AE Fractions > 1.0 RPM Notified	Units  Minutes  CPM CPM Liters CPM  0.99  DPM μCi/ml	1 <sup>st</sup> Count 07/12/11 1900 100 64 0.6 0.1 1.94E+04 0.54 0.372 0.99 0.368 1.47 3.40456E-14	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0! #DIV/0!	07/12/11 1900 100 3583 35.8 47.0 1.94E+04 -11.2 0.297 0.99 0.29 -37.99 -8.821E-13 -22.05	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!	#DIV/0! 1.94E+04 #DIV/0! 0.99 0.00 #DIV/0! #DIV/0!

Date: 7/13/2011		Sample ID:	GA-071311-0	)1		RWP#:	SI-11-005.0
Alpha AE value:	4 00F-14	·	<u> </u>		E value:		μCi/ml (H)
General Area:	Boundary:		<del>.</del> .	Breathing Z			<b>,</b> ()
Site: Staten Island W			Radionuclid				
Location: Property Bound		OOI VAI OILC			David Lawso	n	
Activity Performed:		ng brush clearing					
Wearer (if applicable):		ng, braon oleann	g and ocopi	ODO CON CON			
Monitor Workers:		<del></del>					
World Workers.	1977		<del>.</del>	<u> </u>			-
Pump Model: LV-1		S/N:	81283		Calibration D	ue Date:	5/31/2012
Flow Meter: Integral on pum	n	\$/N:	N/A		Calibration D		N/A
Sample Information	<u> </u>	Date & 7			& Time		Flow
Sample information	Start			Date	a time		Rate (lpm)
	Stop					Start	
	Осор	77,10711	0.00			Stop	40
		Total minutes	450		Average F		40
Adia Man Canunational Air Cannul	1/eluma = 57		430		Avelage	ow rate.	
Min. Non-Occupational Air Sample			450	(minutes) =	1.80E+04	Liters (A)	
Sample Volume = Remarks: Collected on the						Litera (M)	
Remarks: Collected on the	e property bu	dildaly between	the site and	the hearest	neighbor.		
				-			
Sent to lab after a screen for fi	nal count	_	Sent to lab w	ithout a scre	en for final cou	nt	
						2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Instrument Information	Serial N		Cal. Due		1st Count	2 Count	3 Count
Instrument Type		detector		detector			
Ludlum 43-10-1 "A"	147736			5/31/2012	<u> </u>		<u> </u>
Ludium 43-10-1 "B"	166716			4/26/2012	⊽		
Ludlum 43-10-1 "C"	157329	207851		5/31/2012		_ [ ]	
Screening Count Information	1		ALPHA			BETA	
Variables	Units	1 <sup>st</sup> Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Count Date		07/13/11			07/13/11		
Count Time		1935			1935		
Sample Count Time	Minutes	100			100		
Total Count	1,000	14	-		3363		
Sample Count Rate	СРМ	0.1	#DIV/0!	#DIV/0!	33.6	#DIV/0!	#DIV/0!
Background Count Rate	СРМ	0.1			47.0		
Volume of Air (Liters) (A)	Liters	1.80E+04	1.80E+04	1.80E+04	1.80E+04	1.80E+04	1.80E+04
Net count Rate (CPM) (B)	СРМ	0.04	#DIV/0!	#DIV/0!	-13.4	#DIV/0!	#DIV/0!
Counter Efficiency (C)		0.372			0.297		
Collection Efficiency (D)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Efficiency = $(C)*(D)$ (E)		0.368	0.00	0.00	0.29	0.00	0.00
Activity (DPM)= (B) / (E) (F)	DPM	0.11	#DIV/0!	#DIV/0!	-45.47	#DIV/0!	#DIV/0!
Conc =(F) / (2.22E9*(A)) (G)	μCi/ml	2.71804E-15	#DIV/0!	#DIV/0!	-1.138E-12	#DIV/0!	#DIV/0!
DAC/AE Fraction = (G)/(H)	A PARTICIO	0.0680	#DIV/0!	#DIV/0!	-28.45	#DIV/0!	#DIV/0!
Final Count?		X	П		X		L.
Note: DAC/AE Fractions > 1.0	requires ir	nmédiate RPM i	notification	1.1			
RPM Notified							
	1	1				_//	
Calculated By:	ann	1			Date:	7/13/11	
Th.	111	//				11.1	
Reviewed By:		lh			Date: /	124/1	/
7	· ·		_				

Date: 7/14/2011		Sample ID:	GA-071411-0	01		RWP#:	SI-11-005.0
Alpha AE value:		μCi/ml (H)			E value:	4.00E-14	μCi/ml (H)
General Area:	Boundary:	<u> </u>		Breathing Z			` ` ` ′
Site: Staten Island W		•	Radionuclid	les: Gross A			
Location: Property Bound		00/11/11/0/10			David Lawso	n	_
Activity Performed:		oil sampling		ampied by:	<del>David 241100</del>		
Wearer (if applicable):		on sampling.					
Monitor Workers:							
World VVOIKCIS.	14//				<del>.</del>		
Pump Model: LV-1		S/N:	81283		Calibration D	ue Date:	5/31/2012
Flow Meter: Integral on pum	n	S/N:	N/A	• • • • • • • • • • • • • • • • • • • •	Calibration D		N/A
Sample Information	<u> </u>	Date & 1			& Time		Flow
Cample information	Start	7/14/11		Date	<u> </u>		Rate (lpm)
	Stop	7/14/11 1			<del></del>	Start	40
	Отор	771-771	11.40			Stop	40
		Total minutes	622	l 1	Average F		40
Min. Non-Occupational Air Sample	Volume= 570		ULL		Avelage	IOW RUID.	70
Sample Volume =		(lpm) x	622	(minutes) =	2.49E+04	Liters (A)	
Remarks: Collected on the						Liters (A)	-
Remarks. Conected on the	property be	didaly between	the site and	Tille Hearest	ricignoor.		
	·					=	
Sent to lab <b>after</b> a screen for fi	nal count		Sent to lab w	rithout a scre	en for final cou	nt	
						2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Instrument Information	Serial N		Cal. Due		1st Count	2 Count	3 Count
Instrument Type		detector	meter	detector			
Ludlum 43-10-1 "A"	147736		5/31/2012			1	
Ludlum 43-10-1 "B"	166716		4/26/2012		<u> </u>		
Ludlum 43-10-1 "C"	157329	207851	5/31/2012	5/31/2012	131	Jul	
Screening Count Information			ALPHA			BETA	
Variables	Units	1 <sup>st</sup> Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count
Count Date		07/14/11			07/14/11		
Count Time		2000			2000		
Sample Count Time	Minutes	100			100		
Total Count		55			3606		
Sample Count Rate	СРМ	0.6	#DIV/0!	#DIV/0!	36.1	#DIV/0!	#DIV/0!
Background Count Rate	СРМ	0.1			47.0		
Volume of Air (Liters) (A)	Liters	2.49E+04	2.49E+04	2.49E+04	2.49E+04	2.49E+04	2.49E+04
Net count Rate (CPM) (B)	CPM	0.45	#DIV/0!	#DIV/0!	-10.9	#DIV/0!	#DIV/0!
Counter Efficiency (C)		0.372			0.297		
Collection Efficiency (D)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Efficiency = (C)*(D) (E)		0.368	0.00	0.00	0.29	0.00	0.00
Activity (DPM)= (B) / (E) (F)	DPM	1.22	#DIV/0!	#DIV/0!	-37.21	#DIV/0!	#DIV/0!
Conc.=(F) / (2.22E9*(A)) (G)	μCi/ml	2.21223E-14	#DIV/0!	#DIV/0!	-6.736E-13	#DIV/0!	#DIV/0!
DAC/AE Fraction = ( <b>G</b> )/( <b>H</b> )		0.5531	#DIV/0!	#DIV/0!	-16.84	#DIV/0!	#DIV/0!
Final Count?		7.	L		X	IT.	
Note: DAC/AE Fractions > 1.0	) requires in	nmediate RPM :	notification	•			
RPM Notified							
	_						
	1	r				//	
Calculated By:	for A.				Date: 7	7/14/11	
17:	7//				<del></del>	11.1.	
Reviewed By:	1/1/2				Date: /	124/11	
						<del></del>	

