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Final

No Action / No Further Action Decision Document PI 7, PAOC Q, and PAOC R

Former Vieques Naval Training Range (VNTR) Vieques, Puerto Rico

Prepared for

Department of the Navy

NAVFAC ATLANTIC

Contract No.
N62470-08-D-1000
CTO-113

September 2011

Prepared by

CH2MHILL®

ES020811222434 1TPA

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Former Vieques Naval Training Range Vieques, Puerto Rico

Contract Task Order 113

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Prepared for

Department of the Navy
Naval Facilities Engineering Command
Atlantic

Under the

NAVFAC CLEAN 1000 Program
Contract N62470-08-D-1000

Prepared by

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Tampa, Florida

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Acronyms and Abbreviations

amsl	above mean sea level
B(a)P	Benzo(a)pyrene
B(b)F	Benzo(b)fluoranthene
bgs	below ground surface
bls	below land surface
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CLEAN	Comprehensive Long-term Environmental Action—Navy
CLP	Contract Laboratory Program
COPC	constituent of potential concern
CPC	Navy's Central Processing Center
CSM	conceptual site model
DAF	dilution attenuation factor
D(a,h)A	dibenz(a,h)anthracene
DDE	dichlorodiphenyldichloroethene
DDT	dichlorodiphenyltrichloroethane
DRO	diesel range organics
EBS	Environmental Baseline Survey
ELCR	excess lifetime cancer risk
EPA	United States Environmental Protection Agency
EPC	exposure point concentration
EQB	Environmental Quality Board
ERI	Environmental Research Inc.
ESI	Expanded Site Investigation
FID	flame ionization detector
ft	foot or feet
ft^2	square feet
GPS	Global Positioning System
GRO	Gasoline Range Organics
HHRA	Human Health Risk Assessment
HI	Hazard Index
HQ	hazard quotient
I(123cd)P	indeno(1,2,3-cd)pyrene
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
MCL	maximum contaminant level

mg/kg	milligrams per kilogram
mm	millimeter
MS/MSD	matrix spike / matrix spike duplicate
MW	Monitoring Well
NAVFAC	Naval Facilities
Navy	United States Navy
NFA	no further action
PA	Preliminary Assessment
PA/SI	Preliminary Assessment/Site Inspection
PAOC	potential area of concern
PCB	polychlorinated biphenyl
PI	photo identified
PID	Photoionization detector
Ppm	parts per million
PREQB	Puerto Rico Environmental Quality Board
ProUCL	statistical software that calculates UCL
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
RSL	Regional Screening Level
SAP	Sampling and analysis plan
SB	subsurface soil sample
SI	Site Investigation
SOP	standard operating procedures
SS	surface soil sample
SSL	soil screening level
SVOC	semivolatile organic compound
SW	surface water sample
TAL	Target Analyte List
TCL	Target Compound List
TPH	total petroleum hydrocarbon
UCL	Upper Confidence Limit
UFP-SAP	Unified Federal Policy Sampling and Analysis Plan
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UTL	upper tolerance limits
UXO	unexploded ordnance
VNTR	Vieques Naval Training Range
VOC	volatile organic compound

Declaration

The United States Department of the Navy (US Navy), in partnership with the United States Environmental Protection Agency (USEPA), Puerto Rico Environmental Quality Board (PREQB), and United States Department of Interior Fish and Wildlife Service (USFWS), has determined, based on the information contained within this Decision Document, that no further investigative activities are warranted and that no action or no further action is necessary to be protective of human health and the environment at the following site screening areas:

- PI 7 - Former Quarry, Tar Drum Disposal Area, and Radar Communication Area
- PAOC Q - Former Boiler Room in Heat Plant Building 607
- PAOC R - Former Boiler Room in Heat Plant Building 617

9/8/2011

Kevin Cloe, US Navy Remedial Project Manager — Date

Declaración

El Departamento de la Marina de los Estados Unidos (La Marina), junto con la Agencia de Protección Ambiental (USEPA por sus siglas en inglés), la Junta de Calidad Ambiental de Puerto Rico (JCA), y el Servicio de Pesca y Vida Silvestre del Departamento del Interior de los Estados Unidos (USFWS por sus siglas en inglés), ha determinado, en base a la información que se encuentra en este Record de Decisión, que no se necesita más acción o ninguna acción adicional para proteger la salud humana y el ambiente en las siguientes áreas del sitio que fueron evaluadas:

- PI 7 – Antigua Cantera, Área de Disposición de Barriles de Brea, Área del Radar de Comunicación
- PAOC Q – Antiguo Cuarto de Calderas de la Planta de Calefacción- Edificio 607
- PAOC R – Antiguo Cuarto de Calderas de la Planta de Calefacción- Edificio 617

9/8/2011

Kevin Cloe, Gerente de Proyectos de Remediación de la Marina — Fecha

Declaration

The United States Department of the Navy (US Navy), with the United States Environmental Protection Agency (USEPA), Puerto Rico Environmental Quality Board (PREQB), and United States Department of Interior Fish and Wildlife Service (USFWS), have determined, based on the information contained within this Decision Document, that no further investigative activities are warranted and that no action or no further action is necessary to be protective of human health and the environment at the following site screening areas:

- PI 7 - Former Quarry, Tar Drum Disposal Area, and Radar Communication Area
- PAOC Q - Former Boiler Room in Heat Plant Building 607
- PAOC R - Former Boiler Room in Heat Plant Building 617

9/13/2011

Daniel Rodriguez, USEPA Remedial Project Manager Date

Declaración

El Departamento de la Marina de los Estados Unidos (La Marina), junto con la Agencia de Protección Ambiental (USEPA por sus siglas en inglés), la Junta de Calidad Ambiental de Puerto Rico (JCA), y el Servicio de Pesca y Vida Silvestre del Departamento del Interior de los Estados Unidos (USFWS por sus siglas en inglés), han determinado, en base a la información que se encuentra en este Record de Decisión, que no se necesita más acción o ninguna acción adicional para proteger la salud humana y el ambiente en las siguientes áreas del sitio que fueron evaluadas:

- PI 7 - Antigua Cantera, Área de Disposición de Barriles de Brea, Área del Radar de Comunicación
- PAOC Q - Antiguo Cuarto de Calderas de la Planta de Calefacción- Edificio 607
- PAOC R - Antiguo Cuarto de Calderas de la Planta de Calefacción- Edificio 617

9/13/2011

Daniel Rodríguez, Gerente de Proyectos de Remediación de USEPA — Fecha

Declaration

The United States Department of the Navy (US Navy), in partnership with the United States Environmental Protection Agency (USEPA), Puerto Rico Environmental Quality Board (PREQB), and United States Department of Interior Fish and Wildlife Service (USFWS), has determined, based on the information contained within this Decision Document, that no further investigative activities are warranted and that no action or no further action is necessary to be protective of human health and the environment at the following site screening areas:

- PI 7 - Former Quarry, Tar Drum Disposal Area, and Radar Communication Area
- PAOC Q - Former Boiler Room in Heat Plant Building 607
- PAOC R - Former Boiler Room in Heat Plant Building 617

Wilmarie Rivera 9/9/11

Wilmarie Rivera, PREQB Remedial Project Manager Date

Declaración

El Departamento de la Marina de los Estados Unidos (La Marina), junto con la Agencia de Protección Ambiental (USEPA por sus siglas en inglés), la Junta de Calidad Ambiental de Puerto Rico (JCA), y el Servicio de Pesca y Vida Silvestre del Departamento del Interior de los Estados Unidos (USFWS por sus siglas en inglés), ha determinado, en base a la información que se encuentra en este Record de Decisión, que no se necesita más acción o ninguna acción adicional para proteger la salud humana y el ambiente en las siguientes áreas del sitio que fueron evaluadas:

- PI 7 – Antigua Cantera, Área de Disposición de Barriles de Brea, Área del Radar de Comunicación
- PAOC Q – Antiguo Cuarto de Calderas de la Planta de Calefacción- Edificio 607
- PAOC R – Antiguo Cuarto de Calderas de la Planta de Calefacción- Edificio 617

Wilmarie Rivera 9/9/11

Wilmarie Rivera, Gerente de Proyectos de Remediación de JCA Fecha

Declaration

The United States Department of the Navy (US Navy), in partnership with the United States Environmental Protection Agency (USEPA), Puerto Rico Environmental Quality Board (PREQB), and United States Department of Interior Fish and Wildlife Service (USFWS), has determined, based on the information contained within this Decision Document, that no further investigative activities are warranted and that no action or no further action is necessary to be protective of human health and the environment at the following site screening areas:

- PI 7 – Former Quarry, Tar Drum Disposal Area, and Radar Communication Area
- PAOC Q – Former Boiler Room in Heat Plant Building 607
- PAOC R – Former Boiler Room in Heat Plant Building 617

Richard Henry 9/14/2011

Richard Henry, USFWS Remedial Project Manager Date

Declaración

El Departamento de la Marina de los Estados Unidos (La Marina), junto con la Agencia de Protección Ambiental (USEPA por sus siglas en inglés), la Junta de Calidad Ambiental de Puerto Rico (JCA), y el Servicio de Pesca y Vida Silvestre del Departamento del Interior de los Estados Unidos (USFWS por sus siglas en inglés), ha determinado, en base a la información que se encuentra en este Record de Decisión, que no se necesita más acción o ninguna acción adicional para proteger la salud humana y el ambiente en las siguientes áreas del sitio que fueron evaluadas:

- PI 7 – Antigua Cantera, Área de Disposición de Barriles de Brea, Área del Radar de Comunicación
- PAOC Q – Antiguo Cuarto de Calderas de la Planta de Calefacción- Edificio 607
- PAOC R – Antiguo Cuarto de Calderas de la Planta de Calefacción- Edificio 617

Richard Henry, Gerente de Proyectos de Remediación de USFWS

9/19/2011
Fecha

Executive Summary

This Decision Document provides formal concurrence among the stakeholder agencies (United States Navy [Navy], United States Environmental Protection Agency [USEPA] Region 2, Puerto Rico Environmental Quality Board [PREQB], and United States Fish and Wildlife Service [USFWS]) that no action/no further action is necessary at three sites located within the former Vieques Naval Training Range (VNTR) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Figure ES-1 shows the geographic location of Vieques, including the former VNTR, in relation to mainland Puerto Rico and the surrounding islands. The locations of the sites contained within this Decision Document are shown in Figure ES-2. The sites included in this Decision Document are:

- PI 7 – Former Quarry, Tar Drum Disposal Area, and Radar Communication Area
- PAOC Q – Former Boiler Room in Heat Plant Building 607
- PAOC R – Former Boiler Room in Heat Plant Building 617

The no action determinations made for these sites is based on an understanding of historical site uses, potential contaminant sources, and potential CERCLA-related release mechanisms; site visit observations; and collection and evaluation of site-specific environmental media samples. Table ES-1 summarizes the information upon which the no action/no further action determinations have been made for each of the sites. More detailed discussion is presented in each of the site-specific sections contained in this Decision Document.

NOTE: THIS SUMMARY IS PRESENTED IN ENGLISH AND SPANISH FOR THE CONVENIENCE OF THE READER. EVERY EFFORT HAS BEEN MADE FOR THE TRANSLATIONS TO BE AS ACCURATE AS REASONABLY POSSIBLE. HOWEVER, READERS SHOULD BE AWARE THAT THE ENGLISH VERSION OF THE TEXT IS THE OFFICIAL VERSION.

NOTA: ESTE RESUMEN SE PRESENTA EN INGLÉS Y EN ESPAÑOL PARA LA CONVENIENCIA DEL LECTOR. SE HA HECHO TODO LO POSIBLE PARA QUE LA TRADUCCIÓN SEA PRECISA EN LO MÁS RAZONABLEMENTE POSIBLE. SIN EMBARGO, LOS LECTORES DEBEN ESTAR AL TANTO QUE EL TEXTO EN INGLÉS ES LA VERSIÓN OFICIAL.

Resumen Ejecutivo

Este Documento de Decisión establece el acuerdo formal entre las agencias interesadas (Marina de los Estados Unidos [Marina], Agencia de Protección Ambiental de los Estados Unidos [USEPA] Región 2, la Junta de Calidad de Puerto Rico [PREQB], y el Servicio de Pesca y Vida Silvestre de los Estados Unidos [USFWS]) de que no se necesita acción/ninguna acción adicional en tres sitios localizados dentro del Campo de Adiestramiento Naval de Vieques (VNTR) bajo la Ley Abarcadora de Respuesta Ambiental, Compensación y Responsabilidad (CERCLA). La Figura ES-1 muestra la ubicación geográfica de Vieques, incluyendo el antiguo VNTR, en relación con Puerto Rico y las islas que le rodean. Las ubicaciones de los sitios que se discuten en este Documento de Decisión se muestran en la Figura ES-2. Los sitios que se incluyen en este Documento de Decisión son:

- PI 7 – Antigua Cantera, Área de Disposición de Envases de 55 galones con rea , y Área de Comunicaciones del Radar
- PAOC Q – Antiguo Cuarto de Calderas de la Planta de Calor en el Edificio 607
- PAOC R – Antiguo Cuarto de Calderas de la Planta de Calor en el Edificio 617

La determinación de no acción que se ha tomado para estos sitios se basa en el conocimiento de los usos históricos de los sitios, fuentes de contaminación potenciales, y mecanismos de escapes potenciales relacionados a CERCLA; observaciones durante visitas a los sitios; y obtención y evaluación de muestras de medios ambientales de cada sitio especifico. La Tabla ES-1 resume la información por la cual se llegó a la determinación de no acción/ninguna acción adicional para cada uno de los sitios. Discusiones más detalladas se presentan en cada una de las secciones específicas para cada sitio que incluye este Documento de Decisión.

NOTE: THIS SUMMARY IS PRESENTED IN ENGLISH AND SPANISH FOR THE CONVENIENCE OF THE READER. EVERY EFFORT HAS BEEN MADE FOR THE TRANSLATIONS TO BE AS ACCURATE AS REASONABLY POSSIBLE. HOWEVER, READERS SHOULD BE AWARE THAT THE ENGLISH VERSION OF THE TEXT IS THE OFFICIAL VERSION.

NOTA: ESTE RESUMEN SE PRESENTA EN INGLÉS Y EN ESPAÑOL PARA LA CONVENIENCIA DEL LECTOR. SE HA HECHO TODO LO POSIBLE PARA QUE LA TRADUCCIÓN SEA PRECISA EN LO MÁS RAZONABLEMENTE POSIBLE. SIN EMBARGO, LOS LECTORES DEBEN ESTAR AL TANTO QUE EL TEXTO EN INGLÉS ES LA VERSIÓN OFICIAL.

Table ES-1
Summary of Conclusions and Recommendations
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Site Name	Site Description	Site History	Potential Source(s)	Potential Release Mechanism(s)	Site-specific Data Collected	Results of 7-step Decision Analysis	Rationale for No Action/No Further Action Determination
PI 7	Former Quarry, Tar Drum Disposal Area, Radar Communication Area	Three physically separate areas - former radar communication facility to the north; defunct rock quarry in the central area; and an area where drums containing tar residues were observed	Debris in former radar communication facilities; drums and debris in quarry and area to the south	Spills or leaks to the ground surface	3 co-located surface soil and subsurface soil samples around debris observed at the former radar communication facility location; 6 co-located surface soil and subsurface soil samples, 6 additional surface soil samples, and 1 monitoring well around drums and debris within the former quarry; 10 co-located surface and subsurface soil samples, 2 additional surface soil samples, and 2 monitoring wells around drums and debris in the tar drum disposal area; 19 surface and 19 subsurface confirmatory soil samples beneath drums following drum and contaminated soil removal	Data suggest potential source areas were sufficiently characterized	Drum and contaminated soil removal eliminates past releases and potential future sources of contamination; data for soil within former radar communication facility and former quarry, and post drum/soil removal data within the drum disposal areas suggest that soil concentrations do not pose an unacceptable risk to human or ecological receptors or leaching concern for groundwater. Groundwater data suggest groundwater concentrations do not pose an unacceptable risk under a potable use scenario.
PAOC Q	Former Boiler Room in Heat Plant Building 607	Boiler room in building constructed in 1963 and demolished in 1984	Boilers	Spills or leaks to ground surface	1 co-located surface and subsurface soil sample; one additional surface soil sample	Data suggest potential source area was sufficiently characterized	Data suggest there has not been a CERCLA-related release or, if a release occurred, it has not resulted in soil contamination at concentrations that would pose a potentially unacceptable risk to human or ecological receptors or leaching concern for groundwater.
PAOC R	Former Boiler Room in Heat Plant Building 617	Boiler rooms in building constructed in 1970 and demolished in 1984	Boilers	Spills or leaks to ground surface	1 co-located surface and subsurface soil sample, 1 additional surface soil sample	Data suggest potential source area was sufficiently characterized	Data suggest there has not been a CERCLA-related release or, if a release occurred, it has not resulted in soil contamination at concentrations that would pose a potentially unacceptable risk to human or ecological receptors or leaching concern for groundwater.

FIGURE ES-1
Regional Location Map
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

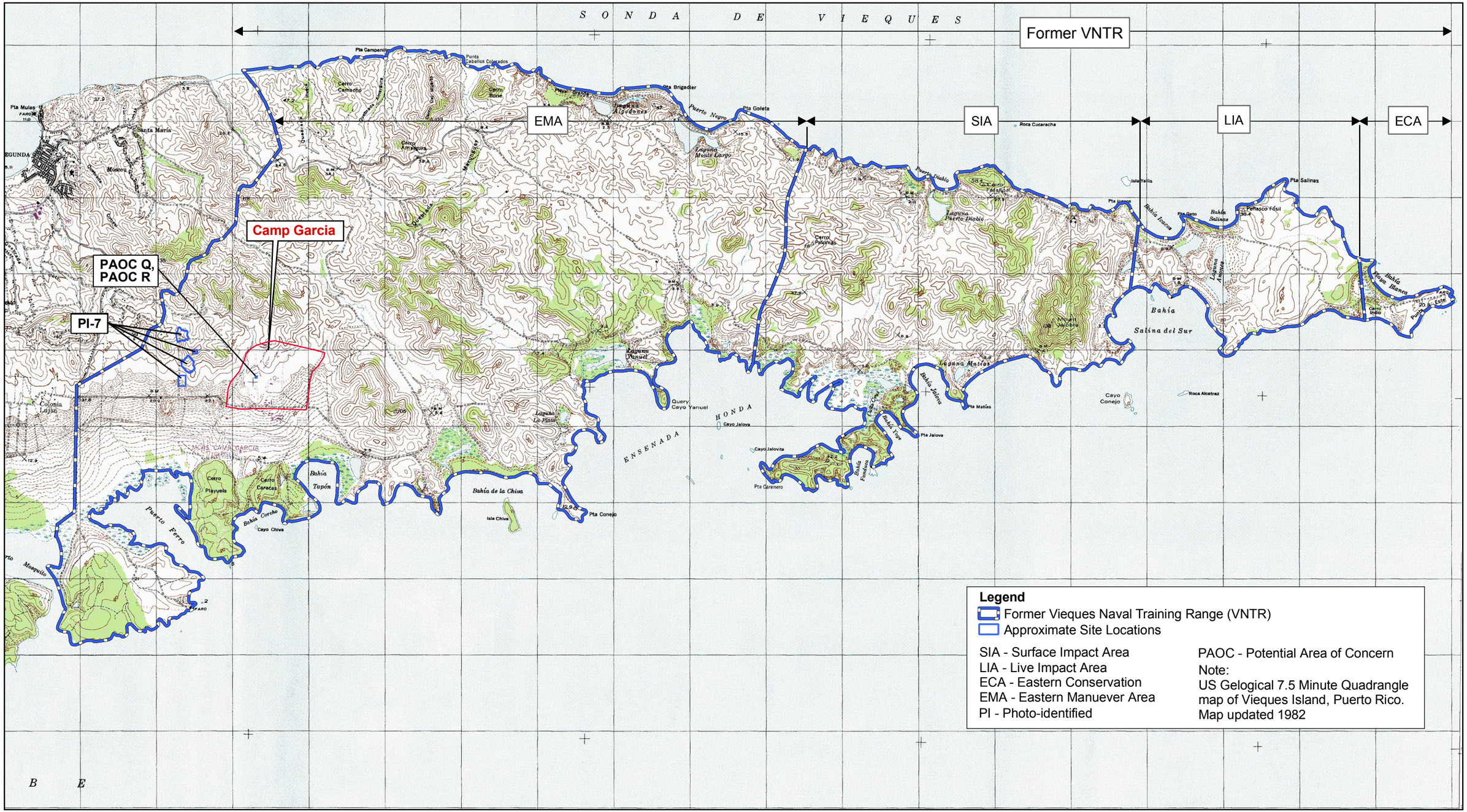

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FIGURE ES-2
Former VNTR Site Location Map
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

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SECTION 1

Introduction

This Decision Document provides formal concurrence among the stakeholder agencies (United States Navy [Navy], United States Environmental Protection Agency [USEPA] Region 2, Puerto Rico Environmental Quality Board [PREQB], and United States Fish and Wildlife Service [USFWS]) that no action/no further action is necessary at three sites located within the former Vieques Naval Training Range (VNTR) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Figure 1-1 shows the geographic location of Vieques, including the former VNTR, in relation to mainland Puerto Rico and the surrounding islands. The locations of the sites contained within this Decision Document are shown in Figure 1-2. The sites included in this Decision Document are:

- PI 7 – Former Quarry, Tar Drum Disposal Area, and Radar Communication Area
- PAOC Q – Former Boiler Room in Heat Plant Building 607
- PAOC R – Former Boiler Room in Heat Plant Building 617

PI 7 was investigated during the Environmental Baseline Survey (EBS) (2002), the Preliminary Assessment/Site Inspection (PA/SI) (2006), the Expanded Site Inspection (ESI) (2009), and the Supplemental Site Inspection/Expanded Site Inspection (Supplemental SI/ESI) (2010). Sites PAOC Q and PAOC R were investigated as part of the SI/ESI (2009) and the Supplemental SI/ESI (2010). The rationale for no further action at PI 7 and no action at sites PAOC Q and PAOC R is detailed in the *Final Site Inspection/Expanded Site Inspection Report Addendum, PI 7, PAOC Q, and PAOC R, Former Vieques Naval Training Range, Vieques, Puerto Rico* (CH2M HILL, 2011), hereafter referred to as the SI/ESI Report Addendum. The analytical data for these sites were evaluated via a decision analysis process that is depicted in **Figure 1-3**, which led to the no action/no further action determination for these sites.

The remainder of this Decision Document presents site-specific sections for each of the three sites for which no action/no further action has been concurred upon by the stakeholder agencies. Each section summarizes pertinent historical information for a site, followed by the rationale upon which the no action/no further action determination is based. Details of the Former VNTR including the facility description and environmental history are provided in the Final SI/ESI Report (CH2M HILL, 2010).

This No Action/No Further Action Decision Document was prepared by CH2M HILL under Navy Contract N62470-08-D-1000, Comprehensive Long-term Environmental Action – Navy (CLEAN 1000), Contract Task Order 113.

