



NPS Engineering Evaluation/ Cost Analysis Field Activities Report

Virgin Islands National Park

**Caneel Bay Resort Site
St. John, USVI
EDL Number 5SER3346**

Prepared by



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List of Abbreviations and Acronyms

ACM	Asbestos-containing materials
AST	Aboveground storage tank
bgs	Below ground surface
CST	Contaminated Site Team
DU	Decision unit
EE/CA	Engineering Evaluation/Cost Analysis
EMI	Electromagnetic Induction
ft	Foot or feet
GIS	Geographic Information Service
GPR	Ground penetrating radar
GPS	Global positioning system
IDW	Investigation-derived waste
in	Inch
ISM	Incremental sampling methodology
NPS	National Park Service
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
RCRA	Resource Conservation and Recovery Act
SAP	Sampling and Analysis Plan
SVOC	Semi-volatile organic compound
TCLP	Toxicity Characteristic Leaching Procedure
UST	Underground storage tank
VIIS	Virgin Islands National Park
VOC	Volatile organic compound
WWTP	Wastewater treatment plant

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1 Introduction

This document serves as the Field Activities Report for Engineering Evaluation/Cost Analysis (EE/CA) field investigation activities at the Caneel Bay Resort Site (Site), located within the National Park Service (NPS) Virgin Islands National Park (VIIS).

The Site includes three primary areas where environmental concerns were identified in previous assessments:

- **Area 1:** approximately 1.7 acres in the vicinity of the wastewater treatment plant (WWTP) structures, located on the southeastern side of the resort. Of this total area, NPS investigated approximately 0.8 acres, which is primarily the gravel staging area.
- **Area 2:** approximately 5.4 acres that encompass the engineering, maintenance, landscaping, and fuel buildings and facilities, located to the southwest of the WWTP.
- **Area 3:** approximately 1.5 acres of land (undeveloped except for a donkey shelter) that will be referred to in this document as the debris landfill to reflect historical usage, located immediately east of Honeymoon Beach.

This investigation also included activities related to building materials and potentially buried wastes outside the three areas described above, but within the Resort property. These areas were not identified as part of the Site in the SAP.

Based on changes to the Site since previous assessments, NPS conducted additional limited investigation activities at the Site.

The chemicals of potential concern, henceforth referred to as “study constituents¹” at the Site identified in the Sampling and Analysis Plan (SAP) were:

- Resource Conservation and Recovery Act (RCRA) 8 and 13 Priority Pollutant metals in all media – all areas. These metals include antimony, arsenic, barium, beryllium, barium, cadmium, chromium (III and VI), copper, lead, mercury, nickel, selenium, silver, thallium, and zinc.
- Volatile organic compounds (VOCs) in surface soil near aboveground storage tanks and in debris landfill contents, and in groundwater – Areas 2 and 3
- Polychlorinated biphenyls (PCBs) in soil (debris landfill contents) and groundwater near the debris landfill – Area 3
- Toxicity Characteristic Leaching Procedure (TCLP) RCRA 8 metals, VOCs, semi-volatile organic compounds (SVOCs), and pesticides in soil (debris landfill contents) – Area 3.

¹ The SAP used the terminology Contaminants of Potential Concern (COPCs), but the Human Health Risk Assessment uses the same term to identify analytes that pose an unacceptable risk. For clarity, “study constituents” is used in the EE/CA report to describe all analytes in the investigation.



RCRA 8 metals include: arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver.

- Polycyclic aromatic hydrocarbons (PAHs) in surface soil and debris landfill contents, and in groundwater – all areas
- Pesticides in soil and debris landfill contents, and in groundwater – all areas

Asbestos in surface soil at the debris landfill was not identified in the SAP as a study constituent because it was not evident at that time that asbestos had been released to soil.

The purpose of this field investigation was to provide sufficient data of adequate quality to complete an EE/CA to decide if response actions are needed to address unacceptable risks at the Site and, if warranted, identify a recommended removal action alternative for the Site. NPS will use data collected during this field investigation to decide if removal actions are needed to address unacceptable risks at the Site and, if warranted, identify a recommended removal action alternative. The field investigation was designed to answer the Principal Decision Questions and Estimation Questions enumerated in Section 2, below.

VHB completed the EE/CA field investigation in February of 2021 under contract to NPS (Blanket Purchase Agreement No. P16PA00039; Call Order No. P16PB00350).

2 Summary of Completed Field Activities and Deviations from the SAP

Field work at the Site commenced on February 11, 2021 and was completed on February 25, 2021. The following staff were present for all or part of the field work; a list of activities on each day is provided in Table 1.

- Ben Deede, VHB – Field Manager
- Bob Osborne, VHB – Site Safety Officer
- Jose Padrino, VHB – Surveyor
- Kelly Kachurak - NPS Representative
- Sabrina Diaz, NPS VIIS – NPS Representative
- David Horner, NPS VIIS – NPS Representative
- Brad Dow – Contracted Caneel Bay Resort Representative
- Fred Iannazzi – Contracted Caneel Bay Resort Representative
- Javier J. Bidot Associates, PSC – Ground penetrating radar (GPR) and utility locating surveyors
- On-Site Environmental – Environmental drillers certified in the USVI.

Field work consisted of the following activities, itemized according to the related Principal Decision Questions. In some cases, field conditions required VHB to deviate from the SAP. Deviations related to each element of the investigation are included in the summary below.



- Decision Question 1: Has the distribution of study constituents across the Site been adequately delineated such that human health and ecological risks can be quantified?
 - All field work described in this section is related to this decision question.
- Decision Question 2: Are concentrations of study constituents present in Site surface soil posing an unacceptable potential for risk to human and/or ecological receptors?
 - VHB collected surface soil samples by Incremental Sampling Methodology (ISM) in Areas 1, 2, and 3. Three replicate samples were collected from each decision unit (DU), which were approximately 0.25 acres or smaller. As noted in the deviations section, VHB added four DUs based on field observations. In total, VHB sampled 13 Site DUs and 2 reference DUs. Area 1 included IA-1-01 through 04, Area 2 included IA-2-01 through 05, and Area 3 included IA-3-01 through 04. These shallow soil samples were analyzed for metals, PAHs, pesticides, and pH at all locations. Area 3 samples were also analyzed for PCBs. Samples from one DU in Area 2, in the vicinity of the aboveground storage tanks (ASTs) and fuel pump, were additionally analyzed for VOCs.
 - VHB used a Geographic Information Service (GIS)-based map and global positioning system (GPS) to locate the DU boundaries. In some cases, DUs were adjusted from their proposed extents due to field conditions (e.g. actual debris landfill/staging area extents, the presence of previously unmapped buildings, concrete pads, or structures, and the presence of debris piles. VHB surveyed or used GPS to record actual field DU extents.
 - *Deviations from the SAP.*
 - As noted above, some DUs were adjusted from their proposed due to field conditions, including the presence of debris piles. Additionally, the widespread presence of debris in some areas limited soil access and constricted sample increment collection locations.
 - NPS and VHB observed an apparent wash (i.e., a channel created by erosion) along the eastern and southern sides of the debris landfill, outside the brush berm. The wash extended from a former quarry area and drained downhill towards Honeymoon Beach. Exposed waste was observed in the debris landfill face along the wash. Additionally, based on the presence of salt deposits, three possible seeps that would drain to the wash were observed along the debris landfill face in the areas of exposed waste. The seeps were not wet during the field work. To assess the nature and extent of contamination that may have been discharged from the debris landfill, NPS added one ISM surface soil DU to the area that encompassed the three seeps, and another ISM surface soil DU to the bottom of the wash channel downhill from the seeps.
 - While marking out the ISM sampling boundaries in Area 1, VHB encountered previously unobserved conditions. At least 12 partially buried and rusted



drums were observed in the eastern portion of the gravel staging area, in the same area as identified in the 2017 Removal Site Evaluation report. Some of the drums appear to have contained washed pebbles. Dried paint, apparently released directly to the ground surface, was observed in the southern portion of the gravel staging area. NPS elected adjust the boundaries of the ISM DUs to avoid both the drums and paint. VHB created separate surface soil DUs at each of these two areas.

- The sample replicates from two ISM DUs in Area 2 were mistakenly analyzed for PCBs. PCBs were not study constituents in Area 2, but the Chain of Custody was marked in error. The analytical results will be reported.
- Decision Question 3: Are concentrations of study constituents present in soil in the debris landfill posing an unacceptable potential for risk to human and/or ecological receptors?
 - VHB advanced 11 soil borings (identified as SC-3-##) to refusal in the debris landfill in Area 3. Discrete samples were collected at 10 of the soil boring locations. Shallow refusal was encountered at approximately 1.5 feet below ground surface (ft bgs) at SC-3-05 and samples were not collected. Samples were collected from shallow (near ground surface to approximately 3 ft bgs) and deep intervals (3 ft bgs to 6 ft bgs or refusal, if shallower). These shallow and deep samples were analyzed for all study constituents.
- Decision Question 4: Are concentrations of study constituents present in Site groundwater posing an unacceptable potential for risk to human and/or ecological receptors?
 - VHB developed the existing monitoring well in Area 2, MW-1, and the well slowly recharged. VHB observed that the well screen extends to the surface and the well may collect rainwater from the surrounding concrete pad. The water level did not recover completely, and the volume of water in the well was sufficient only to collect samples for analysis of VOCs, metals, and PAHs. There was insufficient water for the pesticide sample or quality control samples.
 - VHB logged soil cores as they were collected. Completed boring logs will be included in the Investigation Summary Report. No evidence of soil moisture suggesting the presence of groundwater was observed at any boring location. For confirmation, On-Site Environmental installed temporary piezometers using 1-in diameter PVC riser pipe at three boring locations in Area 2: SC-2-01, SC-2-02, SC-2-03 (proposed well locations MW-2-01 through MW-2-03). VHB checked each piezometer for water in subsequent days and found all to be dry. NPS elected to install one monitoring well (MW-3-01) near the seeps/wash in the debris landfill in Area 3. Although this monitoring well could not be sampled during this field mobilization, it may yield water in a wetter season, potentially providing information regarding contaminant mobility.



- VHB observed visual, olfactory, and photoionization detector (PID) evidence of the presence of petroleum contamination in soil cores collected at two Area 2 boring locations in the vicinity of the fuel pump (SC-2-03 and SC-3-05). Evidence of petroleum contamination was observed from between 3.5 and 5 ft bgs to near boring refusal at between 13 and 23 ft bgs. As discussed above, no wells were installed at these locations.
- *Deviations from the SAP.*
 - For reasons described above, VHB collected only one groundwater sample, and installed one monitoring well, which was dry.
- Decision Question 5: Do study constituent concentrations in Site soil exceed study constituent concentrations in reference/background soil samples?
 - On-Site Environmental advanced three soil cores, SC-Ref-01, SC-Ref-02, and SC-Ref-03, in the reference area to the northeast of the debris landfill. Steep slopes, dense vegetation, and rocky outcrops limited the potential drilling locations. All three cores were advanced to refusal, which was between 0.5 ft and 3 ft bgs. VHB collected discrete soil samples from these locations for analyses listed in Table 2.
 - VHB collected ISM surface soil samples from two reference DUs. The IA-Ref-01 DU was situated between Area 1 and Area 2. The IA-Ref-02 DU was moved to encompass the SC-Ref coring locations because steep slopes, rocky terrain, and dense vegetation limited access to the planned reference area farther to the northeast.
 - *Deviations from the SAP.*
 - Shallow refusal (0.5 to 3 ft bgs) was encountered at all background soil boring locations. Consequently, soil sampling was limited to shallow intervals. Rock outcrops surrounding the drilling area suggested that refusal was on rock.
 - As discussed for Decision Question 4, evidence of petroleum contamination was observed in the soil cores collected from boring SC-2-03, near the Area 2 fuel dispenser. To further evaluate the nature and extent of petroleum contamination in this area, VHB advanced an additional boring in the road to the north of the fuel dispenser. While further investigation across the road was considered, boring locations were limited by the extents of the pre-drilling subsurface utility survey. Multiple utilities had been identified beneath the roadway within the utility survey area and the potential for other utilities beyond that area, including piping associated with the currently operating desalination plant, were unknown.
- Decision Question 6: Do study constituents in groundwater downgradient of potential source areas exceed screening levels?
 - *Deviations from the SAP.*



- As detailed for Decision Question 4, no monitoring wells were installed downgradient of potential source areas because no cores indicated the presence of groundwater at the time of the field work.
- Decision Question 7: Are the study constituents detected in groundwater above screening levels related to a release on Site, or are they consistent with local background/reference concentrations?
 - *Deviations from the SAP.*
 - As detailed for Decision Question 4, no reference monitoring wells were installed because no cores indicated the presence of groundwater at the time of the field work.
- Decision Question 8: Is the soil in the debris landfill characterized as hazardous by chemical concentration?
 - VHB collected sample of soil from within the waste interval for analysis of waste characterization parameters VOCs, semi-VOCs, metals, and pesticides by TCLP from 9 of 11 boring locations within the debris landfill. Shallow refusal was encountered at approximately 1.5 ft bgs at SC-3-05 and samples were not collected. Due to low core recovery, waste characterization samples were not collected at SC-3-09. Evidence of waste was observed at all 11 boring locations.
- Decision Question 9: Is there evidence of an underground storage tank (UST) at Cottage 7?
 - VHB inspected the Cottage 7 grounds and basement, which was identified as the former bomb shelter by Brad Dow. A tank level gauge with suspected metallic fuel lines leading through an exterior wall were observed in the basement. Using electromagnetic induction (EMI), Javier J. Bidot Associates traced the metallic lines outside the structure; the signal was lost under several air conditioning units. Open areas around the metallic lines and Cottage 7 were scanned using GPR; however, access was limited due to dense vegetation, debris, and the air conditioning units.
- Decision Question 10: Is there visual evidence of asbestos-containing materials (ACM) within and around Site structures at the resort that may be impacting the environment?
 - VHB surveyed structures and debris across the resort for evidence of ACM. Building materials with exposed visible fibers (possibly asbestos), including roofing material, wallboard, ceiling tile, plaster, ceramic tile, insulation, and pipe, were observed within structures and scattered around the resort as debris. Additionally, other materials were observed that may contain asbestos but did not show visible fibers, including tile, grout, mastic, were observed in structures and in debris piles in Area 1. Roofing materials, including tar paper with exposed visible fibers, were the most widely scattered debris and were observed across many areas of the resort, often far from structures. Sheet metal roofing was also observed submerged in Hawksnest Bay. No sampling of building materials for laboratory analysis was performed.
 - Prior to other sampling activities at the debris landfill, VHB collected eight discrete surface soil samples (identified as SC-AS-##) and shipped them to EMSL laboratory



for a rapid turnaround asbestos analysis. The results indicated that asbestos was not present in surface soil at concentrations that would require upgrading personal protective equipment during sampling or canceling ISM soil preparation at the laboratory. Asbestos was identified in one sample at a concentration of 0.75%.

- Decision Question 11: Is there evidence that known asbestos pipes are connected to an existing buried network?
 - VHB and Javier J. Bidot Associates conducted a GPR survey for buried piping in the vicinity of the broken asbestos pipe identified during the Level 2 investigation in Area 2. Due to debris and dense vegetation, the asbestos pipe could not be located at the surface at the time of the GPR survey. Two unknown buried pipes were identified in the vicinity during the GPR survey. The broken asbestos pipe identified during the Level 2 investigation was later located during ISM sampling. Approximately 14 feet of pipe was exposed and determined to be running to the west, towards the former greenhouses.
 - During the course of other work at the Site, possible asbestos-cement piping was identified in other areas of Area 2 and in Areas 1 and 3.
- Decision Question 12: Is there visual and/or analytical evidence of lead-based paint on and around Site structures that may be impacting the environment?
 - VHB collected surficial (0 to 0.5 ft bgs) soil discrete samples from the approximate drip lines at buildings and painted debris around the resort. VHB grouped buildings by similarity of construction to evaluate potential lead impacts to soil from lead paint. VHB collected 19 samples and 2 duplicates for analysis of lead in soil (identified as SC-Bldg-xx).
- Estimation Question 1: In the event potential response actions are necessary, what is the areal and vertical extent of the debris landfill at the Site?
 - VHB performed a reconnaissance of the debris landfill to identify the probable horizontal extents of historical filling. Boring locations were arranged in transects across the debris landfill to characterize vertical extents, based on visual observations, of historical filling.
 - A GPR survey was conducted across the debris landfill top; the results were not useful in identifying the debris landfill extents. Two linear features, likely associated with buried debris, were identified in the center of the debris landfill.
 - VHB conducted a topographic survey around the surface of the debris landfill using a total station. These data will be combined with the soil coring observations to estimate a fill volume.

The locations of discrete soil samples, the ISM decision units, and the monitoring wells are presented on Figure 1.



VHB sent all samples by commercial courier to the laboratories. EMSL of Cinnaminson, New Jersey received all asbestos in soil samples. Eurofins TestAmerica received samples for chemical laboratory analysis. Table 2 includes a list of the samples collected and submitted for laboratory analysis. Validated analytical data are expected in April of 2021.

The contents of the appendices to this report are as follows:

- Appendix 1: completed field forms and notes
- Appendix 2: captioned photographs of field activities
- Appendix 3: daily reports generated during field activities
- Appendix 4: field instrument calibration sheets

3 Documenting Deviations from the SAP

VHB identified the need for deviations from the SAP during field work, when changes from our previous site visit in 2016 became evident. To keep the investigation on schedule, VHB identified proposed deviations to the Contaminated Site Team (CST) named in the SAP in an email between one and two days in advance of performing the action. VHB proposed no new laboratory analytical procedures or field methods; hence, VHB did not prepare a SAP addendum. All field deviations were related to the number of samples collected, including collecting additional ISM samples and installing fewer groundwater monitoring wells, as described in Section 2.