	<del>_</del>			<u> </u>											
Date: 7/15/2011		Sample ID:	GA-071511-0			RWP#:	SI-11-005.0								
Alpha AE value:	4.00E-14	μCi/ml (H)		Beta A	E value:	4.00E-14	μCi/ml ( <b>H</b> )								
General Area:	Boundary:	⊽		Breathing Z	one:										
Site: Staten Island W	arehouse F	JSRAP Site	Radionuclid	les: Gross A	lpha										
Location: Property Bound					David Lawso	n									
Activity Performed:		soil sampling.													
Wearer (if applicable):		, ,													
Monitor Workers:															
Pump Model: LV-1		S/N:	81283		Calibration D	ue Date:	5/31/2012								
Flow Meter: Integral on pum	D	S/N:	N/A		Calibration D		N/A								
Sample Information		Date & 1	ime	Date	& Time		Flow								
oampio illorillation	Start	7/15/11					Rate (lpm)								
					·	Start									
	- <del> </del>				**										
		Total minutes	659		Average F										
n. Non-Occupational Air Sample Volume= 570 L  Sample Volume = 40 (lpm) x 659 (minutes) = 2.64E+04 Liters (A)															
Sample Volume = 40 (lpm) x 659 (minutes) = 2.64E+04 Liters (A)															
Remarks: Collected on the property boundary between the site and the nearest neighbor.															
Remarks: Collected on the property boundary between the site and the nearest neighbor.															
Remarks: Collected on the property boundary between the site and the nearest neighbor.  ent to lab after a screen for final count  Sent to lab without a screen for final count															
ent to lab <b>after</b> a screen for final count  Sent to lab <b>without</b> a screen for final count  Strument Information  Serial Number  Cal. Due Date  1st Count  2 <sup>nd</sup> Count  3 <sup>rd</sup> Count															
nt to lab <b>after</b> a screen for final count  The sent to lab <b>without</b> a screen for final count trument Information  Serial Number  Cal. Due Date  1st Count  2 <sup>nd</sup> Count  3'															
Instrument Type	Remarks: Collected on the property boundary between the site and the nearest neighbor.  Int to lab after a screen for final count  Trument Information  Serial Number  Cal. Due Date  1st Count  Trument Type  Meter detector  Trument Information  Serial Number  Cal. Due Date  Output  Detector  Trument Information  Serial Number  Trument Type  Trument Information  Serial Number  Trument Information  Serial Number  Trument Information  Serial Number  Trument Information  Serial Number  Trument Information  Serial Number  Trument Information  Serial Number  Trument Information  Serial Number  Trument Information  Trument Information  Serial Number  Trument Information  Serial Number  Trument Information  Serial Number  Trument Information  Serial Number  Trument Information  Trumen														
	Total minutes 659  Non-Occupational Air Sample Volume= 570 L  Sample Volume = 40 (Ipm) x 659 (minutes) = 2.64E+04 Liters (A)  Remarks: Collected on the property boundary between the site and the nearest neighbor.  It to lab after a screen for final count rument Information Serial Number Cal. Due Date 1st Count 2nd Count rument Type meter detector meter detector Ludlum 43-10-1 "A" 147736 150788 5/31/2012 5/31/2012 Ludlum 43-10-1 "B" 166716 170380 4/26/2012 4/26/2012 Ludlum 43-10-1 "C" 157329 207851 5/31/2012 5/31/2012   Average Flow Rate:  A														
	Non-Occupational Air Sample Volume= 570 L  Sample Volume = 40 (lpm) x 659 (minutes) = 2.64E+04 Liters (A)  Remarks: Collected on the property boundary between the site and the nearest neighbor.  It to lab after a screen for final count  rument Information  Serial Number  Cal. Due Date  1st Count  2nd Count  rument Type  meter detector  Ludlum 43-10-1 "A"  147736  150788  5/31/2012  5/31/2012  ✓  Ludlum 43-10-1 "C"  157329  207851  5/31/2012  5/31/2012  5/31/2012														
Ludlum 43-10-1 "C"	157329	207851	5/31/2012	5/31/2012	П		П								
Screening Count Information	ı		ALPHA			BETA									
Variables	Stop   7/15/11 18:14   Start   40   Stop   40     Total minutes   659   Average Flow Rate:   40     Sample Volume = 570 L     Sample Volume = 40 (Ipm) x   659 (minutes) = 2.64E+04 Liters (A)     Remarks: Collected on the property boundary between the site and the nearest neighbor.														
Total minutes 659  Average Flow Rate: 40  Non-Occupational Air Sample Volume = 570 L  Sample Volume = 40 (Ipm) x 659 (minutes) = 2.64E+04 Liters (A)  Remarks: Collected on the property boundary between the site and the nearest neighbor.  Int to lab after a screen for final count   Sent to lab without a screen for final count   Itrument Information   Serial Number   Cal. Due Date   1st Count   2 <sup>nd</sup> Count   3 <sup>rd</sup> Count   Itrument Type   meter   detector   meter   detector      Ludlum 43-10-1 "A"   147736   150788 5/31/2012 5/31/2012   Image: All Count   Itrument Information   Itrument Inform															
Count Time															
	Minutes	2.0				_									
Total Count	(Carolin 1980)														
	CPM		#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!								
			2 64E+04	2.64E+04		2.64E+04	2.64E+04								
							#DIV/0!								
	100														
	0.99		0.99	0.99		0.99	0.99								
							0.00								
	DPM						#DIV/0!								
<u> </u>						#DIV/0!	#DIV/0!								
	10					#DIV/0!	#DIV/0!								
Final Count?	-		Г	Г		Г	Г								
	requires in		notification												
RPM Notified															
,	Ludlum 43-10-1 "B"   166716   170380   4/26/2012   4/26/2012   √														
	_														
		/i													
Calculated By:	2.4	L			Date:	7/10/11	<i>(</i>								
Calculated By:	Dul				Date:	7/15/11	<i>(</i>								
Calculated By:  Reviewed By:	Dul				Date:	7/15/11 1/20/1	/								

				p. c p										
Date: 7/16/2011		Sample ID:	GA-071611-0			RWP#:	SI-11-005 <sub>.0</sub>							
Alpha AE value		μCi/ml (H)			E value:	4.00E-14	μCi/ml (H)							
General Area:	Boundary:	V		Breathing Z	one:									
Site: Staten Island \	Varehouse F	USRAP Site	Radionuclid	les: Gross A	lpha									
Location: Property Boun	dary		S	Sampled By:	David Lawso	on								
Activity Performed		soil sampling.		,										
Wearer (if applicable														
Monitor Workers														
							·							
Pump Model: LV-1		S/N:	81283		Calibration D	ue Date:	5/31/2012							
Flow Meter: Integral on pur	g	S/N:	N/A		Calibration D		N/A							
Sample Information	<u> </u>	Date & 1	Гime	Date	& Time	I	Flow							
Campic information	Start					i	Rate (ipm)							
	Stop					Start	40							
	Otop	7710711	10.40			Stop	40							
		Total minutes	670		Average E		40							
Min. Non-Occupational Air Sample Volume= 570 L  Sample Volume = 40 (lpm) x 670 (minutes) = 2.68E+04 Liters (A)														
Sample Volume = 40 (lpm) x 670 (minutes) = 2.68E+04 Liters (A)														
ent to lab after a screen for final count  Sent to lab without a screen for final count														
ent to lab <b>after</b> a screen for final count Sent to lab <b>without</b> a screen for final count														
ent to lab after a screen for final count  Sent to lab without a screen for final count														
Ludlum 43-10-1 "A"	147736		5/31/2012		Г		П							
Ludlum 43-10-1 "B"	166716		4/26/2012		V									
Ludlum 43-10-1 "C"	157329		5/31/2012			F	i							
Screening Count Informatio		201001	ALPHA	0.0		BETA	-							
		481		ord o	4.40		3 <sup>rd</sup> Count							
Variables	Units	1 <sup>st</sup> Count	2 <sup>nd</sup> Count	3' Count	1st Count	2 Count	3 Count							
Count Date		07/16/11			07/16/11									
Count Time	( // / / / / / / / / / / / / / / / / /	2020		_	2020									
Sample Count Time	Minutes	100			100									
Total Count		22			3470									
Sample Count Rate	СРМ	0.2	#DIV/0!	#DIV/0!	34.7	#DIV/0!	#DIV/0!							
Background Count Rate	СРМ	0.1			47.0									
Volume of Air (Liters) (A)	Liters	2.68E+04	2.68E+04		2.68E+04	2.68E+04	2.68E+04							
Net count Rate (CPM) (B)	СРМ	0.12	#DIV/0!	#DIV/0!	-12.3	#DIV/0!	#DIV/0!							
Counter Efficiency (C)	18 8 9	0.372			0.297									
Collection Efficiency (D)	0.99	0.99	0.99	0.99	0.99	0.99	0.99							
Efficiency = (C)*(D) (E)	LEV S	0.368	0.00	0.00	0.29	0.00	0.00							
Activity (DPM)= (B) / (E) (F)	DPM	0.33	#DIV/0!	#DIV/0!	-41.83	#DIV/0!	#DIV/0!							
Conc.=(F) / (2.22E9*(A)) (G)	μCi/ml	5.47665E-15	#DIV/0!	#DIV/0!	-7.031E-13	#DIV/0!	#DIV/0!							
DAC/AE Fraction = (G)/(H)		0.1369	#DIV/0!	#DIV/0!	-17.58	#DIV/0!	#DIV/0!							
Final Count?		Г		Г		٢								
Note: DAC/AE Fractions > 1.	0 requires in	nmediate RPM	notification		.11	-	***							
RPM Notifled	- 4 + 4/													
			-			**								
/	2 ,					//								
Calculated By:	1-11-				Date: 7	/16/11								
Calculated by.	1 1			<del></del>	7	1 10/11								
Reviewed By:	1 (1/2				Date: ブ/	24/11								
Iveriewed by.	- N-				Date. //	01/11								
// ~ //														