FIGURE 1-1
Regional Location Map
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

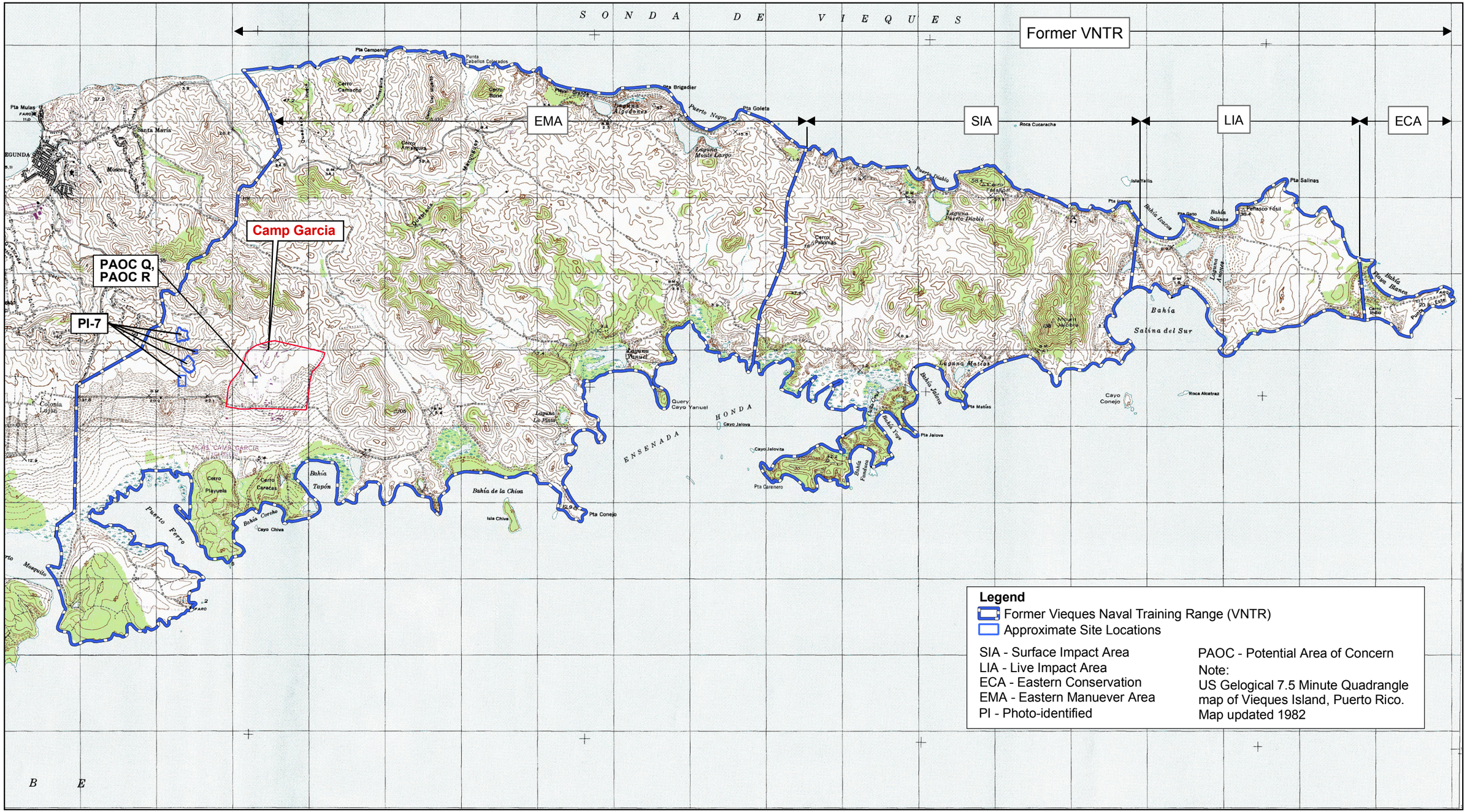

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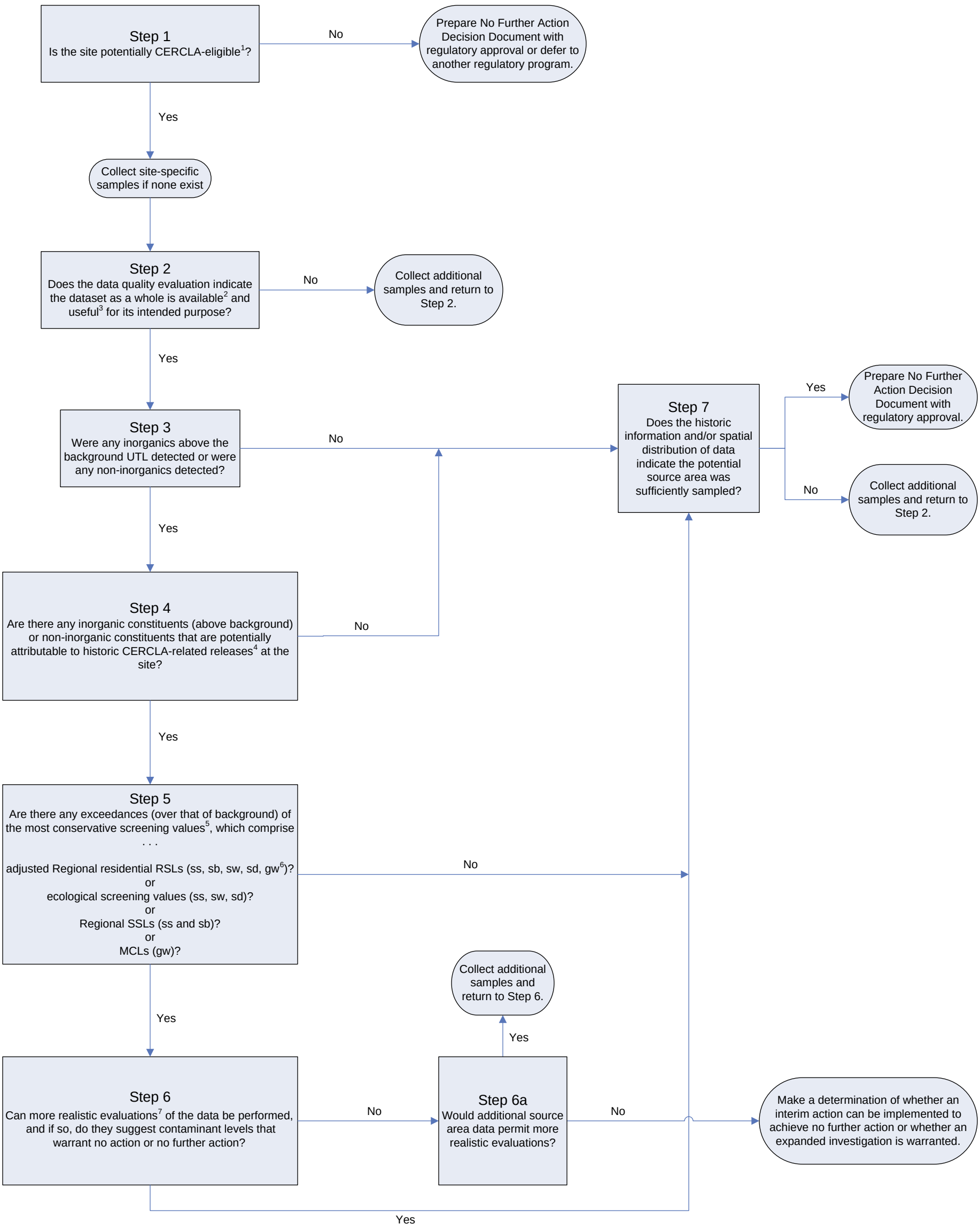
FIGURE 1-2
Former VNTR Site Location Map
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

CH2MHILL



Notes:
The decision makers associated with this decision tree are the Navy, USEPA, PREQB, and USFWS.

[1] Determination of CERCLA eligibility is described in Section 1 of the SI/ESI Report (August 2010)

[2] "Available" data are described in Section 1 of the SI/ESI Report (August 2010)

[3] "Useful" data are described in Section 1 of the SI/ESI Report (August 2010)

[4] CERCLA-related releases are defined in Section 1 of the SI/ESI Report (August 2010)

[5] For UST sites, PREQB Land Pollution Control Corrective Action Levels

[6] ss = surface soil; sb = subsurface soil; sw = surface water; sd = sediment; gw = groundwater

[7] Examples of the types of more realistic evaluations that may be performed are described in Section 1 of the SI/ESI Report (August 2010)

FIGURE 1-3
Data Evaluation Decision Tree
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

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SECTION 2

PI 7 – Former Quarry, Tar Drum Disposal Area, and Radar Communication Area

This section presents a summary of the pertinent historical information and rationale for the no further action determination for PI 7 – Former Quarry, Tar Drum Disposal Area, and Radar Communication Area at the former VNTR. The detailed evaluation of PI 7 presented below is primarily from the Final SI/ESI Report (CH2M HILL, 2010) and the SI/ESI Report Addendum (CH2M HILL, 2011), updated, as applicable with current regulatory screening criteria.

2.1 Conceptual Site Model

The CSM for PI 7 is based on review of historical information such as records, aerial photographs, site inspection documentation, as well as site-specific data collection.

2.1.1 Site Description and Potential Sources of Release

PI 7 is located approximately ¼-mile west of the western boundary of Camp Garcia (**Figure 1-2**). Historical information suggests the site was a former radar communication area, former quarry, and former tar drum disposal area. Results of the aerial photography study completed by Environmental Research, Inc. (ERI) in August 2000 showed that from 1959 through 1994, persistent ground scarring was evident at this location (NAVFACENGCOM, 2003).

PI 7 is divided into distinct subsections based on interviews, records, and site visits. The northern subsection, believed to be associated with a radar communication facility (**Figure 2-1**); the central subsection, formerly a quarry; and the southern subsection, which contained numerous drums, and is believed to be a former tar drum disposal area (**Figures 2-2 and 2-3**).

The northern subsection of PI 7 is located between two hills, one to the southwest, and one to the southeast. In September 2001, a site reconnaissance of the northern subsection was performed to visually identify surface features and better understand the site. A concrete slab was observed and photographed during the reconnaissance (**Figure 2-4B**).

A site visit to the central subsection (former quarry) was conducted in 2002 as part of the EBS (NAVFACENGCOM, 2003). Various debris items, such as utility poles, scrap metal, a rubber pipe, and concrete were observed during this site visit (**Figures 2-4A and 2-4C**).

In August 2005, a more detailed site reconnaissance was completed on the northern, central, and southern subsections of PI 7. The objectives of the 2005 site reconnaissance were to identify the locations of surface debris by visual inspection, identify subsurface metallic anomalies in the central and southern subsections using a metal detector, and verify the subsurface metallic anomalies in order to select appropriate PA/SI sampling locations. Based on the results of the 2005 site reconnaissance, the area for subsequent reconnaissance

was expanded in 2006 to cover areas east of the 2005 central subsection reconnaissance, and to cover the area between the central quarry subsection and the southern tar drum disposal area, as well as an approximate 100-foot-wide strip along the west side of the north-south road adjacent to the southern tar drum disposal area and central quarry subsection (**Figure 2-2**). The findings of the various site reconnaissance activities are summarized below.

As stated previously, historical information and site reconnaissance of the northern subsection of PI 7 suggest it is the location of a former radar station. The large, irregular area outlined in **Figure 2-1** is the boundary identified by the aerial photo analysis (ERI, 2000). During the August 2005 site reconnaissance, this area was searched, but the only object identified within the boundary was a telephone pole, whose location is shown on **Figure 2-1**. Further, the area identified by ERI was very hilly, which did not appear conducive for a radar communication facility. Because the area identified by ERI did not appear to be the location of any former structure, the field team expanded the site reconnaissance in an attempt to find the former radar communication facility. During this reconnaissance, it was determined that the former radar facility was actually located several hundred feet to the southeast of the area identified by ERI, as shown by the small rectangular area in **Figure 2-1**. At this location, rebar anchor loops and three 5-ft by 10-ft slabs of concrete were found at the locations identified in **Figure 2-1**. One of the concrete slabs is shown in **Figure 2-4B**.

Approximately 7.1 acres in the central subsection (quarry) of PI 7 were visually observed with the aid of a metal detector during the August 2005 site reconnaissance, as shown in **Figure 2-2**. The reconnaissance included areas outside the boundary identified by ERI because a subsurface anomaly was identified along both the southwestern and northwestern boundaries. Within the area evaluated, the reconnaissance team found 11 metallic subsurface anomalies, 4 surface debris items, and 3 empty 55-gallon drums, as shown in **Figure 2-2**. All subsurface metallic anomalies were unearthed with a shovel. None was identified to be a potential source of contamination. They were primarily iron-bearing rocks and small pieces of metal such as wire. Among the identified metallic debris were a drill bit, communication wire, steel wire, and two ordnance related scrap (M212 40mm cartridge cases from a M781 40mm practice grenade round).

Also during the 2005 site reconnaissance, the southern subsection of PI 7 was visually observed with the aid of a metal detector to confirm the presence of drums previously observed. The area reconnoitered and the items found are shown in **Figure 2-2**. Three debris piles were found in the center of the site. These piles consisted of approximately 10, 10, and 40 rusted 55-gallon drums along with other metal debris. Two smaller piles, consisting of approximately 2 and 5 drums and other metal debris, were also identified near the larger debris piles. In addition, 18 subsurface metallic anomalies were found. All subsurface metallic anomalies were unearthed with a shovel. Like the central subsection, none was identified to be a potential source of contamination.

Based on the results of the 2005 site reconnaissance, a second site reconnaissance was conducted in March 2006. This reconnaissance expanded the area evaluated in 2005, as shown in **Figure 2-2**. Twenty-nine pieces of mostly metallic surface debris were identified, two of which were rusted drums as shown in **Figure 2-2**. The majority of the debris consisted of metallic plates, sheets, mats, and pipes. No additional subsurface anomalies were identified during the expanded reconnaissance, likely because: 1) the soil cover was greater, keeping the metal detector farther away from the ferrous rocks that caused false

detections and/or 2) the intent of the survey was to find drums and potential sources of contaminant release, so using lessons learned from the first survey, the sensitivity of the metal detector was decreased just enough to no longer pick up ferrous rocks as had been the case in the quarry, or small bits of wire and bottle caps. In addition, both sides of the north-south road adjacent to the western side of the site, including the 100-foot-wide strip west of the road, were visually inspected for evidence of drums. No drums were observed.

As discussed above, miscellaneous surface debris, drums, and approximately 29 subsurface anomalies (11 in the central subsection and 18 in the southern subsection) were identified during the August 2005 reconnaissance. These locations were marked with flags and global positioning system (GPS) coordinates of each were taken. All subsurface anomalies were later dug up with a shovel by unexploded ordnance (UXO) trained personnel to identify the anomaly source. None of the subsurface items found, which consisted mainly of metal wire, screws, and rocks, was suspected of being a potential contaminant source. The 2006 reconnaissance identified additional, mostly metallic, surface debris and more drums. Other than the drums found within the former quarry and tar drum disposal area, none of the surface debris was suspected of being a potential contaminant source. Therefore, based on the above information, the primary potential sources of contamination identified for PA/SI sampling were the drums. In addition, as a conservative measure, the former radar communication facility and the area near the southern boundary of the central subsection (i.e., EBS sample location PI7-3) were identified as potential source areas for PA/SI sampling. For details on the 2005 and 2006 site reconnaissance activities, see Appendix Q of the Final PA/SI Report (CH2M HILL, 2008).

While the data collected during the PA/SI suggested there had not been a CERCLA-related release at the site that resulted in contamination of soil or groundwater that would pose a potentially unacceptable risk to human or ecological receptors, it was recognized that the drums represented a potential future source of a CERCLA-related release. Therefore, as a precautionary measure, the drums were removed during the 2009 ESI, as summarized below.

In accordance with the Final SI/ESI Sampling and Analysis Plan (SAP) (CH2M HILL, 2009), 170 crushed drums, stained or containing tar, were removed from nine distinct areas (Area 1 through Area 9, as shown in **Figures 2-2 and 2-3**). Areas 1 through 5 (**Figures 2-2 and 2-3**) required excavation, to depths ranging from 1 to 5 ft bgs, to ensure all drums were removed (**Figure 2-5A through 2-5C**). Additionally at these five areas, soil contaminated with tar was excavated. The excavation activities resulted in the removal of soil represented by PA/SI (2006) samples SS03, SS04, SS06 and SS09. At Areas 6 through 9, a path was cut and the drums were manually extracted. No excavation was required in these locations. All drums and soil were staged in covered rolloffs, or covered on plastic sheeting, for subsequent offsite transport and disposal (**Figure 2-5C through 2-5E**).

Following the initial excavation activities at Areas 1 through 5, the area was visually scanned for any evidence of residual soil contamination. Based on observations made, a few isolated areas of tar-stained soil were removed.

Once the area was cleared of drums, tar, and tar-stained soil, a site reconnaissance was performed within the large area of drum removal using a Schondstedt magnetic locator. A small quantity of metal debris and four additional drums, one in Area 1 and three in Area 4,

were identified and removed. The total number of drums removed from PI 7 during the ESI was 174. As a result of the removal activities, potential future sources of contamination at the site were eliminated.

Figures 2-5A through E and H show the drum and contaminated soil removal activities. **Figure 2-5I** shows the post-removal site conditions. Drums with tar and tar-stained soil were disposed of at the Peñuelas Valley Landfill in Peñuelas, Puerto Rico. Additionally, minor scrap metal (sheet metal, etc.) identified on the site was transported to the Navy Central Processing Center (CPC) for disposal. For more details regarding the disposal of debris, drums, and soil, see Investigation-Derived Waste Disposal Information, Appendix J.1 of the Final SI/ESI Report (CH2M HILL, 2010).

2.1.2 Investigation History

EBS Soil Sampling

Four surface soil samples were collected within the former quarry area during the EBS (2002) (NAVFACENGCOM, 2003) in the vicinity of surficial debris (PI7-1 through PI7-4 in **Figure 2-2**) and analyzed for Appendix IX volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, herbicides, polychlorinated biphenyls (PCBs), inorganics; and explosives, including perchlorate. Surface soil sample locations were chosen because they were at the base of the slope near the edge of the site (as it was delineated in 2002).

PA/SI Soil Sampling and Groundwater Monitoring Well Installation and Sampling

During the PA/SI (2006), three co-located surface soil and subsurface soil samples were collected within the former radar communication area, five co-located surface soil and subsurface soil samples (and two additional surface soil samples) were collected within the former quarry, and ten co-located surface soil and subsurface soil samples (and two additional surface soil samples) were collected in the former tar drum disposal area. Additionally, one monitoring well was installed in the former quarry and two wells were installed in the former tar drum disposal area (**Figures 2-2 and 2-3**). All samples were analyzed for Target Compound List (TCL) VOCs, SVOCs, pesticides, and PCBs; and Target Analyte List (TAL) inorganics. No flame ionization detector (FID) readings significantly above background were observed in the soil borings (see Soil Boring Logs, Appendix D of the Final PA/SI Report (CH2M HILL, 2008)); therefore, subsurface soil samples were collected at default depths (or refusal, whichever was encountered first) in accordance with the work plan (see Table 2-1 of the Final PA/SI Report (CH2M HILL, 2008) for subsurface soil sample depths). Details on sampling within each area of PI 7 are provided below.

For the northern subsection (former radar communication facility), one surface soil sample and one subsurface soil sample were collected at each of the three surficial feature areas identified during the August 2005 site reconnaissance, as shown in **Figure 2-1**.

For the central subsection (former quarry), two surface and two subsurface soil samples were collected at the location of the two empty 55-gallon drums identified during the August 2005 site reconnaissance (SS/SB15 and SS/SB16 in **Figure 2-2**). The more southern of these two borings was completed as a monitoring well (EPI07-MW03). Four surface soil samples and two subsurface samples (SS/SB11, SS12, SS13, and SS/SB14 in **Figure 2-2**) were

collected around EBS sample PI7-3 to further delineate the extent of constituents previously detected at this location. Two additional subsurface samples (SB12 and SB13) were planned, but bedrock was encountered in these two borings at 1 ft bgs. One additional surface and subsurface soil sample (SS/SB21) was collected adjacent to the individual empty drum identified in the second (2006) reconnaissance.

Based on the descriptions of the debris identified south of the former quarry, 10 surface and subsurface soil samples (SS/SB01 through SS/SB10 in **Figure 2-3**) were collected around the debris areas. In addition, because of the number of drums found in the area, two of the soil borings were completed as monitoring wells (EPI07-MW01 and EPI07-MW02). The remaining two surface soil samples (SS20 and SS22 in **Figure 2-2**) were taken alongside individual rusted empty drums identified during the second (2006) reconnaissance. All surface and subsurface soil and groundwater samples were analyzed for TCL VOCs, SVOCs, pesticides, and PCBs; and TAL inorganics.

ESI Soil Sampling

Following drum removal and excavation and removal of contaminated soil, confirmatory soil samples were collected from the 6-inch interval immediately beneath the drums (**Figures 2-2 and 2-3**) in accordance with the confirmatory sample collection criteria detailed in the SI/ESI SAP (CH2M HILL, 2009). Because tar-stained soil was found at various locations throughout the site, subsurface soil samples were collected in these areas in accordance with the Soil Sample Depth Selection Criteria Protocol in the Master Quality Assurance Project Plan (QAPP) (CH2M HILL, 2007a). Nineteen soil borings were installed at PI 7, as detailed below, at the locations shown on **Figures 2-2 and 2-3**.

At Area 1, where 114 drums were removed, six soil borings (SS/SB32 through SS/SB37) were installed. Within Area 1, photoionization detector (PID) readings were observed from 0.0 ppm to 57.6 ppm (SO37). Therefore, the subsurface soil sample was collected at the interval where indicators for contamination (i.e. odor, elevated PID readings) were strongest. See Table 2-1 for soil sample depths, and site-specific boring logs in Appendix A of the Final SI/ESI Report (CH2M HILL, 2010).

In Area 2, where 20 drums were removed, three soil borings (SS/SB29 through SS/SB31) were installed. Within Area 2, PID readings were observed from 0.0 ppm to 0.2 ppm (SO31), which is not significantly above background. Therefore, the subsurface soil samples were collected at the default depth in general accordance with the SI/ESI SAP. At SO30 and SO31, the subsurface soil samples were collected in the 1.5 ft interval above refusal (5.5 and 3.5 ft bgs, respectively). See Table 2-1 for soil sample depths, and site-specific boring logs in Appendix A of the Final SI/ESI Report (CH2M HILL, 2010).

In Area 3, where 21 drums were removed, three soil borings (SS/SB26 through SS/SB28) were installed. Within Area 3, PID readings were observed to be 0.0 ppm at SO26 and SO27. Therefore, at these borings, the subsurface soil samples were collected at the default depth in accordance with the SI/ESI SAP. At SO28, PID readings were observed between 0.0 and 45.9 ppm. Therefore, in accordance with the protocol, the subsurface soil sample was collected at the interval where PID readings were highest (i.e., from 2 to 4 ft bgs). See Table 2-1 for soil sample depths, and site-specific boring logs in Appendix A of the Final SI/ESI Report (CH2M HILL, 2010).

In Area 4, where 10 drums were removed, two soil borings (SS/SB24 and SS/SB25) were installed. Within Area 4, PID readings were observed to be 0.0 and 2.4 ppm which is not significantly above background. At SO24, the subsurface soil sample was collected at the default depth in accordance with the SI/ESI SAP. At SO25, the subsurface soil sample was inadvertently collected from 2 to 3 ft bgs instead of the default depth of 4 to 6 ft bgs. See Table 2-1 for soil sample depths, and site-specific boring logs in Appendix A of the Final SI/ESI Report (CH2M HILL, 2010).

In Area 5, where 3 drums were removed, one soil boring (SS/SB23) was installed. At SO23, PID readings were observed between 0.0 and 5.7 ppm, which is not significantly above background. Therefore, at these borings, the subsurface soil samples were collected at the default depth in accordance with the SI/ESI SAP. See Table 2-1 for soil sample depths, and site-specific boring logs in Appendix A of the Final SI/ESI Report (CH2M HILL, 2010).

In Areas 6 through 9, where drums (one each at Areas 6 and 7, two each at Areas 8 and 9) were removed, one soil boring (SS38 through SS41) was installed in each area using a hand auger. Because refusal was reached between 0.8 and 1.0 ft bgs at SO38 (Area 6), SO39 (Area 9), and SO41 (Area 8), only surface soil samples were collected in these locations. At SO40 (Area 7), refusal was reached at 1.5 ft bgs; therefore, the subsurface soil sample interval was from 0.5 to 1.5 ft bgs. See Table 2-1 for soil sample depths, and site-specific boring logs in Appendix A of the Final SI/ESI Report (CH2M HILL, 2010).