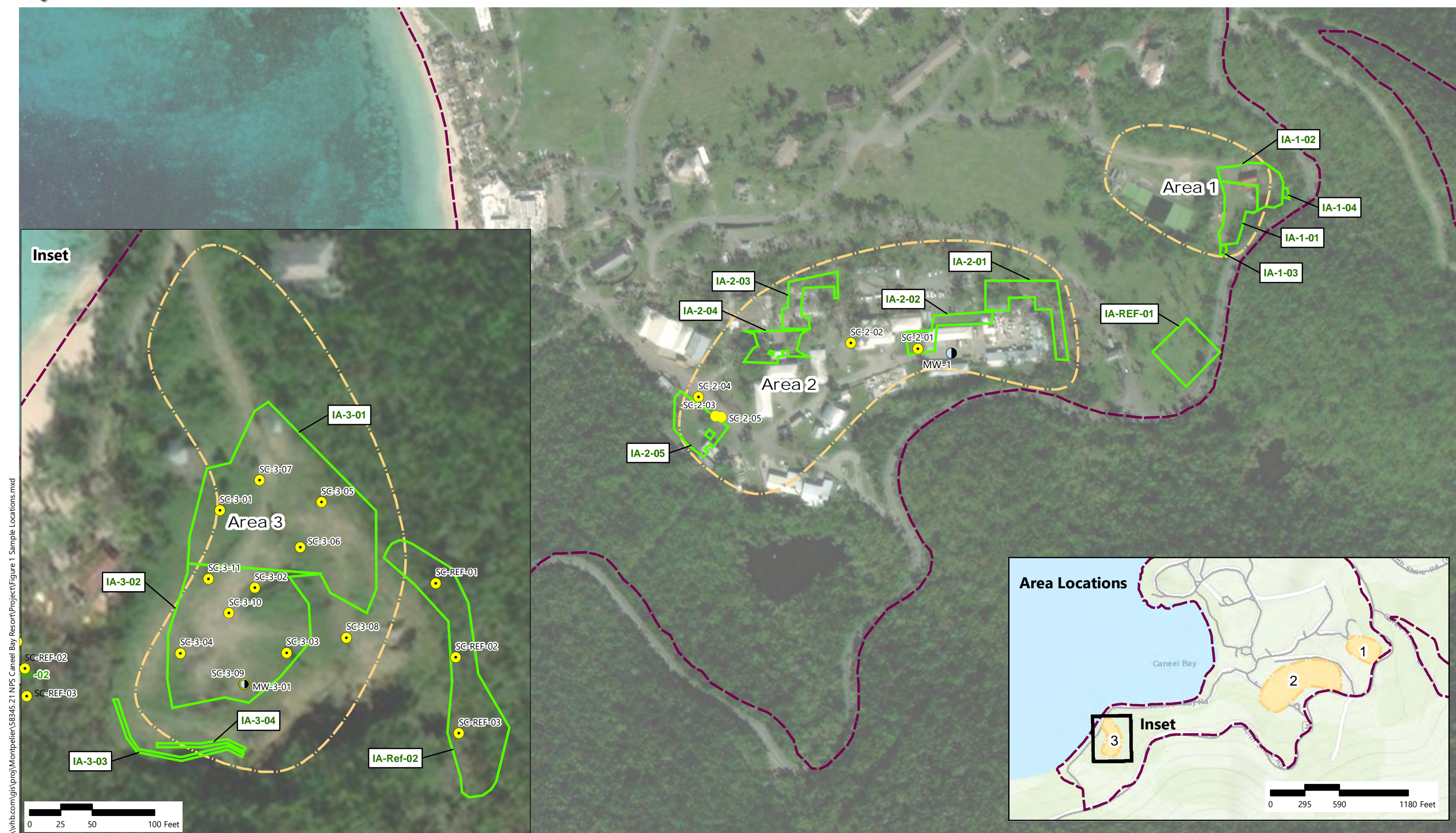
A winter storm in mid-February caused a disruption in service at the FedEx courier's hub in Memphis, Tennessee. Some of the coolers VHB shipped to the Eurofins TestAmerica laboratories were delayed as a result. Hold times were not exceeded, but the laboratory received several samples that were at temperatures above the criteria listed in the SAP. These data may be qualified in the data validator's report; at the time of the field work, the data were expected to be usable except for one pH sample, which VHB recollected.

4 Status of IDW Storage and Disposition

VHB and On-Site Environmental collected investigation-derived waste (IDW) generated during field activities in 55-gallon steel drums. The drillers constructed a decontamination pad to collect water, but much of this water evaporated in the heat. In addition, only one monitoring well contained water. Thus, the volume of IDW water generated from decontamination, well development, and well purging was much less than anticipated. VHB placed the two drums containing IDW soil and one drum containing a small volume of IDW water on a pallet in the engineering area, as directed by CBIA, and covered the drums with a tarp. VHB collected and submitted IDW soil and water samples to Eurofins TestAmerica for waste characterization.



Figures



\\vhb.com\gis\proj\Montpelier\58345_21 NPS Caneel Bay Resort\Project\Figure 1 Sample Locations.mxd



- Sample Location
- ISM Surface Soil Decision Unit
- Existing Monitoring Well
- Investigation Area
- Caneel Bay Resort

Caneel Bay Resort Site

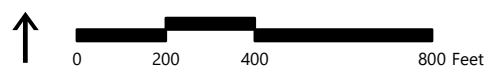
St. John, USVI

Source Info:
Base map from ESRI/World Imagery (2017).
VHB recorded sampling locations in the
field by survey or GPS.

Sample Locations
Investigation Areas



\\vhb.com\gis\proj\Montpelier\58345.21 NPS Caneel Bay Resort\Project\Figure 2 Sample Locations Buildings.mxd



- Sample Location
- Existing Monitoring Well
- Investigation Area
- Caneel Bay Resort

Caneel Bay Resort Site

St. John, USVI

Source Info:
Base map from ESRI/World Imagery (2017).
VHB recorded sampling locations in the
field by survey or GPS.

Sample Locations Buildings



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Tables



Table 1. Field Activities Summary

Date	VHB	NPS	CBIA	Javier J. Bidot Assoc.	On-Site Environmental
2/11/2021	Performed reconnaissance of investigation areas, directed GPR survey, collected surface soil samples at debris landfill for asbestos	Sabrina Diaz, Dave Horner observed	Brad Dow, Fred Iannazzi observed	GPR and buried materials/utilities survey	None
2/12/21	Directed GPR survey, investigated asbestos piping, investigated Cottage 7, investigated storage area below Catchment, shipped samples	None	Brad Dow, Fred Iannazzi observed	GPR and buried materials/utilities survey	Walked proposed drilling areas
2/13/21	Collected soil lead samples, began asbestos survey	None	Brad Dow, Fred Iannazzi observed	None	None
2/14/21	No work	None	None	None	None
2/15/21	Collected soil lead samples, continued asbestos survey, walked site with Kelly, staked out ISM areas	Kelly Kachurak observed	Brad Dow, Fred Iannazzi observed	None	Mobilized rig and equipment to site



Date	VHB	NPS	CBIA	Javier J. Bidot Assoc.	On-Site Environmental
2/16/2021	Completed collection of soil lead samples and asbestos survey, collected ISM samples	Kelly Kachurak observed	Brad Dow, Fred Iannazzi observed	None	Constructed decontamination pad and decontaminated drilling equipment
2/17/2021	Directed soil coring, logged soil cores, adjusted and staked out ISM areas, shipped samples	Kelly Kachurak observed	Brad Dow, Fred Iannazzi observed	None	Cored at debris landfill, experienced rig malfunctions and lost tooling
2/18/2021	Collected ISM samples, adjusted and staked out ISM areas, developed MW-1 well	Kelly Kachurak observed	Brad Dow, Fred Iannazzi observed	None	None
2/19/2021	Directed soil coring, logged soil cores, collected ISM samples, shipped samples	Kelly Kachurak observed and provided update to CBIA	Brad Dow, Fred Iannazzi observed	None	Made repairs to rig, cored at debris landfill
2/20/2021	Directed soil coring, logged soil cores, staked out and collected ISM samples	None	Brad Dow, Fred Iannazzi observed	None	Cored in Area 2, installed temporary piezometers at proposed well locations
2/21/2021	Directed soil coring, logged soil cores, staked out and collected ISM samples	None	Brad Dow, Fred Iannazzi observed	None	Cored at debris landfill and reference locations



Date	VHB	NPS	CBIA	Javier J. Bidot Assoc.	On-Site Environmental
2/22/2021	Surveyed coring locations and debris landfill topography, directed soil coring, logged soil cores, staked out and collected ISM samples, attempted to ship samples, purged MW 01 dry	None	Brad Dow, Fred Iannazzi observed	None	Cored at debris landfill and reference locations
2/23/2021	Surveyed coring locations and debris landfill topography, directed soil coring, logged soil cores, staked out and collected ISM samples, collected groundwater sample from MW-01, shipped samples	None	Brad Dow, Fred Iannazzi observed	None	Installed monitoring well at debris landfill, closed boring locations
2/24/2021	Checked cores and wells for water, collected ISM samples, collected IDW samples	None	Brad Dow, Fred Iannazzi observed	None	Closed temporary piezometer locations, demobilized
2/25/2021	Met with VIIS, shipped samples, demobilized	None	None	None	None



Table 2. Summary of Environmental Samples

SAMPLE ID	MATRIX	DEPTH (bgs)	TYPE	RCRA 8 and 13 PPL Metals	VOCs	Waste Char.	PCBs	PAHs	Pesticides	pH (All Samples are Discrete)
Soil- ISM										
IA-1-01	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/24/21	-	-	-	2/24/21	2/24/21	2/24/21
IA-1-02	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/24/21	-	-	-	2/24/21	2/24/21	2/24/21
IA-1-03	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/24/21	-	-	-	2/24/21	2/24/21	2/24/21
IA-1-04	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/24/21	-	-	-	2/24/21	2/24/21	2/24/21
IA-2-01	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/20/21	-	-	-	2/20/21	2/20/21	2/20/21
IA-2-02	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/20/21	-	-	-	2/20/21	2/20/21	2/20/21
IA-2-03	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/18/21	-	-	2/18/21 (error)	2/18/21	2/18/21	2/18/21
IA-2-04	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/18/21	-	-	2/18/21 (error)	2/18/21	2/18/21	2/18/21
IA-2-05	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/16/21	2/16/21	-	-	2/16/21	2/16/21	2/24/21 (Recollected)
IA-3-01	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/21/21	-	-	2/21/21	2/21/21	2/21/21	2/21/21
IA-3-02	Surface soil	0-0.5 ft	ISM (Reps A to C); B for MS/MSD	2/21/21	-	-	2/21/21	2/21/21	2/21/21	2/21/21
IA-3-03	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/23/21	-	-	2/23/21	2/23/21	2/23/21	2/23/21
IA-3-04	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/23/21	-	-	2/23/21	2/23/21	2/23/21	2/23/21



SAMPLE ID	MATRIX	DEPTH (bgs)	TYPE	RCRA 8 and 13 PPL Metals	VOCs	Waste Char.	PCBs	PAHs	Pesticides	pH (All Samples are Discrete)
IA-Ref-01	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/22/21	-	-	2/22/21	2/22/21	2/22/21	2/22/21
IA-Ref-02	Surface soil	0-0.5 ft	ISM (Reps A to C)	2/19/21	-	-	2/19/21	2/19/21	2/19/21	2/19/21

SAMPLE ID	MATRIX	DEPTH (bgs)	TYPE	RCRA 8 and 13 PPL Metals	VOCs	Waste Char.*	PCBs	PAHs	Pesticides	pH (all samples are Discrete)	Asbestos
Soil- Discrete											
SC-AS-01	Soil	0-0.5 ft	Pre-ISM check	-	-	-	-	-	-	-	2/16/21
SC-AS-02	Soil	0-0.5 ft	As above	-	-	-	-	-	-	-	2/16/21
SC-AS-03	Soil	0-0.5 ft	As above	-	-	-	-	-	-	-	2/16/21
SC-AS-04	Soil	0-0.5 ft	As above	-	-	-	-	-	-	-	2/16/21
SC-AS-05	Soil	0-0.5 ft	As above	-	-	-	-	-	-	-	2/16/21
SC-AS-06	Soil	0-0.5 ft	As above	-	-	-	-	-	-	-	2/16/21
SC-AS-07	Soil	0-0.5 ft	As above	-	-	-	-	-	-	-	2/16/21
SC-AS-08	Soil	0-0.5 ft	As above	-	-	-	-	-	-	-	2/16/21
SC-Bldg-01	Discrete soil	0-0.5 ft	Discrete	2/13/21 (lead)	-	-	-	-	-	-	-
SC-Bldg-02	Discrete soil	0-0.5 ft	Discrete	2/13/21 (lead)	-	-	-	-	-	-	-
SC-Bldg-03	Discrete soil	0-0.5 ft	Discrete	2/13/21 (lead)	-	-	-	-	-	-	-
SC-Bldg-04	Discrete soil	0-0.5 ft	Discrete	2/13/21 (lead)	-	-	-	-	-	-	-



SAMPLE ID	MATRIX	DEPTH (bgs)	TYPE	RCRA 8 and 13 PPL Metals	VOCs	Waste Char.*	PCBs	PAHs	Pesticides	pH (all samples are Discrete)	Asbestos
SC-Bldg-05	Discrete soil	0-0.5 ft	Discrete	2/13/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 06	Discrete soil	0-0.5 ft	Discrete	2/13/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 07	Discrete soil	0-0.5 ft	Discrete	2/15/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 08	Discrete soil	0-0.5 ft	Discrete	2/15/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 09	Discrete soil	0-0.5 ft	Discrete	2/15/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 10	Discrete soil	0-0.5 ft	Discrete	2/15/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 11	Discrete soil	0-0.5 ft	Discrete	2/15/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 12	Discrete soil	0-0.5 ft	Discrete, MS/MSD	2/15/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 13	Discrete soil	0-0.5 ft	Discrete	2/16/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 14	Discrete soil	0-0.5 ft	Discrete	2/16/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 15	Discrete soil	0-0.5 ft	Discrete	2/16/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 16	Discrete soil	0-0.5 ft	Discrete	2/16/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 17	Discrete soil	0-0.5 ft	Discrete	2/16/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 18	Discrete soil	0-0.5 ft	Discrete	2/16/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 19	Discrete soil	0-0.5 ft	Discrete	2/16/21 (lead)	-	-	-	-	-	-	-



SAMPLE ID	MATRIX	DEPTH (bgs)	TYPE	RCRA 8 and 13 PPL Metals	VOCs	Waste Char.*	PCBs	PAHs	Pesticides	pH (all samples are Discrete)	Asbestos
SC-Bldg 101	Discrete soil	0-0.5 ft	Discrete, duplicate of SC-Bldg-08)	2/15/21 (lead)	-	-	-	-	-	-	-
SC-Bldg 102	Discrete soil	0-0.5 ft	Discrete, duplicate of SC-Bldg-03)	2/16/21 (lead)	-	-	-	-	-	-	-
SC-3-01	Soil core	0.5-2.5 ft	Discrete, MS/MSD	2/17/21	2/17/21	-	2/17/21	2/17/21	2/17/21	2/17/21	-
SC-3-01	Soil core	5-6 ft	Discrete	2/17/21	2/17/21	-	2/17/21	2/17/21	2/17/21	2/17/21	-
SC-3-01	Soil core	0-4 ft	Discrete	-	-	2/19/21	-	-	-	-	-
SC-3-02	Soil core	0-3 ft	Discrete	2/19/21	2/19/21	-	2/19/21	2/19/21	2/19/21	2/19/21	-
SC-3-02	Soil core	3-6 ft	Discrete	2/19/21	2/19/21	-	2/19/21	2/19/21	2/19/21	2/19/21	-
SC-3-02	Soil core	0-5 ft	Discrete	-	-	2/19/21	-	-	-	-	-
SC-3-03	Soil core	0-3 ft	Discrete	2/19/21	2/19/21	-	2/19/21	2/19/21	2/19/21	2/19/21	-
SC-3-03	Soil core	3-6 ft	Discrete	2/19/21	2/19/21	-	2/19/21	2/19/21	2/19/21	2/19/21	-
SC-3-03	Soil core	0-5 ft	Discrete	-	-	2/19/21	-	-	-	-	-
SC-3-04	Soil core	0-3 ft	Discrete	2/19/21	2/19/21	-	2/19/21	2/19/21	2/19/21	2/19/21	-
SC-3-04	Soil core	3-6 ft	Discrete	2/19/21	2/19/21	-	2/19/21	2/19/21	2/19/21	2/19/21	-
SC-3-04	Soil core	0-5 ft	Discrete	-	-	2/19/21	-	-	-	-	-
SC-3-06	Soil core	0-3 ft	Discrete	2/19/21	2/19/21	-	2/19/21	2/19/21	2/19/21	2/19/21	-
SC-3-06	Soil core	3-6 ft	Discrete	2/19/21	2/19/21	-	2/19/21	2/19/21	2/19/21	2/19/21	-
SC-3-06	Soil core	0-6 ft	Discrete	-	-	2/19/21	-	-	-	-	-
SC-3-07	Soil core	0-3 ft	Discrete	2/19/21	2/19/21	-	2/19/21	2/19/21	2/19/21	2/19/21	-
SC-3-07	Soil core	3-6 ft	Discrete	2/19/21	2/19/21	-	2/19/21	2/19/21	2/19/21	2/19/21	-
SC-3-07	Soil core	2-6 ft	Discrete	-	-	2/19/21	-	-	-	-	-
SC-3-08	Soil core	0-3 ft	Discrete	2/21/21	2/21/21	-	2/21/21	2/21/21	2/21/21	2/21/21	-
SC-3-08	Soil core	3-6 ft	Discrete	2/21/21	2/21/21	-	2/21/21	2/21/21	2/21/21	2/21/21	-
SC-3-08	Soil core	0-5 ft	Discrete	-	-	2/21/21	-	-	-	-	-