		Oooapationa	TAIT Gaill	pio itopo:										
Date: 7/17/2011			GA-071711-0			RWP#:	SI-11-004.0							
Alpha AE value:					E value:	4.00E-14	μCi/ml (H)							
General Area:	Boundary:			Breathing Z										
Site: Staten Island W		USRAP_Site		es: Gross A										
Location: Property Bounda				Sampled By:	David Lawso	n								
Activity Performed:		ng and test pit sa	mpling.											
Wearer (if applicable):					<u> </u>									
Monitor Workers:	N/A													
					<u> </u>									
Pump Model: LV-1		S/N:	81283		Calibration D		5/31/2012							
Flow Meter: Integral on pum	ρ	S/N:	N/A		Calibration D	ue Date:	N/A							
Sample Information		Date & T	ime	Date	& Time		Flow							
	Start	7/17/11	7:00				Rate (ipm)							
	Stop	7/17/11 1	5:35			Start								
	_					Stop	40							
		Total minutes	515		Average F	low Rate:	40							
Min. Non-Occupational Air Sample	Volume= 570	) L												
Sample Volume =		(lpm) x	515	(minutes) =	2.06E+04	Liters (A)								
Remarks: Collected on the	property bo	oundary between	the site and	the nearest	neighbor.									
Remarks: Collected on the property boundary between the site and the nearest neighbor.  ent to lab after a screen for final count  Sent to lab without a screen for final count														
					1\$t Count	2 000.11	0 000							
Instrument Type		1.00	meter	detector		_								
Ludlum 43-10-1 "A"	147736			5/31/2012	<u> </u>	-								
Ludlum 43-10-1 "B"	166716			4/26/2012	<u> </u>	1								
Ludlum 43-10-1 "C"	157329	207851		5/31/2012	I.	DETA	<u> </u>							
Screening Count Information			ALPHA			BETA								
Variables	Units	1 <sup>st</sup> Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count	1st Count	2 <sup>nd</sup> Count	3 <sup>rd</sup> Count							
Count Date		07/17/11			07/17/11									
Count Time		1900			1900									
Sample Count Time	Minutes	100			100									
Total Count		26			3499									
Sample Count Rate	CPM	0.3	#DIV/0!	#DIV/0!	35.0	#DIV/0!_	#DIV/0!							
Background Count Rate	CPM	0.1			47.0									
Volume of Air (Liters) (A)	Liters	2.06E+04	2.06E+04	2.06E+04	2.06E+04	2.06E+04								
Net count Rate (CPM) (B)	CPM	0.16	#DIV/0!	#DIV/0!	-12.0	#DIV/0!	#DIV/0!							
Counter Efficiency (C)		0.372			0.297									
Collection Efficiency (D)	0.99	0.99	0.99	0.99	0.99	0.99	0.99							
Efficiency = (C)*(D) (E)		0.368	0.00	0.00	0.29	0.00	0.00							
Activity (DPM)= (B) / (E) (F)	DPM	0.43	#DIV/0!	#DIV/0!	-40.85	#DIV/0!	#DIV/0!							
Conc.=(F) / (2.22E9*(A)) (G)	μCi/ml	9.49996E-15	#DIV/0!	#DIV/0!	-8.932E-13	#DIV/0!	#DIV/0!							
DAC/AE Fraction = (G)/(H)		0.2375	#DIV/0!	#DIV/0!	-22.33	#DIV/0!	#DIV/0!							
Final Count?			Г				Π,							
Note: DAC/AE Fractions > 1.0	requires in	nmediate RPM	notification											
RPM Notified														
		•		<del></del>										
_	7 ,					//								
Calculated By:	4/1-				Date: 7	/17/11								
9	1 .11					777								
Reviewed By:	1 PIL				Date: 7/	24/11								
(	1-115		-			-1/6/								

SURVE	Micro - R															
PURPO	SE OF SURVEY:	Incomi	ing surv	ey on eq	uipment							DATE:	7/11/1	1 TI	ME:	1300
Inate	numant Tuna(a).	Detector	S	erial Nu	mber:		Cal. ]	Due Dat	:e	Bacl	groun	d: (CPM)	)	Effici	===== iency: (%	)
111511	ument Type(s):	0.00	met	er	detecto	r	meter	det	ector		1					
Ludlu	m 2929 / 43-10-1 B	100 200	1667	116	170380	)					<del>``</del>	`"		<u> </u>		
Ludlu	m 2360 / 43-89 C										<u> </u>					
Ludlu	m 2221 / 44-9					$\exists$	0.1.12	<del>                                     </del>	1.12	0.0		207		11.070		.0 /0
Micro	- R					<del></del>									+	
Adn	ninistrative Contamin		its:			20			1000			100	<u> </u>		5000	
	$\frac{\text{(dpm/100cm}^2)}{\text{Removable }\alpha} \frac{20}{\text{Removable }\beta\gamma} \frac{1000}{\text{Total }\alpha} \frac{100}{\text{Total }\beta\gamma} \frac{5000}{\text{Total }\beta\gamma} \frac{\text{BKG}}{\text{Removable }\alpha}$															
	Ludlum 2221 / 44-9															
Administrative Contamination Limits: (dpm/100cm²) $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$														uR/hr		
	Stihl Cha	insaw					1					1			<del> </del>	NA
2	Stihl Weede	eater 'A'		0	0	< MDA	46	0	< MDA	3	2	< MDA	255	0	< MDA	NA
3	Stihl Weede	eater 'B'		0	0	< MDA	. 51	4	< MDA	2	1	< MDA	243	0	< MDA	NA
4	GPR			0	0	< MDA	46	0	< MDA	4	3	< MDA	268	0	< MDA	NA
Micro - R   N/A														NA		
6																
7						/										
8								N/A								
9											-	<del> </del>				
10																
REMAI	RKS: NA															
TECHN	IICIAN(S) SIGNAT	ΓURE/ L	DATE:		grif	14	/	2/1	/11					/		
REVIE	WER SIGNATURE	J DATE	de	Rehe	enle	<u></u>	17	124/1	·,					/		
			7									-				