All ESI soil samples were analyzed for TCL VOCs and SVOCs, and TAL inorganics.

Supplemental SI/ESI Soil Sampling

As discussed in Section 12 of the Final SI/ESI Report (CH2M HILL, 2010), the data from the tar drum disposal area and radar communication area suggested those areas warrant no further action or investigation. In fact, it was only the detected concentrations of several polycyclic aromatic hydrocarbons (PAHs) in one historical sample, collected within the former quarry area during the 2002 Environmental Baseline Survey (EBS), that suggested the soil in that area may pose a potentially unacceptable human health risk. However, it was noted that the sample data were more than 7 years old and that other samples in the same general vicinity did not contain elevated PAHs. Therefore, the location of the historical sample with elevated PAH concentrations was re-sampled during the Supplemental SI/ESI sampling event to determine current conditions and associated potential risks.

During the Supplemental SI/ESI in 2010, one co-located surface and subsurface soil sample was collected using a slide hammer at the location of former sample PI7-3 (i.e., SS/SB42 in **Figure 2-2**). The surface soil sample was collected from 0 to 1 ft bgs. Refusal was reached at 1.5 ft bgs; therefore, the subsurface soil sample interval was from 1 to 1.5 ft bgs. See Appendix A of the SI/ESI Report Addendum (CH2M HILL, 2011) for the site-specific boring log. Both samples were analyzed for select SVOCs because PAHs were the only contaminants of potential concern identified in the SI/ESI Report as potentially contributing to unacceptable human health risk at this location. This sampling protocol was in accordance with the Final SI/ESI Report (CH2M HILL, 2010).

Raw analytical data for the EBS (2002) samples are provided in Appendix F of the Environmental Baseline Survey Report (NAVFACENGCOM, 2003). Raw analytical data for PA/SI (2006) samples are provided in Appendix O of the Final PA/SI Report (CH2M HILL,

2008). Raw analytical data for the ESI (2009) samples are provided in Appendix K of the Final SI/ESI Report (CH2M HILL, 2010). Raw analytical data for the Supplemental ESI (2010) samples are provided in Appendix B of the SI/ESI Report Addendum (CH2M HILL, 2011).

Tables 2-1 through 2-3 summarize the constituents detected in PI 7 surface soil, subsurface soil, and groundwater samples, respectively, collected during the EBS (2002), PA/SI (2006), ESI (2009), and Supplemental ESI (2010). The tables also identify screening criteria exceedances. As a conservative approach, sample SB40 is included in the screening tables (**Tables 2-1 and 2-2**) to represent both surface and subsurface soil data given the interval from which it was collected. Note that the groundwater data from the upgradient well at PAOC N (EPAN-MW02), which is also within the KTd formation, were used for background comparison to the groundwater data collected at PI 7.

2.1.3 Physical Setting

The description of the site's physical setting is based on site reconnaissance activities conducted in 2001 (brief recon of 23 PI sites), 2002 (EBS), 2005 and 2006 (site reconnaissance for the PA/SI), and 2009 (ESI), as well as on regional information.

The site is relatively hilly, sloping generally to the south and dropping approximately 250 ft from the northern subsection to the southern subsection. No federally protected species or preferred habitats are present at the site. For more information on the ecological survey, see Appendix P of the Final SI/ESI Report (CH2M HILL, 2010).

Soils overlying bedrock encountered in soil borings consist mostly of fine sand, silty sand and sandy silt. In general, bedrock is encountered at approximately 14 ft to 17 ft bls in the southern subsection and at approximately 1 to 10 ft bls in the central subsection. PI 7 lies within the KTd formation, which consists of plutonic rocks, largely granodiorite and quartz diorite. The bedrock encountered in the well boreholes was granodiorite, with few fractures. For more information on the bedrock geology, see Section 1.4.6 of the Final SI/ESI Report (CH2M HILL, 2010).

There are no surface water bodies at or immediately adjacent to PI 7. There is an ephemeral stream approximately 2,000 ft south (downgradient) of the southern subsection of PI 7. Based on nearby wells, the topographic slope, and the regional groundwater gradient determined by the United States Geological Survey (USGS) (1989) and confirmed by CH2M HILL within the Camp Garcia area during the SI/ESI (2009), groundwater in this area likely exists within the fractured bedrock and flows in a southerly direction toward the coast, as described in Section 1.4.7 of the Final SI/ESI Report (CH2M HILL, 2010) and shown in **Figure 2-6**.

2.2 PI 7 Release Assessment Decision Analysis

This subsection discusses the sample results in the context of the Data Evaluation Decision Tree (**Figure 1-3**) with reference to the detection tables (**Tables 2-1 through 2-3**).

<u>Step 1: Is the site potentially CERCLA-eligible?</u>

Historical information suggests the site was a former radar communication area, former quarry, and former tar drum disposal area. Based on this information, the potential for the

presence of CERCLA hazardous substances could not be confidently ruled out without sample collection, which was conducted during the 2002 EBS, the 2006 SI, the 2009 ESI, and the 2010 Supplemental ESI. Further, tar-contaminated soil was observed and removed from the site. Therefore, the decision analysis proceeds to Step 2.

It is noted here that the remainder of the decision analysis mirrors that presented in the Final SI/ESI Report (CH2M HILL, 2010) with the following exceptions:

a. Screening values have been updated, as necessary, to reflect the most current available

b. The SVOC data for PI7-3 have been replaced with the SVOC data for SS/SB42.

Step 2: Does the data quality evaluation indicate the dataset as a whole is available and useful for the intended purpose?

EBS (2002)

Although EBS data were not subject to third-party validation, the data still underwent some validation processes. The results of laboratory quality assurance/quality control (QA/QC) samples were compared to limits specified by the analytical methodology and/or laboratory standard operating procedures (SOPs). At a minimum, these QA/QC samples included blanks, calibrations, and matrix spike / matrix spike duplicates (MS/MSDs). No QA/QC exceedances were noted. These historical data are available for use as reported.

PA/SI (2006)

Appendix N, Section N.15 of the Final PA/SI Report (CH2M HILL 2008) discusses the evaluation of the PI 7 data quality. As detailed in Section N.15, the PI 7 data are acceptable for use in evaluating whether a release of hazardous waste or hazardous constituents warranting further action occurred at PI 7.

ESI (2009)

Based on the data quality evaluation of the ESI analytical data, 99 percent of the data are usable for the intended purpose. The site-specific data set achieved the 95 percent project completeness goal (as defined in the Unified Federal Policy Sampling and Analysis Plan (UFP-SAP)) for each site. Further details of the data quality evaluation are provided in Appendix M of the Final SI/ESI Report (CH2M HILL, 2010).

Supplemental ESI (2010)

Appendix C of the SI/ESI Report Addendum (CH2M HILL, 2011) presents the data quality evaluation of the Supplemental ESI analytical data for PI 7. Based on this evaluation of the Supplemental ESI data, 100 percent of the data are acceptable for use. Additionally, the site-specific data set exceeded the 95 percent project completeness goal, achieving 100 percent completeness.

Step 3: Were any inorganics above the background UTL detected or were any non-inorganics detected?

For the samples collected during the EBS (2002), the PA/SI (2006), the ESI (2009), and the Supplemental SI/ESI (2010), the following inorganics above the background upper tolerance

limits (UTLs) and non-inorganics were detected by location, sampling event, and by medium:

Northern Subsection (former radar communication facility)

PA/SI (2006) Surface Soil (samples SS17 through SS19)

- VOCs: None detected
- SVOCs: Di-n-octylphthalate
- Pesticides: 4,4'-DDE, 4,4'-DDT
- PCBs: None detected
- Inorganics above background UTLs: Copper, Lead, Zinc

PA/SI (2006) Subsurface Soil (samples SB17 through SB19)

- VOCs: None detected
- SVOCs: None detected
- Pesticides: 4,4'-DDE, 4,4'-DDT
- PCBs: None detected
- Inorganics above background UTLs: Copper, Magnesium, Potassium, Selenium, Zinc

Central Subsection (former quarry)

EBS (2002) Surface Soil (samples PI7-1, PI7-2, PI7-3 [excluding SVOCs], and PI7-4)

- VOCs: None detected
- SVOCs: None detected
- Pesticides: None detected
- Herbicides: None detected
- PCBs: None detected
- Inorganics above background UTLs: Arsenic, Thallium
- TPH GRO: None detected
- TPH DRO: None detected

PA/SI (2006) Surface Soil (samples SS11 through SS16, and SS21)

- VOCs: None detected
- SVOCs: None detected
- Pesticides: 4,4'-DDE, beta-BHC, Endrin, gamma-Chlordane
- PCBs: None detected

- Inorganics above background UTLs: Barium, Copper, Magnesium, Selenium, Zinc

PA/SI (2006) Subsurface Soil (samples SB11, SB14 through SB16, and SB21)

- VOCs: None detected
- SVOCs: bis(2-Ethylhexyl)phthalate, Di-n-octylphthalate
- Pesticides: None detected
- PCBs: None detected
- Inorganics above background UTLs: Barium, Calcium, Copper, Magnesium, Selenium, Zinc

PA/SI (2006) Groundwater (well MW03)

- VOCs: Carbon disulfide, Chloromethane
- SVOCs: None detected
- Pesticides: delta-BHC
- PCBs: None detected
- Total inorganics above background UTLs: Barium, Calcium, Chromium, Cobalt, Manganese, Nickel, Potassium, Selenium
- Dissolved inorganics above background UTLs: Barium, Calcium, Chromium, Cobalt, Manganese, Mercury, Nickel, Potassium, Vanadium

ESI (2009) Surface Soil (SS/SB40 and SS41)

- VOCs: Acetone, Cyclohexane
- SVOCs: Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Carbazole, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, PAH HMW, PAH LMW, Pentachlorophenol, Pyrene
- Total inorganics above background UTLs: Arsenic, Barium, Iron, Magnesium, Zinc

ESI (2009) Subsurface Soil (SB40)

- VOCs: None detected
- SVOCs: Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Pyrene
- Inorganics above background UTLs: Barium, Magnesium

Supplemental ESI (2010) Surface Soil (SS42)

- SVOCs: None detected

Supplemental ESI (2010) Subsurface Soil (SB42)

- SVOCs: None detected

Southern Subsection (former tar drum disposal area)

PA/SI (2006) Surface Soil (samples SS01 through SS10, SS20, and SS22)

- VOCs: None detected
- SVOCs: None detected
- Pesticides: 4,4'-DDE, 4,4'-DDT, delta-BHC
- PCBs: None detected
- Inorganics above background UTLs: Calcium, Copper, Cyanide, Magnesium, Selenium, Zinc

PA/SI (2006) Subsurface Soil (samples SB01 through SB10)

- VOCs: None detected
- SVOCs: None detected
- Pesticides: 4,4'-DDE
- PCBs: None detected
- Inorganics above background UTLs: Arsenic, Barium, Calcium, Magnesium, Selenium

PA/SI (2006) Groundwater (MW01 and MW02)

- VOCs: Chloroform, Tetrachloroethene (PCE)
- SVOCs: None detected
- Pesticides: delta-BHC
- PCBs: None detected
- Total inorganics above background UTLs: Barium, Manganese, Nickel
- Dissolved inorganics above background UTLs: Barium, Chromium, Cobalt, Manganese, Mercury, Nickel, Potassium, Selenium, Vanadium

ESI (2009) Surface Soil (SS23 through SS39)

- VOCs: 1,4-dichlorobenzene
- SVOCs: 2-methylnaphthalene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, bis(2-ethylhexyl)phthalate, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, PAH HMW, PAH LMW, Phenanthrene, Pyrene
- Inorganics above background UTLs: Arsenic, Barium, Beryllium, Calcium, Copper, Iron, Lead, Magnesium, Manganese, Zinc

ESI (2009) Subsurface Soil (SB23 through SB37)

- VOCs: Acetone
- SVOCs: 1,1-biphenyl, 2-methylnaphthalene, 4-chlorophenyl-phenylether, Anthracene, Atrazine, Benzaldehyde, Benzo(a)anthracene, Benzo(g,h,i)perylene, bis(2-chloroethyl)ether, bis(2-ethylhexyl)phthalate, Chrysene, Dibenzofuran, Diethylphthalate, Di-n-butylphthalate, Fluoranthene, Indeno(1,2,3-cd)pyrene, Nitrobenzene, Phenanthrene, Phenol, Pyrene
- Inorganics above background UTLs: Arsenic, Barium, Beryllium, Calcium, Copper, Lead, Magnesium, Zinc

Step 4: Are there any inorganic constituents above background or non-inorganic constituents that are potentially attributable to historic CERCLA-related releases at the site?

Drums were found within the former quarry and the former tar drum disposal area south of the former quarry. Some other debris was found in the quarry area as well. As such, it is possible that the SVOCs and inorganics detected in the central and southern subsections of PI 7 soil and VOCs and inorganics detected in groundwater are attributable to historic CERCLA-related releases. Further, although no evidence of a release was observed at the former radar communication area and there is no known source of hazardous material or constituents in this area, the single SVOC and inorganics are conservatively assumed to be potentially attributable to historic CERCLA-related releases.

As discussed in Section 1 of the Final SI/ESI Report (CH2M HILL, 2010), the pesticides detected in the surface soil are the same pesticides and of similar concentrations detected at other sites across east and west Vieques (Appendix A). For example, 4,4′-DDE and 4,4′-DDT were detected in PI 7 surface soil samples at concentrations between 0.90 µg/kg and 150 µg/kg (4,4′-DDE), and 1.3 µg/kg and 31 µg/kg (4,4′-DDT), which are similar to the concentrations detected at other sites across east Vieques (i.e., 0.08 µg/kg to 1,200 µg/kg for 4,4′-DDE; and 0.30 µg/kg to 990 µg/kg for 4,4′-DDT). This information, coupled with the history of the site, suggests the pesticides are present due to normal pesticide use, not a CERCLA-related release (see Appendix O and *Pesticides and Herbicides* under Section 1.1.1 of the Final SI/ESI Report (CH2M HILL, 2010)). Therefore, pesticides are not considered further in the decision analysis process.

In addition, the thallium concentrations reported for samples collected during the EBS utilized a method that, although standard at the time, tended to provide falsely elevated results (see Section 1 of the Final SI/ESI Report (CH2M HILL, 2010)). Table 13-1 (PI 8) from the Final SI/ESI Report (CH2M HILL, 2010) shows that no thallium was detected in the 10 surface soil samples collected during the SI, including the two samples immediately adjacent to samples where thallium concentrations of approximately 1 mg/kg were detected during the EBS. Therefore, the thallium results from the EBS samples are not considered further in the decision analysis process for PI 7.

In addition, the soil containing surface soil samples SS03, SS04, SS06, and SS09 was removed during the ESI. Therefore, these samples are not included in the decision analysis process.

Step 5: Are there any exceedances (over that of background) of the most conservative screening values?

In this step of the decision analysis, the data for the CERCLA-related constituents identified in Step 4 are compared to the screening criteria described in Section 1 of the Final SI/ESI Report (CH2M HILL, 2010) and shown on the detection tables. Those constituents that exceed one or more criteria (and background for inorganics) are listed below by location, sampling event, and by medium.

Northern Subsection (former radar communication facility)

PA/SI (2006) Surface Soil (samples SS17 through SS19)

- SVOCs: No exceedances
- Copper: three detections (samples SS17, SS18, SS19) at concentrations (85, 86 and 119 mg/kg, respectively) above the ecological screening value (70 mg/kg), the SSL at a DAF of 1 (46 mg/kg), and the background UTL (66 mg/kg)

PA/SI (2006) Subsurface Soil (samples SB17 through SB19)

- Copper: three detections (samples SB17, SB18, SB19) at concentrations (185, 118, and 129 mg/kg, respectively) above the SSL at a DAF of 1 (46 mg/kg) and the background UTL (66 mg/kg).
- Selenium: one detection (sample SB18) at a concentration (0.69 mg/kg) above the SSL at a DAF of 1 (0.26 mg/kg) and the background UTL (0.51 mg/kg).

Central Subsection (former quarry)

EBS (2002) Surface Soil (samples PI7-1, PI7-2, PI7-3 [excluding SVOCs], and PI7-4)

- Arsenic: one detection (sample PI7-3) at a concentration (12 mg/kg) above the RSL (0.39 mg/kg), the SSL at a DAF of 1 (0.29 mg/kg), and the background UTL (1.6 mg/kg)

PA/SI (2006) Surface Soil (samples SS11 through SS16, and SS21)

- Barium: one detection (sample SS21) at a concentration (200 mg/kg) above the SSL at a DAF of 1 (82 mg/kg) and the background UTL (147 mg/kg)
- Copper: one detection (sample SS13) at a concentration (83 mg/kg) above the ecological screening value (70 mg/kg), the SSL at a DAF of 1 (46 mg/kg), and the background UTL (66 mg/kg)
- Selenium: three detections (samples SS11, SS16, SS21) at concentrations (0.56, 0.84, and 0.60 mg/kg, respectively) above the ecological screening value (0.52 mg/kg), the SSL at a DAF of 1 (0.26 mg/kg), and the background UTL (0.51 mg/kg)

PA/SI (2006) Subsurface Soil (samples SB11, SB14 through SB16, and SB21)

- SVOCs: No exceedances
- Barium: one detection (sample SB21) at a concentration (181 mg/kg) above the SSL at a DAF of 1 (82 mg/kg) and the background UTL (147 mg/kg)

- Copper: one detection (sample SB16) at a concentration (72 mg/kg) above the SSL at a DAF of 1 (46 mg/kg) and the background UTL (66 mg/kg)
- Selenium: three detections (samples SB14, SB15, SB16) at concentrations (0.72, 0.64, and 0.53 mg/kg, respectively) above the SSL at a DAF of 1 (0.26 mg/kg) and the background UTL (0.51 mg/kg)

PA/SI (2006) Groundwater (well MW03)

- VOCs: No exceedances
- Chromium (total and dissolved): detected at concentrations (4.3 µg/L total and 1.0 µg/L dissolved) above the tap water RSL (0.043 µg/L)

ESI (2009) Surface Soil (SS/SB40 and SS41)

- VOCs: No exceedances
- Benzo(a)anthracene: one detection (sample SS40) at a concentration (78 µg/kg) above the SSL at a DAF of 1 (10 µg/kg)
- Benzo(a)pyrene: two detections (samples SS40, SB40) at concentrations (180 µg/kg and 18 µg/kg, respectively) above the RSL (15 µg/kg)
- Benzo(b)fluoranthene: two detections (samples SS40, SB40) at concentrations (340 µg/kg and 36 µg/kg, respectively) above the RSL (SS40) (150µg/kg) and the SSL at a DAF of 1 (SB40) (35 µg/kg)
- Dibenz(a,h)anthracene: one detection (sample SS40) at a concentration (57 µg/kg) above the RSL (15 µg/kg)
- Indeno(1,2,3-cd)pyrene: one detection (sample SS40) at a concentration (210 µg/kg) above the RSL (150 µg/kg)
- Pentachlorophenol: one detection (sample SS40) at a concentration (34 µg/kg) above the SSL at a DAF of 1 (10 µg/kg)
- Arsenic: one detection (sample SS41) at a concentration (8.3 mg/kg) above the RSL (0.39 mg/kg), the SSL at a DAF of 1 (0.29 mg/kg), and the background UTL (1.6 mg/kg)
- Barium: two detections (samples SS40, SB40) at concentrations (185 mg/kg and 172 mg/kg, respectively) above the SSL at a DAF of 1 (82 mg/kg) and the background UTL (147 mg/kg)
- Iron: one detection (sample SS41) at a concentration (38,900 mg/kg) above the RSL (5,500 mg/kg), the SSL at a DAF of 1 (640 mg/kg) and the background UTL (38,100 mg/kg)

ESI (2009) Subsurface Soil (SB40)

- Benzo(a)pyrene: one detection (sample SB40) at a concentration (18 µg/kg) above the RSL (15 µg/kg)

- Benzo(b)fluoranthene: one detection (sample SB40) at a concentration (36 µg/kg) above the SSL at a DAF of 1 (35 µg/kg)
- Barium: one detection (sample SB40) at a concentration (172 mg/kg) above the SSL at a DAF of 1 (82 mg/kg) and the background UTL (147 mg/kg)

Southern Subsection (former tar drum disposal area)

PA/SI (2006) Surface Soil (samples SS01 through SS10, SS20, and SS22)

- Copper: one detection (sample SS22) at a concentration (71 mg/kg) above the ecological screening value (70 mg/kg), the SSL at a DAF of 1 (46 mg/kg), and the background UTL (66 mg/kg)
- Selenium: three detections (samples SS01, SS02, SS05) at concentrations (1 mg/kg, 0.64 mg/kg, and 0.81 mg/kg, respectively) above the ecological screening value (0.52 mg/kg), the SSL at a DAF of 1 (0.26 mg/kg), and the background UTL (0.51 mg/kg)

PA/SI (2006) Subsurface Soil (samples SB01 through SB10)

- Arsenic: one detection (sample SB08) at a concentration (2.6 mg/kg) above the RSL (0.39 mg/kg), the SSL at a DAF of 1 (0.29 mg/kg), and the background UTL (1.6 mg/kg)
- Barium: two detections (samples SB06, SB09) at concentrations (154 mg/kg and 163 mg/kg, respectively) above the SSL at a DAF of 1 (82 mg/kg) and the background UTL (147 mg/kg)
- Selenium: eight detections (samples SB01, SB02, SB03, SB05, SB06, SB07, SB09, SB10) at concentrations (0.59 mg/kg to 1.0 mg/kg) above the SSL at DAF of 1 (0.26 mg/kg) and the background UTL (0.51 mg/kg)

PA/SI (2006) Groundwater (MW01 and MW02)

- PCE: one detection (MW02) at a concentration (0.20 µg/L) above the tap water RSL (0.11 µg/L)
- Chromium (dissolved): one detection (MW01) at a concentration (0.39 µg/L) above the tap water RSL (0.043 µg/L)

ESI (2009) Surface Soil (SS23 through SS39)

- VOCs: No exceedances
- Benzo(a)anthracene: three detections (samples SS35, SS36 and SS38) at concentrations (11 to 12 µg/kg) above the SSL at a DAF of 1 (10 µg/kg)
- Arsenic: four detections (samples SS30, SS31, SS32 and SS36) at concentrations (1.7 to 2.7 mg/kg) above the RSL (0.39 mg/kg), the SSL at a DAF of 1 (0.29 mg/kg), and the background UTL (1.6 mg/kg)
- Barium: two detections (samples SS28 and SS39) at concentrations (256 and 220 mg/kg, respectively) above the SSL at a DAF of 1 (82 mg/kg) and the background UTL (147 mg/kg)

- Copper: one detection (sample SS39) at a concentration (175 mg/kg) above the ecological screening value (70 mg/kg), SSL at a DAF of 1 (46 mg/kg), and the background UTL (66 mg/kg)
- Iron: one detection (sample SS39) at a concentration (44,200 mg/kg) above the adjusted RSL (5,500 mg/kg), the SSL at a DAF of 1 (640 mg/kg), and the background UTL (38,100 mg/kg)
- Lead: one detection (sample SS39) at a concentration (51 mg/kg) above the SSL at a DAF of 1 (14 mg/kg), and the background UTL (5.4 mg/kg)
- Manganese: one detection (sample SS28) at a concentration (1,990 mg/kg) above the adjusted RSL (180 mg/kg), the ecological screening value (220 mg/kg), the SSL at a DAF of 1 (57 mg/kg), and the background UTL (1,630 mg/kg)
- Zinc: one detection (sample SS39) at a concentration (138 mg/kg) above the ecological screening value (120 mg/kg), and the background UTL (32 mg/kg)

ESI (2009) Subsurface Soil (SB23 through SB37)

- Acetone: one detection (sample SB32) at a concentration (5,800 µg/kg) above the SSL at a DAF of 1 (4,500 µg/kg)
- Atrazine: one detection (sample SB32) at a concentration (160 µg/kg) above the SSL at a DAF of 1 (1.9 µg/kg)
- bis(2-Chloroethyl)ether: one detection (sample SB32) at a concentration (93 µg/kg) above the SSL at a DAF of 1 (0.0031 µg/kg)
- Nitrobenzene: one detection (sample SB32) at a concentration (110 µg/kg) above the SSL at a DAF of 1 (0.079 µg/kg)
- Arsenic: one detection (sample SB32) at a concentration (1.9 mg/kg) above the RSL (0.39 mg/kg), the SSL at a DAF of 1 (0.29 mg/kg), and the background UTL (1.6 mg/kg)
- Barium: five detections (samples SB24, SB27, SB30, SB31, and SB35) at concentrations (155 to 741 mg/kg) above the SSL at a DAF of 1 (82 mg/kg) and the background UTL (147 mg/kg)
- Copper: one detection (sample SB33) at a concentration (74 mg/kg) above the SSL at a DAF of 1 (46 mg/kg), and the background UTL (66 mg/kg)

As shown above, there are exceedances of the most conservative screening values. Therefore, the decision analysis process continues to Step 6.