SAMPLE ID	MATRIX	DEPTH (bgs)	TYPE	RCRA 8 and 13 PPL Metals	VOCs	Waste Char.*	PCBs	PAHs	Pesticides	pH (all samples are Discrete)	Asbestos
SC-3-09	Soil core	0-3 ft	Discrete	2/21/21	2/21/21	-	2/21/21	2/21/21	2/21/21	2/21/21	-
SC-3-09	Soil core	3-6 ft	Discrete	2/21/21	2/21/21	-	2/21/21	2/21/21	2/21/21	2/21/21	-
SC-3-10	Soil core	0-3 ft	Discrete	2/22/21	2/22/21	-	2/22/21	2/22/21	2/22/21	2/22/21	-
SC-3-10	Soil core	3-6 ft	Discrete	2/22/21	2/22/21	-	2/22/21	2/22/21	2/22/21	2/22/21	-
SC-3-10	Soil core	0-5 ft	Discrete	-	-	2/22/21	-	-	-	-	-
SC-3-11	Soil core	0-3 ft	Discrete + MS/MSD	2/21/21	2/21/21	-	2/21/21	2/21/21	2/21/21	2/21/21	-
SC-3-11	Soil core	3-6 ft	Discrete	2/21/21	2/21/21	-	2/21/21	2/21/21	2/21/21	2/21/21	-
SC-3-11	Soil core	0-5 ft	Discrete	-	-	2/21/21	-	-	-	-	-
SC-Ref-01	Soil core	0-0.5 ft	Discrete	2/21/21	2/21/21	-	2/21/21	2/21/21	2/21/21	2/21/21	-
SC-Ref-02	Soil core	0-2.6 ft	Discrete	2/21/21	2/21/21	-	2/21/21	2/21/21	2/21/21	2/21/21	-
SC-Ref-03	Soil core	0-3 ft	Discrete + MS/MSD	2/21/21	2/21/21	-	2/21/21	2/21/21	2/21/21	2/21/21	-
SC-101	Soil core	0-3 ft	Discrete (Duplicate of SC-3-10 (0 3'))	2/22/21	2/22/21	-	2/22/21	2/22/21	2/22/21	2/22/21	-
SC-102	Soil core	3-6 ft	Discrete (Duplicate of SC-3-10 (3 6'))	2/22/21	2/22/21	-	2/22/21	2/22/21	2/22/21	2/22/21	-
IDW-Soil Drum #1	Waste soil	Drum	Discrete	-	-	2/24/21	-	-	-	-	-
IDW-Soil Drum #2	Waste soil	Drum	Discrete	-	-	2/24/21	-	-	-	-	-
EB-Soil 20210215	Discrete – Water off tool	N/A	Discrete	2/15/21 (lead)	-	-	-	-	-	-	-



SAMPLE ID	MATRIX	DEPTH (bgs)	TYPE	RCRA 8 and 13 PPL Metals	VOCs	Waste Char.*	PCBs	PAHs	Pesticides	pH (all samples are Discrete)	Asbestos
EB-Soil 20210222-01	Discrete – Water off tool	N/A	Discrete	2/22/21	2/22/21	-	2/24/21	2/22/21	2/24/21	-	-
EB-Soil 20210224	Discrete – Water off tool	N/A	Discrete	2/24/21	2/24/21	-	2/24/21	2/24/21	2/24/21	-	-
MW-01	Ground water	7 ft	Discrete	2/24/21	2/24/21	-	-	2/24/21	-	-	-
IDW-Water	Waste water	Drum	Discrete	-	-	2/24/21	-	-	-	-	-

Notes:

ft = Foot or feet

in = Inch

MS/MSD = Matrix spike/matrix spike duplicate



AR001362

Appendix 1 – Field Forms and Notes

THE JOHNSON COMPANY, INC.
100 State Street, Suite 600
Montpelier, VT 05602

Phone: (802) 229-4600
Fax: (802) 229-5876
www.johnsonco.com

Soil Sample Collection Record

Soil Sample Location ID: SC-Bldg-01-706Project Name: Caneel Bay - NPS ProjectProject #: 58345-21Site Location: Caneel Bay ResortDate: 2-13-21Weather Conditions: Sunny - 80°

Time on Site: _____

Sampler: BND

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Turtle Bay Point Estate Hse Dining, Hawksnest Beach, Scott Beach

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: TrowelSample depth range (ft): 0-6"

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
<u>SC-Bldg-01</u>	<u>EPA 6020A, Lead, Antimony, Copper, Percent moisture</u>	<u>1 x 100 gram glass, 403 unpreserved</u>	<u>1010</u>	
<u>-02</u>	↓	↓	<u>1020</u>	
<u>-03</u>			<u>1030</u>	
<u>-04</u>			<u>1120</u>	
<u>-05</u>			<u>1230</u>	
<u>-06</u>			<u>1245</u>	

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486540 Shipper Tracking #: _____

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Montpelier, VT 05602

Phone: (802) 229-4600
Fax: (802) 229-5876
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Soil Sample Collection Record

Soil Sample Location ID: SC-Bldg-07-12

Project Name: Caneel Bay NPS Project

Project #: 58345.21

Site Location: Caneel Bay Resort

Date: 2-15-21

Weather Conditions: Sunny / ~80°

Time on Site: _____

Sampler: BND

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Paradise Beach, Cottage Pt., Caneel Beach, Beach Terrace Dining Rm.

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Trowel

Sample depth range (ft): 0-6"

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
SC-Bldg-07	EPA 6020A, Lead, Antimony, Copper, Percent moisture	1 x 100 gram glass, unpreserved	1010	
08 (+Dup)		407	1055	+ Dup SC-Bldg-101 (0900)
09			1400	
10			1410	
11			1445	
12			1510	

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486540/486541 Shipper Tracking #: _____

Reviewed by: TRO, MBM

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Montpelier, VT 05602

Phone: (802) 229-4600
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Soil Sample Collection Record

Soil Sample Location ID: SC-Bldg-13 -Project Name: Caneel Bay - NPS ProjectProject #: 58345.21Site Location: Caneel Bay ResortsDate: 2/16/21Weather Conditions: Sunny - 80°

Time on Site: _____

Sampler: BND

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Equator Rest., Rms 134-135, Rms 143-152, 164-166, 5-13, Gift Shop, Self Center

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: TrowelSample depth range (ft): 0-6"

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
<u>SC-Bldg-13</u> <u>0-6"</u>	EPA 6020A, Lead, Antimony, Copper, Percent moisture	1 x 100 gram glass, unpreserved <u>402.</u>	<u>0900</u>	<u>+ Duplicate sample</u> <u>SC-Bldg-102 (0830)</u>
<u>1</u> <u>-14</u>	<u>1</u>	<u>1</u>	<u>0950</u>	
<u>-15</u>			<u>1020</u>	
<u>-16</u>			<u>1040</u>	
<u>-17</u>			<u>1140</u>	
<u>-18</u>			<u>1225</u>	
<u>↓ -19</u>	<u>↓</u>	<u>↓</u>	<u>1250</u>	

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486541 Shipper Tracking #: _____

Reviewed by: TRO, MBM

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100 State Street, Suite 600
Montpelier, VT 05602

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www.VHB.com

Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-31-01 ^{BW 2/24/21} Sample Medium: Sandy silt, gravel
Project Name: Caneel Bay - NPS Project #: 58345.21
Site Location: St John, OSU Date: 2/24/21
Weather Conditions: Sunny, ~80°F Time On-Site: _____
Sampler: BW

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: South portion of gravel staging area in Area 1
Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates:

Info collected on tablet

Increment collection method: Auger, spoon Sample depth range: 0-6"
Approximate increment spacing: 15 ft Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	
2. Percent Moisture			
3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides			
4. EPA Method 1312, SPLP Lead, Antimony, Copper			

Original Name/Time: IA-1-01 A @ 0850
Duplicate Name/Time: IA-1-01 B @ 0910
Triplicate Name/Time: IA-1-01 C @ 0930

pH Sample Name/Time: IA-1-01 @ 0950

General comments / notes: _____

Lab Designation: TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720 (330)497-9396

Chain of Custody #: 486535 Shipper Tracking #: _____

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Fax: (802) 229-5876
www.VHB.com

Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-1-02 Sample Medium: sand, silt, gravel
Project Name: Caneel Bay - NPS Project #: 58345.21
Site Location: St. John, USVI Date: 2/24/21
Weather Conditions: Sunny 80°F Time On-Site: _____
Sampler: BOD

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: Portion + eastern portion of gravel staging area
Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates:

<u>Information omitted</u>			

Increment collection method: Auger, spoon Sample depth range: 0-6'
Approximate increment spacing: 15 ft Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	
2. Percent Moisture			
3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides			
4. EPA Method 1312, SPLP Lead, Antimony, Copper			

Original Name/Time: IA-1-02 A @ 1050
Duplicate Name/Time: IA-1-02 B @ 1110
Triplicate Name/Time: IA-1-02 C @ 1140

pH Sample Name/Time: IA-1-02 @ 1200

General comments / notes: Some increments adjusted due to debris

Lab Designation: TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720 (330)497-9396

Chain of Custody #: 486535 Shipper Tracking #: _____

100 State Street, Suite 600
Montpelier, VT 05602

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Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-1-03

Sample Medium: Sandy silt, gravel

Project Name: Caneel Bay-NPS

Project #: 58345.21

Site Location: St. John USVT Date: 2/24/21

Weather Conditions: Sunny ~ 60°F

Time On-Site: _____

Sampler: BND

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: Southwest Corner (over the embankment) of gravel staging area - in Area 1

Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates: Info collected on Tablet

Increment collection method: Auger, Sporn Sample depth range: 0-6"

Approximate increment spacing: 3 ft. Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	
2. Percent Moisture			
3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides			
4. EPA Method 1312, SPLP Lead, Antimony, Copper			

Original Name/Time: IA-1-03 A @ 1600

pH Sample Name/Time: IA-1-03 @ 1645

Duplicate Name/Time: IA-1-03 B @ 1620

Triplicate Name/Time: IA-1-03 C @ 1640

General comments / notes: Around area where paint was formerly dumped.

Lab Designation: TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720 (330)497-9396

Chain of Custody #: 486535 Shipper Tracking #: _____

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Montpelier, VT 05602

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Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-1-04

Sample Medium: Sandy silt, gravel

Project Name: Caneel Bay - NPS

Project #: 58345.21

Site Location: St. John USVI Date: 2-24-21

Weather Conditions: Sunny ~ 80° F

Time On-Site: _____

Sampler: BND

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: Eastern Portion of Area 1 at toe of slope.

Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates: Info. collected on Tablet

Increment collection method: Auger, spoon

Sample depth range: 0 - 6"

Approximate increment spacing: 3 ft.

Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	
2. Percent Moisture			
3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides			
4. EPA Method 1312, SPLP Lead, Antimony, Copper			

Original Name/Time: IA-1-04 A @ 1430

pH Sample Name/Time: IA-1-04 @ 1515

Duplicate Name/Time: IA-1-04 B @ 1450

Triplicate Name/Time: IA-1-04 C @ 1510

General comments / notes: Around old drums (w/ per-gravel) - Area-1

Lab Designation: TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720 (330)497-9396

Chain of Custody #: 486537

Shipper Tracking #: _____

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Fax: (802) 229-5876
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Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-2-01 Sample Medium: Sandy silt, organic
Project Name: Caneel Bay - NPS Project #: 58345.21
Site Location: Caneel Bay, St John Date: 2/20/21
Weather Conditions: Sunny, ~80°F Time On-Site: 1430
Sampler: BOD

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: N/E of engineering area - overgrown - s of rd
Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates: Info on Tablet

Increment collection method: Auger, spoon Sample depth range: 0-0.5'
Approximate increment spacing: 125' Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	
2. Percent Moisture			
3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides			
4. EPA Method 1312, SPLP Lead, Antimony, Copper			

Original Name/Time: IA-2-01 A @ 1500 pH Sample Name/Time: IA-2-01 @ 1600
Duplicate Name/Time: IA-2-01 B @ 1520
TriPLICATE Name/Time: IA-2-01 C @ 1540

General comments / notes: DO very overgrown - some increments adjusted due to accessibility - debris piles

Lab Designation: TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720 (330)497-9396

Chain of Custody #: 486523 Shipper Tracking #: _____

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Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-2-02 Sample Medium: Soil Silt
Project Name: Caneel Bay - NPS Project #: 58345.21
Site Location: Caneel Bay, St. John Date: 2/20/21
Weather Conditions: Sunny ~80°F Time On-Site: 0830
Sampler: BOD

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: I - Grand Engineering Area S of BBC elec laydown area
Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates: Info on Tablet

Increment collection method: Auger, spoon Sample depth range: 0-0.5'
Approximate increment spacing: 12 SL Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	
2. Percent Moisture			
3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides			
4. EPA Method 1312, SPLP Lead, Antimony, Copper			

Original Name/Time: IA-2-02 A @ 0900 pH Sample Name/Time: IA-2-02 @ 1000
Duplicate Name/Time: IA-2-02 B @ 0920
Triplicate Name/Time: IA-2-02 C @ 0940

General comments / notes: Increment located at leaning transformer 22 moved. Some increments adjusted due to debris + utility pole laydown

Lab Designation: TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720 (330)497-9396
Chain of Custody #: 486523 Shipper Tracking #: _____

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Montpelier, VT 05602

Fax: (802) 229-5876
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Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-2-03 Sample Medium: Rocky/organic soil
Project Name: Caneel Bay - NPS Project Project #: 58345.21
Site Location: Caneel Bay Date: 2/16/21 ^{BOD} 2/18
Weather Conditions: Mostly Sunny, 80°F Time On-Site: 1140
Sampler: BOD

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: _____

Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates: Info on table

Increment collection method: Auger, spoon Sample depth range: 0-0.5'

Approximate increment spacing: _____ Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	
2. Percent Moisture			
3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides			
4. EPA Method 1312, SPLP Lead, Antimony, Copper			

Original Name/Time: IA-2-03A @ 1245 pH Sample Name/Time: IA-2-03 @ 1150
Duplicate Name/Time: IA-2-03B @ 1300
Triplicate Name/Time: IA-2-03C @ 1500

General comments / notes: Mostly Overgrown, DU adjusted to field study extent

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Chain of Custody #: 486520 Shipper Tracking #: _____

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Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-2-04

Sample Medium: Rocky/gravelly soil

Project Name: _____

Project #: 58345.21

Site Location: _____

Date: 2-18-21

Weather Conditions: P. Cloudy Breezy 78°

Time On-Site: 0830

Sampler: BND / TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: Clearing in grounds + landscaping area modified for slabs + debris

Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates: Info on tablet

Increment collection method: Auger, spoon

Sample depth range: 0 - 0.5'

Approximate increment spacing: ~ 12 ft

Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	
2. Percent Moisture			
3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides			
4. EPA Method 1312, SPLP Lead, Antimony, Copper			

Original Name/Time: IA-2-04 A / 0930

pH Sample Name/Time: IA-2-04 @ 0910

Duplicate Name/Time: IA-2-04 B / 0945

Triplicate Name/Time: IA-2-04 C / 1000

General comments / notes: Unit modified around debris + concrete piles
Final DU extent on tablet

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Chain of Custody #: 486520

Shipper Tracking #: _____

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Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-2-05 Sample Medium: Rocky Soil
Project Name: Caneel Bay - NPS Project Project #: 58345.21
Site Location: Caneel Bay Date: 2-16-21
Weather Conditions: P. Cloudy Breezy 82° F Time On-Site: 1600
Sampler: BND / TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: Cleared Brush, Rocky slope

Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates: Info on Tablet

Increment collection method: Auger Bit, sample spoon Sample depth range: 0 - 0.5'

Approximate increment spacing: ~12 ft Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper 2. Percent Moisture 3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides 4. EPA Method 1312, SPLP Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	

Original Name/Time: IA-2-05A @ 1620
Duplicate Name/Time: IA-2-05B 1640
Triplicate Name/Time: IA-2-05C 1700

pH Sample Name/Time: IA-2-05 @ 1730

General comments / notes: _____

Lab Designation: TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720 (330)497-9396

Chain of Custody #: 486542 / 486541 Shipper Tracking #: 8161 1551 3099

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Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-3.01 Sample Medium: Dry silt, sand, some
Project Name: Caneel Bay - NPS Project #: 58345.21 org. matter
Site Location: Caneel Bay, St John Date: 2/2/21
Weather Conditions: Sunny ~80°F Time On-Site: 1030
Sampler: Bart

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: Eastern portion of top of incl.

Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates: Info on sheet

Increment collection method: Auger, spoon Sample depth range: 0-0.5'
Approximate increment spacing: 15 ft Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	
2. Percent Moisture			
3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides			
4. EPA Method 1312, SPLP Lead, Antimony, Copper			

Original Name/Time: IA-3.01 A @ 1100 pH Sample Name/Time: IA-3.01 @ 1200
Duplicate Name/Time: IA-3.01 B @ 1120 TRO 2/24/21
Triplicate Name/Time: IA-3.01 C @ 1200 1140

General comments / notes: Adjusted Sr/Proposed labels to incl. all labels

Lab Designation: TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720 (330)497-9396

Chain of Custody #: 486524 Shipper Tracking #: _____

Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-3-02 Sample Medium: Dry silty sand sander
Project Name: Caneel Bay - NPS Project #: 58345.4 org. number
Site Location: Caneel Bay, St John Date: 2/21/21
Weather Conditions: Sunny 180°F Time On-Site: 0830
Sampler: BMD

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: Western portion of top of lands

Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates: Info on label

Increment collection method: Aggr. spoon Sample depth range: 0-0.5'
Approximate increment spacing: 15 ft Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper 2. Percent Moisture 3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides 4. EPA Method 1312, SPLP Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	

Original Name/Time: IA-3-02 A @ 0900 pH Sample Name/Time: IA-3-02 @ 1200
Duplicate Name/Time: IA-3-02 B @ 0920
Triplicate Name/Time: IA-3-02 C @ 0940

General comments / notes: Adjusted S / proposed extends to include extra

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Chain of Custody #: 486524 Shipper Tracking #: _____

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Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-3-03 Sample Medium: Sandy silt
Project Name: Caneel Bay - NPS Project #: 58345.21
Site Location: Caneel Bay, St. John Date: 2/23/21
Weather Conditions: Sunny, ~80°F Time On-Site: 1200
Sampler: BOD

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: Toe of landfill slope/wash bed along southern edge of landfill - 120 ft
Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates: Info collected by surveyor

Increment collection method: Auger, spoon Sample depth range: 0-6"
Approximate increment spacing: 3 ft Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	
2. Percent Moisture			
3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides			
4. EPA Method 1312, SPLP Lead, Antimony, Copper			

Original Name/Time: IA-3-03 A @ 1220 pH Sample Name/Time: IA-3-03 Q 1320
Duplicate Name/Time: IA-3-03 B @ 1240
Triplicate Name/Time: IA-3-03 C @ 121300
BOD 2/23/21

General comments / notes:

Collected starting at first seep and down the west side ~120 ft

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Chain of Custody #: 486537 Shipper Tracking #: _____

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Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-3-04 Sample Medium: Sandy silt, black/gray
Project Name: Caneel Bay - NPS Project #: 5834521 silt
Site Location: Caneel Bay, St. John Date: 7/23/21
Weather Conditions: Sunny, ~80°F Time On-Site: 1320
Sampler: Bug

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: suspected seep locations for seep down ~2'

Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates: Info collected by surveyor

Increment collection method: Auger, Spoon Sample depth range: 0-3"
Approximate increment spacing: 2 ft Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	
2. Percent Moisture			
3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides			
4. EPA Method 1312, SPLP Lead, Antimony, Copper			

Original Name/Time: IA-3-04 A @ 1340 pH Sample Name/Time: IA-3-04 Q 1440
Duplicate Name/Time: IA-3-04 B @ 1420
Triplicate Name/Time: IA-3-04 C @ 1420

General comments / notes: _____

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Chain of Custody #: 486537 Shipper Tracking #: _____

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Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-RES-01 Sample Medium: Dry silty sand
Project Name: Caneel Bay - NPS Project #: 58345.21
Site Location: Caneel Bay, St John Date: 2/22/21
Weather Conditions: Sunny, 80°F Time On-Site: 1320
Sampler: BWD

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: North of main gate - grassy area
Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates: Info on Table

Increment collection method: Auger Spoon Sample depth range: 0-0.5'
Approximate increment spacing: 15 ft Total number of increments collected: 40

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	
2. Percent Moisture			
3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides			
4. EPA Method 1312, SPLP Lead, Antimony, Copper			

Original Name/Time: IA-RES-01 A @ 1345
Duplicate Name/Time: IA-RES-01 B @ 1400
Triplicate Name/Time: IA-RES-01 C @ 1420

pH Sample Name/Time: IA-RES-01 @ 1440

General comments / notes: _____

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Chain of Custody #: 486538

Shipper Tracking #: _____

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Incremental Sampling Methodology (ISM) Sample Collection Record

Sample Decision Unit ID: IA-RES-02 Sample Medium: Sandy / gravelly
Project Name: Caneel Bay - NPS Project Project #: 58345.21 Soil
Site Location: Caneel Bay Date: 2/10/21
Weather Conditions: Sunny, 80°F Time On-Site: 1030
Sampler: 300

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of decision unit location: Above + south of Inds. 11

Dimensions of decision unit: _____ Coordinate system: _____

Planned GPS coordinates: Info on Table

Increment collection method: Auger, spoon Sample depth range: 0 - 0.5 ft approx
Approximate increment spacing: 12 ft Total number of increments collected: 10

2. SAMPLE INFORMATION:

Analysis Methods	Field or fixed lab analysis	Type of container	Sample notes, observations, comments
1. EPA 6020A, Lead, Antimony, Copper	Fixed	1 x 1 gallon Ziploc, No preservatives	
2. Percent Moisture			
3. EPA Method 1311, TCLP Volatiles, semivolatiles, metals including mercury, pesticides, and herbicides			
4. EPA Method 1312, SPLP Lead, Antimony, Copper			

Original Name/Time: IA-RES-02 A @ 1100

pH Sample Name/Time: IA-RES-02 @ 1230

Duplicate Name/Time: IA-RES-02 B @ 1130

Triplicate Name/Time: IA-RES-02 C @ 1200

General comments / notes: Overgrown. Moved S of proposed location for access + ability to sample soil

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Chain of Custody #: 486523 Shipper Tracking #: _____

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Soil Sample Collection Record

Soil Sample Location ID: SC-3-01Project Name: Caneel Bay - NPS ProjectProject #: 58345.21Site Location: Caneel Bay - Land fillDate: 2-17-21Weather Conditions: Partly-Mostly Cloudy Breezy scattered Rain showersTime on Site: 0815Sampler: TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: West side, front of shed

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Geoprobe - dual TubeSample depth range (ft): 0 - 15'

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
<u>5-6'</u>	<u>EPA 6020A, Lead, Antimony, Copper, Percent moisture / VOCs</u>	<u>1 x 100 gram glass, unpreserved</u>	<u>1000</u>	<u>See Boring log.</u>
<u>0.5-2.5</u>	<u>"</u>	<u>"</u>	<u>1500</u>	<u>"</u>
<u>0-4.0'</u>			<u>0845 (2/19/21)</u>	<u>waste char.</u>

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486520 Shipper Tracking #: _____

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Soil Sample Collection Record

Soil Sample Location ID: SC-3-02Project Name: Caneel Bay - NPS ProjectProject #: 58345.21Site Location: Caneel Bay Resort - Landfill Area 3Date: 2-19-21Weather Conditions: Sunny ~ 80°F

Time on Site: _____

Sampler: TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Area 3 - Landfill

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Geo Probe - Dual TubeSample depth range (ft): 0 - 10' Bgs

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
0-3'	EPA 6020A, Lead, Antimony, Copper, Percent moisture/VOCs	1 x 100 gram glass, unpreserved	0900	See Boring Logs.
3-6'			0920	"
SC-3-02(0-5')			0940	Waste Char.

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 466520/466527 Shipper Tracking #: _____

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Soil Sample Collection Record

Soil Sample Location ID: SC-3-03

Project Name: Caneel Bay - NPS Project

Project #: 50345.21

Site Location: Caneel Bay Resort - Area 3 Landfill

Date: 2-19-21

Weather Conditions: Sunny 80°

Time on Site: _____

Sampler: TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Area 3 Landfill

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Geo Probe - Dual Tube

Sample depth range (ft): 0 - 15'

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
<u>0-3'</u>	EPA 6020A, Lead, Antimony, Copper, Percent moisture / <u>VOCS</u>	1 x 100 gram glass, unpreserved	<u>1020</u>	<u>see Boring logs</u>
<u>3-6'</u>			<u>1030</u>	<u>" "</u>
<u>0-5'</u>			<u>1040</u>	<u>waste Chlora</u>

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486529 Shipper Tracking #: _____

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Soil Sample Collection Record

Soil Sample Location ID: SC-3-04Project Name: Caneel Bay - NPS ProjectProject #: 58345.21Site Location: Caneel Bay Resorts - Area 3 LandfillDate: 2-19-21Weather Conditions: Sunny ~ 80°

Time on Site: _____

Sampler: TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Area 3 - Landfill

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Geo Probe - Dual TubeSample depth range (ft): 0 - 27'

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
0-3'	EPA 6020A, Lead, Antimony, Copper, Percent moisture/VOCs	1 x 100 gram glass, unpreserved	1130	See Boring Logs
3-6'			1140	" "
0-5'			1300	Waste char.

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486529 Shipper Tracking #: _____

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Soil Sample Collection Record

Soil Sample Location ID: SC-3-05Project Name: Caneel Bay - NPS ProjectProject #: 58345.21Site Location: Caneel Bay Resort -Date: 2-19-21Weather Conditions: Sunny 80°

Time on Site: _____

Sampler: TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: _____

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: _____

Sample depth range (ft): _____

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
	EPA 6020A, Lead, Antimony, Copper, Percent moisture/	1 x 100 gram glass, unpreserved		No Samples collected Refused - shallow on Rock

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: _____ Shipper Tracking #: _____

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Soil Sample Collection Record

Soil Sample Location ID: SC-3-06Project Name: Caneel Bay - NPS ProjectProject #: 58345.21Site Location: Caneel Bay ResortDate: 2-19-21Weather Conditions: Sunny, ~80°

Time on Site: _____

Sampler: TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Area 3 - Land fill

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Geo Probe - Dual TubeSample depth range (ft): 0 - 15'

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
0-3'	EPA 6020A, Lead, Antimony, Copper, Percent moisture/VOCs	1 x 100 gram glass, unpreserved	135	See Boring Log.
3-6'			1420	" "
0-6'			1430	Waste Chrg.

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486529 Shipper Tracking #: _____

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Soil Sample Collection Record

Soil Sample Location ID: SC-3-07Project Name: Caneel Bay - NPS ProjectProject #: 58345.21Site Location: Caneel Bay ResortDate: 2-19-21Weather Conditions: Sunny 80°

Time on Site: _____

Sampler: TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Area 3 Land fill

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Geo Probe - Dual TubeSample depth range (ft): 0-8.0'

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
0-3'	EPA 6020A, Lead, Antimony, Copper, Percent moisture	1 x 100 gram glass, unpreserved	1520	See Boring Logs
3-6'			1530	" "
2-6'			1540	Waste Charc.

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486529 Shipper Tracking #: _____

Reviewed by: TRO, MBM

\\vhb\gb\proj\Montpelier\58345 21 NPS Caneel Bay Resort\Reports\2021-02 EECA Planning Documents\EECA SAP\Appendices\Appendix 1 - Field Forms\Soil Sample Form.docx

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Soil Sample Collection Record

Soil Sample Location ID: SC-3-08Project Name: Caneel Bay - NPS ProjectProject #: 58345.21Site Location: Caneel Bay ResortDate: 2-21-21Weather Conditions: Sunny ~ 80°

Time on Site: _____

Sampler: TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Area 3 - Land fill

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Geo Probe - Dual TubeSample depth range (ft): 0 - 15'

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
0-3'	EPA 6020A, Lead, Antimony, Copper, Percent moisture/VOCs	1 x 100 gram glass, unpreserved	0920	See Boring Logs.
3-6'			0930	" " "
0-5'			0900	Waste charc.

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486521

Shipper Tracking #: _____

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Soil Sample Collection Record

Soil Sample Location ID: SC-3-09Project Name: Caneel Bay - NPS ProjectProject #: 58345.21Site Location: Caneel Bay ResortDate: 2-21-21Weather Conditions: Sunny +80°

Time on Site: _____

Sampler: Tico

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Area 3 Landfill

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Geo Probe Dual TubeSample depth range (ft): 0-19'

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
0-3'	EPA 6020A, Lead, Antimony, Copper, Percent moisture/ <u>Vols</u>	1 x 100 gram glass, unpreserved	1150	See Boring Logs.
3-6'			1200	
				No waste charc.

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486521 Shipper Tracking #: _____

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Soil Sample Collection Record

Soil Sample Location ID: SC-3-10

Project Name: Caneel Bay - NPS Project

Project #: 58345.21

Site Location: Caneel Bay Resort

Date: 2-21-21

Weather Conditions: Sunny - 80°

Time on Site: _____

Sampler: TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Area 3 - Land fill

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Geoprobe - Dual Tube

Sample depth range (ft): 0 - 22'

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
<u>0-3'</u> <u>TRO 2/22/21</u>	EPA 6020A, Lead, Antimony, Copper, Percent moisture	1 x 100 gram glass, unpreserved	<u>1300</u> <u>TRO 2/22/21</u>	<u>See Bombig logs</u>
<u>3-6"</u>			<u>1310</u>	<u>+ Dup. Sample</u>
<u>0-5'</u>			<u>1330</u>	<u>waste Char.</u>
<u>0-3</u>			<u>0820</u>	<u>+ duplicate (SC101)</u>
<u>0-6</u>			<u>0830</u>	<u>+ duplicate (SC102)</u>

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486521 / 486522 Shipper Tracking #: _____

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Soil Sample Collection Record

Soil Sample Location ID: SC-3-11Project Name: Caneel Bay - NPS ProjectProject #: 58345.21Site Location: Caneel Bay ResortDate: 2-21-21Weather Conditions: Sunny - 80°

Time on Site: _____

Sampler: TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Area 3 - Landfill

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Geo Probe - Dual TubeSample depth range (ft): 0 - 12'

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
0-3'	EPA 6020A, Lead, Antimony, Copper, Percent moisture	1 x 100 gram glass, unpreserved	1425	See Boring logs
3-6'			1440	
6-9'			1450	Waste clear.

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486521 Shipper Tracking #: _____

THE JOHNSON COMPANY, INC.
100 State Street, Suite 600
Montpelier, VT 05602

Phone: (802) 229-4600
Fax: (802) 229-5876
www.johnsonco.com

Soil Sample Collection Record

Soil Sample Location ID: SC-Ref01Project Name: Caneel Bay - NPS ProjectProject #: 58345.21Site Location: Caneel Bay ResortDate: 2-21-21Weather Conditions: Sunny ~80°

Time on Site: _____

Sampler: TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Area 3 - Background - Landfill

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Geo Probe Dual TubeSample depth range (ft): 0 - 0.5'

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
0-0.5'	EPA 6020A, Lead, Antimony, Copper, Percent moisture	1 x 100 gram glass, unpreserved	1020	See Boring Logs.

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 488521 Shipper Tracking #: _____

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100 State Street, Suite 600
Montpelier, VT 05602

Phone: (802) 229-4600
Fax: (802) 229-5876
www.johnsonco.com

Soil Sample Collection Record

Soil Sample Location ID: SC-Ref-02Project Name: Caneel Bay - NPS ProjectProject #: 58345.21Site Location: Caneel Bay ResortDate: 2-21-21Weather Conditions: Sunny ~ 60°

Time on Site: _____

Sampler: TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Area 3 - Background - Landfill

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Geo Probe Dual TubeSample depth range (ft): 0 - 2.6'

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
<u>0-2.6</u>	EPA 6020A, Lead, Antimony, Copper, Percent moisture	1 x 100 gram glass, unpreserved	<u>1030</u>	<u>See Soil Burings</u>

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486522 Shipper Tracking #: _____

Reviewed by: TRO, MBM

\\whb\gb\proj\Montpelier\58345.21 NPS Caneel Bay Resort\Reports\2021-02 EECA Planning Documents\EECA SAP\Appendices\Appendix 1 - Field Forms\Soil Sample Form.docx

THE JOHNSON COMPANY, INC.
100 State Street, Suite 600
Montpelier, VT 05602

Phone: (802) 229-4600
Fax: (802) 229-5876
www.johnsonco.com

Soil Sample Collection Record

Soil Sample Location ID: SC-Ref-03

Project Name: Caneel Bay-NPS Project

Project #: 58345.21

Site Location: Caneel Bay Resort

Date: 2-21-21

Weather Conditions: Sunny - 80°

Time on Site: _____

Sampler: TRO

1. SAMPLE LOCATION AND COLLECTION METHODOLOGY INFORMATION:

Description of soil sampling location: Area 3 - Background - Landfill

GPS coordinates of sampling location: _____ Coordinate system: _____

Sample collection method: Geo Probe Dual Tube

Sample depth range (ft): 0 - 4.0'

2. SAMPLE INFORMATION:

Sample depth (ft)	Sample type (analyte(s))	Type of container	Collection time	Sample notes, observations, comments
0-3'	EPA 6020A, Lead, Antimony, Copper, Percent moisture	1 x 100 gram glass, unpreserved	1055	See Boring Log.

General comments / notes: _____

Lab Designation: _____

Chain of Custody #: 486522

Shipper Tracking #: _____

100 State Street, Suite 600
Montpelier, VT 05602

Fax: (802) 229-5876
www.vhb.com

Water Level Measurement Record

Project Name: Caneel Bay Resort Site

Project #: 58345.21

Site Location: Virgin Islands National Park (VIIS)

Date: 2/15 - 24/21

Weather Conditions: See Field Book

Time on Site: -

Personnel: TRO / BND

Location	Time	Depth to Water (ft. btoc)	Observations
MW-1	2/15/21 1706	6.35	TD = 7.02
MW-1	2/18 1235	6.17	Purged Dry
MW-1	2/18 1500	6.80	
MW-1	2/20/21 1010	6.72	PID: 0.8 ppm
MW-1	2/22/21 1600	~ 6.60' BTOC	Set up to purge w/ YSI
MW-1	2/24/21 1135	6.80	~ Vol = 0.5 L

Project Name: CBR Site

Project #: 58345.21

Initials: TRO

Date:

Purge Water Disposal Method _____ Comments (e.g. color / odor): _____

Ground Water Monitoring Well Sample Collection Record

Well ID: MW-01

Date: 2-24-21

3. SAMPLE COLLECTION: Method: Peri. Pump Sample Time: 1430

Quantity	Container Type	Preservation	Analytical Method / Laboratory	Laboratory
3	40 ml/Vials	HCL	VOCs - 8260D-LL-MS Volatiles	Eurofins/ TestAmerica
1	250ml Plastic	HNO3	metals - 6020.B mercury Z470A	↓

Chain-of-Custody #: 486525/486536

Shipper ID #: Fed Ex

¹well volumes for various diameters in gal./ft.

0.50" = 0.01	0.75" = 0.023	1.00" = 0.041	1.25" = 0.064	1.50" = 0.09
2.00" = 0.16	3.00" = 0.32	3.50" = 0.50	4.00" = 0.65	6.00" = 1.47

1 Gallon = 3.785 Liters

4. DEVELOPMENT INFORMATION:

Date developed: 2/18/21 Personnel: TRD

Pumping Rate: 200/300 ml/min. Volume removed: 0.6 L

General drawdown/ well pumped dry? Clear to little Sediment - Dry

Comments: Sample ID = MW-01

Time off site: _____

02/11/21 Cancel Bay Resort
St. John USVI EE/CA

0830 BOD - TRO meet NPS reps at
visitor center in Cruz Bay.

Suzanne Dean, Thomas Keller,
+ Dave Horner

Discuss plan, review stipends.

Dave leads to NPS Maintenance
Facility

Dave leads all to CBR where
we meet On-site Environmental

CBIA/DOW ^{02/11/21} Consulting (Brad Doud)

Suzanne leads introduction

~0930 Suzanne - CBIA off-site

Begin at landfill - skunkool locations

On-site begins clearing locations

~1200 Dave leave site

~1230 Move to AST area to skunkool
locations - clear

~1430 Move to Engineering Area to sketch
out well location

~1500 Fred Tannuzzi on site of

Brad Doud - discuss scope

25 transformers 3 of leaks

Also discuss waste oil AST - 1

Brad Brad to provide SPK

56345.21 Cancel Bay Resort 02/11/21 3

~1530 Brad Doud - Fred off-site

~1600 On-site Env. off-site

~1630 JLB off-site after recon
at collage 7 a WWTP

~1115-1330 JLB collect surface
samples of soil asbestos
300 04/21

SC-AS-01 11:42

SC-AS-02 11:47

SC-AS-03 11:53

SC-AS-04 12:03

SC-AS-05 13:19

SC-AS-06 1326 1326 1323

SC-AS-07 1326

SC-AS-08 1330

02/12/21

Coral Bay Resort
St John, USVI EE/CA

0810 3rd TRO on site at CBR
On-site Environmental on site

On-site began GPS location
0830 Brad-Fred w/ CBR on site
They show us a possible asbestos
pipe location where as
ideal location Fred shows us
a stand pipe 4" ID possible
asbestos pipe

0900 Brad-Fred off site

On-site rose to locate
asbestos pipe unable to
identify previously identified
area. lots of debris.

overgrown vegetation. Bill

Have CBR crew scan

overgrown clear areas

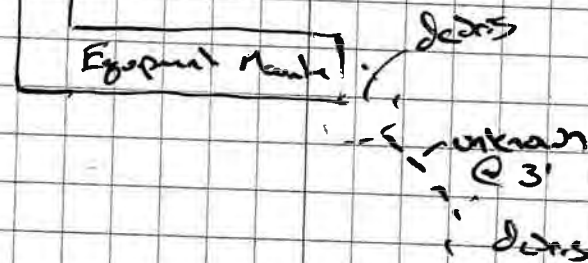
locate 2 unknown pipes see
photos & GPS. One at corner
of C&L equipment/entrance building
leading in

Other at southern edge of
greenhouse, crossing at at 2' north
w/ 4" Ø suspected of possible asbestos pipe.