Detector   Serial Number:   Cal. Due Date   Background: (CPM)   Efficiency: (%)															
PURPOSE OF SURVEY:	Incomi	ng surv	ey on Ge	eoprobe	6620D	Γ.					DATE:	7/12/	ll TI	ME:	830
Instrument Tuno(a).	Detector	S	erial Nu	mber:		Cal. I	Due Dat	ie	Back	groun	d: (CPM)	)	Effic	iency: (%	(p)
mstrument Type(s).		met	er	detecto	r	meter	det	ector	Alpha	(a)	Beta (β	γ) Α	lpha (ὰ)	Beta	a (βy)
Ludlum 2929 / 43-10-1 B	N/A	1667	716	17038	) (	4/26/12	4/2	26/12	0.1		•		•		
Ludlum 2360 / 43-89 C	1						_				*				
Ludlum 2221 / 44-9							1						_ ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<del>                                     </del>	1075
Micro - R															
	ation Lim	its:			20			1000			100			5000	
(dpm/100cm²)   Removable \( \alpha \)   Removable \( \rho \rho \)   Removable \( \rho \rho \)   Removable \( \rho \rho \rho \rho \rho \rho \rho \rho															
Gross CPM Net CPM ppm/100cm Gross CPM ppm/100cm Gross CPM ppm/100cm Gross CPM ppm/100cm Gross CPM ppm/100cm Gross CPM ppm/100cm Gross CPM ppm/													INA		
i i Describiania	Locatio	n	α	α	α	β	β	β	α	α	α	β	β	β	uR∕lır
1 Right Track (F	rom front	)							3	2	< MDA		0	< MDA	NA
2 Left Tr	ack		0	0	< MDA	52	5	< MDA	4	3	< MDA	196	0	< MDA	NA
3 Control 1	Panel		1	1	< MDA	38	0	< MDA	3	2	< MDA	222	0	< MDA	NA
4 Right Sta	bili <b>ze</b> r		0	0	< MDA	44	0	< MDA	1	0	< MDA	241	0	< MDA	NA
5 Left Stab	ilizer		0	0	< MDA	51	4	< MDA	2	1	< MDA	236	0	< MDA	NA
6 Clam	ıр		0	0	< MDA	40	0	< MDA	2	1	< MDA	255	0	< MDA	NA
7 Tool T	'ray		0	0	< MDA	46	0	< MDA	1	0	< MDA	245	0	< MDA	NA
8 Foo	t		0	0	< MDA	56	9	< MDA	4	3	< MDA	244	0	< MDA	NA
9 Mast/Har	mmer		0	0	< MDA	51	4	< MDA	3	2	< MDA	249	0	< MDA	NA
10 Push Roc	` '		0	0	< MDA	50	3	< MDA	1	0	< MDA	172	0	< MDA	NA
REMARKS: Geoprobe Mode	el #28-006	-5152 an	d Serial #	64592											
TECHNICIAN(S) SIGNA	TURE/ I	DATE/		amil)	1/2	/	7/12	/11					/		
REVIEWER SIGNATURE	E/ DATE	:_e	nnP	Chan	her	17/	24/11	/					/		

SURVI	Instrument Type(s):   Detector Area (cm²)   meter   detector   meter   detector   Alpha (α)   Beta (βγ)   Alpha (α)   Beta (βγ)															
PURPO	SE OF SURVEY	Release	e survey	on Geo	phyiscal	survey	equipme	nt.		-		DATE:	7/12/1	1 TIN	<b>(E</b> : 1	1500
Inch	nment Type(s):		S	erial Nu	mber:		Cal. I	Due Dat	te	Bacl	kgroun	d: (CPM)		Effici	ency: (%	)
11150	Turnent Type(s).		met	er	detecto	r	meter	det	tector	Alpha	(α)	Beta (β	y) A		1	
Ludlu 🗸	m 2929 / 43-10-1 E	N/A	1667	16	170380	) (	4/26/12	4/2	26/12	0.1				<del></del>		
Ludlu	m 2360 / 43-89 C	125	2024	63	199349	)	6/1/12	6/	1/12	0.6	5	289		14.0%	1	
Ludlu	m 2221 / 44-9	15.5														
Micro	- R	N/A												-		
Adn	Administrative Contamination Limits:         20         Removable βγ         1000         Total α         100         Total βγ         5000         BKG           Instrument MDA: (dpm/100cm²)         α MDA         11         βγ MDA         90         α MDA         32         βγ MDA         358         NA															
Compile   Removable α   Premovable βy   Total α   Total βy   Sumple   Removable βy   Total α   Total βy   Sumple   Sumple   Removable βy   Total α   Total βy   Sumple   Su																
														uR∕lır		
Instrument Type(s):																
PURPOSE OF SURVEY   Release survey on Geophyiscal survey equipment.   DATE: 7/12/11   TIME: 1500													NA			
Instrument Type(s):   Detector Area (cm²)   Meter   Detector   Meter   Detector   Det													NA			
Instrument Type(s):   Area (enb)   meter   detector   meter   detector   Alpha (α)   Beta (βγ)   Alpha (α)   Beta (βγ)														NA		
								1/1				1				
	·															
REMA	RKS: All survey locat	ions were	scanned	with 43-8	9, the ren	novable s	mear and o	ne minu	te count v	vere collec	ted at th	e location	where the	highest c	counts we	re
	recorded. No co	ounts were	e recordec	i above ba	ackground	l.										
TECHN	IICIAN(S) SIGNA	ΓURE/ Γ	OATE:		don's	16	- /	7/12	/11					/		
REVIE	WER SIGNATURE	Z/ DATE	:	kum	R Chi	anle	-/ 7	124/1	!/					/		

SURVI	EY LOCATION:	Staten Is	land FU	SRAP V	Varehou	se Site,	Staging	Area		HSV	/P:_	SI-1	1-002.0	Pa	ge 1	of 1
PURPO	OSE OF SURVEY:	Incom	ing surv	ey on Ta	akeuchi l	Mini-Ex	cavator.					DATE:	7/14/1	1 TIN	/IE: 1	1700
Inct	rument Type(s):	Detector	S	erial Nu	mber:		Cal. ]	Due Dat	e	Bacl	kgroun	d: (CPM)		Effici	ency: (%	b)
11150	rument Type(s).	Area (cm²)	met	er	detecto	r	meter	det	ector	Alpha	(α)	Beta (β	y) A	lpha (α)	Beta	a (βγ)
Ludlu	RPOSE OF SURVEY:									.7%						
Ludlu	m 2360 / 43-89 <u>C</u>	125	2024	163	19934	9	6/1/12	6/	1/12	0.6	5	289		14.0%	13	.8%
Ludlu	m 2221 / 44-9	E OF SURVEY: Incoming survey on Takeuchi Mini-Excavator.  DATE: 7/14/11 TIME:    Date														
Micro	) - R	N/A														
Adn			its:	<u></u>	1 1	20	<u></u>	11 0	1000	<b>T</b>		100	<b></b>		5000	2112
	nstrument MDA: (dpi	n/100cm²	)													
No.	Description /	Locatio	n	α	α	α	β	β	β	α	α	α	β	β	β	บR∕hr
1	Right Track (F	rom front	)											•		NA
2	Left T:	ack		0	0	< MDA	49	2	< MDA	1	0	< MDA	190	0	< MDA	NA
3	Blad	e		0	0	< MDA	48	1	< MDA	2	1	< MDA	226	0	< MDA	NA
4	Buck	SURVEY:		NA												
5	Instrument Type(s):   Detector Area (or proper)   Detec										NA					
6	Instrument Type(s):   Detector   Serial Number:   Cal. Due Date   Background: (CPM)   Efficiency: (%)										NA					
7	Contro	ols		0	0	< MDA	47	0	< MDA	0	0	< MDA	168	0	< MDA	NA
8	Seat	i		1	1	< MDA	38	0	< MDA	0	0	< MDA	166	0	< MDA	NA
9	Floorbo	oard		1	1	< MDA	48	1	< MDA	0	0	< MDA	155	0	< MDA	NA
10	<u>-</u>			ľ	1	< MDA	51	4	< MDA	1	0	< MDA	203	0	< MDA	NA
REMA	RKS: Excavator Mode	el #TB228	and Seri	al #12280	00442											
					7	<i>,</i>			. ,							
TECHN	NICIAN(S) SIGNA	ΓURE/ Ι	DATE:∫	10	m/	4	/	<u> 7/1</u>	<u>4/11</u>			-		/		
REVIE	WER SIGNATURE	Z/ DATE	:	mit	Char	Men	17	24/1.	<u>,                                    </u>				•••	/		<del></del>