Step 6: Can more realistic evaluations of the data be performed, and if so, do they suggest contaminant levels warrant no further investigation or action?

Northern Subsection (former radar communication facility)

Human Health Evaluation

As a conservative approach, risk estimates were prepared for a future residential scenario at the Northern Subsection of PI 7. The Northern Subsection is approximately 5 acres in size

whereas a residential lot may be approximately 0.75 acre. However, no chemicals in soil were detected above background and regional screening levels (RSLs) at concentrations exceeding 100 times the screening levels (see **Table 2-4**). Therefore, no hot spots were identified and all soil data in the Northern Subsection were merged in the residential evaluation.

Six constituents (aluminum, chromium, cobalt, iron, manganese, and vanadium) were detected in surface or subsurface soil above human health screening levels but below background UTLs. Based on the historical source of potential releases identified at the site (see Section 12-1 of the Final SI/ESI Report (CH2M HILL, 2010)) and the environmental conditions on Vieques (see Appendix R of the Final SI/ESI Report (CH2M HILL, 2010)), the form of chromium expected to be present at the site is Cr^{3+}, especially considering its detected concentrations are within background levels. Based on maximum detected concentrations, the cumulative excess lifetime cancer risk (ELCR) is 3×10^{-8} and the maximum target organ-specific hazard index (HI) is 0.5 (see **Table 2-4**), which are within EPA acceptable levels. Consequently, there is not a concern for potential cumulative effects from multiple constituents in the Northern Subsection of the site.

Ecological Evaluation

Copper exceeded the ecological screening value and background UTL in several surface soil samples collected around the former radar communication facility. This constituent does not pose an unacceptable risk to ecological receptors based upon the following:

- The site is very small (i.e., the remnants of the former radar structure were found in an area about 100 ft by 100 ft). Thus, food web exposures for upper trophic level receptors (birds and mammals) are not evaluated. Further, the site is well vegetated and there are no apparent impacts to the terrestrial plant community based upon qualitative visual observations (no quantitative evaluation of the plant community has been conducted at the site to date).
- Copper exceeds the ecological screening value (70 mg/kg, which is based upon plants) and background UTL in the three surface soil samples collected in this area (**Table 2-5**). These screening value exceedances are of relatively low magnitude, with a hazard quotient (HQ) based on the maximum copper concentration of 1.7. The maximum HQ for ecological screening values based upon other receptors (e.g., 80 mg/kg for soil invertebrates) is 1.49. Based upon the mean copper concentration (96.6 mg/kg), the HQ is 1.21 to 1.38. Although the background UTL for copper in this soil type is 65.5 mg/kg, copper concentrations up to 102 mg/kg were detected during the east Vieques background soil inorganics investigation in nearby soil types (CH2M HILL, 2007). This suggests that the copper concentrations detected in this portion of PI 7 (85, 85.8, and 119 mg/kg) are within the range of background. Thus, copper has a low potential for unacceptable risks.

Additional Comparisons

When evaluating the potential for contaminant migration from soils to groundwater, the use of EPA generic soil screening levels (SSLs), applying a dilution attenuation factor (DAF) of 1, were used as the most conservative approach. However, as a general rule, DAF values from 1 to 20* can be applied dependent upon site-specific data (e.g., size of site, depth to

groundwater, etc.). In addition, in the absence of groundwater data, other information such as that listed below was used, as applicable, to evaluate the potential for groundwater impacts from soil contamination:

- depth of contamination with respect to estimated groundwater depth
- mobility of contaminant
- number of exceedances

*SSLs for DAF values of 1 and 20 are provided in Table 1 of Appendix A of the EPA Generic SSL guidance (EPA 2002). Estimated SSLs for DAF values in between 1 and 20 were used in this evaluation.

The same three copper concentrations discussed above exceed the soil screening level (SSL) at a dilution attenuation factor (DAF) of 1 (46 mg/kg), as did the subsurface soil concentrations of copper at this location. However, as noted above, the area of the site is small. Therefore, an SSL at a higher DAF is likely to be more representative of copper leaching through soil, as discussed in Section 1.1.2 of the Final SI/ESI Report (CH2M HILL, 2010). None of the copper concentrations exceeds the SSL at a DAF of 4. Further, copper was not detected in any of the wells installed in the central and southern subsections of PI 7, which are in the approximate downgradient direction from the northern subsection. This suggests the SSLs are overly conservative and do not accurately represent copper leaching to groundwater, since the absence of copper in downgradient groundwater suggests it is not leaching (or leaching appreciably) to groundwater.

Selenium was detected in one subsurface soil sample above the SSL at a DAF of 1 (0.3 mg/kg), but below the SSL at a DAF of 3. Further, selenium was either not detected or was detected at a concentration below screening criteria in the wells installed in the southern and central subsections of PI 7.

Central Subsection (former quarry)

Human Health Evaluation

As a conservative approach, risk estimates were prepared for a future residential scenario at the Central Subsection of PI 7. The Central Subsection is approximately 6 acres in size, whereas a residential lot may be approximately 0.75 acre. No chemicals in soil were detected above background (for inorganics) and adjusted RSLs at concentrations exceeding 100 times the screening levels (see **Table 2-4**). Therefore, no hot spots were identified and all soil data were merged in the residential evaluation.

Two metals (arsenic and iron) and four PAHs were detected in surface or subsurface soil above human health screening levels and background levels (metals only) (see **Table 2-4**).

- Arsenic was detected in 2 of 14 surface soil samples and no subsurface soil samples above its RSL (0.39 mg/kg). Based on the maximum detected concentration (12 mg/kg), the ELCR is 3×10^{-5} and the non-cancer HQ is 0.5, which are within EPA's acceptable levels and arsenic would not be identified as a risk driver.
- Iron was detected in 10 of 10 surface soil samples and 6 of 6 subsurface soil samples above its adjusted RSL (5,500 mg/kg). Based on the maximum detected concentration

(38,900 mg/kg), the non-cancer HQ is 0.7, which are within EPA's acceptable levels and iron would not be identified as a risk driver.

- Benzo(a)pyrene (B(a)P) was detected in 2 of 14 surface soil samples and 1 of 7 subsurface soil samples above its RSL (15 µg/kg). Based on the maximum detected concentration (180 µg/kg), the ELCR is 1×10^{-5}, which is within EPA's acceptable range, and B(a)P would not be identified as a risk driver.
- Benzo(b)fluoranthene (B(b)F) was detected in 1 of 14 surface soil samples above its RSL (150 µg/kg). Based on the maximum detected concentration (340 µg/kg), the ELCR is 2×10^{-6}, which is within EPA's acceptable range, and B(b)F would not be identified as a risk driver.
- Dibenz(a,h)anthracene (D(a,h)A) was detected in 1 of 14 surface soil samples above its RSL (15 µg/kg). Based on the maximum detected concentration (57 µg/kg), the ELCR is 4×10^{-6}, which is within EPA's acceptable range, and D(a,h)A would not be identified as a risk driver.
- Indeno(1,2,3-cd)pyrene (I[123-cd]P) was detected in 1 of 14 surface soil samples above its RSL (150 µg/kg). Based on the maximum detected concentration (210 µg/kg), the ELCR is 1×10^{-6}, which is within the EPA acceptable range, and I(123-cd)P would not be identified as a risk driver.

Five additional constituents (aluminum, chromium, cobalt, manganese, and vanadium) were detected in surface or subsurface soil above adjusted human health screening levels but below background UTLs. Based on the historical source of potential releases identified at the site (see Section 12.1 of the Final SI/ESI Report (CH2M HILL, 2010)) and the environmental conditions on Vieques (see Appendix R in the Final SI/ESI (CH2M HILL, 2010)), the form of chromium expected to be present at the site is Cr^{3+}, especially considering its detected concentrations are within background levels. Based on maximum detected concentrations of arsenic, iron, the four PAHs, and the five additional constituents, the cumulative ELCR is 5×10^{-5} and the maximum target organ-specific HI is 0.7 (see **Table 2-4**); the cumulative ELCR and HI are within EPA's acceptable levels. Consequently, there is not a concern for potential cumulative effects from multiple PAHs and metals in the Central Subsection of the site.

Groundwater

Chromium was detected above its RSL (0.043 µg/L based on Cr^{6+}) and background in "total" groundwater, but not in the "dissolved" sample. Detected concentrations are less than the maximum contaminant level (MCL) (100 µg/L). Based on the maximum detected "total" concentration (4.3 µg/L) and the expected form of chromium (Cr^{3+}) at the site, the HI is 0.00008, which is within the EPA acceptable level, and chromium would not be identified as a risk driver. Additionally, all chromium detections in soil are below the background UTL, which indicates that the presence of chromium in groundwater is attributable to background.

Cumulative Soil and Groundwater

Potential cumulative risks from both residential soil and groundwater exposures were evaluated. As indicated on **Table 2-4**, the cumulative ELCR is 5×10^{-5} and the maximum

target organ-specific HI is 0.7. Therefore, there is not a concern for cumulative effects from soil and groundwater exposures.

Ecological Evaluation

Two metals (copper and selenium) exceeded ecological soil screening values and background in at least one of the surface soil samples (0 to 6 or 0 to 12 inches) collected around the former quarry. Iron also exceeded background but the ecological screening value for this constituent, which is pH based, could not be applied because site-specific pH data were not available in this portion of the site. The ecological risk assessment screening statistics for these metals can be found in **Table 2-5**. Carbazole was also detected but lacked a soil screening value. None of these constituents poses an unacceptable risk to ecological receptors based upon the following:

- The Central Subsection of PI 7 is approximately 7 acres in size and is entirely forested. However, the areas containing debris are small. For instance, in the southern portion of the Central Subsection, the investigation area is about 0.5 acre, and in the eastern portion of the Central Subsection, the investigation area is about 0.1 acre. Thus, considering the small areas containing debris, food web exposures for upper trophic level receptors (birds and mammals) were not evaluated. Further, the site is heavily vegetated and there are no apparent impacts to the terrestrial plant community based upon qualitative visual observations (no quantitative evaluation of the plant community has been conducted at the site to date).
- Copper exceeded the ecological screening value (70 mg/kg) and background in 1 of 13 surface soil samples collected within the former quarry area; the maximum HQ was 1.18 (**Table 2-5**). However, the mean copper concentration (49.6 mg/kg) is less than the ecological screening value (HQ of 0.71).
- Iron exceeded the background UTL in 1 of 9 samples at a maximum ratio of just 1.02, indicating that exposures are near background levels and are therefore not likely to be significant ecologically (**Table 2-5**).
- Selenium exceeded the ecological screening value in 3 of 13 samples at a maximum HQ of 1.62 (**Table 2-5**). Although the background UTL for selenium in this soil type is 0.51 mg/kg, selenium concentrations up to 1.3 mg/kg were detected during the East Vieques background soil inorganics investigation in nearby soil types (CH2M HILL, 2007). This suggests that the selenium concentrations detected at PI 7 (maximum of 0.84 mg/kg) are within the range of background. Further, the screening value (0.52 mg/kg) is based upon potential impacts to plants. The site is heavily vegetated, with no apparent impacts to the terrestrial plant community. Maximum concentrations are less than soil screening values based upon other receptors (e.g., 4.10 mg/kg for soil invertebrates).
- Carbazole was detected in one surface soil sample at a maximum concentration of 4 μg/kg (0.004 mg/kg). While there is little information regarding the potential toxicity to soil invertebrates and/or terrestrial plants following direct exposure to this chemical, available data suggest that the maximum observed concentrations of this chemical are too low to elicit adverse effects. In studies with oligochaete worms exposed to carbazole-spiked soils, the resulting Lethal Concentration to 50 percent of the population (LC_{50}) and Effect Concentration to 50 percent of the population (EC_{50}) values were greater than

2,100 and 52 mg/kg, respectively (Sverdrup et al., 2002). In a similar study exposing collembolans (or springtails) to spiked soils, the LC_{50} and EC_{50} values were 2,500 and 35 mg/kg, respectively, for carbazole (Sverdrup et al., 2001). The maximum concentration of carbazole in the Central Subsection of PI 7 is well below these effect concentrations.

Additional Comparisons

None of the PAHs that exceed the SSLs at a DAF of 1 in surface and subsurface soil were detected in the groundwater samples collected downgradient of this area. In fact, no SVOCs were detected in the downgradient wells (i.e., wells MW-01 and MW-02 located in the former tar drum disposal area at PI 7 [see **Table 2-3**]). This suggests the SSLs at a DAF of 1 are not realistic predictors of PAH leaching to groundwater.

Five constituents (arsenic, barium, iron, copper, and selenium) were detected in surface and/or subsurface soil above their SSLs at a DAF of 1 and background UTLs. However, arsenic, iron, and copper were not detected in groundwater downgradient of this area and none of the barium or selenium concentrations exceeded its respective tap water RSL or MCL. This suggests the SSLs at a DAF of 1 are not realistic predictors of metals leaching to groundwater.

Southern Subsection (former tar drum disposal area)

Human Health Evaluation

Soil

As a conservative approach, risk estimates were prepared for a future residential scenario at the Southern Subsection of PI 7. The Southern Subsection is approximately 6 acres in size whereas a residential lot may be approximately 0.75 acre. No chemicals in soil were detected above background (for inorganics) and RSLs at concentrations exceeding 100 times the screening levels, with the exception of chromium under the assumption that the detected chromium is hexavalent chromium. Based on the historical source of potential releases identified at the site (see Section 12-1 of the Final SI/ESI Report (CH2M HILL, 2010)) and the environmental conditions on Vieques (see Appendix R of the Final SI/ESI Report (CH2M HILL, 2010)), the form of chromium expected to be present at the site is Cr^{3+}, especially considering its detected concentrations are within background levels (see **Table 2-4**). Therefore, no hot spots were identified and all soil data were merged in the residential evaluation.

Three constituents were detected in surface or subsurface soil samples above their human health screening levels and background UTLs: arsenic, iron, and manganese (see **Table 2-4**).

- Arsenic was detected in 16 of 29 surface soil samples and 11 of 25 subsurface soil samples above its RSL (0.39 mg/kg). Based on the maximum detected concentration (2.7 mg/kg), the ELCR is 7×10^{-6} and the HQ is 0.1, which are within EPA acceptable levels and arsenic would not be identified as a risk driver.

- Iron was detected in 29 of 29 surface soil samples above both the background UTL and the adjusted RSL (5,500 mg/kg). Based on the maximum detected concentration (44,200 mg/kg), the HQ is 0.8 which is within the EPA acceptable level and iron would not be identified as a risk driver.

- Manganese was detected in 29 of 29 surface soil samples and 25 of 25 subsurface soil samples above its adjusted RSL (180 mg/kg), at a maximum concentration of 1,990 mg/kg. ProUCL version 4.0 was used to calculate the upper confidence limit (UCL) of the mean concentration that would be used as the exposure point concentration (EPC) in risk calculations; an EPC of 714.1 mg/kg was calculated based on the higher value between the EPC for surface soil and "total" (surface and subsurface) soil (see Appendix S of the Final SI/ESI (CH2M HILL, 2010)). Based on the EPC, the HQ is 0.4, which is within EPA's acceptable level and manganese would not be identified as a risk driver.

Four additional constituents (aluminum, chromium, cobalt, and vanadium) were detected in surface or subsurface soil above human health screening levels but below background UTLs. As indicated above, the form of chromium expected to be present at the site is Cr^{3+}. Based on maximum detected concentrations of arsenic, iron, and the four additional constituents, and the 95% UCL of manganese, the cumulative ELCR is 7×10^{-6} and the maximum target organ-specific HI is 0.8 (see **Table 2-4**). Consequently, there is not a concern for potential cumulative effects from multiple constituents in site soil.

Groundwater

Two constituents (PCE and chromium) were detected in groundwater above human health screening levels.

- PCE was detected above its RSL (0.55 µg/L) in one of two samples. Based on the detected concentration (0.2 µg/L), the ELCR is 4×10^{-7} and the HQ is 0.0006, which are within EPA's acceptable levels. Therefore, PCE would not be identified as a risk driver. In addition, detected concentrations are less than the MCL (5 µg/L).

- Chromium was detected above its RSL but within background. Both "total" and "dissolved" chromium were detected above the RSL (0.043 µg/L). However, detected concentrations are less than the MCL (100 µg/L). Based on the maximum detected "total" concentration (1.7 µg/L) and the expected form of chromium (Cr^{3+}) at the site, the HI is 0.00003, which is within the EPA acceptable level, and chromium would not be identified as a risk driver. Additionally, all chromium detections in soil are below the background UTL, which indicates that the presence of chromium in groundwater is attributable to background.

Based on maximum detected concentrations of PCE and chromium, the cumulative ELCR is 4×10^{-7} and the maximum target organ-specific HI is 0.0005 (see **Table 2-4**). Consequently, there is not a concern for potential cumulative effects from multiple constituents in site groundwater.

Cumulative Soil and Groundwater

Potential cumulative risks from both residential soil and groundwater exposures were evaluated. As indicated on **Table 2-4**, the cumulative ELCR is 7×10^{-6} and the maximum target organ-specific HI is 0.8. Because the cumulative ELCR and target organ-specific HIs do not exceed EPA acceptable levels, potential cumulative effects from multiple chemicals in soil and groundwater are not a concern.

Ecological Evaluation

Four inorganics (copper, manganese, selenium, and zinc) exceeded ecological screening values and background in at least one surface soil sample collected around the former tar drum disposal area. Iron also exceeded background (in 1 of 29 samples at a maximum ratio of 1.22), however, the ecological screening value for this constituent, which is pH-based, was not exceeded based upon the mean pH from several samples collected from this portion of the site. None of these constituents poses an unacceptable risk to ecological receptors based upon the following:

- The Southern Subsection of PI 7 is approximately 6 acres in size and is entirely forested. However, the drum disposal area of investigation is small, approximately 0.2 acre. Thus, food web exposures for upper trophic level receptors (birds and mammals) were not evaluated. Further, the site is normally heavily vegetated and there are no apparent impacts to the terrestrial plant community based upon qualitative visual observations (no quantitative evaluation of the plant community has been conducted at the site to date).
- Copper exceeded the ecological screening value (70 mg/kg) and background in 3 of 29 surface soil samples collected within the southern area of the site at a maximum HQ of 2.50 (**Table 2-5**). However, the mean copper concentration (52.1 mg/kg) is less than the ecological screening value (HQ of 0.74).
- Manganese exceeded the background UTL in just 1 of 29 samples at a maximum ratio of 1.22, indicating that exposures are near background levels, or below for the vast majority, and are therefore not likely to be significant ecologically (**Table 2-5**).
- Selenium exceeded the ecological screening value, which is based upon plants, and the background UTL in 6 of 29 surface soil samples within the former tar drum disposal area (**Table 2-5**). Although the background UTL for selenium in this soil type is 0.51 mg/kg, selenium concentrations of up to 1.3 mg/kg were detected during the east Vieques background soil inorganics investigation in nearby soil types (CH2M HILL, 2007). This suggests that the selenium concentrations detected in this portion of PI 7 (maximum of 1.10 mg/kg) are within the range of background. Further, the screening value (0.52 mg/kg) is based upon potential impacts to plants. The site is normally heavily vegetated, with no apparent impacts to the terrestrial plant community. Maximum concentrations are less than soil screening values based upon other receptors (e.g., 4.10 mg/kg for soil invertebrates).
- Zinc exceeded the ecological screening value (120 mg/kg) and background in just 1 of 29 surface soil samples collected within the southern area of the site at a maximum HQ of just 1.15 (**Table 2-5**). However, the mean zinc concentration (30.5 mg/kg) is less than the ecological screening value (HQ of 0.25).

Additional Comparisons

None of the PAHs that exceed the SSLs at a DAF of 1 in subsurface soil samples was detected in the groundwater samples collected in this area. This suggests the SSLs at a DAF of 1 are not realistic predictors of leaching to groundwater.

Seven constituents (arsenic, barium, copper, iron, lead, manganese, and selenium) were detected in surface and/or subsurface soil above their SSLs at a DAF of 1 and background

UTLs. However, arsenic, iron, copper, and lead were not detected in groundwater downgradient of this area and none of the barium, manganese, or selenium concentrations exceeded its respective tap water RSL or MCL.

It is important to note that although a low concentration of PCE (i.e., 0.2 µg/L) was detected in one well (MW-02) in the southern subsection of PI 7, multiple lines of evidence indicate no groundwater contaminant plume exists in this area. In addition to the drums being removed, PCE was not detected in any of the soil samples, which indicates there is no source for continued PCE impacts to groundwater. In addition, the well in which PCE was detected was installed immediately beneath the area containing the drums, so the low detection in that well coupled with the absence of PCE in a well just downgradient of this area (i.e., MW-01) further supports the absence of a groundwater contaminant plume

Step 7: Does the historic information and/or spatial distribution of data indicate the potential source area was sufficiently sampled?

The historical information (aerial photographs, interviews, site inspections), as well as sampling activities, indicate the most likely sources of CERCLA-related releases were under and around the drums and debris piles in the quarry and to the south. Based on this information, the drum and debris were removed, as well as soil visibly impacted with tar. Multiple soil and groundwater samples were collected in these areas, including confirmatory soil samples from beneath the drums that were removed. Based on this information, the spatial distribution and data of samples indicate the potential source areas have been sufficiently characterized. Further, the newly collected SVOC data (i.e., non-detect) also suggest that the historical SVOC data for sample PI7-3 are not representative of current conditions, either due to time since the EBS samples were collected or the indication that PI7-3 was collected adjacent to a rubber hose.

2.3 Conclusions and No Action Determination

The decision analysis process described above indicates that, based on the post-removal data, the existing soil and groundwater constituent concentrations do not pose a potentially unacceptable risk to human or ecological receptors or leaching concern for groundwater. In addition, the potential future sources of contamination (i.e., drums and tar-stained soil) have been removed. Therefore, no further action is warranted for PI 7.