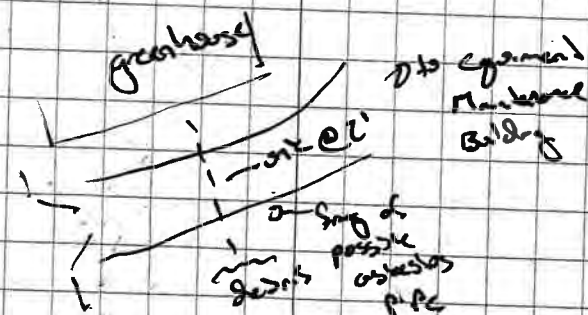
58345-21

Coral Bay Resort
St John, USVI EE/CA
Unknown

02/12/21 5



Unknown 2



~1000 Ricardo on site

Wall falling locations

TRO off site to ship supplies

~1100 Ricardo off site

~1200 Head to College 2 w/ On-site

Brad-Fred

Walk site - covered w/ debris - veg

Brad shows us the basement/low shelter

Rite in the Rain

6 02/13/22

Coneel Bay Resort

St John USVI

02/13/22

well gauge of possible

fuel line will inspect + trace

serial # on gauge

Trace line across terrace

and may terminate/lose signal

around AC units/sto sun. r,

sewer manhole

Scan Areas with APR. no luck

finding anomalies - limited clearance

due to AC units/debris/vegetation

~1400 Move to storage area below

catchment. Recor area - begin

scanning clearing

locate APR anomaly at 2' dgs 5' x 7'

See photos + APS

locate line at 2' dgs running

length of road

Area appears previously quarried

filled along slope. Debris, rocks,

steel, concrete, 1 drum visible along

slope

~1530 Return to visitor center to

organize cabs + supplies

~1630 leave visitor center.

58345.21

Coneel Bay Resort

St John USVI

300

02/11/21

02/13/21

0830 TPO + 300 onsite at CBR

to do Asbestos/lead recn.

lead sampling

Begin at Turtle Bay Point

Significant deterioration observed

upper rooms destroyed, debris

scattered. Tile present but intact

Plaster w/ fibers visible on S

side of building. No fibers visible on other

tar paper roll roofing w/ fibers

observed sig. distance N/ building

Move to Turtle Bay Estate house

Significant deterioration areas of

roof + roof torn off

800 2/13/21

tar paper roll roofing w/ fibers observed

scattered w/ sections of roof

like floors intact

Plaster appears intact

limited painted exterior surfaces except

NE corner. Part peeling w/ old

paint underneath. caulk present

Rite in the Rain

8 02/13/21

Cureel Bay Resort
St. John USVI

Sample ID LC
SC-Bldg-01 1010

Description

Composite of 4 locations
around Turtle Bay Beach
rooms. Paint chips
sample collected
at depth of painted
surface/debris/paint
chips

SC-Bldg-02 1020

Composite of 3 locations
around NE end of
Turtle Bay Estate House
+ rooms 102/101. Collected
at depth of painted surface
debris/paint chips

SC-Bldg-03 1030

Composite of 2/13/21
3 locations along
drop edge of painted
surfaces at Turtle
Bay Child center

SC-Bldg-04 1120

Composite of 4 locations
on W-side of 5
two Hatternest building
rooms. Collected along
drop edge.

58345.21

Cureel Bay Resort
St. John USVI

02/13/21 9

Move to Turtle Bay Child's
Center

- Appears to be never constructed
- in relatively good condition
- roofs intact

- Scattered debris/tar paper with
S. J. S. around building + in playground

Move to Hatternest message building

- appear to be never constructed

- no evidence of ACM

- 1 cadman collapsed, rollers slung

Move to Hatternest rooms

- structures relatively intact
- no roof debris is detected hanging off
sides

- roofs intact

- peeling paint

- tile floors intact no S. J. S. visible
in mortar Masonry, intact

- substantial roofing debris from
different buildings w/ visible S. J. S.

- multiple layers of paint/castle

10 02/13/21

SC-Bldg-05

Conc. Bay Room
St John 1951 Composite of 4

1230

Scott Beach
Rooms collected

Gr/drop edges
of painted surfaces

SC-Bldg-06

1245

collected from wood
rooms 86, 84, 78, 76

collected Gr/drop
of doors p.les
around Scott Beach
Composite of 4 buildings

02/15/21

SC-Bldg-07

1010

Composite of 4
locations wood
collage 2 rooms
collected along drop
edges

SC-Bldg-08

1055

Composite of 4
locations wood
rooms 54, 57
collected along drop
edges locations
up paint drop

SC-Bldg-101

0900

58345.21

Conc. Bay Room

St John 1951

02/15/21 11

Moved to Scott Beach

- Severe deterioration
- roofs almost all ripped off
and blown across towards
Hawkesnest Beach
- appear to be removed interior
- no fibers visible in structure
evidence of structure isolated over
old walls
- near windows/doors - in back
- tar paper w/ visible fibers on
roof section

1330 off site

11

02/15/21

0830 BWD-TRO of VLB note

Met Kelly & of WPS on site
Brnd. Fred rep CBIA on site
Walk Kelly through site

1000 Begin asbestos/lead survey
collage 2 rooms - relatively intact
which masonry/roofs/tiles. Some
isolated pipes - appears relatively new.

Rite in the Rain.

12 02/15/21

Conrad Bay Resort
St. John USVI

Room 61-66 Appear ~ intact
renovated relatively, B&B 2/5
no sample collected newly Meall.

Rooms 54-57 appear to be partially
demol. Evidence of broken
up plaster / sheetrock / masonry w/
possible ACM

Rooms 26-28 In process of renovation
possible ACM ceiling tile replacement

Buildings 50-53 In process of renovation
possible ACM

* Well sound debris w/ outside frags
observed E of rooms 20-22

SD Bldg 09 200 11 200 26-29

SP-Bldg-10	1410	compr. of 4 locat along dr. ph Room 30-42 compr. of 4 locat. along dr. ph
------------	------	--

SD. Bldg. 11	1445	collected 5/1 rooms 14-25. Capes. to 5 of 1 locations along Dr. P. Ave.
--------------	------	---

58345.21 Cured Bay Resin
St 260 1301

 $\alpha/\sqrt{2},^{13}$

~1200 Drill rig + rock bucket onsite had
to stay here

Booms 3048 Relatively intact rocks, sand
chipping paint ~~did not~~ ³⁰⁰⁰ ²¹⁵² also high
water mark visible around 3/4 way
around boom

Roofs 14-25 significant damage
Roofs torn off. Debris scattered
steelwork w/ visible fibers exposed

Bench Terrace 200s partially, covered
EC-Bldg-12 damaged streetcar w/ v.s. 5k
1510 + ms/mst. very roofing material w/
v.s. 5k fibers

Equator Restaurant Roof partially removed
damaged structure of
visible piers. roof
material of visible piers

704
MD.1 DTW 6.35 BTOR
TPO 2/15/21 TD = 7.02
slight petroleum odor

Strike out ISM-02-05
Collected IB-Sal-202.0215 @ 1530
off travel for land only

1730 leave site

Rite in the Rain

14 02/16/21

Caneel Bay Resort
St John USVI

0800 onsite

Kelly onsite. Brad. Fred onsite.
Held work meeting to discuss schedule.
Brad. Fred expressed concern about
driving speed - care after observing
a difference in cellular along road.
Jan. Johnson. Bruce rd.

Reese speeches

Rooms SC 132-142

appear to be similar
Minor damage steel wall

Rooms 143-152

roofing removed, tarp paper. steel
S. side roof damage. visible
S. side on tarp paper.

Rooms 153-163

Minor damage. Tarp paper
with visible S. side

Rooms 164-166

Minor damage. No evidence
of ACM

Equator residence

Moderate damage. Impact
damage. No visible S. side

Fitness center

Roofing debris S. side 143-152.
Debris w/ visible S. side

Tennis courts

Minor damage - never constructed.
roof debris S. side area w/ S. side

WWTP residence

Significant damage - never cons.

Rooms 1-4

Minor damage - older construction

Rooms 5-13

Minor damage - older construction

58345 21 Caneel Bay Resort
St John USVI

02/16/21

15 AR001404

SC-Bldg - 13

0900

Collect S. side

+ Dop

SC-Bldg - 13

0830

Locations w/

Equator Res. / Dr. Phe

SC-Bldg - 14

0950

Rooms 135-136

collected S. side location

SC-Bldg - 15

1020

Rooms 143-152

w/ comp of 4 locations

SC-Bldg - 16

1040

Rooms 164-166

- comp of 4 loc.

SC-Bldg - 17

1140

Rooms 5-13

- comp of 4 loc.

SC-Bldg - 18

1225

GSI Stop

- comp of 4 loc.

SC-Bldg - 19

1250

Self Center

- comp of 4 loc.

GSI Stop

Minor damage - no ACM observed

Self Center

Minor damage - no ACM observed

* potential asbestos - cannot ppe
observed w/ of land fill access rd.

Rite in the Rain

02/16/21

Caneel Bay Resort
St John USVI

~1200 Nigel Fields Dave Washington + hours
1200 onsite. Discuss work + show hole
~1400 On site onsite. They considered decm
pad and decm wipers. will be onsite
tomorrow ~730 am.

~1630 onsite leaves

Collected IA-2-05 A Q

B Q

C Q 1700

PW Q 1730

1800 off site

02/17/21

0730 BND/TRD onsite

Onsite Environmental onsite

Track Rig to landfill

Setup to core SE-3-01

1030 Rig issues, + Barrel stuck downhole.

~1200 Lead + IA-2-05 samples stopped o-o-l
under core 486542 41 + 40.ISM DOS IA-2-05 03, IA-2-04, A
BND 217IA-2-05-02 had air + adjusted
to site conditions

1130 Offsite

02/18/21

Caneel Bay Resort
St John USVI

58345.21

17 AR001405

0800 BND/TRD on site.

Weather P. Cloudy Breezy 78°F

Setup for Ism markout/sampling. IA-2-04

IA-2-04 A @ 0930 IA-2-04

IA-2-04 B @ 0945 pH sample

IA-2-04 C @ 1000 @ 0910

IA-2-03 A @ 1245 IA-2-04 pH

IA-2-03 B @ 1245 sample @ 1150

IA-2-03 C @ 1245

1235 MW-01 $K = 6.17$ TD = 7.02 BTOC

well screened to surface. 4.0" ID

Well Vol. $7.02 - 6.17 = 0.85' \text{ H}_2\text{O}$, $\times 0.65 \text{ gal/ft}$ $= 0.55 \text{ gal.}$ Purged $\approx 0.5 \text{ gal.}$ clear to
little sed. Dry1500 $K = 6.80$ BTOC Purged dry some
Sed. on Bottom~1530 Waste gravel staying wet
Locate Jaws identified in RSE

200 Offsite

Rite in the Rain

18 02/19/21

(meet Bay Resur)
St. John 0205

0740 BOD/TRO on-site

On-site Env. on-site load to
supplies + head to landfill

On-site repairing rig

Complete SC-03-1 all concrete coming

@ landfill, setup IA-Ref-02

IA-Ref-02 A @ 1100

IA-Ref-02 B @ 1130

IA-Ref-02 C @ 1200

IA-Ref-02 PU @ 1230

7 samples SC-03-1 through SC-03-7
completed @ landfill

Refusal encountered between

15' dig @ SC-03-5 and

27' dig @ SC-03-4

2 coolers w/ soil core samples
shipped to TIA Canton

COCS:

Walk exterior perimeter of landfill
channel/Wash around eastern-southern
sides. Exposed base of landfill

~1630 On-site off-site

Kelly provides update to Fred + Brad

58545.21 (meet Bay Resur)
St. John 0201

2/19/21 AR001406

~1700 Walk storage area below
catchment w/ Kelly

Explore further s. to wall of
catchment. Observe additional
debris - Jeep, car engine,
transmission, more debris

~1730 off-site

✓

2/20/21

0740 BOD/TRO on-site

On-site Env. on-site

Rig driver back to landfill

+ setup at ASTs

BOD will start TSM @ IA-2-02

1010 DTW @ 6.72' in MU-1

IA-2-02 A @ 0900

IA-2-02 B @ 0920

IA-2-02 C @ 0940

IA-2-02 PU @ 1000

Move to IA-2-01

Rite in the Rain.

02/19/21

Coral Bay Resort
St John, USVI

IA-2-01 A @ 1500

IA-2-01 B @ 1520

IA-2-01 C @ 1540

IA-2-01 PV @ 1600

Attempt proposed well localing MW-2-01
through MW-2-04. Refusal @

15' (04) through ~13' (03)

Set temp piezometers w/ 1" riser
at 01 through 03

Petroleum odor at MW-2-03 at
~5' to refusal, elevated PID

1720 off site

58345-21

Coral Bay Resort
St John, USVI

02/21/21 21

AR001407

0740 BOD/TRD on site

2nd day 2nd Sk Env on site
2/1/21

Max rig down to land fill to
complete surveys.

Check WL at temp. piezoms

0758 MW-2-01 ^{last} Dry @ 9.85 ft0804 MW-2-02 ^{2nd day} Dry @ 12' by
mass/sk 1p

0808 MW-2-03 Dry @ 13.5'

Begin 1000 ft SC ^{2nd day} 03-08

Layout - collect ISM @ 1000 ft

0900 IA-3-01A @ 0900

2/1/21 IA-3-02B @ 0920

IA-3-02 C @ 0940

IA-3-02 PV @ 1000

IA-3-01 A @ 1100

IA-3-01 B @ 1120

IA-3-01 C @ 1140

IA-3-01 PV @ 1200

1445 on site off site

22

2/22/21

Crescent Bay Resort
St John, USVI

0740 BND/TRO onsite

BND
dry onsite onsiteJose Padino of VHB (surveyor)
onsiteNeed to backfill to collect sample
at SC-10-SC-3-10
BND 2/22

1400 Onsite offsite

- Performed background soil

borings @ Landfill for QA.

(2-22-21 TRO)
- Insta Cored to Refusal SC-2-05
to 25' Bgs. in front of gas pump.

1530 MW-2-03 Dry @ 13.5' Bgs.

1535 MW-2-02 Dry @ 12' Bgs (moist tip)

MW-2-01 Dry @ 9.8' Bgs

1200 MW-01 = 6.60

MW-01 ~ purge & collect parameters - purge dry

IA-RES-01 collected to proposed
dimensions / location

IA-RES-01 A @ 1340

2/24/21 IA-RES-01 B @ 1400

IA-RES-01 C @ 1420

IA-RES-01 pH @ 1440

58345.21

Crescent Bay Resort
St John, USVI2/22/21²³Equipment Blank collected off
supply spool

EB-SOIL-20210222-01 @ 1630

1745 offsite

2/23/21

0740 BND/TRO onsite

Onsite Env. onsite

Jose Padino of VHB (surveyor)
onsiteNeed to backfill to install
MW-3-01.6 caddis reported - shipped to Calum
for analysis.ESM performed along wash
+ seep

IA-3-03 A/B/C @ 1220/1240/1300

pH @ 1320

IA-3-04 A/B/C @ 1340/1400/1420

MW-3-01

TOC

G.S.

Rite in the Rain

AR001408

2/24/21 58345.21
0730 on site BND/TRO
weather: Sunny 75°F Slight Breeze

On-Site Env. drilling equipment packed
loaded + off site by 1115

SC-2-03 ψ = Dry @ 8.45 to 13.5' Bgs
0850 SC-2-02 ψ = Dry to 12.0' Bgs
0900 SC-2-01 ψ = Dry to 9.8' Bgs

Temporary Well closure

SC-2-03 - pulled PVC filled w/ granular
Bentonite $\frac{1}{2}$ Bag.

SC-2-02 pulled PVC filled hole
w/ granular Bentonite 1.25 Bags.

SC-2-01 pulled PVC filled hole
w/ granular Bentonite 0.5 Bags.

All holes/ Bentonite were hydrated w/H₂O

IDW - Soil Drum #1 @ 0920
 $\frac{1}{4}$ Full of soil cuttings

IDW - Soil Drum #2 @ 0940
 $\frac{3}{4}$ full

1025
MW-3-01 ψ = Dry to 16.48' BTOL

IDW-Water-01 @ 1130

Meet Bay Reson 2/24/21
St John, 0921

ISN safety ^{300' plot} conducting conducted in
Area 1 - including 2 small areas
around partially buried drums +
Paint dumping area.

IA-1-01 A/B/C @ 0850/0910/0930
PW @ 0950

IA-1-02 A/B/C @ 1050/1110/1140
PW @ 1200

IA-1-03 collected around apparent
Paint dumping area. Overgrown
and on slope

IA-1-03 A/B/C @ 1600/1620/1640
PW @ 1645

IA-1-04 collected around partially
buried drums.

IA-1-04 A/B/C @ 1430/1450/1510
PW @ 1515

IA-2-05 PW recollected @

2/24/21
cont.

58345.21

Equipment Yuh collected off
ISN logs

EB-SOIL-20210224 @ 1730

2/25/21

0745 on site @ NPS maintenance
to pack sample coolers for
shipping. Drop @ VS.

- Drive to Storage unit at
Cancun Bay Resort to
clean up and pack equipment
for shipping. Drop equipment
off at VS for Friday pick up
by Fed Ex.



Appendix 2 – Photographs of Field Activities



Appendix 2 – Photographs of Field Activities



Photograph 1. View of construction and damage typical of Site structures along Scott Beach. VHB selected discrete surface soil samples for lead analysis to be representative of groups of buildings based on apparent similarity of construction and damage. Sample SC-Bldg-05 collected from along drip lines in the back of these structures. SC-Bldg-06 collected from along drip lines of debris piles in this area.