SURVEY LOCATION	)N: :	Staten Is	land FU	SRAP V	Warehou	se Site	, Staging	Area		HSW	/P:	SI-1	1-002.0	Pa	ge 1	of 2
PURPOSE OF SURV	VEY:	Releas	e survey	on Geo	probe 6	620DT	•					DATE:	7/15/1	1 TIN	<b>/IE</b> : 1	300
Instrument Type(s	٠,٠	Detector	S	erial Nu	mber:		Cal.	Due Dat	:e	Bacl	kgroun	d: (CPM)	)	Effici	ency: (%	)
Instrument Type(s	s).	Area (cm²)	met	er	detecto	r	meter	det	ector	Alpha	(a)	Beta (β	y) Al	pha (α)	Beta	a (βγ)
Ludlum 2929 / 43-10-	1 B	N/A	1667	16	170380	0	4/26/12	4//	26/12	0.1		47		37.2%	- i -	.7%
Ludlum 2360 / 43-89	C	125	2024	63	19934	9	6/1/12		1/12	0.6		289		4.0%		.8%
Ludlum 2221 / 44-9		i i						<u>=</u>							1 2	
Micro - R							· · ·									
	tamin		its:			20	T .		1000			100			5000	
Instrument MDA: (dpm/100cm²) α MDA 11 βγ MDA 90 α MDA 32 βγ MDA 358 NA																
	Instrument MDA: (dpm/100cm²) α MDA 11 βγ MDA 90 α MDA 32 βγ MDA 358 NA  Imple Description / Location α α α β β β α α α β β β α α α β β β α α α β β β α α α β β β α α α β β β α α α β β β α α α β β β α α α β β β α α α β β β α α α α β β β α α α α β β β α α α α β β β α															
Instrument MDA: (dpm/100cm²) α MDA 11 βγ MDA 90 α MDA 32 βγ MDA 358 NA  Gross CPM Net CPM   hpm/100cm   Gross CPM   Net CPM   hpm/100cm   Gro																
1 Right T	rack (Ŧ	rom front	)	0	0		_	2	< MDA	3	2	< MDA	295	6	< MDA	NA
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$														< MDA	NA	
Administrative Contamination Limits: (dpm/100cm²)Removable $\alpha$ 20Removable $\beta\gamma$ 1000Total $\alpha$ 100Total $\beta\gamma$ 5000BFInstrument MDA: (dpm/100cm²) $\alpha$ MDA11 $\beta\gamma$ MDA90 $\alpha$ MDA32 $\beta\gamma$ MDA358NSample No.Description / LocationGross CPM Net CPM Ipm/100cm Gross CPM Net CPM I														NA		
4 Rig	ght Stal	bilizer		0	0	< MD.	43	0	< MDA	3	2	< MDA	320	31	< MDA	NA
5 Le	ft Stab	ilizer		0	0	< MD.	A 48	1	< MDA	3	2	< MDA	318	29	< MDA	NA
6	Clam	пр		2	2	< MD.	42	0	< MDA	1	0	< MDA	291	2	< MDA	NA
7	Tool T	ray		0	0	< MD.	A 40	0	< MDA	4	3	< MDA	277	0	< MDA	NA
8 Fo	ot righ	t side		0	0	< MD.	48	1	< MDA	0	0	< MDA	278	0	< MDA	NA
9 F	oot left	. side		0	0	< MD.	A 50	3	< MDA	1	0	< MDA	263	0	< MDA	NA
	st (Ha	,		0	0	< MD		0	< MDA	1	0	< MDA	273	0	< MDA	NA
REMARKS: Geoprobe	e Moce	el #28-006	-5152 an	d Serial #	64592. A	ll surve	y locations	were scar	nned with	43-89, th	e remov	able smear	and one n	ninute co	unt were	
collected	at th≎	location w	here the	highest c	ounts were	e record	ed. No cou	ints were	recorded a	above bacl	kground	·				1
TECHNICIAN(S) SI	GNA'	TURE/ [	OATE:/		Show?	16-	- 1	7/15	/11	-				/		
REVIEWER SIGNA	TURE	E/ DATE	: Ju	unio	R Ch	ame	lest 7	124/11						/		

SAIC RADIOLOGICAL SURVEY REPORT (Supplement)

	SAIC	RADI(	JLUG	ICAL	SUKV.	EY KE	POKI	(Sup	piemei	1t)				
SURVI	EY LOCATION: Staten Island FU	JSRAP V	Warehou	se Site,	Staging	Area						Pa	age 2	of 2
Adn	ninistrative Contamination Limits: (dpm/100cm²)	Remov	able α	20	Remov	able βγ	1000	Total o	,	100	Total β		5000_	BKG
Instrume	ent MDA: (dpm/100cm²)	$\alpha$ MDA		11	βγ MD	A	90	α MDA		32	βγ MD		358	NA
Sample No.	Description / Location	α	α	α	β	Iβ	dpm/100cm β Removable	α	Net CPM	dpm/100cm α Total	Gross CPM  } Total	Net CPM β Total	dpm/100cm β Total	uR∕lır
11	Rods (x4)	0	0	< MDA	43	0	< MDA	3	2	< MDA	299	10	< MDA	NA
12	Wrenches (x3)	0	0	< MDA	50	3	< MDA	4	3	< MDA	279	0	< MDA	NA
13	Razor ≾nife	0	0	< MDA	58	11	< MDA	2	1	< MDA	301	12	< MDA	NA
14	Hammer	0	0	< MDA	55	8	< MDA	1	0	< MDA	302	13	< MDA	NA
15	15 Shoe (x2) 0 0 < MIDA 49 2 < MIDA 3 2 < MIDA 311 22													
16	Geoprobe Remote Control	0	0	< MDA	40	0	< MDA	1	0	< MDA	285	0	< MDA	NA
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,													
		1				NA								
		<b>†</b>												
									<del></del>					
REMA	RKS: Geoprobe Mocel #28-006-5152 ar collected at the location where the									lble smear	and one r	ninute co	unt were	
TECHN	NICIAN(S) SIGNATURE/ DA <b>7</b> E:	1	m/	7	_	7/15	/11		-					
	WER SIGNATURE/ DATE: Len	nik (	han	her	- 7	1/24/	 '1							

SURV	Detector   Serial Number:   Cal. Due Date   Background: (CPM)   Efficiency: (%)																
PURPO	OSE OF SURVEY:	Post de	econ sui	vey of C	Geoprob	e push r	ods and	other ed	quipment			DATE:	7/16	6/11	TIME	3: 0	948
Inct	rument Type(c):		S	erial Nu	mber:		Cal.	Due Da	te	Bacl	kgroun	d: (CPM)	)	E	fficien	cy: (%	)
11150	rument Type(s).		met	er	detecto	r	meter	de	tector	Alpha	. (α)	Beta (β	γ)	Alpha	ι (α)	Beta	ι (βγ)
Ludlu 🗜	ım 2929 / 43-10-1 <u>B</u>	N/A	1667	16	17038	) (	4/26/12	4//	26/12	0.1		47		37.2	2%	29	.7%
Ludlu	ım 2360 / 43-89	125															
Ludlu 🗸	ım 2221 / 44-9	15.5	1977	90	21213	2 :	3/28/12	3//	28/12	N/	\	48		NA	4	18	.9%
Micro	) - R	N/A									T			·•			(
Adı			its:			20		0	1000			100			-	000	
	Instrument MDA: (dpm/100cm²) α MDA 11 βγ MDA 90 α MDA																
No.	Instrument MDA: (dpm/100cm²) $\alpha$ MDA															uR/hr	
Ludlum 2221 / 44-9															NA		
Detector   Area   Ar														NA			
Ludlum 2929 / 43-10-1 B N/A 166716 170380 4/26/12 4/26/12 0.1 47 37.2% 29.7%														NA			
4	5' Push Rods used at lo	cation SB	-013	0	0	< MDA	43	0	< MDA								NA
5	5' Push Rods used at lo	cation SB	-023	0	0	< MDA	47	0	< MDA				4				NA
6	5' Push Rods used at 10	cation SB	-018	1	1	< MDA	48	1	< MDA				X				NA
7	5' Push Rods used at 15	cation SB	-015	2	2	< MDA	51	4	< MDA								NA
8	5' Push Rods used at 15	cation SB	-017	0	0	< MDA	45	0	< MDA			40					NA
9	5' Push Rods used at lo	cation SB	-021	0	0	< MDA	51	4	< MDA								NA
II				_		ł		•									NA
REMA	RKS: All push rods at	nd tools w	ere decor	taminate	d and ther	scannec	with 44-9	, the ren	novable sn	nears were	e collect	ed at the lo	cation	where t	he high	est	
	counts were rec	orded. No	counts v	vere recor	ded above	backgro	und.										
TECHI	NICIAN(S) SIGNAT	ΓURE/ I	ATE:/		by I	4	- /	7/1	6/11						/		
REVIE	WER SIGNATURE	/ DATE	· Je	mit	Chan	rhan	-1 7/	4/11	′ 					/			