Table 2-1
Surface Soil Detection and Exceedance Results
PI 7
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	Background UTL (KTd)	Adjusted RSL for Residential Soil	Eco (E)	SSL (DAF=1)	VNTR-PI7-1	VNTR-PI7-2	VNTR-PI7-3	VNTR-PI7-4	EPI07-SO01		EPI07-SO02	EPI07-SO03	EPI07-SO04	EPI07-SO05	EPI07-SO06	EPI07-SO07	EPI07-SO08	EPI07-SO09	EPI07-SO10	EPI07-SO11	EPI07-SO12	EPI07-SO13
Sample ID					VNTR-PI7-1	VNTR-PI7-2	VNTR-PI7-3	VNTR-PI7-4	EPI07-SS01-0001	EPI07-SS01-0001P	EPI07-SS02-0001	EPI07-SS03-0001	EPI07-SS04-0001	EPI07-SS05-0001	EPI07-SS06-0001	EPI07-SS07-0001	EPI07-SS08-0001	EPI07-SS09-0001	EPI07-SS10-0001	EPI07-SS11-0001	EPI07-SS12-0001	EPI07-SS13-0001
Sample Date					12/16/02	12/16/02	12/16/02	12/16/02	03/13/06	03/13/06	03/13/06	3/13/2006	3/13/2006	3/14/2006	03/14/06	03/14/06	03/14/06	03/14/06	03/14/06	03/14/06	03/14/06	03/14/06
Chemical Name																						
Volatile Organic Compounds (UG/KG)																						
1,4-Dichlorobenzene	--	2,400	1,280	72	NA	NA	NA	NA	11 U	13 U	11 U	13 U	10 U	12 U	11 U	10 U	10 U	10 U	10 U	NA	NA	NA
Acetone	--	6,100,000	--	4,500	10 U	10 U	10 U	10 U	11 U	13 U	11 U	13 U	10 UJ	12 U	11 UJ	10 UJ	10 U	10 UJ	10 UJ	NA	NA	NA
Cyclohexane	--	117,000	6,000	13,000	NA	NA	NA	NA	11 U	13 U	11 U	13 U	10 U	12 U	11 U	10 U	10 U	10 U	10 U	NA	NA	NA
Semivolatile Organic Compounds (UG/KG)																						
2-Methylnaphthalene	--	31,000	--	750	333 U	333 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
Acenaphthylene	--	340,000	--	22,000	333 U	333 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
Anthracene	--	1,700,000	--	360,000	333 U	333 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
Benzo(a)anthracene	--	150	--	10	333 U	329 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
Benzo(a)pyrene	--	15	--	240	333 U	330 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
Benzo(b)fluoranthene	--	150	--	35	333 U	331 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
Benzo(g,h,i)perylene	--	170,000	--	120,000	333 U	332 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 UJ	350 UJ	340 U	350 UJ	350 UJ	340 U	340 U	340 U
Benzo(k)fluoranthene	--	1,500	--	350	333 U	333 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
bis(2-Ethylhexyl)phthalate	--	35,000	30,000	1,400	333 U	333 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
Carbazole	--	--	--	--	NA	NA	*	NA	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
Chrysene	--	15,000	--	1,100	333 U	333 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
Dibenz(a,h)anthracene	--	15	--	11	333 U	333 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 UJ	350 UJ	340 U	350 UJ	350 UJ	340 U	340 U	340 U
Di-n-octylphthalate	--	35,000	30,000	--	333 U	333 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 UJ	350 UJ	340 U	350 UJ	350 UJ	340 U	340 U	340 U
Fluoranthene	--	230,000	--	160,000	333 U	333 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
Fluorene	--	230,000	--	27,000	333 U	333 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
Indeno(1,2,3-cd)pyrene	--	150	--	120	333 U	333 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
PAH HMW (Total)	--	--	18,000	--	0 U	0 U	*	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
PAH LMW (Total)	--	--	29,000	--	0 U	0 U	*	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U
Pentachlorophenol	--	890	5,000	10	833 U	833 U	*	833 U	870 U	870 U	930 U	900 U	860 U	890 U	870 U	880 U	860 U	870 U	880 U	850 U	850 U	860 U
Phenanthrene	--	1,700,000	--	--	333 U	333 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
Pyrene	--	170,000	--	120,000	333 U	333 U	*	333 U	350 U	350 U	370 U	360 U	340 U	350 U	350 U	350 U	340 U	350 U	350 U	340 U	340 U	340 U
Herbicides (UG/KG)																						
No Detections	--	--	--	--	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticide/Polychlorinated Biphenyls (UG/KG)																						
4,4'-DDE	--	1,400	114	47	3.3 U	3.3 U	3.3 U	3.3 U	7.5	6.4	4.9	12	3.4 U	22	13	1.7 J	3.4 U	1.7 J	6.6	0.90 J	3.4 U	3.4 U
4,4'-DDT	--	1,700	100	67	3.3 U	3.3 U	3.3 U	3.3 U	3.5 U	3.5 U	1.3 J	2.5 J	3.4 U	3.5 U	3.5 U	3.5 U	3.4 U	3.5 U	1.6 J	3.4 U	3.4 U	3.4 U
beta-BHC	--	270	342	0.22	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7 U	1.8 U
delta-BHC	--	270	226	--	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U	1.9 U	0.41 J	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7 U	1.8 U
Endrin	--	1,800	2.0	81	3.3 U	3.3 U	3.3 U	3.3 U	3.5 U	3.5 U	3.7 U	3.6 U	3.4 U	3.5 U	3.5 U	3.5 U	3.4 U	3.5 U	3.5 U	3.4 U	3.4 U	3.4 U
gamma-Chlordane	--	1,600	11	140	NA	NA	NA	NA	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7 U	1.8 U
Total Metals (MG/KG)																						
Aluminum	35,000	7,700	--	55,000	NA	NA	NA	NA	8,800 J	10,200 J	10,200 J	11,100 J	9,300 J	14,000 J	12,200 J	15,200 J	10,600	15,300 J	9,010 J	10,300	10,100	11,600
Antimony	5.8	3.1	78	0.27	5.2 U	5.8 U	5.7 U	4.7 U	0.68 J	0.41 J	0.62 J	0.73 J	0.61 J	0.63 J	0.63 J	0.73 J	0.72 J	0.53 J	0.46 J	0.57 J	0.61 J	0.60 J
Arsenic	1.6	0.39	18	0.29	0.86 U	0.96 U	12	0.78 U	0.36 J	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	0.50 J	1.0 U	1.1 U	1.1 U	1.0 U	1.0 U	1.0 U
Barium	147	1,500	330	82	57	53	36	61	76 J	79 J	91 J	77 J	68 J	128 J	103 J	107 J	96	127 J	50 J	67	59	96
Beryllium	0.27	16	40	3.2	0.43 U	0.48 U	0.47 U	0.39 U	0.53 U	0.53 U	0.56 U	0.55 U	0.52 U	0.54 U	0.53 U	0.53 U	0.52 U	0.53 U	0.53 U	0.51 U	0.51 U	0.51 U
Calcium	8,840	--	--	--	NA	NA	NA	NA	5,930 J	4,870 J	7,520 J	5,550 J	4,570 J	3,610 J	4,290 J	**25,500 J**	4,540	5,980 J	4,520 J	5,500	7,210	4,600
Chromium	72	0.29 [1]	64	0.00083 [1]	4.0	4.0	8.3	7.1	5.4	5.2	4.7	7.1	4.2	5.7	5.8	5.6	3.9	6.0	4.6	3.7	3.9	3.3
Cobalt	16	2.3	13	0.49	7.0	6.9	5.6	6.9	8.0 J	8.6 J	8.9 J	9.2 J	8.4 J	11 J	10 J	11 J	9.7	14 J	7.8 J	11	11	9.9
Copper	66	310	70	46	33	43	30	33	33	38	36	45	43	60	33	53	52	**71**	31	47	46	**83**
Cyanide	0.33	160	16	2.0	1.0 U	1.0 U	1.0 U	1.0 U	**0.97 J**	**0.79 J**	**1.3 J**	**1.0 J**	2.6 U	**0.88 J**	**0.75 J**	**0.76 J**	2.6 U	2.6 R	2.7 R	2.5 U	2.6 U	2.6 U
Iron	38,100	5,500	--	640	NA	NA	NA	NA	18,600 J	17,300 J	16,700 J	21,000 J	15,100 J	22,700 J	18,800 J	20,300 J	17,200	23,000 J	16,100 J	16,700	17,100	14,500
Lead	5.4	400	120	14	1.8	1.7	0.88	1.0	2.3	2.3	2.7	2.2	1.5	1.9	2.2	2.8	1.5	2.8	1.2	1.1	1.0 U	1.2
Magnesium	3,710	--	--	--	NA	NA	NA	NA	2,360 J	2,990 J	3,010 J	**4,450 J**	**4,810 J**	3,010 J	3,410 J	**4,790 J**	**5,330**	**7,240 J**	**4,450 J**	**6,590**	**7,090**	**4,470**
Manganese	1,630	180	220	57	NA	NA	NA	NA	604 J	604 J	658 J	556 J	435 J	745 J	629 J	773 J	550	708 J	395 J	535	554	481
Mercury	0.057	0.78	0.10	0.10	0.077 U	0.059 U	0.087 U	0.065 U	0.10 U	0.10 U	0.11 U	0.11 U	0.10 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.11 U	0.10 U	0.10 U	0.10 U
Nickel	22	150	38	48	3.5 U	3.9 U	3.8 U	4.9	2.3 J	2.6 J	2.6 J	3.6 J	3.0 J	2.8 J	3.3 J	3.3 J	3.5 J	4.7 J	2.7 J	3.2 J	4.1 U	4.1 U
Potassium	5,270	--	--	--	NA	NA	NA	NA	1,650	2,000	2,120	2,170	956	1,230	1,960	2,250	1,100	1,410	869	831	574	514 U
Selenium	0.51	39	0.52	0.26	0.86 U	0.96 U	0.94 U	0.78 U	**1.0 J**	**0.57 J**	**0.64 J**	**1.1 J**	0.46 J	**0.81 J**	**0.70 J**	0.40 J	3.6 U	**1.1 J**	3.7 U	**0.56 J**	0.51 J	3.6 U
Silver	0.22	39	560	1.6	0.86 U	0.96 U	0.94 U	0.78 U	1.1 U	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U	1.0 U	1.0 U
Sodium	1,590	--	--	--	NA	NA	NA	NA	527 U	525 U	559 U	545 U	520 U	536 U	528 U	534 U	519 U	526 U	532 U	508 U	513 U	514 U
Thallium	0.13	--	1.0	0.14	**1.1**	**1.4**	0.94 U	**1.0**	0.53 U	0.52 U	0.56 U	0.54 U	0.52 U	0.54 U	0.53 U	0.53 U	0.52 U	0.53 U	0.53 U	0.51 U	0.51 U	0.51 U
Vanadium	144	39	130	180	47	40	32	47	58	51	49	61	36	67	54	59	37	56	47	38	38	35
Zinc	32	2,300	120	680	23	26	20	21	19	22	24	28	25	20	24	26	28	**40**	21	32	**33**	25
Total Petroleum Hydrocarbons (MG/KG)																						
No Detections	--	--	--	--	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Exceeds Background UTL
Exceeds Background UTL and Adjusted RSL for Residential Soil
Exceeds Background UTL and ECO (E)
Exceeds Background UTL and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil and SSL (DAF=1)
Exceeds Background UTL, ECO (E) and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil, ECO (E) and SSL (DAF=1)

NA - Not Analyzed
ND - Not Detected
-- Not part of background data set (where applicable) OR Regulatory standard not promulgated
* SVOC data has been substituted with the SVOC data from sample SO42
J - Analyte present, value may or may not be accurate or precise
R - Unreliable Result
U - Not detected or not detected significantly greater than that in an associated blank.
MG/KG - Milligrams per kilogram
UG/KG - Micrograms per kilogram
[1] The screening value for hexavalent chromium was used.

Table 2-1
Surface Soil Detection and Exceedance Results
PI 7
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	Background UTL (KTd)	Adjusted RSL for Residential Soil	Eco (E)	SSL (DAF=1)	EPI07-SO14	EPI07-SO15	EPI07-SO16		EPI07-SO17	EPI07-SO18	EPI07-SO19	EPI07-SO20	EPI07-SO21	EPI07-SO22	VEP7-SO23	VEP7-SO24	VEP7-SO25	VEP7-SO26		VEP7-SO27
Sample ID					EPI07-SS14-0001	EPI07-SS15-0001	EPI07-SS16-0001	EPI07-SS16P-0001	EPI07-SS17-0001	EPI07-SS18-0001	EPI07-SS19-0001	EPI07-SS20-0001	EPI07-SS21-0001	EPI07-SS22-0001	VEP7-SS23-0H-0409	VEP7-SS24-0H-0409	VEP7-SS25-0H-0409	VEP7-SS26-0H-0409	VEP7-SS26P-0H-0409	VEP7-SS27-0H-0409
Sample Date					03/14/06	03/16/06	03/16/06	03/16/06	03/15/06	03/15/06	03/15/06	03/16/06	03/16/06	03/16/06	04/20/09	04/20/09	04/20/09	04/21/09	04/21/09	04/21/09
Chemical Name																				
Volatile Organic Compounds (UG/KG)																				
1,4-Dichlorobenzene	--	2,400	1,280	72	NA	11 U	10 U	11 U	10 U	10 U	11 U	11 U	11 U	12 U	6.0 U	6.0 U	6.0 U	2.0 J	7.0 U	6.0 U
Acetone	--	6,100,000	--	4,500	NA	11 U	10 U	11 U	10 U	10 U	11 U	11 UJ	11 U	12 UJ	43 U	39 U	40 U	45 UJ	46 UJ	40 UJ
Cyclohexane	--	117,000	6,000	13,000	NA	11 U	10 U	11 U	10 U	10 U	11 U	11 U	11 U	12 U	6.0 U	6.0 U	6.0 U	7.0 U	7.0 U	6.0 U
Semivolatile Organic Compounds (UG/KG)																				
2-Methylnaphthalene	--	31,000	--	750	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	21 U	20 U	21 U	21 U	21 U	4.9 J
Acenaphthylene	--	340,000	--	22,000	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	7.1 J	20 UJ	21 UJ	21 U	21 U	22 UJ
Anthracene	--	1,700,000	--	360,000	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	21 U	20 U	21 U	21 U	21 U	22 U
Benzo(a)anthracene	--	150	--	10	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	2.4 J	20 U	21 U	21 U	21 U	22 U
Benzo(a)pyrene	--	15	--	240	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	21 U	20 U	21 U	21 U	21 U	22 U
Benzo(b)fluoranthene	--	150	--	35	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	21 U	20 U	21 U	21 UJ	21 UJ	22 U
Benzo(g,h,i)perylene	--	170,000	--	120,000	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	4.1 J	2.7 J	21 U	21 U	21 U	4.2 J
Benzo(k)fluoranthene	--	1,500	--	350	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	21 U	20 U	21 U	21 U	21 U	22 U
bis(2-Ethylhexyl)phthalate	--	35,000	30,000	1,400	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	100 U	100 U	100 U	110 UJ	110 UJ	110 U
Carbazole	--	--	--	--	350 U	360 UJ	350 UJ	350 UJ	340 U	340 U	340 U	350 UJ	350 UJ	350 UJ	21 U	20 U	21 U	21 U	21 U	22 U
Chrysene	--	15,000	--	1,100	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	3.9 J	2.6 J	21 U	21 U	21 U	2.0 J
Dibenz(a,h)anthracene	--	15	--	11	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	21 U	20 U	21 U	21 UJ	21 UJ	22 U
Di-n-octylphthalate	--	35,000	30,000	--	350 U	360 UJ	350 UJ	350 UJ	340 U	81 J	340 U	350 UJ	350 UJ	350 UJ	650 U	650 U	650 U	670 U	670 U	710 U
Fluoranthene	--	230,000	--	160,000	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	2.2 J	2.3 J	21 U	21 U	21 U	22 U
Fluorene	--	230,000	--	27,000	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	21 UJ	20 UJ	21 UJ	21 U	21 U	22 UJ
Indeno(1,2,3-cd)pyrene	--	150	--	120	350 U	360 UJ	350 UJ	350 UJ	340 U	340 U	340 U	350 UJ	350 UJ	350 UJ	10 J	8.1 J	21 U	21 U	21 U	22 U
PAH HMW (Total)	--	--	18,000	--	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	23 J	16 J	0 U	0 U	0 U	8.8 J
PAH LMW (Total)	--	--	29,000	--	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	9.3 J	2.3 J	0 U	0 U	0 U	4.9 J
Pentachlorophenol	--	890	5,000	10	890 U	900 UJ	890 UJ	890 UJ	850 U	860 U	850 U	890 UJ	880 UJ	880 UJ	100 U	100 U	100 U	110 U	110 U	110 U
Phenanthrene	--	1,700,000	--	--	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	21 U	20 U	21 U	21 U	21 U	22 U
Pyrene	--	170,000	--	120,000	350 U	360 U	350 U	350 U	340 U	340 U	340 U	350 U	350 U	350 U	2.7 J	2.6 J	21 U	21 U	21 U	2.6 J
Herbicides (UG/KG)																				
No Detections	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticide/Polychlorinated Biphenyls (UG/KG)																				
4,4'-DDE	--	1,400	114	47	3.5 U	3.6 U	3.5 U	3.5 U	3.4 U	**150**	1.4 J	3.5 U	3.5 U	3.5 U	NA	NA	NA	NA	NA	NA
4,4'-DDT	--	1,700	100	67	3.5 U	3.6 U	3.5 U	3.5 U	3.4 U	31	1.7 J	3.5 U	3.5 U	3.5 U	NA	NA	NA	NA	NA	NA
beta-BHC	--	270	342	0.22	1.8 U	1.8 U	1.8 U	**1.9 J**	1.7 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	NA	NA	NA	NA	NA	NA
delta-BHC	--	270	226	--	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	NA	NA	NA	NA	NA	NA
Endrin	--	1,800	2.0	81	3.5 U	3.6 U	3.5 U	**2.4 J**	3.4 U	3.4 U	3.4 U	3.5 U	3.5 U	3.5 U	NA	NA	NA	NA	NA	NA
gamma-Chlordane	--	1,600	11	140	1.8 U	1.8 U	1.8 U	1.9 J	1.7 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	NA	NA	NA	NA	NA	NA
Total Metals (MG/KG)																				
Aluminum	35,000	7,700	--	55,000	13,700	12,700	9,010	11,400	9,430	11,900	10,500	8,160	11,800	8,770	16,500	16,000	15,300	14,400	12,000	13,100
Antimony	5.8	3.1	78	0.27	0.78 J	0.72 J	0.58 J	0.63 J	0.83 J	0.77 J	0.68 J	0.40 J	0.56 J	0.43 J	0.086 U	0.13	0.093 U	0.10 U	0.091 U	0.095 U
Arsenic	1.6	0.39	18	0.29	1.1 U	1.1 U	1.1 U	1.1 U	1.0 U	1.0 U	1.0 U	1.1 U	1.1 U	1.1 U	0.86	0.87	0.51	0.71	0.59	0.92
Barium	147	1,500	330	82	100	123	116	140	60	64	69	71	**200**	92	98	97	96	126 J	92 J	95
Beryllium	0.27	16	40	3.2	0.54 U	0.55 U	0.54 U	0.54 U	0.51 U	0.52 U	0.51 U	0.54 U	0.53 U	0.53 U	0.20	0.20	0.17	0.25	0.20	0.20
Calcium	8,840	--	--	--	5,960	3,690	3,060	3,730	3,080	4,940	3,520	5,090	3,600	3,510	**9,500**	6,620	6,600	4,110	3,680	4,660
Chromium	72	0.29 [1]	64	0.00083 [1]	3.2	5.9 J	3.8 J	4.4 J	2.0	3.8	4.8	3.6 J	3.2 J	2.3 J	8.6	7.7	6.3	10	9.0	6.7
Cobalt	16	2.3	13	0.49	12	11 J	8.5 J	10 J	9.8	9.2	8.3	7.0 J	9.5 J	5.9 J	10	10	9.3	11	7.8	8.4
Copper	66	310	70	46	51	62	45	57	**85**	**86**	**119**	36	52	**71**	51	60	53	44	36	46
Cyanide	0.33	160	16	2.0	2.7 U	0.19 J	2.7 U	2.7 U	2.6 U	2.6 U	2.6 U	2.7 U	2.7 U	2.7 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.73 U
Iron	38,100	5,500	--	640	18,700	20,900	15,000	18,100	12,800	13,800	11,800	10,800	16,800	10,500	23,800	22,300	20,400	24,800 J	17,700 J	18,900
Lead	5.4	400	120	14	1.1	1.8	1.2	1.5	1.0 U	**8.2**	2.6	1.5	2.0	3.8	2.3	3.5	2.4	2.2	1.9	2.1
Magnesium	3,710	--	--	--	**6,450**	2,910 J	2,990 J	**3,990 J**	3,610	3,710	3,320	**4,100 J**	**3,830 J**	2,900 J	**5,780 J**	**5,570 J**	**4,830 J**	2,810 J	2,170 J	3,460 J
Manganese	1,630	180	220	57	623	807 J	572 J	678 J	319	407	324	427 J	717 J	323 J	632	645	614	699 J	512 J	647
Mercury	0.057	0.78	0.10	0.10	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.10 U	0.11 U	0.11 U	0.11 U	0.010 J	0.020 J	0.010 J	0.020 J	0.032 U	0.020 J
Nickel	22	150	38	48	4.3 U	4.4 U	4.3 U	4.3 U	2.4 J	2.6 J	3.1 J	4.3 U	2.6 J	1.9 J	5.5	4.7	3.8	5.2	4.6	3.8
Potassium	5,270	--	--	--	779	2,420	1,380	1,770	2,840	1,760	1,710	1,010	1,460	1,260	2,560 J	1,740 J	1,700 J	1,320 J	896 J	1,060 J
Selenium	0.51	39	0.52	0.26	3.8 U	0.47 J	3.8 U	**0.84 J**	0.39 J	3.6 U	3.6 U	3.7 U	**0.60 J**	3.7 U	0.43 U	0.42 U	0.46 U	0.50 U	0.46 U	0.47 U
Silver	0.22	39	560	1.6	1.1 U	1.1 U	1.1 U	1.1 U	1.0 U	1.0 U	1.0 U	1.1 U	1.1 U	1.1 U	0.086 U	0.084 U	0.010 J	0.10 U	0.091 U	0.095 U
Sodium	1,590	--	--	--	540 U	545 U	537 U	536 U	511 U	518 U	512 U	535 U	532 U	532 U	326	232	256	190	169	183
Thallium	0.13	--	1.0	0.14	0.54 U	0.54 U	0.54 U	0.54 U	0.012 J	0.014 J	0.028 J	0.54 U	0.53 U	0.53 U	0.086 U	0.084 U	0.093 U	0.10 U	0.091 U	0.095 U
Vanadium	144	39	130	180	42	61	39	46	35	36	33	22	33	21	76	70	60	80 J	56 J	54
Zinc	32	2,300	120	680	31	24	19	25	29	**54**	28	20	21	21	32	**33**	29	18 J	13 J	25
Total Petroleum Hydrocarbons (MG/KG)																				
No Detections	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Exceeds Background UTL
Exceeds Background UTL and Adjusted RSL for Residential Soil
Exceeds Background UTL and ECO (E)
Exceeds Background UTL and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil and SSL (DAF=1)
Exceeds Background UTL, ECO (E) and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil, ECO (E) and SSL (DAF=1)

NA - Not Analyzed
ND - Not Detected
-- Not part of background data set (where applicable) OR Regulatory standard not promulgated
* SVOC data has been substituted with the SVOC data from sample SO42
J - Analyte present, value may or may not be accurate or precise
R - Unreliable Result
U - Not detected or not detected significantly greater than that in an associated blank.
MG/KG - Milligrams per kilogram
UG/KG - Micrograms per kilogram
[1] The screening value for hexavalent chromium was used.