Date: February 15, 2021

Time: 14:41



Photograph 2. View of roofing debris typical of that observed scattered across Site. Debris includes wood, sheet metal, and damaged tar paper with visible exposed fibers (possibly asbestos).

Date: February 13, 2021

Time: 11:14



Photograph 3. View of subsurface utility clearance using GPR and EMI of proposed drilling location along access road to Honeymoon Beach.

Date: February 11, 2021

Time: 15:09



Photograph 4. View of tank level gauge and suspected metallic fuel lines observed in the basement at Cottage 7 (identified as the former bomb shelter by CBIA representatives). Metallic lines were traced to the exterior of the building using EMI.

Date: February 12, 2021

Time: 12:06



Photograph 5. View of asbestos pipe identified during the Level 2 investigation in Area 2 located and exposed. Pipe appears to head to the west towards the former greenhouses. Similar, possible asbestos pipes were observed in other areas of Area 2 and in Areas 1 and 3. Debris in background limited access to parts of IA-2-04.

Date: February 18, 2021

Time: 10:50



Photograph 6. View typical of area of paint apparently dumped on ground surface in southeastern portion of Area 1. VHB defined surface soil decision unit IA-1-03 to encompass this area.

Date: February 18, 2021

Time: 16:21



Photograph 7. View of at least 12 partially buried, rusted drums observed in eastern portion of Area 1. The drums contained washed gravel. VHB defined surface soil decision unit IA-1-03 to encompass this area.

Date: February 18, 2021

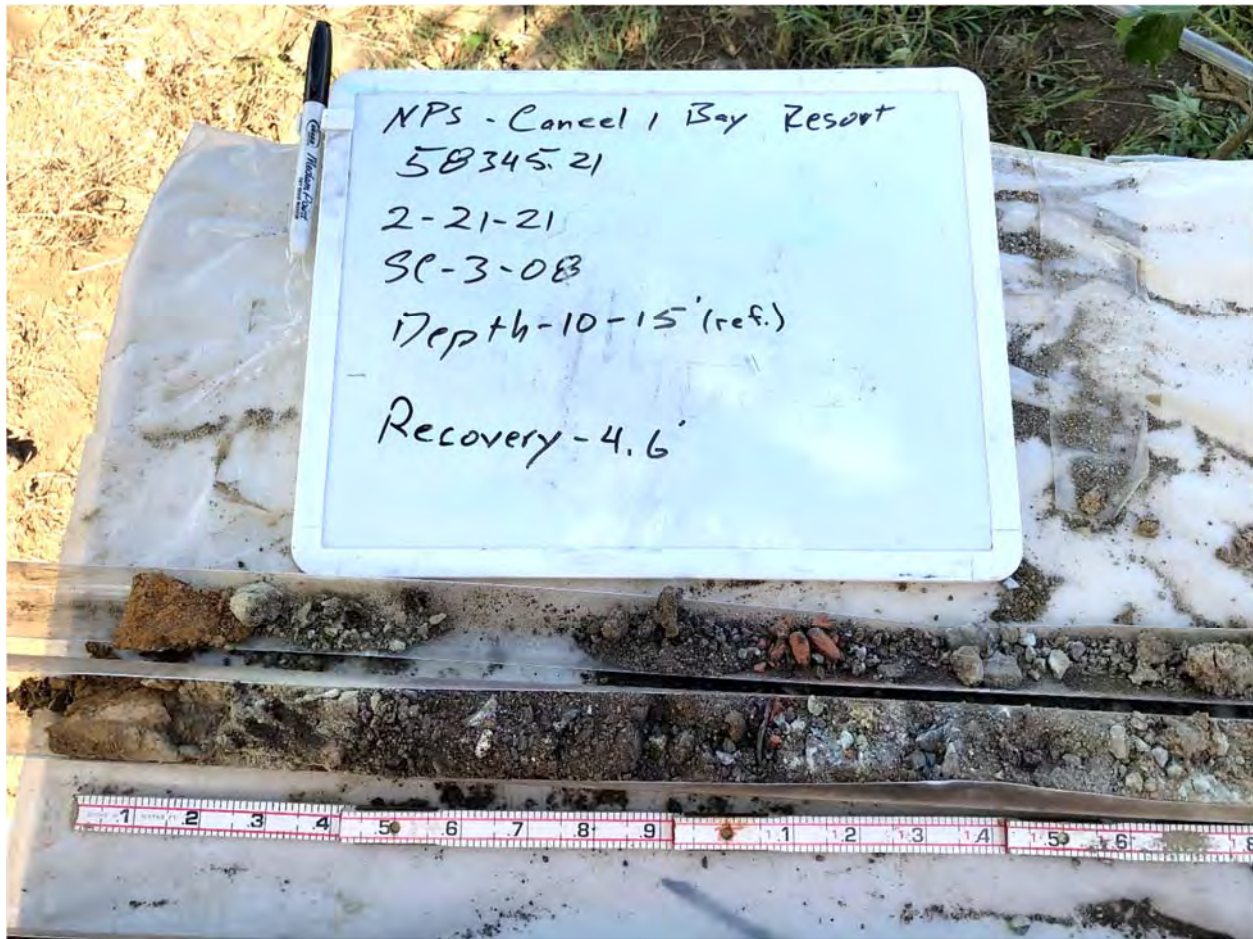
Time: 15:49



Photograph 8. View of exposed waste (including aluminum, steel, plastic, building materials, and unknown organic material) along the landfill's southern face and apparent seeps. VHB defined surface soil decision unit IA-3-04 to encompass the seep area and characterize potential contaminant migration to the apparent wash.

Date: February 23, 2021

Time: 15:24



Photograph 9. View of soil core collected at SC-3-08 from 10 to 15 ft bgs, typical of waste/fill material observed in cores collected in the debris landfill. Waste/fill observed in cores included sandy silt, gravel, brick, glass, plastic, tar paper, concrete, fabric, wire, unknown organic matter, wood, and leaf litter.

Date: February 21, 2021

Time: 10:08



Photograph 10. View to north of monitoring well MW-3-01 installed at the southeastern edge of the debris landfill. VHB selected the well location to coincide with the locations of the apparent seeps observed along the southern edge of the landfill.

Date: February 23, 2021

Time: 16:38



Photograph 12. View of subsurface soil sampling at SC-2-05, immediately to the north of the fuel dispenser. VHB observed visual, olfactory, and PID evidence of petroleum contamination in the soil core at this location from approximately 3.5 to near refusal at 23 ft bgs.

Date: February 22, 2021

Time: 13:04



Photograph 13. View of surface completion of existing monitoring well MW-1. The vault and well screen/riser are perforated to the ground surface. Well may receive surface runoff from surrounding paved area.


Date: February 25, 2021

Time: 10:55



AR001425

Appendix 3 – Daily Reports

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/11/2021				
VHB Reporter:	Ben Deede	Time on-site:	830	Time Off-site:	1630
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Clear, calm			Clear with passing showers	
	Intermittent showers/heavy rain				
Other On-Site Personnel					
<i>National Park Service (NPS):</i>		Sabrina Diaz, Dave Horner			
<i>VHB:</i>		Bob Osborne			
<i>Subcontractors:</i>		On-Site Environmental			
<i>Caneel Bay Representative:</i>		Brad Dow, Fred Iannazzi			
Activities					
<i>Groundwater</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Borings</i>	<i>In-progress:</i>	NA			
	<i>Completed:</i>	NA			
	<i>Discrete Samples:</i>	NA			
	<i>Notes:</i>	NA			
<i>ISM Samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Lead-based paint soil samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Asbestos Survey</i>	<i>Notes:</i>	Landfill area, asbestos samples SC-AS-01 through SC-AS-08 collected			
<i>GPR and EMI Survey</i>	<i>Notes:</i>	Completed in Area 3. Four well locations completed in Area 2 with 1 remaining. Two anomalies identified in landfill - marked out. Linear in nature - likely debris - possible tree trunks, etc.			
<i>IDW</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
Safety Briefing Performed?		NA			
Other Reportable Activities, Problems/Deviations, Required Follow-Up					
<p>Discussed transformer issues with Fred Iannazzi (environmental consultant for CBIA). There are 25 transformers at CBR, 3 are leaking. Identified 1 leaking transformer within IA-2-02. They've reported and initiated cleanup. Fred indicates they are post-1996 and contain mineral oil. The 25 transformers are now being monitored. Discussed soil excavation at ASTs with Brad and Fred. The tanks are owned by Pomo (spelling?) and the release was theirs as well. The soil was eventually removed from site by Pomo. Discussed landfill with Dave; he said it looks different than the last time he had seen it a few years ago, a berm appears new and regrading may have occurred. Dave said if deer were killed, they were probably buried there and he had buried a donkey there that had to be put down.</p>					

<i>Shipping</i>	
<i>Cooler destinations, COC numbers</i>	None. Asbestos samples to be shipped on Friday morning.

Photographs

View of Area 3 (Landfill Area) from entrance to south



View of Area 3 behind/to east of landfill berm that appears to be comprised of fill. Cleared for possible additional boring.



View of Area 2 AST area looking SE. Stained soil visible in foreground.



View of Area 2 AST area, looking SW upslope to 3 ASTs. Note growth relative to previous site visits.



Leaking transformer within IA-2-02. Soil has been cleared away from transformer.




Utility poles stacked in IA-2-02, blocking access to part of the DU.



View into IA-2-01 looking east. Note thick vegetation.



View of Cottage 7, note dense vegetation.

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/11/2021				
VHB Reporter:	Ben Deede	Time on-site:	810	Time Off-site:	1630
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Partly Cloudy, passing showers			Mostly sunny, humid	
	Intermittent showers/heavy rain				
Other On-Site Personnel					
<i>National Park Service (NPS):</i>		NA			
<i>VHB:</i>		Bob Osborne			
<i>Subcontractors:</i>		On-Site Environmental			
<i>Caneel Bay Representative:</i>		Brad Dow, Fred Iannazzi			
Activities					
<i>Groundwater</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Borings</i>	<i>In-progress:</i>	NA			
	<i>Completed:</i>	NA			
	<i>Discrete Samples:</i>	NA			
	<i>Notes:</i>	NA			
<i>ISM Samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Lead-based paint soil samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Asbestos Survey</i>	<i>Notes:</i>	NA			

GPR and EMI Survey	Notes:	<p>Completed clearing remaining well in Area 2. Investigated asbestos pipe area in grounds and landscaping area of Area 2. We were unable to locate the previously identified pipe at the ground surface due to debris and overgrown vegetation. The cleared areas around the grounds and landscaping area were scanned for possible pipes. Two unknown pipes were identified at 2' bgs and 3' bgs that may fit prior descriptions of asbestos pipes. A fragment of possible asbestos pipe was identified near one of the markouts. Tracing of unknown pipes was limited due to overgrown vegetation and debris.</p> <p>GPR and EMI reconnaissance was performed around Cottage 7 for evidence of historical USTs. A liquid level gauge and potential fuel lines were identified in the basement/bomb shelter. These lines were inducted and traced to the northern exterior of the building. The signal was lost in the area of a sanitary sewer manhole and AC units. GPR was used to scan surrounding open areas, to the extent possible. No GPR anomalies were identified.</p> <p>GPR and EMI reconnaissance was performed at the former storage area below the catchment basin. The area appears to have been previously used for quarrying, storage, and possible disposal of debris. Fill and debris (including metal, buckets, concrete, 1 drum) are present on portions of the downslope side of the access road and storage area. Piles of fill, debris, and possible quarry material are also present along both sides of the storage area. Clear areas were scanned with EMI and GPR. A line was identified running along the length of the access road towards the catchment basin at approximately 2' bgs. A 22'L x 5'W GPR anomaly, at 2' bgs, was identified within one of the clearings. The storage area appears to continue south towards the catchment basin, but becomes overgrown and impractical for GPR scanning.</p>
IDW	Sampled:	NA
	Notes:	NA
Safety Briefing Performed?		Yes
Other Reportable Activities, Problems/Deviations, Required Follow-Up		
The proposed drilling locations were walked with the driller and drilling logistics were discussed. Brad Dow indicated that water should be available for use by the drillers. Brad Dow provided access to the Cottage 7 basement/bomb shelter and to the storage area below the catchment.		
Shipping		
Cooler destinations, COC numbers	Landfill asbestos samples were shipped to EMSL Analytical, Inc.	

Photographs

Debris and vegetation at the southern end of the Grounds & Landscaping building. This area was intended for GPR survey but the equipment could not access the ground surface.



View to west of unknown pipe (location matches some prior descriptions) markout (~2' bgs) crossing road in grounds & landscaping area, leading under former greenhouse (now overgrown). G&L equipment maintenance building visible behind to right. Broken pipe fragment (possibly asbestos) visible in foreground. Pipe was not observed at ground surface and could not be traced further.



4-inch standpipe at corner of building in Area 2, identified by Fred Ianazzi as possible asbestos.



View of pipes leaving northern wall of Cottage 7 bomb shelter electrical room through possible asbestos carrier pipe. Note level gauge and possible fuel lines to right.



View of level gauge mounted on northern wall of Cottage 7 basement/bomb shelter. Medallion reads "The Liquidometer Corporation, Midget Levelometer. Serial 11." Based on the gauge graduations, the tank may have been ~ 300 gallons.



GPR surveying in the cleared areas north of Cottage 7



View to west of traced possible fuel line from northern side of Cottage 7 basement/bomb shelter (marked with orange paint near center of floor).




View of traced possible fuel line to area AC units and probable sanitary sewer manhole. Signal was lost beneath the AC units. GPR tracing of surrounding cleared areas did not locate any anomalies. GPR search was limited by debris, AC units, and dense vegetation.



View to east of rusted oil drum and other debris - including metal, concrete, buckets, etc - downslope of storage area below catchment.



View to north of GPR anomaly (5'w x 22'L x 2'bgs) in clearing within storage area below catchment. Possible quarry area behind.

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/13/2021				
VHB Reporter:	Ben Deede	Time on-site:	830	Time Off-site:	1330
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Clear, breezy			Clear, breezy	
	NA				
Other On-Site Personnel					
<i>National Park Service (NPS):</i>		NA			
<i>VHB:</i>		Bob Osborne			
<i>Subcontractors:</i>		NA			
<i>Caneel Bay Representative:</i>		Brad Dow, Fred Iannazzi			
Activities					
<i>Groundwater</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Borings</i>	<i>In-progress:</i>	NA			
	<i>Completed:</i>	NA			
	<i>Discrete Samples:</i>	NA			
	<i>Notes:</i>	NA			
<i>ISM Samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Lead-based paint soil samples</i>	<i>Sampled:</i>	Collected soil samples SC-Bldg-01 through SC-Bldg-06			
	<i>Notes:</i>	Samples collected at the Turtle Bay Beach rooms, Turtle Bay Estate, Children's Center, Hawksnest Beach rooms, Scott Beach rooms, and Scott Beach debris piles, respectively. Samples collected along drip edges of painted surface, where paint chips were present on surface, and drip edges of painted debris. Samples were composites of 3 to 4 representative locations.			
<i>Asbestos Survey</i>	<i>Notes:</i>	Reconnaissance performed at Turtle Bay Beach rooms, Turtle Bay Estate, Children's Center, Hawksnest Beach massage cabanas, Hawksnest Beach rooms, and Scott Beach rooms. Tile flooring and walls are common but are generally intact. Fibers were not observed in grout or mortar. Fragments of plaster with visible fibers were observed outside to the south of the Turtle Bay Beach rooms. Sheetrock/plaster damage is present at Turtle Bay Beach rooms, Turtle Bay Estate, and Scott Beach rooms. Materials may have been carried to exteriors of buildings. Roofing debris with roll tar paper with visible exposed fibers was widespread across all areas. Associated roofing damage was observed at Turtle Bay Beach rooms, Turtle Bay Estate, and Scott Beach rooms. Roofing debris appears to be scattered hundreds of feet from associated buildings.			
<i>GPR and EMI Survey</i>	<i>Notes:</i>	NA			

IDW	Sampled:	NA
	Notes:	NA
Safety Briefing Performed?		Yes
Other Reportable Activities, Problems/Deviations, Required Follow-Up		
Fred Iannazzi asked about findings/recommendations at the storage area below the catchment (he was present for part of the survey but did not observe the GPR anomaly identification). We indicated that we would allow NPS to provide the results and could not make recommendations.		
Shipping		
Cooler destinations, COC numbers	NA	

Photographs

1. View to south of north side of Turtle Bay Beach rooms. Note extensive damage to second floor rooms.



2. Fragment of plaster with visible fibers observed at Turtle Bay Beach rooms. Fragments were observed outside to the south of the rooms.



3. Roofing debris to south of Turtle Bay Beach, including roll tar paper with visible fibers. Turtle Bay Beach rooms visible in background.



4. Roofing debris, including roll tar paper with visible fibers in Turtle Bay Estate courtyard.



5. Larger view of roofing debris in Turtle Bay Courtyard



6. Roof and paint damage at Rooms 101 and 102 at Turtle Bay Estate.



7. View through east side of first floor room at Hawksnest Beach. >1 foot of sand in room.




8. View to east of Hawksnest Beach rooms. Roofing debris, with roll tar paper with visible fibers, from different building (possibly Scott Beach ~500 feet to the east) visible in foreground.



9. View of damage to Scott Beach rooms - view through room to west. Note missing roof and missing/damaged sheetrock/plaster ceiling.



10. Scattered roofing debris, including tar paper with visible fibers, to east of Scott Beach.

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/15/2021				
VHB Reporter:	Ben Deede	Time on-site:	800	Time Off-site:	1730
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Mostly sunny, breezy, early shower			Clear, breezy	
	NA				
Other On-Site Personnel					
<i>National Park Service (NPS):</i>		Kelly Kachurak			
<i>VHB:</i>		Bob Osborne			
<i>Subcontractors:</i>		On-Site Environmental			
<i>Caneel Bay Representative:</i>		Brad Dow, Fred Iannazzi			
Activities					
<i>Groundwater</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	Depth to groundwater at MW-1 was measured at 6.53 ft btoc; total depth measured at 7.02 ft btoc.			
<i>Borings</i>	<i>In-progress:</i>	NA			
	<i>Completed:</i>	NA			
	<i>Discrete Samples:</i>	NA			
	<i>Notes:</i>	NA			
<i>ISM Samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Lead-based paint soil samples</i>	<i>Sampled:</i>	Collected soil samples SC-Bldg-07 through SC-Bldg-12. Collected SC-Bldg-101, duplicate of SC-Bldg-08. Collected equipment blank EB-Soil-20210215			
	<i>Notes:</i>	Samples collected at Cottage 7 rooms, rooms 54-57, rooms 26-29, rooms 30-49, rooms 14-25, and the Beach Terrace dining room. Samples collected along drip edges of painted surface, where paint chips were present on surface, and drip edges of painted debris. Samples were composites of 4 representative locations.			