SAIC RADIOLOGICAL SURVEY REPORT (Supplement)

	SAIC	RADI(	<u> JLOG</u>	ICAL :	SURV	EY RE	<u>PORT</u>	' (Sup	<u>plemei</u>	1t)				
	EY LOCATION: Staten Island FU	ISRAP V	Warehou 1	se Site,	Staging	Area						Pa	age 2	of 2
Adı	ministrative Contamination Limits: (dpm/100cm²)	Remov	able α	20	Remova	able βγ	1000	Total α		100	Total β	γ	5000	BKG
Instrume	ent MDA: (dpm/100cm²)	α MDA			βγ MD.		90	α MDA		NA	βγ MD	A	NA	NA
Sample No.	Description / Location	α	α	α	β	lβ	dpm/100cm β Removable	α	Net CPM Ct Total	tlpm/100cn Ct Total	1 Gross CPM   B   Total	Net CPM β Total	dpm/100cm β Total	uR/hr
11	5' Push Rods used at 1 ocation SB-024	1	1	< MDA	62	15	< MDA							NA
12	5' Push Rods used at location SB-008	0	0	< MDA	58	11	< MDA				4	1		NA
13	5' Push Rods used at location SB-016	0	0	< MDA	50	3	< MDA							NA
	9													
						X	A.							
										<u></u>				
			<u> </u>											
	<u> </u>													
REMA	RKS: All push rods and tools were decor	taminate	and ther	r scanned	with 44-9	), the rem	ovable sn	nears were	collected	at the lo	ocation wh	ere the h	ighest	
	counts were recorded. No counts v	vere recor	ded above	e backgro	ınd.									
TECUN	NICIAN(S) SIGNATURE/ DATE:	//		(_		1/1	/11							
	•	pn	6.	have	- 	-// (4 /2001)	/ //							
KEAIE	WER SIGNATURE/ DATE:	mos C	nan	uer		24/11					***			

SURVEY LOCATION:	Staten Is	land FU	SRAP '	Warehou	ise Site,	Staging	Area		HSV	VP:	SI-1	11-002.0	P	age 1	of 2
PURPOSE OF SURVEY:		e survey	on Tak	euchi M	ini-Exc	avator.					DATE:	7/17/1	1 TI	ME:	0845
Instrument Type(s):	Detector	S	erial Nu	mber:		Cal.	Due Da	te	Bacl	kgroun	d: (CPM)	)	Effic	iency: (%	b)
	Area (cm²)	met	er	detecto	r	meter	de	tector	Alpha	(α)	Beta (β	γ) A	lpha (α	) Bet	a (βγ)
Ludlum 2929 / 43-10-1 B	N/A	1667	716	17038	0	4/26/12	4/2	26/12	0.1	ı	47		37.2%	29	0.7%
Ludlum 2360 / 43-89 C	125	2024	163	19934	9	6/1/12	6/	1/12	0.6	5	289		14.0%	13	3.8%
Ludlum 2221 / 44-9	15.5														
Micro - R	Administrative Contamination Limits: 20 1000 100 5000														
$\frac{(dpm/100cm^2)}{Instrument MDA: (dpm/100cm^2)} \frac{Removable \alpha}{\alpha MDA} = \frac{Removable \beta \gamma}{Instrument MDA} = \frac{Iotal \beta \gamma}{\alpha MDA} = \frac{BKG}{MDA}$															
Sample Description / Location $\alpha$ $\alpha$ $\alpha$ $\beta$ $\beta$ $\beta$ $\alpha$ $\alpha$ $\alpha$ $\beta$ $\beta$ $\beta$ $\alpha$ $\alpha$ $\alpha$ $\beta$ $\beta$ $\beta$ $\alpha$ $\alpha$ $\alpha$ $\beta$ $\beta$ $\beta$ $\alpha$ $\alpha$ $\alpha$ $\beta$ $\beta$ $\beta$ $\alpha$ $\alpha$ $\alpha$ $\beta$ $\beta$ $\beta$ $\alpha$ $\alpha$ $\alpha$ $\beta$ $\beta$ $\beta$ $\alpha$ $\alpha$ $\alpha$ $\beta$ $\beta$ $\beta$ $\beta$ $\alpha$ $\alpha$ $\alpha$ $\beta$ $\beta$ $\beta$ $\beta$ $\beta$ $\beta$ $\beta$ $\beta$ $\beta$ $\beta$															
1 Right Track (F	rom front	)	0	0	< MDA	37	0	< MDA	0	0	< MDA	299	10	< MDA	NA
2 Left T:	ack		0	0	< MIDA	47	0	< MDA	0	0	< MDA	301	12	< MDA	NA
3 Blade	ace		1	1	< MDA	. 59	12	< MDA	3	2	< MDA	293	4	< MDA	NA
4 Bucket (2	nside)		0	0	< MDA	57	10	< MDA	3	2	< MDA	309	20	< MDA	NA
5 Arn	1		0	0	< MDA	51	4	< MDA	2	1	< MDA	296	7	< MIDA	NA
6 Foot Pe	dals		0	0	< MDA	42	0	< MDA	2	1	< MDA	276	0	< MDA	NA
7 Contr	ols		3	3	< MDA	53	6	< MDA	2	1	< MDA	303	14	< MDA	NA
8 Sea	t 		1	1	< MDA	42	0	< MDA	1	0	< MDA	279	0	< MDA	NA
9 Floorbo	oard		0	0	< MDA	42	0	< MDA	2	1	< MDA	277	0	< MDA	NA
10 Hydralic			0	0	< MDA	38	0	< MDA	3	2	< MDA	277	0	< MDA	NA
REMARKS: Excavator Mod	el #TB228	and Seri	al #1228	00442											
TECHNICIAN(S) SIGNA	TURE/ I	DATE/		del	14	/	7/17	/11					/		
REVIEWER SIGNATURI	E/ DATE	: ke	mis	Cha	mka	-17	13/1/11						/		

Attachment 1

#### **SAIC RADIOLOGICAL SURVEY REPORT (Supplement)**

SURVEY LOCATION: Staten Island FUSRAP Warehouse Site, Staging Area  Page 2 of 2														
	Y LOCATION: Staten Island FU inistrative Contamination Limits:	JSRAP V	Varehou	ise Site,	Staging	Area						Pa	age 2	of 2
Adm	inistrative Contamination Limits: (dpm/100cm²)	Remov	able α	20	Removable βγ			- Total α <u>100</u>			Total βγ		5000	BKG
Instrumer	nt MDA: (dpm/100cm²)	α MDA			βγ MD		90	α MDA		32	βγ ΜΙΟ		358	NA
Sample No.	Description / Location	α	α	lpm/100cm Ot Removable	B	β	ľβ	α	Net CPM Ct Total	ipm/100cm α Total	Gross CPM β Total	Net CPM β Total	dpm/100cm β Total	uR∕hr
11	Bucket (Outside)	0	0	< MDA	52	5	< MDA	2	1	< MDA	270	0	< MDA	NA
12	Blade Bottom	0	0	< MDA	49	2	< MDA	2	1	< MDA	296	7	< MDA	NA
13	Left Step	0	0	< MDA	36	0	< MDA	3	2	< MDA	250	0	< MDA	NA
14	Right Track Base	0	0	< MDA	54	7	< MDA	1	0	< MDA	312	23	< MDA	NA
15	Left Track Base	2	2	< MDA	38	0	< MDA	1	0	< MDA	257	0	< MDA	NA
16														
17														
18														
19												•		
20						NA					,			
21	· · · · · · · · · · · · · · · · · · ·													
22														
23														
24													_	
25														
REMAR	RKS: Excavator Model #TB228 and Ser	ial #1228	00442											
TECHN	ICIAN(S) SIGNATURE/ DATE:	de	wifl		7/	12/11								
<del></del>	WER SIGNATURE/ DATE:	mist	Ohe	mles		1/24/	·,							