Table 2-1
Surface Soil Detection and Exceedance Results
PI 7
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	Background UTL (KTd)	Adjusted RSL for Residential Soil	Eco (E)	SSL (DAF=1)	VEP7-SO28	VEP7-SO29	VEP7-SO30	VEP7-SO31	VEP7-SO32	VEP7-SO33	VEP7-SO34		VEP7-SO35	VEP7-SO36	VEP7-SO37	VEP7-SO38	VEP7-SO39
Sample ID					VEP7-SS28-0H-0409	VEP7-SS29-0H-0409	VEP7-SS30-0H-0409	VEP7-SS31-0H-0409	VEP7-SS32-0H-0409	VEP7-SS33-0H-0409	VEP7-SS34-0H-0409	VEP7-SS34P-0H-0409	VEP7-SS35-0H-0409	VEP7-SS36-0H-0409	VEP7-SS37-0H-0409	VEP7-SS38-0H-0409	VEP7-SS39-0H-0409
Sample Date					04/21/09	04/21/09	04/21/09	04/21/09	04/22/09	04/22/09	04/22/09	04/22/09	04/22/09	04/22/09	04/22/09	04/22/09	04/22/09
Chemical Name																	
Volatile Organic Compounds (UG/KG)																	
1,4-Dichlorobenzene	--	2,400	1,280	72	7.0 U	6.0 U	8.0 U	6.0 U	6.0 U	7.0 U	6.0 U	6.0 U	7.0 U	9.0 U	7.0 U	8.0 U	8.0 U
Acetone	--	6,100,000	--	4,500	48 UJ	41 UJ	51 UJ	43 UJ	42 UJ	47 UJ	42 UJ	38 UJ	44 UJ	58 UJ	45 UJ	50 UJ	50 UJ
Cyclohexane	--	117,000	6,000	13,000	7.0 U	6.0 U	8.0 U	6.0 U	6.0 U	7.0 U	6.0 U	6.0 U	7.0 U	9.0 U	7.0 U	8.0 U	8.0 U
Semivolatile Organic Compounds (UG/KG)																	
2-Methylnaphthalene	--	31,000	--	750	23 U	21 U	24 U	21 U	4.9 J	3.4 J	3.8 J	5.3 J	6.6 J	23 UJ	25 UJ	23 UJ	25 UJ
Acenaphthylene	--	340,000	--	22,000	23 UJ	21 UJ	24 UJ	21 UJ	24 UJ	23 UJ	23 UJ	21 UJ	21 UJ	23 UJ	25 UJ	23 UJ	25 UJ
Anthracene	--	1,700,000	--	360,000	23 U	21 U	24 U	21 U	24 UJ	23 UJ	23 UJ	21 UJ	1.7 J	23 UJ	25 UJ	23 UJ	25 UJ
Benzo(a)anthracene	--	150	--	10	23 U	21 U	24 U	21 U	9.3 J	7.8 J	7.7 J	7.3 J	**11 J**	**12 J**	8.1 J	**11 J**	25 UJ
Benzo(a)pyrene	--	15	--	240	23 U	21 U	24 U	21 U	5.7 J	3.9 J	23 UJ	21 UJ	12 J	9.4 J	25 UJ	7.1 J	25 UJ
Benzo(b)fluoranthene	--	150	--	35	23 U	21 U	24 U	21 U	10 J	7.8 J	8.6 J	7.3 J	21 J	17 J	7.5 J	12 J	25 UJ
Benzo(g,h,i)perylene	--	170,000	--	120,000	23 U	21 U	24 U	21 U	4.8 J	3.6 J	2.8 J	2.8 J	8.5 J	6.3 J	2.8 J	4.9 J	25 UJ
Benzo(k)fluoranthene	--	1,500	--	350	23 U	21 U	24 U	21 U	6.8 J	3.9 J	23 UJ	3.7 J	9.5 J	8.3 J	25 UJ	8.4 J	25 UJ
bis(2-Ethylhexyl)phthalate	--	35,000	30,000	1,400	110 U	100 U	74 J	100 U	120 UJ	120 UJ	120 UJ	100 UJ	110 UJ	110 UJ	130 UJ	110 UJ	120 UJ
Carbazole	--	--	--	--	23 U	21 U	24 U	21 U	24 UJ	23 UJ	23 UJ	21 UJ	21 UJ	23 UJ	25 UJ	23 UJ	25 UJ
Chrysene	--	15,000	--	1,100	23 U	21 U	2.1 J	21 U	5.5 J	4.8 J	3.5 J	4.4 J	10 J	8.6 J	3.5 J	7.7 J	25 UJ
Dibenz(a,h)anthracene	--	15	--	11	23 U	21 U	24 U	21 U	24 UJ	23 UJ	23 UJ	21 UJ	21 UJ	23 UJ	25 UJ	6.7 J	25 UJ
Di-n-octylphthalate	--	35,000	30,000	--	720 U	660 U	760 U	660 U	750 U	740 U	740 U	670 U	680 U	730 U	800 U	720 U	790 U
Fluoranthene	--	230,000	--	160,000	23 U	21 U	3.4 J	21 U	4.4 J	2.3 J	2.6 J	3.7 J	4.4 J	8.0 J	2.8 J	8.5 J	25 UJ
Fluorene	--	230,000	--	27,000	23 UJ	21 UJ	24 UJ	6.5 J	24 UJ	23 UJ	23 UJ	21 UJ	21 UJ	23 UJ	25 UJ	23 UJ	25 UJ
Indeno(1,2,3-cd)pyrene	--	150	--	120	23 U	21 U	24 U	21 U	5.2 J	3.5 J	3.7 J	3.2 J	7.3 J	6.5 J	3.3 J	5.8 J	25 UJ
PAH HMW (Total)	--	--	18,000	--	0 U	0 U	5.6 J	0 U	52 J	38 J	26 J	32 J	85 J	75 J	28 J	70 J	0 U
PAH LMW (Total)	--	--	29,000	--	0 U	0 U	3.4 J	6.5 J	14 J	15 J	11 J	13 J	17 J	13 J	2.8 J	13 J	0 U
Pentachlorophenol	--	890	5,000	10	110 U	100 U	120 U	100 U	120 R	120 R	120 R	100 R	110 R	110 R	130 R	110 R	120 R
Phenanthrene	--	1,700,000	--	--	23 U	21 U	24 U	21 U	4.8 J	9.1 J	4.2 J	3.8 J	4.4 J	4.8 J	25 UJ	4.1 J	25 UJ
Pyrene	--	170,000	--	120,000	23 U	21 U	3.5 J	21 U	4.4 J	2.7 J	23 UJ	3.1 J	5.7 J	6.4 J	3.0 J	6.1 J	25 UJ
Herbicides (UG/KG)																	
No Detections	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticide/Polychlorinated Biphenyls (UG/KG)																	
4,4'-DDE	--	1,400	114	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	--	1,700	100	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	--	270	342	0.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	--	270	226	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	--	1,800	2.0	81	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	--	1,600	11	140	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Metals (MG/KG)																	
Aluminum	35,000	7,700	--	55,000	19,700	13,700	19,800	14,700	18,500	15,800	12,200	11,400	11,700	11,300	13,600	12,200	21,100
Antimony	5.8	3.1	78	0.27	0.092 U	0.098 U	0.12 U	0.089 U	0.11 U	0.10 U	0.11 U	0.092 U	0.089 U	0.088 U	0.094 U	0.10 U	0.12
Arsenic	1.6	0.39	18	0.29	0.33 J	1.4	**2.7**	**1.7**	**2.0**	1.3	0.72	0.82	0.61	**2.0**	0.64	0.52 U	1.6
Barium	147	1,500	330	82	**256**	74	71	62	81	77	68	62	63	60	75	51	**220**
Beryllium	0.27	16	40	3.2	**0.29**	0.21	**0.30**	0.22	0.26	0.18	0.13	0.12	0.13	0.12	0.15	0.11	0.26
Calcium	8,840	--	--	--	4,110	6,500	**11,200**	8,150	**10,800**	7,900	7,000	6,370	5,340	6,300	5,730	5,910	4,670
Chromium	72	0.29 [1]	64	0.00083 [1]	5.9	10	14	11	24	15	9.2	9.5	7.5	12	11	19	12
Cobalt	16	2.3	13	0.49	16	8.6	12	9.2	12	10	7.5	7.6	8.0	7.8	8.7	7.8	11
Copper	66	310	70	46	42	44	66	49	52	51	47	42	41	44	42	39	**175**
Cyanide	0.33	160	16	2.0	0.73 U	0.66 U	0.79 U	0.66 U	0.79 U	0.79 U	0.73 U	0.66 U	0.73 U	0.73 U	0.79 U	0.73 U	0.79 U
Iron	38,100	5,500	--	640	21,800	20,200	27,300	21,300	26,000	23,200	21,200	21,100	20,800	28,600	24,500	30,300	**44,200**
Lead	5.4	400	120	14	2.1	2.3	3.3	2.0	3.0	**12**	2.5	2.4	3.8	3.2	3.7	1.9	**51**
Magnesium	3,710	--	--	--	2,880 J	**5,170 J**	**8,550 J**	**6,070 J**	**8,960 J**	**7,650 J**	**4,920 J**	**4,990 J**	**4,950 J**	**5,060 J**	**5,530 J**	**5,890 J**	**4,410 J**
Manganese	1,630	180	220	57	**1,990**	498	622	486	624	546	434	433	462	471	515	438	744
Mercury	0.057	0.78	0.10	0.10	0.010 J	0.010 J	0.035 U	0.033 U	0.036 U	0.037 U	0.038 U	0.031 U	0.032 U	0.035 U	0.040 U	0.033 U	0.030 J
Nickel	22	150	38	48	4.8	7.0	10	6.4	14	8.8	5.1	5.0	4.2	6.6	5.8	7.6	13
Potassium	5,270	--	--	--	1,270 J	1,170 J	1,120 J	726 J	1,200 J	1,220 J	1,070 J	1,010 J	1,230 J	1,120 J	1,390 J	1,080 J	2,790 J
Selenium	0.51	39	0.52	0.26	0.46 U	0.49 U	0.58 U	0.44 U	0.55 U	0.33 U	0.54 U	0.46 U	0.45 U	0.44 U	0.47 U	0.52 U	0.59 U
Silver	0.22	39	560	1.6	0.092 U	0.098 U	0.12 U	0.089 U	0.11 U	0.10 U	0.11 U	0.092 U	0.089 U	0.088 U	0.094 U	0.040 J	0.18
Sodium	1,590	--	--	--	227	197	391	270	330	286	229	258	214	196	254	405	205 J
Thallium	0.13	--	1.0	0.14	0.092 U	0.098 U	0.12 U	0.089 U	0.11 U	0.10 U	0.11 U	0.092 U	0.089 U	0.088 U	0.094 U	0.10 U	0.12 U
Vanadium	144	39	130	180	63	63	85	67	79	69	66	65	60	64	81	113	62
Zinc	32	2,300	120	680	18	21	32	22	**39**	**35**	26	25	31	28	**35**	26	**138**
Total Petroleum Hydrocarbons (MG/KG)																	
No Detections	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Exceeds Background UTL
Exceeds Background UTL and Adjusted RSL for Residential Soil
Exceeds Background UTL and ECO (E)
Exceeds Background UTL and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil and SSL (DAF=1)
Exceeds Background UTL, ECO (E) and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil, ECO (E) and SSL (DAF=1)

NA - Not Analyzed
ND - Not Detected
-- Not part of background data set (where applicable) OR Regulatory standard not promulgated
* SVOC data has been substituted with the SVOC data from sample SO42
J - Analyte present, value may or may not be accurate or precise
R - Unreliable Result
U - Not detected or not detected significantly greater than that in an associated blank.
MG/KG - Milligrams per kilogram
UG/KG - Micrograms per kilogram
[1] The screening value for hexavalent chromium was used.

Table 2-1
Surface Soil Detection and Exceedance Results
PI 7
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	Background UTL (KTd)	Adjusted RSL for Residential Soil	Eco (E)	SSL (DAF=1)	VEP7-SO40			VEP7-SO41	VEP7-SO42
Sample ID					VEP7-SS40-0H-0509	VEP7-SB40-H1H-0509	VEP7-SB40P-H1H-0509	VEP7-SS41-0H-0409	PI07-SS42-0001-0810
Sample Date					05/01/09	05/01/09	05/01/09	04/30/09	08/17/10
Chemical Name									
Volatile Organic Compounds (UG/KG)									
1,4-Dichlorobenzene	--	2,400	1,280	72	5.0 U	5.0 U	6.0 R	5.0 U	NA
Acetone	--	6,100,000	--	4,500	35 U	32 U	37 R	140	NA
Cyclohexane	--	117,000	6,000	13,000	5.0 U	5.0 U	6.0 R	3.0 J	NA
Semivolatile Organic Compounds (UG/KG)									
2-Methylnaphthalene	--	31,000	--	750	22 UJ	21 UJ	21 UJ	21 UJ	12 U
Acenaphthylene	--	340,000	--	22,000	17 J	21 UJ	2.0 J	21 UJ	12 U
Anthracene	--	1,700,000	--	360,000	18 J	1.0 J	2.0 J	21 UJ	12 U
Benzo(a)anthracene	--	150	--	10	**78 J**	4.0 J	5.0 J	21 UJ	12 U
Benzo(a)pyrene	--	15	--	240	**180 J**	13 J	**18 J**	21 UJ	12 U
Benzo(b)fluoranthene	--	150	--	35	**340 J**	27 J	**36 J**	21 UJ	12 U
Benzo(g,h,i)perylene	--	170,000	--	120,000	240 J	19 J	26 J	21 UJ	12 U
Benzo(k)fluoranthene	--	1,500	--	350	170 J	17 J	24 J	21 UJ	12 U
bis(2-Ethylhexyl)phthalate	--	35,000	30,000	1,400	110 UJ	110 UJ	110 U	100 UJ	58 U
Carbazole	--	--	--	--	4.0 J	21 UJ	21 UJ	21 UJ	12 U
Chrysene	--	15,000	--	1,100	180 J	9.0 J	15 J	21 UJ	12 U
Dibenz(a,h)anthracene	--	15	--	11	**57 J**	21 UJ	7.0 J	21 UJ	12 U
Di-n-octylphthalate	--	35,000	30,000	--	700 U	680 U	680 U	660 U	NA
Fluoranthene	--	230,000	--	160,000	73 J	5.0 J	5.0 J	21 UJ	12 U
Fluorene	--	230,000	--	27,000	22 UJ	21 UJ	21 UJ	21 UJ	12 U
Indeno(1,2,3-cd)pyrene	--	150	--	120	**210 J**	14 J	21 J	3.0 J	12 U
PAH HMW (Total)	--	--	18,000	--	1,530 J	NA	NA	3.0 J	0 U
PAH LMW (Total)	--	--	29,000	--	108 J	NA	NA	0 U	0 U
Pentachlorophenol	--	890	5,000	10	**34 J**	110 R	110 R	100 R	58 U
Phenanthrene	--	1,700,000	--	--	22 U	21 U	21 U	21 UJ	12 U
Pyrene	--	170,000	--	120,000	75 J	6.0 J	7.0 J	21 UJ	12 U
Herbicides (UG/KG)									
No Detections	--	--	--	--	NA	NA	NA	NA	NA
Pesticide/Polychlorinated Biphenyls (UG/KG)									
4,4'-DDE	--	1,400	114	47	NA	NA	NA	NA	NA
4,4'-DDT	--	1,700	100	67	NA	NA	NA	NA	NA
beta-BHC	--	270	342	0.22	NA	NA	NA	NA	NA
delta-BHC	--	270	226	--	NA	NA	NA	NA	NA
Endrin	--	1,800	2.0	81	NA	NA	NA	NA	NA
gamma-Chlordane	--	1,600	11	140	NA	NA	NA	NA	NA
Total Metals (MG/KG)									
Aluminum	35,000	7,700	--	55,000	15,800	16,200	18,600	14,200	NA
Antimony	5.8	3.1	78	0.27	0.080 J	0.050 J	0.080 J	0.12 J	NA
Arsenic	1.6	0.39	18	0.29	0.50 U	0.36 U	0.47 U	**8.3**	NA
Barium	147	1,500	330	82	**185**	**156**	**172**	103	NA
Beryllium	0.27	16	40	3.2	0.25	0.24	0.22	0.18	NA
Calcium	8,840	--	--	--	3,690	3,280	3,630	3,670	NA
Chromium	72	0.29 [1]	64	0.00083 [1]	8.6	7.5	7.1	12	NA
Cobalt	16	2.3	13	0.49	9.4	8.0	8.6	10	NA
Copper	66	310	70	46	52	44	49	56	NA
Cyanide	0.33	160	16	2.0	0.66 U	0.66 U	0.66 U	0.66 U	NA
Iron	38,100	5,500	--	640	27,800	23,600	26,000	**38,900**	NA
Lead	5.4	400	120	14	2.0	1.4 J	2.0 J	5.0	NA
Magnesium	3,710	--	--	--	**4,060**	**3,880**	**5,070**	**4,620**	NA
Manganese	1,630	180	220	57	748	543	580	683	NA
Mercury	0.057	0.78	0.10	0.10	0.020 J	0.028 U	0.032 U	0.035 U	NA
Nickel	22	150	38	48	3.3	3.2	3.4	5.4	NA
Potassium	5,270	--	--	--	1,600 J	840 J	950 J	1,740 J	NA
Selenium	0.51	39	0.52	0.26	0.50 U	0.36 UJ	0.47 UJ	0.50 UJ	NA
Silver	0.22	39	560	1.6	0.10 U	0.072 U	0.094 U	0.10 U	NA
Sodium	1,590	--	--	--	136	169	191	154	NA
Thallium	0.13	--	1.0	0.14	0.10 U	0.072 U	0.094 U	0.10 U	NA
Vanadium	144	39	130	180	88	78	77	83	NA
Zinc	32	2,300	120	680	23	18	23	**57**	NA
Total Petroleum Hydrocarbons (MG/KG)									
No Detections	--	--	--	--	NA	NA	NA	NA	NA

Notes:

Exceeds Background UTL
Exceeds Background UTL and Adjusted RSL for Residential Soil
Exceeds Background UTL and ECO (E)
Exceeds Background UTL and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil and SSL (DAF=1)
Exceeds Background UTL, ECO (E) and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil, ECO (E) and SSL (DAF=1)

NA - Not Analyzed
ND - Not Detected
-- Not part of background data set (where applicable) OR Regulatory standard not promulgated
* SVOC data has been substituted with the SVOC data from sample SO42
J - Analyte present, value may or may not be accurate or precise
R - Unreliable Result
U - Not detected or not detected significantly greater than that in an associated blank.
MG/KG - Milligrams per kilogram
UG/KG - Micrograms per kilogram
[1] The screening value for hexavalent chromium was used.

Table 2-2
Subsurface Soil Detection and Exceedance Results
PI 7
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	Background UTL (KTd)	Adjusted RSL for Residential Soil	SSL (DAF=1)	EPI07-SO01	EPI07-SO02	EPI07-SO03	EPI07-SO04	EPI07-SO05	EPI07-SO06	EPI07-SO07	EPI07-SO08	EPI07-SO09		EPI07-SO10
Sample ID				EPI07-SB01-0406	EPI07-SB02-0406	EPI07-SB03-0406	EPI07-SB04-0406	EPI07-SB05-0406	EPI07-SB06-0406	EPI07-SB07-0406	EPI07-SB08-0406	EPI07-SB09-0406	EPI07-SB09P-0406	EPI07-SB10-0406
Sample Date				03/13/06	03/13/06	03/13/06	03/13/06	03/14/06	03/14/06	03/14/06	03/14/06	03/14/06	03/14/06	03/14/06
Chemical Name														
Volatile Organic Compounds (UG/KG)														
Acetone	--	6,100,000	4,500	11 U	11 U	11 U	13 U	12 UJ	11 UJ	10 UJ	10 U	12 U	10 UJ	10 UJ
Semivolatile Organic Compounds (UG/KG)														
1,1-Biphenyl	--	214,000	19,000	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
2-Methylnaphthalene	--	31,000	750	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
4-Chlorophenyl-phenylether	--	4,600	--	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Acenaphthylene	--	340,000	22,000	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Anthracene	--	1,700,000	360,000	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Atrazine	--	2,100	1.9	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Benzaldehyde	--	780,000	810	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Benzo(a)anthracene	--	150	10	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Benzo(a)pyrene	--	15	240	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Benzo(b)fluoranthene	--	150	35	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Benzo(g,h,i)perylene	--	170,000	120,000	360 U	370 U	370 U	360 U	370 U	370 UJ	370 UJ	360 U	370 UJ	360 UJ	370 UJ
Benzo(k)fluoranthene	--	1,500	350	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
bis(2-Chloroethyl)ether	--	210	0.0031	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
bis(2-Ethylhexyl)phthalate	--	35,000	1,400	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Chrysene	--	15,000	1,100	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Dibenz(a,h)anthracene	--	15	11	360 U	370 U	370 U	360 U	370 U	370 UJ	370 UJ	360 U	370 UJ	360 UJ	370 UJ
Dibenzofuran	--	7,800	680	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Diethylphthalate	--	4,900,000	12,000	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Di-n-butylphthalate	--	610,000	9,200	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Di-n-octylphthalate	--	35,000	--	360 U	370 U	370 U	360 U	370 U	370 UJ	370 UJ	360 U	370 UJ	360 UJ	370 UJ
Fluoranthene	--	230,000	160,000	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Indeno(1,2,3-cd)pyrene	--	150	120	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Nitrobenzene	--	4,800	0.079	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Phenanthrene	--	1,700,000	--	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Phenol	--	1,800,000	6,300	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Pyrene	--	170,000	120,000	360 U	370 U	370 U	360 U	370 U	370 U	370 U	360 U	370 U	360 U	370 U
Pesticide/Polychlorinated Biphenyls (UG/KG)														
4,4'-DDE	--	1,400	47	3.6 U	4.2	3.7 U	3.6 U	0.98 J	3.7 U	3.7 U	**130**	0.76 J	3.6 U	3.7 U
4,4'-DDT	--	1,700	67	3.6 U	3.7 U	3.7 U	3.6 U	3.7 U	3.7 U	3.7 U	3.6 U	3.7 U	3.6 U	3.7 U
Total Metals (MG/KG)														
Aluminum	35,000	7,700	55,000	13,600 J	9,660 J	9,350 J	13,700 J	14,500 J	22,600 J	14,900 J	14,700	19,200 J	18,300 J	15,500 J
Antimony	5.8	3.1	0.27	0.71 J	0.50 J	0.79 J	0.88 J	0.95 J	0.70 J	0.50 J	0.74 J	0.82 J	0.48 J	0.82 J
Arsenic	1.6	0.39	0.29	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	**2.6**	1.1 U	1.1 U	1.1 U
Barium	147	1,500	82	109 J	73 J	87 J	135 J	98 J	**154 J**	81 J	52	**163 J**	134 J	98 J
Beryllium	0.27	16	3.2	0.55 U	0.50 U	0.56 U	0.55 U	0.56 U	0.56 U	0.56 U	0.55 U	0.17 J	0.14 J	0.095 J
Cadmium	2.2	7	0.38	0.55 U	0.56 U	0.56 U	0.55 U	0.56 U	0.56 U	0.56 U	0.55 U	0.56 U	0.54 U	0.56 U
Calcium	8,840	--	--	**14,500 J**	4,870 J	2,970 J	2,660 J	2,970 J	3,650 J	2,740 J	**11,100**	2,680 J	2,660 J	2,830 J
Chromium	72	0.29	0.00083	5.6	5.1	4.1	6.2	7.6	6.7	4.3	15	6.3	6.3	7.1
Cobalt	16	2.3	0.49	9.1 J	7.1 J	7.7 J	9.4 J	8.3 J	9.5 J	10 J	12	9.7 J	12 J	7.4 J
Copper	66	310	46	43	31	38	48	29	51	43	31	43	41	28
Cyanide	0.89	160	2.0	2.7 U	0.56 J	0.38 J	2.7 U	0.19 J	0.40 J	2.8 R	2.8 U	2.8 R	2.7 R	2.8 R
Iron	38,100	5,500	640	19,500 J	15,600 J	14,800 J	26,300 J	30,600 J	28,600 J	18,900 J	21,500	25,100 J	24,600 J	27,900 J
Lead	3.3	400	14	2.0	2.6	1.9	1.3	1.1 U	1.8	1.2	1.7	1.6	1.5	1.1 U
Magnesium	3,710	--	--	**4,830 J**	2,510 J	2,290 J	**4,470 J**	2,950 J	**3,880 J**	3,250 J	**10,000**	3,490 J	3,520 J	2,640 J
Manganese	1,630	180	57	545 J	494 J	531 J	442 J	491 J	451 J	698 J	451	648 J	780 J	422 J
Mercury	0.057	0.78	0.10	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Nickel	22	150	48	2.9 J	2.3 J	2.1 J	3.2 J	2.6 J	3.4 J	2.6 J	11	3.3 J	3.3 J	2.8 J
Potassium	2,000	--	--	1,280	1,420	1,180	775	985	1,570	1,090	552 U	1,280	1,210	914
Selenium	0.51	39	0.26	**0.92 J**	**0.62 J**	**0.59 J**	0.51 J	**0.63 J**	**0.84 J**	**0.89 J**	0.40 J	**1.0 J**	**0.72 J**	**0.98 J**
Sodium	2,250	--	--	549 U	560 U	557 U	548 U	556 U	559 U	564 U	552 U	557 U	543 U	561 U
Thallium	0.13	--	0.14	0.55 U	0.56 U	0.56 U	0.55 U	0.56 U	0.56 U	0.56 U	0.53 U	0.56 U	0.54 U	0.56 U
Vanadium	144	39	180	57	49	46	80	98	80	51	62	65	65	86
Zinc	32	2,300	680	25	18	22	25	18	24	19	18	23	23	15