<i>Asbestos Survey</i>	<i>Notes:</i>	Reconnaissance performed at Cottage 7 rooms, Paradise Beach rooms, Cottage Point rooms, Caneel Beach rooms, the Beach Terrace dining room, and Equator restaurant. Rooms 54-57, 26-29, and 50-53 (on Cottage point and Caneel Beach) appear to have been in the process of partial demolition/renovation; drywall, plaster, masonry tile, ceiling tile have been demolished, rubble piles remain in some areas; there is evidence of possible ACM in remaining material. Weathered drywall debris with visible exposed fibers was observed along road to the NE of rooms 26-29. Significant storm damage was observed at rooms 15-25; roofs were missing from the immediate vicinity; drywall debris with visible exposed fibers was observed in rooms. The roof was partially missing at the Beach Terrace dining room; visible fibers were observed in roofing tar paper. remnants; localized drywall damage with visible exposed fibers was observed. The roof was also partially missing at the Equator Restaurant; visible fibers were observed in roofing tar paper; localized drywall damaged with visible exposed fibers was observed. Fragmented possible-ACM pipe was observed in the excavation behind Transformer 22 in the Engineering Area.
<i>GPR and EMI Survey</i>	<i>Notes:</i>	NA
<i>IDW</i>	<i>Sampled:</i>	NA
	<i>Notes:</i>	NA
Safety Briefing Performed?		Yes
Other Reportable Activities, Problems/Deviations, Required Follow-Up		
The drill rig and drilling equipment were delivered to the Site and a staging area was set up in the Engineering Area. The proposed boring and well locations were walked with the drillers. Fred Iannazzi and Brad Dow expressed repeated concerns (today and previously) about obstructing shuttle traffic to Honeymoon Beach during drilling along the access road and driving the drill rig to the landfill; they would prefer us to do that work in the early morning or late afternoon. We have expressed that we will make efforts to be accommodating and to minimize our impact on operations. We have also expressed confidence that we can complete the work in a way that will allow shuttles passage. Leaking transformers 23 and 11, along with apparently relocated transformer 13 were observed with Kelly Kachurak. Soil has been removed from around transformer 22 and is piled nearby; sorbents are saturated and release of oil appears to be ongoing. Sorbent pads and granular sorbent have been applied around transformer 11; no soil has been removed. Transformer 13 does not appear to be leaking but is not on a pad and appears to have been relocated from its original location.		
Shipping		
<i>Cooler destinations, COC numbers</i>	NA	

Photographs

1. View behind leaking Transformer 22, in IA-2-02. Possible broken asbestos pipe in excavation.



2. View of apparently relocated transformer 13 near warehouse.



3. View of leaking transformer 23 near Sugar Mill Ruins. Note soil pile behind. Note concrete is wet with oil, sorbent pads are saturated; transformer appears to be continuing to leak.



4. View of leaking transformer 11, near Beach Terrace dining room



5. Partial demolition of Cottage Point rooms. Note removed tile and drywall and masonry, plaster, drywall, rubble with possible ACM.



6. View to west of drywall debris with visible fibers in foreground. Caneel Beach rooms behind.



7. Drywall debris with visible fibers to east of Caneel Beach rooms.




8. View to east of southern Caneel Beach rooms.



9. View of drywall debris with visible fibers in southern Caneel Beach room.



10. View to west in Equator Restaurant.

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/16/2021				
VHB Reporter:	Ben Deede	Time on-site:	800	Time Off-site:	1800
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Clear, humid, breezy			Clear, humid, breezy	
	NA				
Other On-Site Personnel					
<i>National Park Service (NPS):</i>		Kelly Kachurak			
<i>VHB:</i>		Bob Osborne			
<i>Subcontractors:</i>		On-Site Environmental			
<i>Caneel Bay Representative:</i>		Brad Dow, Fred Iannazzi			
Activities					
<i>Groundwater</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Borings</i>	<i>In-progress:</i>	NA			
	<i>Completed:</i>	NA			
	<i>Discrete Samples:</i>	NA			
	<i>Notes:</i>	NA			
<i>ISM Samples</i>	<i>Sampled:</i>	IA-2-05 collected			
	<i>Notes:</i>	Three replicates collected from IA-2-05. The extents of IA-2 05 were adjusted and remapped based on conditions in the field, particularly the locations of concrete pads.			
<i>Lead-based paint soil samples</i>	<i>Sampled:</i>	Collected soil samples SC-Bldg-13 through SC-Bldg-19. Collected SC-Bldg-102, duplicate of SC-Bldg-13.			
	<i>Notes:</i>	Samples collected at Equator Restaurant, Rooms 132-142, Rooms 143-152, Rooms 164-166, Rooms 5-13, the Gift Shop, and the Self Center, respectively. Samples collected along drip edges of painted surface, where paint chips were present on surface, and drip edges of painted debris. Samples were composites of 4 representative locations.			
<i>Asbestos Survey</i>	<i>Notes:</i>	Reconnaissance performed at the tennis courts, Rooms 132-142, Rooms 143-152, Rooms 153-163, the Fitness Center, Rooms 164-166, the residence near the Equator Restaurant, the residence near the WWTP, Rooms 1-4, Rooms 5-13, the Gift Shop, and the Self Center. Roof debris, from a different area, with visible fibers was observed at the tennis courts. Roof damage was observed at rooms 142-152; associated scattered debris with visible fibers was observed around those buildings and the Fitness Center. Drywall with visible fibers was observed at the Fitness center.			
<i>GPR and EMI Survey</i>	<i>Notes:</i>	NA			

IDW	Sampled:	NA
	Notes:	NA
Safety Briefing Performed?		Yes
Other Reportable Activities, Problems/Deviations, Required Follow-Up		
Fred Iannazzi and Brad Dow expressed concern about driving speeds through the property after witnessing an unrelated contractor driving fast down the Honeymoon Beach access road. We indicated we would inform our contractor of the site speed limit of 10 mph. On-Site Environmental (driller) did not receive the well materials as expected today. To move the work forward, drilling is planned to proceed with soil borings at the landfill tomorrow.		
Shipping		
Cooler destinations, COC numbers	NA	

Photographs

1. View of damage to second floor room at rooms 143-152. Roll tar paper with visible fibers behind.




2. Roofing debris, including tar paper with visible fibers to west of fitness center. Fitness center behind.



3. View looking west of oil stain on drive to residence near Equator Restaurant. Possible granular sorbent on surface.




4. Possible asbestos-cement pipe north of landfill access road.

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/17/2021				
VHB Reporter:	Ben Deede	Time on-site:	730	Time Off-site:	1630
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Mostly sunny, humid, intermittent showers			Mostly sunny, humid, intermittent showers	
	NA				
Other On-Site Personnel					
<i>National Park Service (NPS):</i>		Kelly Kachurak			
<i>VHB:</i>		Bob Osborne			
<i>Subcontractors:</i>		On-Site Environmental			
<i>Caneel Bay Representative:</i>		Brad Dow, Fred Iannazzi			
Activities					
<i>Groundwater</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Borings</i>	<i>In-progress:</i>	Cores at SC-3-01, along the western edge of the landfill, were collected to 10 ft bgs. Drill tooling was lost down hole at around 14 ft bgs; On-Site spent much of the day trying to recover the tooling.			
	<i>Completed:</i>	None			
	<i>Discrete Samples:</i>	Samples SC-3-01 (0.5-2.5) and SC-3-01 (5-6') were collected from boring SC-3-01.			
	<i>Notes:</i>	Fill (including glass, concrete, wood, and dark brown sandy silt) was observed to 10 ft bgs (tooling lost at around 14 ft bgs; no recovery past 10 ft bgs) at SC-3-01. Refusal was not encountered to 14 ft bgs. Additional solid waste (including copper wire, steel, and plastic) was observed during augering to recover the lost tooling.			
<i>ISM Samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	Proposed ISM DUs IA-Ref-02, IA-2-04, and IA-2-03 were staked out and adjusted to field conditions (e.g. the presence of concrete pads, buildings, debris piles). IA-Ref-02 was moved from the location indicated in the SAP to the area of proposed reference borings SC-Ref-01, SC-Ref-02, and SC Ref-03 due to the presence of steep slopes, dense vegetation, and rocky conditions in the original location.			
<i>Lead-based paint soil samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Asbestos Survey</i>	<i>Notes:</i>	NA			
<i>GPR and EMI Survey</i>	<i>Notes:</i>	NA			

IDW	Sampled:	NA
	Notes:	NA
Safety Briefing Performed?		Yes
Other Reportable Activities, Problems/Deviations, Required Follow-Up		
<p>The drill rig was successfully driven to the landfill at around 8:00 AM without issue or interfering with the Honeymoon Beach shuttle traffic. CBIA installed a gate at the entrance to the landfill. VHB added signage, in accordance with the CIP, to the gate. On-Site Environmental (Driller) did not receive the well materials until this evening. On-Site Environmental experienced mechanical issues with the drill rig hammer; a replacement part has been ordered and is expected to be delivered to St. Thomas tomorrow and may be available at the site late tomorrow. Drill tooling, including the Driller's only drive shoe, were lost down-hole at boring SC-3-01; repeated efforts were made to recover the tooling but were unsuccessful. The drillers are expected to bring replacement equipment tomorrow.</p> <p>Landfill surface soil sample results were received and do not show the presence of asbestos (all samples were negative except one with a result of 0.75%, which is below the asbestos threshold of 1% used at Valley Forge).</p>		
Shipping		
Cooler destinations, COC numbers	Discrete lead samples and ISM samples from IA-2-05 were shipped to Eurofins/Test America Canton for analysis under Chains of Custody: 486542, 486541, 486540.	

Photographs

1. View looking west of drill rig set up at SC-3-01, along western edge of the landfill.

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/18/2021				
VHB Reporter:	Ben Deede	Time on-site:	800	Time Off-site:	1700
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Mostly sunny, humid, intermittent showers			Mostly sunny	
	NA				
Other On-Site Personnel					
<i>National Park Service (NPS):</i>		Kelly Kachurak			
<i>VHB:</i>		Bob Osborne			
<i>Subcontractors:</i>		None			
<i>Caneel Bay Representative:</i>		Brad Dow, Fred Iannazzi			
Activities					
<i>Groundwater</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	Depth to groundwater at MW-1 was measured at 6.17 ft btoc. MW-1 was redeveloped by overpumping with a persaltic pump.			
<i>Borings</i>	<i>In-progress:</i>	No progress at SC-3-01 - drillers not on-site			
	<i>Completed:</i>	NA			
	<i>Discrete Samples:</i>	NA			
	<i>Notes:</i>	Drillers not on-site - waiting on parts for the rig.			
<i>ISM Samples</i>	<i>Sampled:</i>	IA-2-03 and IA-2-04 collected.			
	<i>Notes:</i>	Three replicates collected from both decision units. The extents of both DUs were adjusted and remapped based on conditions in the field, particularly the locations of concrete pads, buildings, and debris piles.			
<i>Lead-based paint soil samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Asbestos Survey</i>	<i>Notes:</i>	A broken possible asbestos-cement pipe was located at the ground surface in the grounds and landscaping area during ISM sampling - this is likely the original asbestos pipe of interest in that area. Approximately 14' of pipe was exposed and determined to be running to the west, towards the former greenhouses. The top of pipe for most of the exposed run is approximately 2" bgs. Possible asbestos pipes were observed in the southern portion of the gravel staging area. Possible asbestos tiles were observed in the eastern area of the gravel staging area. Piles of building debris, including tar paper with exposed visible fibers, were observed in the gravel staging area.			
<i>GPR and EMI Survey</i>	<i>Notes:</i>	NA			

IDW	Sampled:	NA
	Notes:	NA
Safety Briefing Performed?		Yes
Other Reportable Activities, Problems/Deviations, Required Follow-Up		
<p>Fred Iannazzi asked for an update on the status of our work. We indicated that updates should be provided through NPS. Kelly Kachurak plans to provide CBIA representatives with an update tomorrow. The drillers were not on site today as the necessary replacement parts for the drill rig did not arrive until late afternoon. Drilling work is expected to resume tomorrow. Reconnaissance of the gravel staging area in Area 1 was performed in preparation of ISM sampling. The staging area appears to be cut into the slope to the east and filled to the east, towards the wastewater treatment plant. Concrete rubble is visible along the filled edge. At least 12 partially buried and significantly rusted drums were observed in the eastern portion of the area - in the same area as identified in the RSE. Some of the drums appear to have contained washed pebbles. A small pile of possible asbestos tile was also observed in the eastern portion of the area. Building debris, including painted materials and tar paper with visible exposed fibers, was piled in the center of the area. Two possible asbestos pipes were observed in the southern portion of the gravel staging area; this area appears to have been used to dump paint. The former pumphouse at the wastewater treatment plant has been demolished; apparent containment pads have been built on the pad. The two covered basins are labeled with "Trans #22" AND Trans #23." A pile of apparent excavation debris is located to the northwest of the former pumphouse.</p>		
Shipping		
Cooler destinations, COC numbers	NA	

Photographs

1. Closeup of broken possible asbestos pipe in grounds and landscaping area to south of equipment maintenance building.



2. Exposed approximately 14 feet of possible asbestos pipe around landscaping shed in Area 2.



3. Partially buried 55-gallon steel drums (at least 12) in eastern part of gravel staging area. Note drums are heavily rusted.



4. Top of partially buried 55-gallon steel drum in gravel staging area. Some drums appear to have contained washed pebbles



5. Possible ACM tile in eastern portion of gravel staging area.



6. View to east of building debris piles in center of gravel staging area. Piles include painted materials and tar paper with visible exposed fibers.



7. Possible asbestos pipe at the southern end of the gravel staging area



8. Possible asbestos-cement pipe at the southern end of the gravel staging area. Note apparently dumped paint.




9. Area of apparently dumped paint at the southern end of the gravel staging area.



10. View looking south of demolition debris pile adjacent to former WWTP pump house. WWTP behind.



11. View looking south of apparent containment pads built on former WWTP pump house concrete pad. Tarps are labeled with "Tran. #22" and "Tran. #23".

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/19/2021				
VHB Reporter:	Ben Deede	Time on-site:	740	Time Off-site:	1730
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Mostly sunny, humid, intermittent showers			Mostly sunny, humid, intermittent showers	
	NA				
Other On-Site Personnel					
<i>National Park Service (NPS):</i>		Kelly Kachurak			
<i>VHB:</i>		Bob Osborne			
<i>Subcontractors:</i>		On-Site Environmental			
<i>Caneel Bay Representative:</i>		Brad Dow, Fred Iannazzi			
Activities					
<i>Groundwater</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Borings</i>	<i>In-progress:</i>	NA			
	<i>Completed:</i>	SC-3-01 through SC-3-07.			
	<i>Discrete Samples:</i>	Samples were collected from SC-3-02 through SC-3-07 at 0 3 ft bgs and 3-6 ft bgs. Composite waste characterization samples were collected from about 0-6 ft bgs at all borings			
	<i>Notes:</i>	Borings were advanced to refusal at all locations. Refusal was encountered between 1.5 ft bgs at the northern end of the landfill to 27 ft bgs at the southern end of the landfill. Recovery includes interbedded wood, leaf litter, concrete, sandy silts, organic silts, silty clays, gravels, etc.			
<i>ISM Samples</i>	<i>Sampled:</i>	IA-Ref-02 collected.			
	<i>Notes:</i>	Three replicates were collected from IA-Ref-02. IA-Ref-02 was moved to the location of the proposed background borings SC-Ref-01 through SC-Ref-03, above and to the east of the landfill.			
<i>Lead-based paint soil samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Asbestos Survey</i>	<i>Notes:</i>	NA			
<i>GPR and EMI Survey</i>	<i>Notes:</i>	NA			

IDW	Sampled:	NA
	Notes:	NA
Safety Briefing Performed?		Yes
Other Reportable Activities, Problems/Deviations, Required Follow-Up		
<p>The drillers made necessary repairs to the rig in the morning and drilling resumed without further equipment issues. Kelly Kachurak provided an update on the progress of the work to Fred Iannazzi and Brad Dow. VHB walked the staging area below the catchment with Kelly Kachurak; additional debris, including marine batteries, a jeep, car engine, car transmissions, and other autoparts were observed during the survey. We also walked the exterior perimeter of the landfill to the east and south. An apparent wash was discovered along the eastern and southern sides of the landfill, outside the brush berm - beginning in the quarry area and draining towards Honeymoon Beach. Two potential tributary washes were observed along the eastern side of the larger wash. It was not clear to what extent the wash was a result of excavation and/or erosion. Debris and solid waste, including plastic, steel, aluminum, pipes, tile, painted and unpainted wood, and car parts were observed along the exterior exposed face of the landfill. Some debris was also observed in the bed of the wash. Several small areas of salt deposits were identified along the exposed face of the landfill, suggesting areas of possible occasional seepage.</p>		
Shipping		
Cooler destinations, COC numbers	Two coolers, containing soil core and ISM samples, were shipped to Test America for analysis.	