SURV	EY LOCATION:	Staten Is	land FU	SRAP V	Warehou	se Site,	Staging	Area		HSV	νP:	SI-1	1-002.	0	Page 1	of 2
PURPO	OSE OF SURVEY:	Shippi	ng Surv	ey on Sa	ample Co	olers	_					DATE:	7/17	/11 Т	IME:	1500
Inct	rument Type(s):	Detector	S	erial Nu	ımber:		Cal.	Due Da	ite	Bac	kgroun	d: (CPM)		Eff	iciency: (9	%)
11150	rument Type(s).	Area (cm²)	met	er	detector		meter		tector	Alpha (α)		Beta (βγ)		Alpha (α)		ta (βγ)
Ludlu	udlum 2929 / 43-10-1 <u>B</u> N/A 16		1667	16	170380		4/26/12	4/	26/12	0.1		47		37.2%		9.7%
Ludlu	Ludlum 2360 / 43-89 125															
Ludlu	ım 2221 / 44-9	15.5						ŀ			Î					
Micro	o-R <u>C</u>	. N/A	2097	23	NA		5/17/12		NA	NA		NA		NA		NA
Adı	ninistrative Contamii (dpm/100cm	nits:	Remov	vable α	20	- Remov	able βγ	1000	Total α		100	Total	βγ	5000	BKG	
J	nstrument MDA: (dp	m/100cm²	)	α MD.		11	βγ MD.	A	<u>90</u>	α MDA		_ <i>KA</i> _	βγ ΜΙ		VA-	7_
Sample No.	Description	' Locatio	n	α	α	α	β	β	dpm/100cm β e Removable	α	Net CPM Ot Total	ipm/100cm C Total	Gross CP β  Total	M Net CP β Total	M Bpm/100cn β Total	սR∕հու
1	Cooler #1 Exterior			0	0	< MDA	39	0	< MDA							10
2	Cooler #1 Interior			1	1	< MDA	51	4	< MDA							NA
3	Cooler #2 Exterior			1	1	< MIDA	48	1	< MDA							8
4	Cooler #2 Inerior			3	3	< MIDA	52	5	< MDA							NA
5	Cooler #3 Exterior			0	0	< MIDA	44	0	< MDA				E.			9
6	Cooler #3 Inerior			1	1	< MDA	50	3	< MDA				¥			NA
7	Cooler #4 Exterior			0	0	< MDA	43	0	< MDA					$\overline{\lambda}$		8
8	Cooler #4 Inerior			1	1	< MDA	50	3	< MDA							NA
9	Cooler #5 Exterior			1	1	< MDA	49	2	< MDA							10
10	Cooler #5 Inerior			2	2	< MDA	53	6	< MDA							NA
REMA	RKS: Survey perforn	ned in com	pliance w	ith DOT	UN2910.											
TECH	NICIAN(S) SIGNA	TURE/ I	DATE:/	<u> </u>	Ans.	~		7/17	<u>/11_</u>		<del></del>				/	
REVIE	WER SIGNATUR	E/ DATE	: _fe	mis	R Chi	<u>embe</u>	W 7/.	24/11			****					

# SAIC RADIOLOGICAL SURVEY REPORT (Supplement)

	EY LOCATION: Staten Island FU	SRAP V	Varehou	se Site,				(245				Pa	ge 2	of 2
Adn	ninistrative Contamir,ation Limits: (dpm/100cm²)	Removable α —20			Remova	Removable βy1000_				100	Total βγ	<u> </u>	5000	BKG
Instrume	ent MDA: (dpm/100cm²)	α MDA		11	βγ MD	A	90	α MDA VA		NA	βγ MDA		M	7
Sample No.	Description .' Location	α	α	dpm/100cm Ot Removable	β	β	lβ	α	Net CPM Ct Total	dpm/100cm Ct Total	Gross CPM β Total	Net CPM : β Total	lpm/100cm β Total	บR/lъr
11	Cooler #6 Exterior	0	0	< MDA	47	0	< MDA							12
12	Cooler #6 Interior	2	2	< MDA	47	0	< MDA		/					NA
13	Cooler #7 Exterior	1	1	< MDA	48	1	< MDA							9
14	Cooler #7 Interior	3	3	< MDA	41	0	< MDA				10			NA
15	Cooler #8 Exterior	0	0	< MDA	36	0	< MDA				TO THE			12
16	Cooler #8 Interior	0	0	< MDA	48	1	< MDA							NA
17	Cooler #9 Exterior	0	0	< MDA	54	7	< MDA							11
18	Cooler #9 Interior	3	3	< MDA	44	0	< MDA							NA
													···	
													'	
						NA								$\square$
														igsquare
					<u>.</u>									igsquare
			t				L							
REMA	RKS: Survey performed in compliance w	rith DOT	UN2910.											
TECHN	NICIAN(S) SIGNATURE/ DATÆ:		~/ C			7,	/17/11		•					
1	WER SIGNATURE/ DATE: ken		han	lice		7/29	1/11			_				

#### Attachment 1

SURVE	SURVEY LOCATION: Staten Island FUSRAP Warehouse Site, Staging Area HSWP: SI-11-002.0 Page 1 of 2 PURPOSE OF SURVEY: Release survey on equipment that used onsite. DATE: 7/17/11 TIME: 1555														of 2	
PURPO	SE OF SURVEY:	Release	e survey	on equi	pment tl	nat usec	onsite.			<u> </u>		DATE:	7/17/1	1 TIM	Æ: 1	555
League	rumont Tema(a).	Detector	S	erial Nu	mber:		Cal. I	Due Dat	e	Back	ground	l: (CPM)		Efficie	ency: (%	)
HISU	ument Type(s):	Area (cm²)	met	er	detecto	r	meter		detector		(α)	Beta (β'	y) Al	Alpha (α)		ι (βγ)
Ludlur	Ludlum 2929 / 43-10-1 B N/A 160			16	170380	) .	4/26/12		4/26/12		_	47	3	37.2%		.7%
Ludlum 2360 / 43-89 C 125 202			2024	-63	199349	)	6/1/12	6/	1/12	0.6		289	1	14.0%		.8%
Ludluı	m 2221 / 44-9	15.5														
Micro	- R	N/A										_				
Adm	ninistrative Contamin (dpm/100cm²	able βγ	1000	Total α		100_	Total βγ	·	5000	BKG						
													<u>NA</u>			
Sample No.	Description /			α	α	α	i Gross CPM β Removable	β	β	α	Net CPM	lipm/100cm C( Total	Gross CPM β Total	Net CPM β Total	Ipm/100cm β Total	บR∕lъг
1	Stihl Cha	insaw		0	0	< MDA		0	< MDA	1	0	< MDA	278	0	< MDA	NA
2	Stihl Weed	eater 'A'		0	0	< MDA	. 51	4	< MDA	1	0	< MDA	307	18	< MDA	NA
3	Stihl Weed	eater 'B'		0	0	< MDA	35	0	< MDA	0	0	< MDA	283	0	< MDA	NA
4	Survey	Rod		0	0	< MIDA	41	0	< MDA	1	0	< MDA	305	16	< MDA	NA
5	Geopump (C	Geo-657)	·.	0	0	< MDA	52	5	< MDA	4	3	< MDA	261	0	< MDA	NA
6	WL	I	_	1	1	< MDA	56	9	< MDA	1	0	< MDA	316	27	< MDA	NA
7	Autocraft	Battery		0	0	< MDA	40	0	< MDA	0	0	< MDA	285	0	< MDA	NA
8	Augers	(x5)		0	0	< MDA	41	0	< MDA	4	3	< MDA	274	0	< MDA	NA
9	T-Bar Han	dle (x2)		1	1	< MIDA	51	4	< MDA	2	1	< MDA	313	24	< MDA	NA
10	Water Sp	< MDA		6	< MDA		2	< MDA		4	< MDA	NA				
REMA	RKS: All survey item	s were 10	0% scann	ed with 4	3-89, no o	counts we	ere recorde	d above b	oackgroun	d. The re	movable	smear we	re collecte	d at the l	ocation w	here
	the highest counts were recorded.															
TECHN	TECHNICIAN(S) SIGNATURE/ DATE: An / 1 7/11/11 /															
	WER SIGNATURI			nik	Oha	mber	171	n//11					<u>-</u>			