Notes:

Exceeds Background UTL
Exceeds Background UTL and Adjusted RSL for Residential Soil
Exceeds Background UTL and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil and SSL (DAF=1)

NA - Not Analyzed
ND - Not Detected
-- Not part of background data set (where applicable) OR Regulatory standard not promulgated
J - Analyte present, value may or may not be accurate or precise
U - Not detected or not detected significantly greater than that in an associated blank.
MG/KG - Milligrams per kilogram
UG/KG - Micrograms per kilogram

Table 2-2
Subsurface Soil Detection and Exceedance Results
PI 7
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	Background UTL (KTd)	Adjusted RSL for Residential Soil	SSL (DAF=1)	EPI07-SO11	EPI07-SO14	EPI07-SO15	EPI07-SO16	EPI07-SO17	EPI07-SO18	EPI07-SO19	EPI07-SO21	VEP7-SO23	VEP7-SO24
Sample ID				EPI07-SB11-0102	EPI07-SB14-0406	EPI07-SB15-0204	EPI07-SB16-0204	EPI07-SB17-0102	EPI07-SB18-0204	EPI07-SB19-0204	EPI07-SB21-0103	VEP7-SB23-46-0409	VEP7-SB24-46-0409
Sample Date				03/14/06	03/14/06	03/16/06	03/16/06	03/15/06	03/15/06	03/15/06	03/16/06	04/23/09	04/28/09
Chemical Name													
Volatile Organic Compounds (UG/KG)													
Acetone	--	6,100,000	4,500	NA	NA	10 U	11 U	10 U	10 U	10 U	11 UJ	29 UJ	29 U
Semivolatile Organic Compounds (UG/KG)													
1,1-Biphenyl	--	214,000	19,000	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	360 U	380 U
2-Methylnaphthalene	--	31,000	750	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	3.7 J	23 UJ
4-Chlorophenyl-phenylether	--	4,600	--	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	360 U	380 U
Acenaphthylene	--	340,000	22,000	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	22 UJ	23 UJ
Anthracene	--	1,700,000	360,000	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	22 UJ	23 UJ
Atrazine	--	2,100	1.9	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	360 U	380 U
Benzaldehyde	--	780,000	810	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	390 R	410 U
Benzo(a)anthracene	--	150	10	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	5.6 J	23 UJ
Benzo(a)pyrene	--	15	240	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	22 UJ	23 UJ
Benzo(b)fluoranthene	--	150	35	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	22 UJ	23 UJ
Benzo(g,h,i)perylene	--	170,000	120,000	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	22 UJ	23 UJ
Benzo(k)fluoranthene	--	1,500	350	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	22 UJ	23 UJ
bis(2-Chloroethyl)ether	--	210	0.0031	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	360 UJ	380 U
bis(2-Ethylhexyl)phthalate	--	35,000	1,400	340 U	180 J	360 U	370 U	340 U	340 U	340 U	350 U	62 J	110 UJ
Chrysene	--	15,000	1,100	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	22 UJ	23 UJ
Dibenz(a,h)anthracene	--	15	11	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	22 UJ	23 UJ
Dibenzofuran	--	7,800	680	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	360 U	380 U
Diethylphthalate	--	4,900,000	12,000	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	360 U	380 U
Di-n-butylphthalate	--	610,000	9,200	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	110 UJ	110 UJ
Di-n-octylphthalate	--	35,000	--	340 U	350 U	360 UJ	270 J	340 U	340 U	340 U	350 UJ	690 U	720 U
Fluoranthene	--	230,000	160,000	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	22 UJ	23 UJ
Indeno(1,2,3-cd)pyrene	--	150	120	340 U	350 U	360 UJ	370 UJ	340 U	340 U	340 U	350 UJ	22 UJ	23 UJ
Nitrobenzene	--	4,800	0.079	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	360 U	380 U
Phenanthrene	--	1,700,000	--	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	3.7 J	23 UJ
Phenol	--	1,800,000	6,300	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	510 UJ	530 U
Pyrene	--	170,000	120,000	340 U	350 U	360 U	370 U	340 U	340 U	340 U	350 U	22 UJ	23 UJ
Pesticide/Polychlorinated Biphenyls (UG/KG)													
4,4'-DDE	--	1,400	47	3.4 U	3.5 U	3.6 U	3.7 U	3.4 U	19	3.4 U	3.5 U	NA	NA
4,4'-DDT	--	1,700	67	3.4 U	3.5 U	3.6 U	3.7 U	3.4 U	2.2 J	3.4 U	3.5 U	NA	NA
Total Metals (MG/KG)													
Aluminum	35,000	7,700	55,000	10,400	12,100	12,500	17,500	9,650	10,700	11,200	13,200	28,100	20,100
Antimony	5.8	3.1	0.27	0.73 J	0.61 J	0.67 J	0.72 J	0.69 J	0.84 J	0.60 J	0.64 J	0.093 U	0.097 UJ
Arsenic	1.6	0.39	0.29	1.0 U	1.1 U	1.1 U	1.1 U	1.0 U	1.0 U	1.0 U	1.1 U	0.47	0.48 U
Barium	147	1,500	82	52	100	123	123	97	61	65	**181**	141	**232**
Beryllium	0.27	16	3.2	0.51 U	0.53 U	0.55 U	0.56 U	0.51 U	0.51 U	0.51 U	0.53 U	0.24	**0.29**
Cadmium	2.2	7	0.38	0.51 U	0.53 U	0.55 U	0.56 U	0.51 U	0.51 U	0.51 U	0.53 U	0.093 U	0.050 J
Calcium	8,840	--	--	6,720	**13,100**	3,340	3,220	3,380	4,700	3,920	3,570	3,840	**12,800**
Chromium	72	0.29	0.00083	3.5	4.4	4.8 J	6.4 J	1.7	13	2.9	3.1 J	13	16
Cobalt	16	2.3	0.49	11	9.1	9.9 J	11 J	11	11	9.5	9.7 J	8.2	11
Copper	66	310	46	48	39	65	**72**	**185**	**118**	**129**	52	48	48 J
Cyanide	0.89	160	2.0	2.6 U	2.7 U	0.30 J	2.8 U	2.5 U	2.6 U	2.5 U	2.7 U	0.73 U	0.73 U
Iron	38,100	5,500	640	17,700	15,800	23,700	23,200	13,200	15,500	12,400	17,200	30,900	24,600
Lead	3.3	400	14	1.0 U	1.1	1.7	1.5	1.0 U	1.0 U	1.4	1.2	1.6	1.8
Magnesium	3,710	--	--	**7,370**	**5,540**	3,430 J	**4,090 J**	**4,650**	**5,180**	3,570	**4,860 J**	**4,180 J**	**4,270**
Manganese	1,630	180	57	560	715	538 J	636 J	343	461	380	583 J	371	1,360
Mercury	0.057	0.78	0.10	0.10 U	0.11 U	0.11 U	0.11 U	0.10 U	0.10 U	0.10 U	0.11 U	0.010 J	0.036 U
Nickel	22	150	48	3.2 J	4.2 U	4.4 U	4.4 U	2.7 J	5.6	2.8 J	2.7 J	3.9	5.6
Potassium	2,000	--	--	521	821	1,260	1,680	**2,720**	750	509 U	627	1,640 J	1,850 J
Selenium	0.51	39	0.26	3.6 U	**0.72 J**	**0.64 J**	**0.53 J**	3.6 U	**0.69 J**	3.6 U	3.7 U	0.46 U	0.48 U
Sodium	2,250	--	--	513 U	531 U	545 U	556 U	509 U	510 U	509 U	532 U	287	335
Thallium	0.13	--	0.14	0.51 U	0.017 J	0.55 U	0.56 U	0.043 J	0.016 J	0.011 J	0.53 U	0.093 U	0.097 U
Vanadium	144	39	180	40	36	70	56	35	46	33	36	88	71
Zinc	32	2,300	680	**33**	26	28	28	30	**34**	**33**	23	28	26

Notes:

Exceeds Background UTL
Exceeds Background UTL and Adjusted RSL for Residential Soil
Exceeds Background UTL and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil and SSL (DAF=1)

NA - Not Analyzed
ND - Not Detected
-- Not part of background data set (where applicable) OR Regulatory standard not promulgated
J - Analyte present, value may or may not be accurate or precise
U - Not detected or not detected significantly greater than that in an associated blank.
MG/KG - Milligrams per kilogram
UG/KG - Micrograms per kilogram

Table 2-2
Subsurface Soil Detection and Exceedance Results
PI 7
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	Background UTL (KTd)	Adjusted RSL for Residential Soil	SSL (DAF=1)	VEP7-SO25	VEP7-SO26		VEP7-SO27		VEP7-SO28			
Sample ID				VEP7-SB25-23-0409	VEP7-SB26-46-0409	VEP7-SB26-46-0509	VEP7-SB27-46-0409	VEP7-SB27-46-0509	VEP7-SB28-24-0409	VEP7-SB28P-24-0409	VEP7-SB28P-24-0509	VEP7-SB28-24-0509
Sample Date				04/28/09	04/28/09	05/13/09	04/28/09	05/13/09	04/28/09	04/28/09	05/13/09	05/13/09
Chemical Name												
Volatile Organic Compounds (UG/KG)												
Acetone	--	6,100,000	4,500	22 J	NA	26 U	NA	29 U	NA	NA	30 U	28 U
Semivolatile Organic Compounds (UG/KG)												
1,1-Biphenyl	--	214,000	19,000	370 U	380 U	NA	400 U	NA	360 U	360 U	NA	NA
2-Methylnaphthalene	--	31,000	750	22 U	23 UJ	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
4-Chlorophenyl-phenylether	--	4,600	--	370 U	380 U	NA	400 U	NA	360 U	360 U	NA	NA
Acenaphthylene	--	340,000	22,000	22 UJ	23 UJ	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
Anthracene	--	1,700,000	360,000	22 UJ	23 UJ	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
Atrazine	--	2,100	1.9	370 U	380 U	NA	400 U	NA	360 U	360 U	NA	NA
Benzaldehyde	--	780,000	810	410 UJ	420 UJ	NA	440 UJ	NA	390 UJ	390 UJ	NA	NA
Benzo(a)anthracene	--	150	10	22 UJ	23 UJ	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
Benzo(a)pyrene	--	15	240	22 UJ	23 UJ	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
Benzo(b)fluoranthene	--	150	35	22 UJ	23 UJ	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
Benzo(g,h,i)perylene	--	170,000	120,000	22 UJ	23 UJ	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
Benzo(k)fluoranthene	--	1,500	350	22 UJ	23 UJ	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
bis(2-Chloroethyl)ether	--	210	0.0031	370 U	380 U	NA	400 U	NA	360 U	360 U	NA	NA
bis(2-Ethylhexyl)phthalate	--	35,000	1,400	110 UJ	80 J	NA	120 UJ	NA	38 J	110 UJ	NA	NA
Chrysene	--	15,000	1,100	22 UJ	23 UJ	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
Dibenz(a,h)anthracene	--	15	11	22 UJ	23 UJ	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
Dibenzofuran	--	7,800	680	370 U	380 U	NA	400 U	NA	360 U	360 U	NA	NA
Diethylphthalate	--	4,900,000	12,000	370 U	380 U	NA	400 U	NA	360 U	360 U	NA	NA
Di-n-butylphthalate	--	610,000	9,200	110 UJ	120 UJ	NA	120 UJ	NA	110 UJ	110 UJ	NA	NA
Di-n-octylphthalate	--	35,000	--	710 U	740 U	NA	770 U	NA	690 U	680 U	NA	NA
Fluoranthene	--	230,000	160,000	22 UJ	23 UJ	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
Indeno(1,2,3-cd)pyrene	--	150	120	22 UJ	23 UJ	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
Nitrobenzene	--	4,800	0.079	370 U	380 U	NA	400 U	NA	360 U	360 U	NA	NA
Phenanthrene	--	1,700,000	--	3.8 J	23 U	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
Phenol	--	1,800,000	6,300	530 U	540 U	NA	570 U	NA	510 U	510 U	NA	NA
Pyrene	--	170,000	120,000	22 UJ	23 UJ	NA	24 UJ	NA	22 UJ	22 UJ	NA	NA
Pesticide/Polychlorinated Biphenyls (UG/KG)												
4,4'-DDE	--	1,400	47	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	--	1,700	67	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Metals (MG/KG)												
Aluminum	35,000	7,700	55,000	22,200	14,400	NA	19,100	NA	14,000	13,700	NA	NA
Antimony	5.8	3.1	0.27	0.11 UJ	0.030 J	NA	0.060 J	NA	0.040 J	0.040 J	NA	NA
Arsenic	1.6	0.39	0.29	0.59	0.34	NA	0.44	NA	0.36 J	0.40 J	NA	NA
Barium	147	1,500	82	126	71	NA	**189**	NA	98	121	NA	NA
Beryllium	0.27	16	3.2	**0.31**	0.18	NA	0.25	NA	0.21	0.20	NA	NA
Cadmium	2.2	7	0.38	0.020 J	0.010 J	NA	0.040 J	NA	0.020 J	0.030 J	NA	NA
Calcium	8,840	--	--	3,440	3,950	NA	3,500	NA	3,130	3,520	NA	NA
Chromium	72	0.29	0.00083	13	19	NA	16	NA	8.8	9.1	NA	NA
Cobalt	16	2.3	0.49	7.3	7.7	NA	11	NA	7.6	7.0	NA	NA
Copper	66	310	46	53 J	37 J	NA	47 J	NA	35 J	33 J	NA	NA
Cyanide	0.89	160	2.0	0.73 U	0.73 U	NA	0.79 U	NA	0.73 U	0.73 U	NA	NA
Iron	38,100	5,500	640	25,500	35,100	NA	28,000	NA	17,700	15,600	NA	NA
Lead	3.3	400	14	1.7	1.2	NA	1.9	NA	1.6	1.8	NA	NA
Magnesium	3,710	--	--	**3,780**	3,690	NA	**4,230**	NA	2,520	2,220	NA	NA
Manganese	1,630	180	57	404	349	NA	653	NA	477	500	NA	NA
Mercury	0.057	0.78	0.10	0.035 U	0.035 U	NA	0.037 U	NA	0.035 U	0.010 J	NA	NA
Nickel	22	150	48	4.0	4.7	NA	5.1	NA	2.8	3.4	NA	NA
Potassium	2,000	--	--	1,520 J	666 J	NA	1,130 J	NA	793 J	913 J	NA	NA
Selenium	0.51	39	0.26	0.54 U	0.34 U	NA	0.41 U	NA	0.47 U	0.52 U	NA	NA
Sodium	2,250	--	--	242	581	NA	611	NA	185	182	NA	NA
Thallium	0.13	--	0.14	0.11 U	0.069 U	NA	0.082 U	NA	0.094 U	0.10 U	NA	NA
Vanadium	144	39	180	74	139	NA	96	NA	54	50	NA	NA
Zinc	32	2,300	680	24	21	NA	27	NA	16	15	NA	NA

Notes:

Exceeds Background UTL
Exceeds Background UTL and Adjusted RSL for Residential Soil
Exceeds Background UTL and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil and SSL (DAF=1)

NA - Not Analyzed
ND - Not Detected
-- Not part of background data set (where applicable) OR Regulatory standard not promulgated
J - Analyte present, value may or may not be accurate or precise
U - Not detected or not detected significantly greater than that in an associated blank.
MG/KG - Milligrams per kilogram
UG/KG - Micrograms per kilogram

Table 2-2
Subsurface Soil Detection and Exceedance Results
PI 7
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	Background UTL (KTd)	Adjusted RSL for Residential Soil	SSL (DAF=1)	VEP7-SO29	VEP7-SO30	VEP7-SO31	VEP7-SO32	VEP7-SO33	VEP7-SO34	VEP7-SO35	VEP7-SO36	VEP7-SO37
Sample ID				VEP7-SB29-46-0409	VEP7-SB30-45H-0409	VEP7-SB31-23H-0409	VEP7-SB32-46-0409	VEP7-SB33-24-0409	VEP7-SB34-24-0409	VEP7-SB35-46-0409	VEP7-SB36-23H-0409	VEP7-SB37-46-0409
Sample Date				04/29/09	04/29/09	04/29/09	04/30/09	04/30/09	04/30/09	04/30/09	04/30/09	04/30/09
Chemical Name												
Volatile Organic Compounds (UG/KG)												
Acetone	--	6,100,000	4,500	29 UJ	31 U	43 U	**5,800 J**	1,300 J	3,500 J	74	1,200 J	620
Semivolatile Organic Compounds (UG/KG)												
1,1-Biphenyl	--	214,000	19,000	350 U	350 U	350 U	91 J	350 U	340 U	340 U	340 U	350 U
2-Methylnaphthalene	--	31,000	750	21 U	21 UJ	22 U	21 U	21 UJ	21 U	21 UJ	21 U	21 U
4-Chlorophenyl-phenylether	--	4,600	--	350 U	350 U	350 U	84 J	350 U	340 U	340 U	340 U	350 U
Acenaphthylene	--	340,000	22,000	21 UJ	21 UJ	22 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ
Anthracene	--	1,700,000	360,000	21 UJ	21 UJ	22 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	3.0 J
Atrazine	--	2,100	1.9	350 U	350 U	350 U	**160 J**	350 U	340 U	340 U	340 U	350 U
Benzaldehyde	--	780,000	810	380 UJ	380 UJ	390 UJ	200 J	380 UJ	380 UJ	370 UJ	370 UJ	380 UJ
Benzo(a)anthracene	--	150	10	21 UJ	5.3 J	5.8 J	5.6 J	21 UJ	21 UJ	21 UJ	3.7 J	2.6 J
Benzo(a)pyrene	--	15	240	21 UJ	21 UJ	22 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ
Benzo(b)fluoranthene	--	150	35	21 UJ	21 UJ	22 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ
Benzo(g,h,i)perylene	--	170,000	120,000	2.2 J	21 UJ	22 UJ	21 UJ	21 UJ	21 UJ	21 UJ	7.3 J	2.8 J
Benzo(k)fluoranthene	--	1,500	350	21 UJ	21 UJ	22 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ
bis(2-Chloroethyl)ether	--	210	0.0031	350 U	350 U	350 U	**93 J**	350 U	340 U	340 U	340 U	350 U
bis(2-Ethylhexyl)phthalate	--	35,000	1,400	100 UJ	100 UJ	110 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	110 UJ
Chrysene	--	15,000	1,100	21 UJ	21 UJ	22 UJ	21 UJ	21 UJ	21 UJ	21 UJ	4.7 J	21 UJ
Dibenz(a,h)anthracene	--	15	11	21 UJ	21 UJ	22 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ
Dibenzofuran	--	7,800	680	350 U	350 U	350 U	86 J	350 U	340 U	340 U	340 U	350 U
Diethylphthalate	--	4,900,000	12,000	350 U	350 U	350 U	100 J	350 U	340 U	340 U	340 U	350 U
Di-n-butylphthalate	--	610,000	9,200	33 J	100 UJ	110 UJ	100 UJ	22 J	100 UJ	100 UJ	28 J	110 UJ
Di-n-octylphthalate	--	35,000	--	670 U	670 U	680 U	670 U	660 U	660 U	660 U	660 U	670 U
Fluoranthene	--	230,000	160,000	21 UJ	21 UJ	22 UJ	21 UJ	2.6 J	21 UJ	21 UJ	5.0 J	3.7 J
Indeno(1,2,3-cd)pyrene	--	150	120	21 UJ	21 UJ	22 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	2.3 J
Nitrobenzene	--	4,800	0.079	350 U	350 U	350 U	**110 J**	350 U	340 U	340 U	340 U	350 U
Phenanthrene	--	1,700,000	--	21 UJ	21 UJ	22 U	21 U	21 UJ	21 UJ	21 UJ	21 U	21 U
Phenol	--	1,800,000	6,300	490 U	490 U	500 U	190 J	490 U	490 U	490 U	490 U	500 U
Pyrene	--	170,000	120,000	21 UJ	21 UJ	22 UJ	21 UJ	3.4 J	21 UJ	21 UJ	6.9 J	4.2 J
Pesticide/Polychlorinated Biphenyls (UG/KG)												
4,4'-DDE	--	1,400	47	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	--	1,700	67	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Metals (MG/KG)												
Aluminum	35,000	7,700	55,000	18,200	19,800	20,500	15,000	18,700	13,600	28,400	12,400	18,200
Antimony	5.8	3.1	0.27	0.094 UJ	0.091 UJ	0.10 UJ	0.090 UJ	0.060 J	0.060 J	0.050 J	0.040 J	0.040 J
Arsenic	1.6	0.39	0.29	0.66	0.71	0.50 U	**1.9**	1.1	1.4	0.48 U	1.3	0.49 U
Barium	147	1,500	82	135	**741**	**197**	99	105	79	**155**	60	88
Beryllium	0.27	16	3.2	0.24	0.24	**0.28**	0.22	0.19	0.21	**0.31**	0.13	0.19
Cadmium	2.2	7	0.38	0.040 J	0.050 J	0.020 J	0.040 J	0.10	0.040 J	0.020 J	0.11	0.040 J
Calcium	8,840	--	--	4,370	**43,500**	3,890	**8,880**	**11,700**	6,040	3,840	8,240	4,620
Chromium	72	0.29	0.00083	27	49	15	32	18	17	15	17	11
Cobalt	16	2.3	0.49	8.9	8.9	8.9	9.4	12	7.3	9.1	8.1	7.3
Copper	66	310	46	43 J	45 J	41 J	47 J	**74 J**	29 J	45 J	51 J	43 J
Cyanide	0.89	160	2.0	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Iron	38,100	5,500	640	31,800	23,600	23,000	20,800	25,800	19,000	31,200	22,700	24,300
Lead	3.3	400	14	1.6	2.8	2.0	2.3	**4.3**	1.9	1.8	**3.6**	2.1
Magnesium	3,710	--	--	**4,170**	**5,550**	**3,860**	**6,580**	**9,330**	**4,730**	**4,060**	**7,060**	**4,570**
Manganese	1,630	180	57	580	495	797	588	738	347	543	426	396
Mercury	0.057	0.78	0.10	0.035 U	0.031 U	0.032 U	0.035 U	0.031 U	0.030 U	0.030 U	0.030 U	0.032 U
Nickel	22	150	48	8.9	22	6.1	19	12	8.9	4.9	8.7	4.7
Potassium	2,000	--	--	1,040 J	922 J	1,270 J	840 J	835 J	831 J	1,430 J	693 J	1,170 J
Selenium	0.51	39	0.26	0.47 U	0.45 U	0.50 U	0.45 U	0.49 U	0.42 U	0.48 U	0.45 U	0.49 U
Sodium	2,250	--	--	294	703	330	314	318	233	254	188	240
Thallium	0.13	--	0.14	0.094 U	0.091 U	0.10 U	0.090 U	0.099 U	0.085 U	0.095 U	0.090 U	0.098 U
Vanadium	144	39	180	104	67	63	63	71	59	89	67	71
Zinc	32	2,300	680	23	28	23	23	**46**	18	27	29	**44**

Notes:

Exceeds Background UTL
Exceeds Background UTL and Adjusted RSL for Residential Soil
Exceeds Background UTL and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil and SSL (DAF=1)