Photographs

1. View to south of landfill, drill rig set up at SC-3-02



2. View to east of landfill, drill rig set up at SC-03-7



3. View to north of landfill face from apparent wash.




4. View of exposed landfill face from apparent wash to south of landfill. Note steel, plastic, aluminum in fill.



5. View of tributary wash to apparent wash along eastern and southern sides of the landfill.



6. View of jeep, car engine, transmissions, and other car parts in southern end of the staging area below the catchment.

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/20/2021				
VHB Reporter:	Ben Deede	Time on-site:	740	Time Off-site:	1720
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Mostly sunny			Mostly sunny	
	NA				
Other On-Site Personnel					
National Park Service (NPS):		NA			
VHB:		Bob Osborne			
Subcontractors:		On-Site Environmental			
Caneel Bay Representative:		Brad Dow, Fred Iannazzi			
Activities					
Groundwater	Sampled:	NA			
	Notes:	Depth to groundwater at MW-1 was measured at 6.72 ft btoc, indicating the water level is dropping at that location or the well has not fully recovered from redevelopment.			
Borings	In-progress:	Locations for proposed monitoring wells MW-2-01, MW-2-02, and MW-2-03 were cored, logged, and augered to refusal. Soils were dry. 1-in riser pipe was installed at each hole as temporary piezometers. Each will be checked for water tomorrow and Monday. Wells will be installed or the holes will be abandoned.			
	Completed:	Refusal was encountered at around 1 ft bgs at the proposed MW-2-04 location.			
	Discrete Samples:	No subsurface samples were collected.			
	Notes:	At MW-2-01, refusal was encountered at 10.2 ft bgs. At MW-2-02, refusal was encountered at 12 ft bgs. At MW-2-03, refusal was encountered at 13.2 ft bgs; there were petroleum odors and elevated PID readings from approximately 5 ft bgs to refusal. At MW-2-04, refusal was encountered at 1 ft bgs, a step-off was attempted and refusal was again encountered at 1 ft bgs.			
ISM Samples	Sampled:	IA-2-02 and IA-2-01 were collected.			
	Notes:	At IA-2-02, an increment was not collected in the immediate vicinity of leaking transformer 22 because CBIA stated that this area is being addressed separately. Some increment locations were adjusted due to small debris piles and stacked utility poles. At IA-2-01, some increments were adjusted due to scattered debris.			
Lead-based paint soil samples	Sampled:	NA			
	Notes:	NA			
Asbestos Survey	Notes:	A possible asbestos-cement pipe riser was observed in the northeast corner of IA-2-01. Fibers were visible in a chip of the material.			

<i>GPR and EMI Survey</i>	<i>Notes:</i>	NA
<i>IDW</i>	<i>Sampled:</i>	NA
	<i>Notes:</i>	NA
Safety Briefing Performed?		Yes
Other Reportable Activities, Problems/Deviations, Required Follow-Up		
None		
Shipping		
<i>Cooler destinations, COC numbers</i>	NA	

Photographs

1. View of drill rig set up at proposed MW-2-03 location.




2. View of temporary piezometer installed at proposed MW-2-03 location.



3. View looking north through IA-2-02, note increment in immediate vicinity of leaking transformer 22 was adjusted to avoid oil.



4. Possible asbestos-cement pipe identified in the northeastern corner of IA-2-01.

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/21/2021				
VHB Reporter:	Ben Deede	Time on-site:	740	Time Off-site:	1615
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Mostly sunny, showers			Mostly sunny	
	NA				
Other On-Site Personnel					
National Park Service (NPS):		NA			
VHB:		Bob Osborne			
Subcontractors:		On-Site Environmental			
Caneel Bay Representative:		Brad Dow, Fred Iannazzi			
Activities					
Groundwater	Sampled:	NA			
	Notes:	Temporary piezometers installed at proposed well locations MW-2-01, MW-2-02, and MW-2-03, were dry at 9.8 ft bgs, 12 ft bgs, and 13.5 ft bgs, respectively.			
Borings	In-progress:	NA			
	Completed:	SC-3-08 through SC-3-11 and SC-Ref-01 through SC-Ref-02.			
	Discrete Samples:	Samples were collected from 0.5-3 ft bgs at all borings and 3-6 ft bgs where possible.			
	Notes:	Refusal was encountered at background borings SC-Ref-01 through SC-Ref-02 at 0.7 ft bgs to 4 ft bgs. Refusal was encountered at landfill borings SC-3-08 through SC-3-11 at 12 through 22 feet.			
ISM Samples	Sampled:	IA-3-01 and IA-3-02 were collected.			
	Notes:	IA-3-01 and IA-3-02 were adjusted to the current landfill footprint. A potential DU, IA-3-03, along the apparent wash to the south and west of the landfill was mapped.			
Lead-based paint soil samples	Sampled:	NA			
	Notes:	NA			
Asbestos Survey	Notes:	A possible asbestos-cement pipe was identified at the southwestern toe of the landfill.			


<i>GPR and EMI Survey</i>	<i>Notes:</i>	NA
<i>IDW</i>	<i>Sampled:</i>	NA
	<i>Notes:</i>	NA
Safety Briefing Performed?		Yes
Other Reportable Activities, Problems/Deviations, Required Follow-Up		
None		
Shipping		
<i>Cooler destinations, COC numbers</i>	NA	

Photographs

1. Logging soil cores at the landfill.




2. Possible asbestos-cement pipe at the northwestern toe of the landfill.

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/22/2021				
VHB Reporter:	Ben Deede	Time on-site:	740	Time Off-site:	1745
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Mostly sunny			Mostly sunny	
	NA				
Other On-Site Personnel					
<i>National Park Service (NPS):</i>		NA			
<i>VHB:</i>		Bob Osborne, Jose Padrino			
<i>Subcontractors:</i>		On-Site Environmental			
<i>Caneel Bay Representative:</i>		Brad Dow, Fred Iannazzi			
Activities					
<i>Groundwater</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	MW-01 was slow purged and went dry after approximately 1.5 L.			
<i>Borings</i>	<i>In-progress:</i>	NA			
	<i>Completed:</i>	SC-2-05 to the north of the fuel dispenser			
	<i>Discrete Samples:</i>	Samples SC-3-10 (0-3') and SC-3-10 (3-6') were recollected. Duplicates SC-101 and SC-102 were collected.			
	<i>Notes:</i>	At boring SC-2-05, refusal was encountered at 23 ft bgs. Petroleum odors and elevated PID readings were observed from 3.5 ft bgs to about 22 ft bgs. No additional cores were advanced because only this location was pre-cleared for utilities and the water piping from the ocean to the desalinization plant is thought to run up through this area. To avoid the possibility of breaking this pipe, VHB decided to not core additional transects.			
<i>ISM Samples</i>	<i>Sampled:</i>	IA-Ref-01 was collected.			
	<i>Notes:</i>	Three replicates collected from IA-Ref-01. The boundaries of the DU were unchanged from the proposed location, to the northeast of the resort main entrance.			
<i>Lead-based paint soil samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Asbestos Survey</i>	<i>Notes:</i>	NA			

<i>GPR and EMI Survey</i>	<i>Notes:</i>	NA
<i>IDW</i>	<i>Sampled:</i>	NA
	<i>Notes:</i>	NA
<i>Safety Briefing Performed?</i>		Yes
<i>Other Reportable Activities, Problems/Deviations, Required Follow-Up</i>		
Per the 2/21 proposed changes to the scope and the 2/22 approval by NPS, VHB will install a monitoring well at the southern end of the landfill, near the observed possible seeps and additional ISM sample collection is planned. VHB surveyed boring locations at the landfill and in Area 2, as well as the topography of the landfill.		
<i>Shipping</i>		
<i>Cooler destinations, COC numbers</i>	Six coolers were prepared for shipment, but FedEx cancelled the scheduled pickup.	

Photographs

1. Drill rig set up at boring location SC-2-05, to the north of the ASTs and fuel dispenser.

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/23/2021				
VHB Reporter:	Ben Deede	Time on-site:	740	Time Off-site:	1715
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Mostly sunny			Mostly sunny	
	NA				
Other On-Site Personnel					
<i>National Park Service (NPS):</i>		NA			
<i>VHB:</i>		Bob Osborne, Jose Padrino			
<i>Subcontractors:</i>		On-Site Environmental			
<i>Caneel Bay Representative:</i>		Brad Dow, Fred Iannazzi			
Activities					
<i>Groundwater</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	MW-3-01 was completed in the southern portion of the landfill at location of SC-3-09; well screen set at 9 to 14 ft bgs. Observed seep at southern toe of the landfill is approximately 10 ft below the ground surface at MW-3-01.			
<i>Borings</i>	<i>In-progress:</i>	NA			
	<i>Completed:</i>	NA			
	<i>Discrete Samples:</i>	NA			
	<i>Notes:</i>	NA			
<i>ISM Samples</i>	<i>Sampled:</i>	IA-3-03 and IA-3-04 were collected.			
	<i>Notes:</i>	Three replicates collected from IA-3-03 and IA-3-04 in the wash along the southern and eastern perimeter of the landfill. IA-3-03 was collected from the wash bed or toe of the landfill starting from the first suspected seep downslope about 120 feet. IA-3-04 was collected from the suspected seep along the landfill slope to approximately 1 foot downslope, starting at the first suspected seep through the last suspected seep.			
<i>Lead-based paint soil samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Asbestos Survey</i>	<i>Notes:</i>	NA			

<i>GPR and EMI Survey</i>	<i>Notes:</i>	NA
<i>IDW</i>	<i>Sampled:</i>	NA
	<i>Notes:</i>	NA
<i>Safety Briefing Performed?</i>		Yes
<i>Other Reportable Activities, Problems/Deviations, Required Follow-Up</i>		
<p>The drillers finished today and will demobilize tomorrow. They will transport the IDW drums to their warehouse in St. Thomas and arrange disposal pending waste characterization results.</p> <p>The cooler containing soil samples shipped on 2/17/2021 was in a FedEx shipment that was grounded in Memphis by the storm last week. The samples were mostly discrete soil for lead analysis, but included one set of ISM samples from Area 2 around the ASTs. Those ISMs included VOC samples. There are only enough VOC jars on-site for one replicate of VOC samples if they must be recollected. VHB will check with the data validator on this issue today.</p>		
<i>Shipping</i>		
<i>Cooler destinations, COC numbers</i>	Six coolers were shipped to the TestAmerica Canton lab.	

Photographs


1. View looking north of MW-3-01 installed in the southeastern portion of the landfill, at boring location SC-3-09.



2. View of IA-3-03 ISM sampling layout along wash to south and east of landfill.



3. Exposed waste along exposed southern face of landfill/wash. Area included in IA-4-04.

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/24/2021				
VHB Reporter:	Ben Deede	Time on-site:	740	Time Off-site:	1745
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Mostly sunny			Mostly sunny	
	NA				
Other On-Site Personnel					
National Park Service (NPS):		NA			
VHB:		Bob Osborne			
Subcontractors:		On-Site Environmental			
Caneel Bay Representative:		Brad Dow, Fred Iannazzi			
Activities					
Groundwater	Sampled:	A sample was collected from MW-01 for analysis of VOCs, metals, and SVOCs.			
	Notes:	MW-01 was purged dry on 2/23/21. When checked today, the well contained approximately 500 mL of water. Due to the limited volume, samples were only collected for analysis of VOCs, metals, and SVOCs - a reduced volume was collected for SVOCs. MW-3-01 was checked for groundwater and was found to be dry to 16.48 ft below top-of-casing. Temporary piezometers at SC-2-03, SC-2-02, and SC-2-01 were also checked and found to be dry.			
Borings	In-progress:	NA			
	Completed:	NA			
	Discrete Samples:	NA			
	Notes:	Temporary piezometers installed at SC-2-01, SC-2-02, and SC-2-03 were removed and the holes were abandoned.			
ISM Samples	Sampled:	IA-1-01 through IA-2-04 were collected in the gravel staging area near the wastewater treatment plant. The pH sample for IA-2-05 was recollected because shipment delays for the original sample would have resulted in the result being rejected.			
	Notes:	IA-1-01 was collected from the southern portion of the gravel staging area. IA-1-02 was collected from the northern and eastern portions of the gravel staging area; some increments were adjusted due to the presence of debris. IA-1-03 was collected from the area of apparent paint dumping at the southern end of the gravel staging area. IA-1-04 was collected from the the area of the partially buried drums at the eastern edge of the gravel staging area.			
Lead-based paint soil samples	Sampled:	NA			
	Notes:	NA			

<i>Asbestos Survey</i>	<i>Notes:</i>	NA
<i>GPR and EMI Survey</i>	<i>Notes:</i>	NA
<i>IDW</i>	<i>Sampled:</i>	Samples for characterization were collected from two soil IDW drums and one decon/purge water IDW drum.
	<i>Notes:</i>	The three IDW drums (2 soil, 1 water) were placed on a pallet in the engineering area and covered with a tarp.
<i>Safety Briefing Performed?</i>		Yes
<i>Other Reportable Activities, Problems/Deviations, Required Follow-Up</i>		
<p>The pH sample for IA-2-05 was recollected due to the delayed sample shipments. Based on conversations with the data validators, other samples are expected to be acceptable.</p> <p>A field update was provided to Kelly Kachurak, in preparation for her update call with the CBIA representative.</p> <p>Evidence of possible asbestos-containing debris being cleared/moved was observed on 2/23 near Hawksnest and Scott Beaches. These activities were not conducted for the EE/CA or by VHB or its subcontractors.</p>		
<i>Shipping</i>		
<i>Cooler destinations, COC numbers</i>	NA	

Photographs

1. View of IA-1-03 staked out for ISM sampling at southern end of Area 1. Note dumped paint on slope and discarded paint cans, etc.



2. View of IA-1-04 staked out for ISM sampling, around partially buried drums at the eastern edge of Area 1.




3. IDW drums (2 soil, 1 water) placed on a pallet, covered, and stored in the engineering area.



4. View to west of propane tank near Hawksnest Beach where debris has been cleared to provide access.



5. View to south of walkway near Scott Beach; debris has been cleared since last seen.

CANEEL BAY EE/CA INVESTIGATION DAILY PROGRESS REPORT					
Date:	2/25/2021				
VHB Reporter:	Ben Deede	Time on-site:	740	Time Off-site:	1400
Weather:	Morning			Afternoon	
	70-90 deg F			70-90 deg F	
	Mostly sunny			Mostly sunny	
	NA				
Other On-Site Personnel					
<i>National Park Service (NPS):</i>		NA			
<i>VHB:</i>		Bob Osborne			
<i>Subcontractors:</i>		NA			
<i>Caneel Bay Representative:</i>		NA			
Activities					
<i>Groundwater</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Borings</i>	<i>In-progress:</i>	NA			
	<i>Completed:</i>	NA			
	<i>Discrete Samples:</i>	NA			
	<i>Notes:</i>	NA			
<i>ISM Samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Lead-based paint soil samples</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
<i>Asbestos Survey</i>	<i>Notes:</i>	NA			
<i>GPR and EMI Survey</i>	<i>Notes:</i>	NA			
<i>IDW</i>	<i>Sampled:</i>	NA			
	<i>Notes:</i>	NA			
Safety Briefing Performed?		NA			

<i>Other Reportable Activities, Problems/Deviations, Required Follow-Up</i>	
<p>The VHB field crew met with Nigel Fields to provide an update on the fieldwork performed and expectations for receiving data. The key for the landfill monitoring well, MW-3-01, was left with Nigel Fields.</p> <p>Equipment and sampling supplies were moved out of storage at the Virgin Islands National Park visitor center and the Caneel Bay Resort. Equipment was shipped back to VHB and the equipment rental company. Select supplies were left in the Park Natural Resource Management storage area, per discussions with Thomas Kelley.</p> <p>All remaining samples were shipped to appropriate laboratories for analysis. All previously shipped coolers arrived today at the TestAmerica Canton laboratory.</p>	
<i>Shipping</i>	
<i>Cooler destinations, COC numbers</i>	Seven coolers with the remaining samples were shipped to the Test American Canton (4), Pittsburgh (2), and Lancaster (1) labs.
<i>Photographs</i>	
<p>No photographs were taken today</p>	



Appendix 4 – Calibration Sheets

\\whb\gb\proj\Montpelier\58345.21 NPS Caneel Bay Resort\Reports\2021-02 EECA Planning Documents\EECA
SAP\Appendices\Appendix 1 - Field Forms\PID calibration sheet.doc

The Johnson Company, Inc.
100 State Street, Suite 600
Montpelier, VT 05602

AR001496
Phone (802) 229-4600
Fax: (802) 229-5876
www.johnsonco.com

YSI CALIBRATION SHEET

Job Name: <i>NPS - Caneel Bay Resort site</i> Job #: <i>58345.21</i> YSI #: <i>Pine# 16638</i> Serial #: <i>10M100158</i>													
Brand of Standard		-----	YSI	Oakton	Oakton	Oakton	Oakton	Oakton	YSI	YSI	YSI	Oakton	
Lot #		-----	-	<i>6/21</i>	-		<i>10/22</i>	<i>6/22</i>	<i>5/31</i>	-	-	<i>670227</i>	
Expiration Date		-----	-	<i>066745</i>	-		<i>06J904</i>	<i>06F660</i>	<i>06H1018</i>	-	-	<i>3/21</i>	
Date	Time	Initials	YSI Temp. - °C	Specific Cond. 1.413 ms/cm	Specific Cond. ms/cm	pH 7.00	pH 4.01	pH 10.00	ORP-Zobell Solution (200-275mV)	Barometric Pressure (mmHg)	100% D.O. (%) (mg/L)		Zero O ₂ Solution (mg/L)
Calibration	<i>2-22-21</i>	<i>1620</i>	<i>TR0</i>	<i>26.34</i>	<i>1.413</i>	<i>7.00</i>	<i>4.01</i>	<i>10.00</i>	<i>229.5</i>	<i>713.9</i>	<i>100.5</i>	<i>8.04</i>	
End of Day Check	-	-	-	-	-	-	-	-	-	-	-	-	-
Calibration	<i>2-23-21</i>	<i>1000</i>	<i>TR0</i>	<i>27.41</i>	<i>1.413</i>	<i>7.00</i>	<i>4.01</i>	<i>10.02</i>	<i>228.0</i>	<i>766.9</i>	<i>100.9</i>	<i>7.82</i>	<i>0.54</i>
End of Day Check													
Calibration													
End of Day Check													
Calibration													
End of Day Check													
Calibration													
End of Day Check													
Calibration													
End of Day Check													
Calibration													
End of Day Check													
Calibration													
End of Day Check													

NIST Certified Thermometer Check (Date/Results): _____ (must be completed at least once per year)

VHB
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Montpelier, VT 05602

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Fax: (802) 229-5876
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TURBIDITY METER CALIBRATION SHEET						
Job Name: Caneel Bay Resort Site				Job #: 58345.21		
Equipment ID: HACH				Serial #: 18090C069362 / Pine# 043966		
Brand of Standard		HACH	→			
Lot #		A0304	A0304	A0296	A0268	Comments
Expiration Date:		10/2/22	2/22	800/1/22	1/22	
Date	Time	Initials	15 NTU Value	100 NTU Value	250 NTU Value	
2-22-21	1610	TRO	10.1	990	791	20.2
2-23-21	0840	TRO	10.2	98.9	790	19.7