Attachment 1

SAIC RADIOLOGICAL SURVEY REPORT (Supplement)

	SAIC	KADI	JLUG.	ICAL	SUKV	LYKE	PUKI	(Sup	piemei	it)				
SURV	EY LOCATION: Staten Island FU	JSRAP V	Warehou	se Site,	Staging	Area	_					Pa	age 2	of 2
Adr	ninistrative Contamination Limits: (dpm/100cm²)	Removable α 20 Removable βγ 1000 Total α 100					Total βγ			BKG				
Instrume	ent MDA: (dpm/100cm²)	$\alpha$ MDA 11						α MDA 32			βγ MDA		358	NA
Sample No.	Description / Location	α	α	α	β	lβ	dpm/100cm β Removable	α	Net CPM C( Total	ipm/100cm α Total	Gross CPM  } Total	Net CPM ß  Total	dpm/100cm β Total	uR/lır
11	External GPS Antenna	0	0	< MDA	53	6	< MDA	4	3	< MDA	293	4	< MDA	NA
12	Hydrolab SN-QD01654	1	1	< MDA	47	0	< MDA	2	1	< MDA	269	0	< MDA	NA
13	Orange Highway Cones (x2)	0	0	< MDA	49	2	< MDA	3	2	< MDA	301	12	< MDA	NA
			_											
								-						
		abla												
		<del> </del>												
							4							
		<del> </del> -	-				*				<del> </del>			
<u> </u>							:							
7777 ( )	DYCC All	- d d 41	2.00			d about 1-		d Thou	ma ayyahi -		no collect	od at the 1	antion ::	hora
REMA	RKS: All survey items were 100% scans the highest counts were recorded.	iea with 4	3-89, no 0	counts wer	re recorde	u above b	packgroun	u. Ine re	movable	sinear we	re collecte	cu at the l	ocation w	пеге
TECHN	NICIAN(S) SIGNATURE/ DAȚE:	1 d	5/	1		/11/1	,							
	WER SIGNATURE/DATE: fen	nei F	10/2	1		3/11	1			·				
1717 7 115	HER GIGHATORE DATE	1000	CVID	wu		0 10 / 11								

SURVI	SURVEY LOCATION: Staten Island FUSRAP Warehouse Site, Staging Area HSWP: SI-11-002.0 Page 1 of 2 PURPOSE OF SURVEY: Release survey on used disposable equipment. DATE: 7/17/11 TIME: 1800														of 2		
PURPO	SE OF SURVEY:	Release	e survey	on used	l disposa	able equ	ipment.					DATE:	7/17	7/11	TIME	<u>:</u> 1	.800
Inat	rument Type(s):	Detector	S	erial Nu	mber:		Cal. 1	Due Dat	:e	Bacl	cgroun	d: (CPM)	,	E	fficien	cy: (%	)
111511	ument Type(s).	Area (cm²)	met	er	detecto	r	meter		ector	Alpha	(α)	Beta (β	Y)	Alpha	(α)	Beta	ι (βγ)
Ludlu	Ludlum 2929 / 43-10-1 <u>B</u> N/A 16		1667	16 1703		)	4/26/12	4/2	4/26/12			47		37.2%		29	.7%
Ludlu				63	199349	)	6/1/12	6/	1/12	0.6	5	289		14.0	%	13	.8%
Ludlu	m 2221 / 44-9	15.5						1									
Micro	- R C	N/A	2097	23	NA		5/17/12		NA	N.A		NA		N/	SOOO  CPM θρην/100cn β cotal Total		IA
Adn	ninistrative Contamin			•		20	T		1000			100		_	5	000	
(dpm/100cm²) Removable α — Removable βγ — Total α — Total βγ —												BKG 7					
	nstrument MDA: (dpr	n/100cm²	)	α MD		11	βγ MD		90 Hom/100cm	α MDA			βγ Μ				
Sample No.	Description /	Locatio	n	α	α	α	β Removable	β	ľβi	α	C. Total	α Total	β Total		3	β	uR∕lır
1	7/11/11	PPE		1	1	< MDA		2	< MDA								7
2	7/12/11	PPE		0	0	< MDA	59	12	< MDA								6
3	7/12/11 L	iners		1	1	< MDA	48	1	< MDA								8
4	7/13/11	PPE		3	3	< MDA	58	11	< MDA								6
5	7/13/11 L	iners		1	1	< MDA	. 52	5	< MDA				<i>y</i> _				6
6	7/14/11	PPE	· · · · · ·	0	0	< MDA	49	2	< MDA				X				7
7	7/14/11 L	iners		0	0	< MDA	35	0	< MDA								6
8	7/15/11	PPE		1	1	< MDA	46	0	< MDA								7
9	7/15/11 L	Liners		3	3	< MDA	49	2	< MDA								7
10	7/15/11 Plasti			0	0	< MDA	•	12	< MDA								7
REMA	RKS: All survey item	s were 100	0% scann	ed with 4	3-89, no c	ounts we	re recorde	d above l	ackgroun	d. The re	movabl	e smear we	re colle	cted at	the loca	ation wh	iere
	the highest counts were recorded.																
TECHN	TECHNICIAN(S) SIGNATURE/DATE: / / / //// / / / / / / / / / / / / /																
REVIE	WER SIGNATURE	E/DATE	: Je	nni	& Ch	anhe	u/7/2	4/11						/			

### SAIC RADIOLOGICAL SURVEY REPORT (Supplement)

	DAIC	KADI	JLUU.	CAL	SULV	DI KE	TOKI	(Sup	Memer	11)				
	EY LOCATION: Staten Island FU	ISRAP V	Warehou	se Site,	Staging	Area						Pag	e 2	of 2
Adn	ninistrative Contamination Limits: (dpm/100cm²)	Remov	able α	20	Removable βγ1000			Total α			Total βγ		5000_	BKG
Instrume	nt MDA: (dpm/100cm²)	$\alpha MDA$		11	βγ MD.		90	α MDA		NΆ	βγ MDA		ΝA	7
Sample No.	Description ! Location	α	Net CPM α Removable	α	β	IΒ	Iβ	α	Net CPM (X Total	dpm/100en α Total	Gross CPM  \$   Total	Net CPM Hp β Total	m/100cm β Total	uR/lır
11	7/16/11 PPE	0	0	< MDA	48	1	< MDA							9
12	Temporary well screens	0	0	< MDA	36	0	< MDA							7
13	Tubing	1	1	< MDA	49	2	< MDA				12			7
14	Pin flags	0	0	< MDA	50	3	< MDA							7
15	Plywood	1	1	< MDA	44	0	< MDA					$ egthinspace{1.5em} $		6
16	7/17/11 PPE	1	1	< MDA	44	0	< MDA							8
				83										
	.d													
						SA								
		1												
REMA	RKS: All survey items were 100% scann the highest counts were recorded.	ed with 4	3-89, no o	counts we	re recorde	ed above t	oackgroun	d. The re	movable	smear we	ere collected	at the loo	cation w	here
TECHN	NICIAN(S) SIGNATURE/DATE	10	~//	L		7/17/	(1							
		nni	Rich	anh	en -	7/2/	,							