NA - Not Analyzed
ND - Not Detected
-- Not part of background data set (where applicable) OR Regulatory standard not promulgated
J - Analyte present, value may or may not be accurate or precise
U - Not detected or not detected significantly greater than that in an associated blank.
MG/KG - Milligrams per kilogram
UG/KG - Micrograms per kilogram

Table 2-2
Subsurface Soil Detection and Exceedance Results
PI 7
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	Background UTL (KTd)	Adjusted RSL for Residential Soil	SSL (DAF=1)	VEP7-SO40		VEP7-SO42	
Sample ID				VEP7-SB40-H1H-0509	VEP7-SB40P-H1H-0509	PI07-SB42-0101H-0810	PI07-SB42P-0101H-0810
Sample Date				05/01/09	05/01/09	08/17/10	08/17/10
Chemical Name							
Volatile Organic Compounds (UG/KG)							
Acetone	--	6,100,000	4,500	32 U	37 R	NA	NA
Semivolatile Organic Compounds (UG/KG)							
1,1-Biphenyl	--	214,000	19,000	350 U	350 U	NA	NA
2-Methylnaphthalene	--	31,000	750	21 UJ	21 UJ	10 U	10 U
4-Chlorophenyl-phenylether	--	4,600	--	350 U	350 U	NA	NA
Acenaphthylene	--	340,000	22,000	21 UJ	2.0 J	10 U	10 U
Anthracene	--	1,700,000	360,000	1.0 J	2.0 J	10 U	10 U
Atrazine	--	2,100	1.9	350 U	350 U	NA	NA
Benzaldehyde	--	780,000	810	380 UJ	390 UJ	NA	NA
Benzo(a)anthracene	--	150	10	4.0 J	5.0 J	10 U	10 U
Benzo(a)pyrene	--	15	240	13 J	**18 J**	10 U	10 U
Benzo(b)fluoranthene	--	150	35	27 J	**36 J**	10 U	10 U
Benzo(g,h,i)perylene	--	170,000	120,000	19 J	26 J	10 U	10 U
Benzo(k)fluoranthene	--	1,500	350	17 J	24 J	10 U	10 U
bis(2-Chloroethyl)ether	--	210	0.0031	350 U	350 U	NA	NA
bis(2-Ethylhexyl)phthalate	--	35,000	1,400	110 UJ	110 U	75 U	53 U
Chrysene	--	15,000	1,100	9.0 J	15 J	10 U	10 U
Dibenz(a,h)anthracene	--	15	11	21 UJ	7.0 J	10 U	10 U
Dibenzofuran	--	7,800	680	350 U	350 U	NA	NA
Diethylphthalate	--	4,900,000	12,000	350 U	350 U	NA	NA
Di-n-butylphthalate	--	610,000	9,200	110 UJ	110 UJ	51 U	52 U
Di-n-octylphthalate	--	35,000	--	680 U	680 U	NA	NA
Fluoranthene	--	230,000	160,000	5.0 J	5.0 J	10 U	10 U
Indeno(1,2,3-cd)pyrene	--	150	120	14 J	21 J	10 U	10 U
Nitrobenzene	--	4,800	0.079	350 U	350 U	NA	NA
Phenanthrene	--	1,700,000	--	21 U	21 U	10 U	10 U
Phenol	--	1,800,000	6,300	500 U	500 U	NA	NA
Pyrene	--	170,000	120,000	6.0 J	7.0 J	10 U	10 U
Pesticide/Polychlorinated Biphenyls (UG/KG)							
4,4'-DDE	--	1,400	47	NA	NA	NA	NA
4,4'-DDT	--	1,700	67	NA	NA	NA	NA
Total Metals (MG/KG)							
Aluminum	35,000	7,700	55,000	16,200	18,600	NA	NA
Antimony	5.8	3.1	0.27	0.050 J	0.080 J	NA	NA
Arsenic	1.6	0.39	0.29	0.36 U	0.47 U	NA	NA
Barium	147	1,500	82	**156**	**172**	NA	NA
Beryllium	0.27	16	3.2	0.24	0.22	NA	NA
Cadmium	2.2	7	0.38	0.072 U	0.094 U	NA	NA
Calcium	8,840	--	--	3,280	3,630	NA	NA
Chromium	72	0.29	0.00083	7.5	7.1	NA	NA
Cobalt	16	2.3	0.49	8.0	8.6	NA	NA
Copper	66	310	46	44	49	NA	NA
Cyanide	0.89	160	2.0	0.66 U	0.66 U	NA	NA
Iron	38,100	5,500	640	23,600	26,000	NA	NA
Lead	3.3	400	14	1.4 J	2.0 J	NA	NA
Magnesium	3,710	--	--	**3,880**	**5,070**	NA	NA
Manganese	1,630	180	57	543	580	NA	NA
Mercury	0.057	0.78	0.10	0.028 U	0.032 U	NA	NA
Nickel	22	150	48	3.2	3.4	NA	NA
Potassium	2,000	--	--	840 J	950 J	NA	NA
Selenium	0.51	39	0.26	0.36 UJ	0.47 UJ	NA	NA
Sodium	2,250	--	--	169	191	NA	NA
Thallium	0.13	--	0.14	0.072 U	0.094 U	NA	NA
Vanadium	144	39	180	78	77	NA	NA
Zinc	32	2,300	680	18	23	NA	NA

Notes:

Exceeds Background UTL
Exceeds Background UTL and Adjusted RSL for Residential Soil
Exceeds Background UTL and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil and SSL (DAF=1)

NA - Not Analyzed
ND - Not Detected
-- Not part of background data set (where applicable) OR Regulatory standard not promulgated
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MG/KG - Milligrams per kilogram
UG/KG - Micrograms per kilogram

Table 2-3
Groundwater Detection and Exceedance Results
PI 7
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	**PAOC-N EPAN-MW02 Background**	**Adjusted RSL for Tapwater**	**MCL - Groundwater**	EPI07-MW01	EPI07-MW02	EPI07-MW03
Sample ID				EPI07-GW01-06B	EPI07-GW02-06B	EPI07-GW03-06B
Sample Date				04/06/06	04/06/06	04/06/06
Chemical Name						
Volatile Organic Compounds (UG/L)						
Carbon disulfide	--	100	--	0.50 U	0.50 U	0.11 J
Chloroform	--	0.19	80	0.14 J	0.50 U	0.50 U
Chloromethane	--	19	--	0.50 U	0.50 U	0.21 J
Tetrachloroethene	--	0.11	5.0	0.50 U	**0.20 J**	0.50 U
Semivolatile Organic Compounds (UG/L)						
No Detections	--	--	--	ND	ND	ND
Pesticide/Polychlorinated Biphenyls (UG/L)						
delta-BHC	--	0.037	--	0.005 J	0.010 U	0.012
Total Metals (UG/L)						
Barium	200	730	2,000	**549**	**623**	**571**
Calcium	144,000	--	--	116,000	117,000	**147,000**
Chromium	3.6 J	0.043	100	0.49 J	1.7 J	**4.3 J**
Cobalt	50 U	1.1	--	50 U	50 U	**0.49 J**
Magnesium	75,600	--	--	45,400	42,900	59,800
Manganese	8.0 J	88	--	**44**	**47**	**79**
Nickel	2.4 J	73	--	1.3 J	**2.8 J**	**6.2 J**
Potassium	1,780 J	--	--	5,000 U	5,000 U	**6,730 J**
Selenium	35 U	18	50	35 U	35 U	**1.9 J**
Sodium	323,000	--	--	120,000	116,000	151,000
Dissolved Metals (UG/L)						
Barium, Dissolved	200 U	730	2,000	**573**	**680**	**587**
Calcium, Dissolved	139,000	--	--	119,000	122,000	**145,000**
Chromium, Dissolved	10 U	0.043	100	**0.39 J**	10 U	**1.0 J**
Cobalt, Dissolved	50 U	1.1	--	50 U	**0.45 J**	**0.62 J**
Magnesium, Dissolved	73,400	--	--	47,300	45,900	60,500
Manganese, Dissolved	15 U	88	--	**35**	**45**	**76**
Mercury, Dissolved	0.20 U	0.37	2.0	0.20 U	**0.033 J**	**0.036 J**
Nickel, Dissolved	40 U	73	--	**0.91 J**	**2.3 J**	**5.4 J**
Potassium, Dissolved	1,710 J	--	--	**2,000 J**	**2,430 J**	**6,980 J**
Selenium, Dissolved	35 U	18	50	35 U	**2.3 J**	35 U
Sodium, Dissolved	311,000	--	--	125,000	125,000	153,000
Vanadium, Dissolved	50 U	18	--	**11 J**	**8.3 J**	**4.7 J**
Wet Chemistry (MG/L)						
Total dissolved solids (TDS)	1,490	--	--	882	786	1,050

Notes:

Exceeds Background

Exceeds Background and Adjusted RSL for Tapwater

ND - Not Detected

-- Not part of background data set (where applicable) OR Regulatory standard not promulgated

J - Analyte present, value may or may not be accurate or precise

U - Not detected or not detected significantly greater than that in an associated blank.

MG/L - Milligrams per liter

UG/L - Micrograms per liter

Table 2-4
HHRA COPC Summary Table
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Site: PI-7
Media: Surface Soil, Subsurface Soil, Groundwater
Historical Function: Former Quarry, Tar Drum Disposal Area and Radar Communication Area

Exposure Point	Chemical	Maximum Concentration Qualifier		Units	Frequency of Criteria Exceedance	Max Exceeds Background KTd	PAOC-N MW2		November RSL Adjusted (2)		Max Exceeds 100x SL	95% UCL (N/T/G)	Statistic	Basis	Target Organ	Hazard Quotient	ELCR
PI-7 Northern Surface Soil	Aluminum	1.19E+04		mg/kg	3 / 3	No	--	--	7.7E+03	nc	No	--	--	Max	CNS	0.2	--
	Chromium	4.80E+00		mg/kg	3 / 3	No	--	--	2.9E-01	ca	No	--	--	--	No Observed Effects	--	--
	Cobalt	9.80E+00		mg/kg	3 / 3	No	--	--	2.3E+00	nc	No	--	--	--	decreased iodine uptake	--	--
	Iron	1.38E+04		mg/kg	3 / 3	No	--	--	5.5E+03	nc	No	--	--	--	gastrointestinal effects	--	--
	Manganese	4.07E+02		mg/kg	3 / 3	No	--	--	1.8E+02	nc	No	--	--	--	CNS	--	--
PI-7 Northern Subsurface Soil	Aluminum	1.1E+04		mg/kg	3 / 3	No	--	--	7.7E+03	nc	No	--	--	--	CNS	--	--
	Chromium	1.3E+01		mg/kg	3 / 3	No	--	--	2.9E-01	ca	No	--	--	Max	No Observed Effects	0.0001	--
	Cobalt	1.1E+01		mg/kg	3 / 3	No	--	--	2.3E+00	nc	No	--	--	Max	decreased iodine uptake	0.5	3.1E-08
	Iron	1.6E+04		mg/kg	3 / 3	No	--	--	5.5E+03	nc	No	--	--	Max	gastrointestinal effects	0.3	--
	Manganese	4.6E+02		mg/kg	3 / 3	No	--	--	1.8E+02	nc	No	--	--	Max	CNS	0.3	--
	Vanadium	4.6E+01		mg/kg	1 / 3	No	--	--	3.9E+01	nc	No	--	--	Max	decreased hair cystine	0.1	--
PI-7 Central Surface Soil	Aluminum	1.9E+04		mg/kg	10 / 10	No	--	--	7.7E+03	nc	No	--	--	--	CNS	--	--
	Arsenic	1.2E+01		mg/kg	2 / 14	Yes	--	--	3.9E-01	ca	No	--	--	Max	Hyperpigmentation, keratosis and possible vascular complications	0.5	3.1E-05
	Chromium	1.2E+01		mg/kg	14 / 14	No	--	--	2.9E-01	ca	No	--	--	Max	No Observed Effects	0.0001	--
	Cobalt	1.2E+01		mg/kg	14 / 14	No	--	--	2.3E+00	nc	No	--	--	Max	decreased iodine uptake	0.5	3.1E-08
	Iron	3.9E+04		mg/kg	10 / 10	Yes	--	--	5.5E+03	nc	No	--	--	Max	gastrointestinal effects	0.7	--
	Manganese	8.1E+02	J	mg/kg	10 / 10	No	--	--	1.8E+02	nc	No	--	--	Max	CNS	0.4	--
	Vanadium	8.8E+01		mg/kg	8 / 14	No	--	--	3.9E+01	nc	No	--	--	Max	decreased hair cystine	0.2	--
	Benzo(a)pyrene	1.8E-01	J	mg/kg	2 / 14	No	--	--	1.5E-02	ca	No	--	--	Max	--	--	1.2E-05
	Benzo(b)fluoranthene	3.4E-01	J	mg/kg	1 / 14	No	--	--	1.5E-01	ca	No	--	--	Max	--	--	2.3E-06
	Dibenz(a,h)anthracene	5.7E-02	J	mg/kg	1 / 14	No	--	--	1.5E-02	ca	No	--	--	Max	--	--	3.8E-06
	Indeno(1,2,3-cd)pyrene	2.1E-01	J	mg/kg	1 / 14	No	--	--	1.5E-01	ca	No	--	--	Max	--	--	1.4E-06
PI-7 Central Subsurface Soil	Aluminum	1.9E+04		mg/kg	6 / 6	No	--	--	7.7E+03	nc	No	--	--	Max	CNS	0.2	--
	Chromium	7.5E+00		mg/kg	6 / 6	No	--	--	2.9E-01	ca	No	--	--	--	No Observed Effects	--	--
	Cobalt	1.1E+01	J	mg/kg	6 / 6	No	--	--	2.3E+00	nc	No	--	--	--	decreased iodine uptake	--	--
	Iron	2.6E+04		mg/kg	6 / 6	No	--	--	5.5E+03	nc	No	--	--	--	gastrointestinal effects	--	--
	Manganese	7.2E+02		mg/kg	6 / 6	No	--	--	1.8E+02	nc	No	--	--	--	CNS	--	--
	Vanadium	7.8E+01		mg/kg	4 / 6	No	--	--	3.9E+01	nc	No	--	--	--	decreased hair cystine	--	--
	Benzo(a)pyrene	1.8E-02	J	mg/kg	1 / 7	--	--	--	1.5E-02	ca	No	--	--	--	--	--	--
PI-7 Central Groundwater	Chromium, Dissolved	1.0E+00	J	ug/L	1 / 1	--	1.0E+01	U	4.3E-02	ca	No	--	--	--	No Observed Effects	--	--
	Chromium	4.3E+00	J	ug/L	1 / 1	--	3.6E+00	J	4.3E-02	ca	No	--	--	Max	No Observed Effects	0.00008	--

Table 2-4
HHRA COPC Summary Table
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Site: PI-7
Media: Surface Soil, Subsurface Soil, Groundwater
Historical Function: Former Quarry, Tar Drum Disposal Area and Radar Communication Area

Exposure Point	Chemical	Maximum Concentration Qualifier		Units	Frequency of Criteria Exceedance	Max Exceeds Background KTd	PAOC-N MW2		November RSL Adjusted (2)		Max Exceeds 100x SL	95% UCL (N/T/G)	Statistic	Basis	Target Organ	Hazard Quotient	ELCR
PI-7	Aluminum	2.11E+04		mg/kg	29 / 29	No	--	--	7.7E+03	nc	No	--	--	Max	CNS	0.3	--
Southern Surface Soil	Arsenic	2.70E+00		mg/kg	16 / 29	Yes	--	--	3.9E-01	ca	No	--	--	Max	Hyperpigmentation, keratosis and possible vascular complications	0.1	6.9E-06
	Chromium	2.38E+01		mg/kg	29 / 29	No	--	--	2.9E-01	ca	No	--	--	--	No Observed Effects	--	--
	Cobalt	1.59E+01		mg/kg	29 / 29	No	--	--	2.3E+00	nc	No	--	--	Max	decreased iodine uptake	0.7	4.3E-08
	Iron	4.42E+04		mg/kg	29 / 29	Yes	--	--	5.5E+03	nc	No	--	--	Max	gastrointestinal effects	0.8	--
	Manganese	1.99E+03		mg/kg	29 / 29	Yes	--	--	1.8E+02	nc	No	714.1	95% Modified-t UCL	Surface Soil UCL	CNS	0.4	--
	Vanadium	1.13E+02		mg/kg	25 / 29	No	--	--	3.9E+01	nc	No	--	--	--	decreased hair cystine	--	--
PI-7 Southern	Aluminum	2.8E+04		mg/kg	25 / 25	No	--	--	7.7E+03	nc	No	--	--	--	CNS	--	--
Subsurface Soil	Arsenic	2.6E+00		mg/kg	11 / 25	Yes	--	--	3.9E-01	ca	No	--	--	--	Hyperpigmentation, keratosis and possible vascular complications	--	--
	Chromium	4.9E+01		mg/kg	25 / 25	No	--	--	2.9E-01	ca	Yes	--	--	Max	No Observed Effects	0.0004	--
	Cobalt	1.2E+01		mg/kg	25 / 25	No	--	--	2.3E+00	nc	No	--	--	--	decreased iodine uptake	--	--
	Iron	3.5E+04		mg/kg	25 / 25	No	--	--	5.5E+03	nc	No	--	--	--	gastrointestinal effects	--	--
	Manganese	1.4E+03		mg/kg	25 / 25	No	--	--	1.8E+02	nc	No	--	--	--	CNS	--	--
	Vanadium	1.4E+02		mg/kg	25 / 25	No	--	--	3.9E+01	nc	No	--	--	Max	decreased hair cystine	0.4	--
PI-7 Southern Groundwater	Chromium, Dissolved	3.9E-01	J	ug/L	1 / 2	--	1.0E+01	U	4.3E-02	ca	No	--	--	--	No Observed Effects	--	--
	Chromium	1.7E+00	J	ug/L	2 / 2	--	3.6E+00	J	4.3E-02	ca	No	--	--	Max	No Observed Effects	0.00003	--
	Tetrachloroethene	2.0E-01	J	ug/L	1 / 2	--	--	--	5.5E-01	ca	No	--	--	Max	Hepatotoxicity	0.0005	3.6E-07

Note:
(1) East Vieques Soil Type KTd
(2) Regional Screening Levels for Residential Soil (November 2010). Concentrations based on non-carcinogenic health effects are adjusted using HQ=0.1.
(3) Regional Screening Levels for Residential Soil (November 2010) based on an ELCR of $1x10^{-6}$ and an HQ=1.0

The SL for 'Chromium (VI)' was used as the adjusted SL for Chromium. The expected form of chromium is Chromium (III). Therefore, the SL for 'Chromium (III)' was used as the Cancer and Noncancer Toxicity screening value.
The SL for 'Vanadium and Compounds' was used as the adjusted SL for Vanadium.

(4) When a chemical was detected in both surface and subsurface soil exposure points, the hazard quotient and ELCR were calculated based on the higher maximum detected concentration of the two exposure points to obtain conservative risk estimates.
(5) When a chemical was detected in both "total" and "dissolved" forms in groundwater, the hazard quotient and ELCR were calculated based on the higher maximum detected concentration of the two results to obtain conservative risk estimates.

ca = Carcinogenic
nc = Noncarcinogenic
J = chemical was detected below the reporting limit in the sample
ELCR = Excess Lifetime Cancer Risk
CNS = Central Nervous System

PI-7 Northern Site Cumulative Risk	Max HI *	ELCR
Soil (based on decreased iodine uptake)	0.5	3E-08
Total Risk (based on decreased iodine uptake)	0.5	3E-08

PI-7 Central Site Cumulative Risk	Max HI *	ELCR
Soil (based on gastrointestinal effects)	0.7	5E-05
Groundwater (based on No Observed Effects)	0.00008	--
Total Risk (based on gastrointestinal effects)	0.7	5E-05

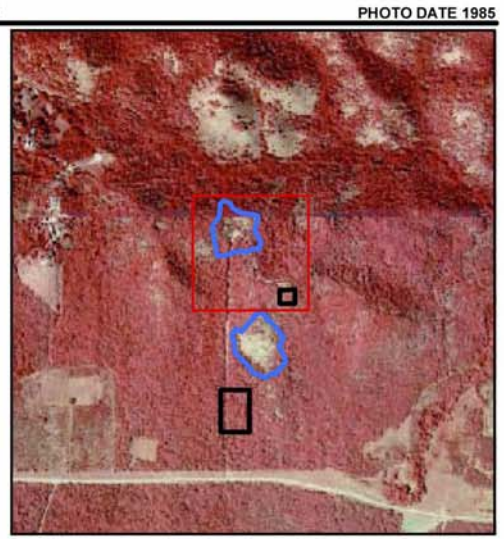
PI-7 Southern Site Cumulative Risk	Max HI *	ELCR
Soil (based on gastrointestinal effects)	0.8	7E-06
Groundwater (based on hepatotoxicity)	0.0005	4E-07
Total Risk (based on gastrointestinal effects)	0.8	7E-06

* - Max HI is the highest HI associated with any target organ or critical effect.

TABLE 2-5
Ecological Risk Assessment Screening Statistics for PI-7 Surface Soil - Plants and Invertebrates
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Chemical	Range of Non-Detect Values	Frequency of Detection	Minimum Concentration Detected	Maximum Concentration Detected	Arithmetic Mean	Standard Deviation of Mean	95% UCL (Norm)	Screening Value	Frequency of Exceedance	Maximum Hazard Quotient	Background UTL	Frequency of UTL Exceedance	Mean Ratio	Maximum Ratio	95% UCL Hazard Quotient	Mean Hazard Quotient
Northern Subsection Inorganics (MG/KG)																
Copper	-- - --	3 / 3	85.0	119.0	96.6	19.4	129.31	70.0	3 / 3	1.70	66.0	3 / 3	1.46	1.80	1.85	1.38
Central Subsection Inorganics (MG/KG)																
Copper	-- - --	13 / 13	30	82.90	49.64	14.05	56.58	70.0	1 / 13	1.18	66.0	1 / 13	0.75	1.26	0.81	0.71
Iron	-- - --	9 / 9	14500	38900	21056	7697	25826	--	-- / --	--	38100	1 / 9	0.55	1.02	--	--
Selenium	0.5 - 3.8	5 / 13	0.47	0.84	0.689	0.537	0.954	0.52	3 / 13	1.62	0.51	4 / 13	1.35	1.65	1.83	1.32
Southern Subsection Inorganics (MG/KG)																
Copper	-- - --	29 / 29	30.5	175.00	52.13	25.80	60.29	70.0	3 / 29	2.50	66.0	4 / 29	0.79	2.65	0.86	0.74
Manganese	-- - --	29 / 29	323.0	1,990.0	616.21	288.58	707.37	220	29 / 29	9.05	1630	1 / 29	0.38	1.22	3.22	2.80
Selenium	3.7 - 8	8 / 29	0.40	1.10	0.61	0.57	0.79	0.52	6 / 29	2.12	0.51	6 / 29	1.19	2.16	1.52	1.17
Zinc	-- - --	29 / 29	17.7	138.0	30.5	21.5	37.3	120.0	1 / 29	1.15	32.0	7 / 29	0.95	4.31	0.31	0.25

The Vieques Master ERA Protocol (CH2M HILL, 2010a), and Update 1 to the Vieques Master ERA Protocol (CH2M HILL, 2010b), were used as the source for soil screening values and background UTLs.



LEGEND

- PA/SI Surface and Subsurface Soil Sample Location
- Previously Installed Piezometer
- Telephone Pole
- Surface Debris Identified During 2005 Reconnaissance
- Area of August 2005 PA/SI Reconnaissance
- ERI Aerial Photo Analysis Area

Note:
Each sampling location shown is preceded by "EPI07" (e.g. SS02/SB02 = EPI07-SS02 and EPI07-SB02)

N W E S

0 100 200 Feet

FIGURE 2-1
PI 7 Northern Subsection - Former Radar Communications Facility
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

CH2MHILL

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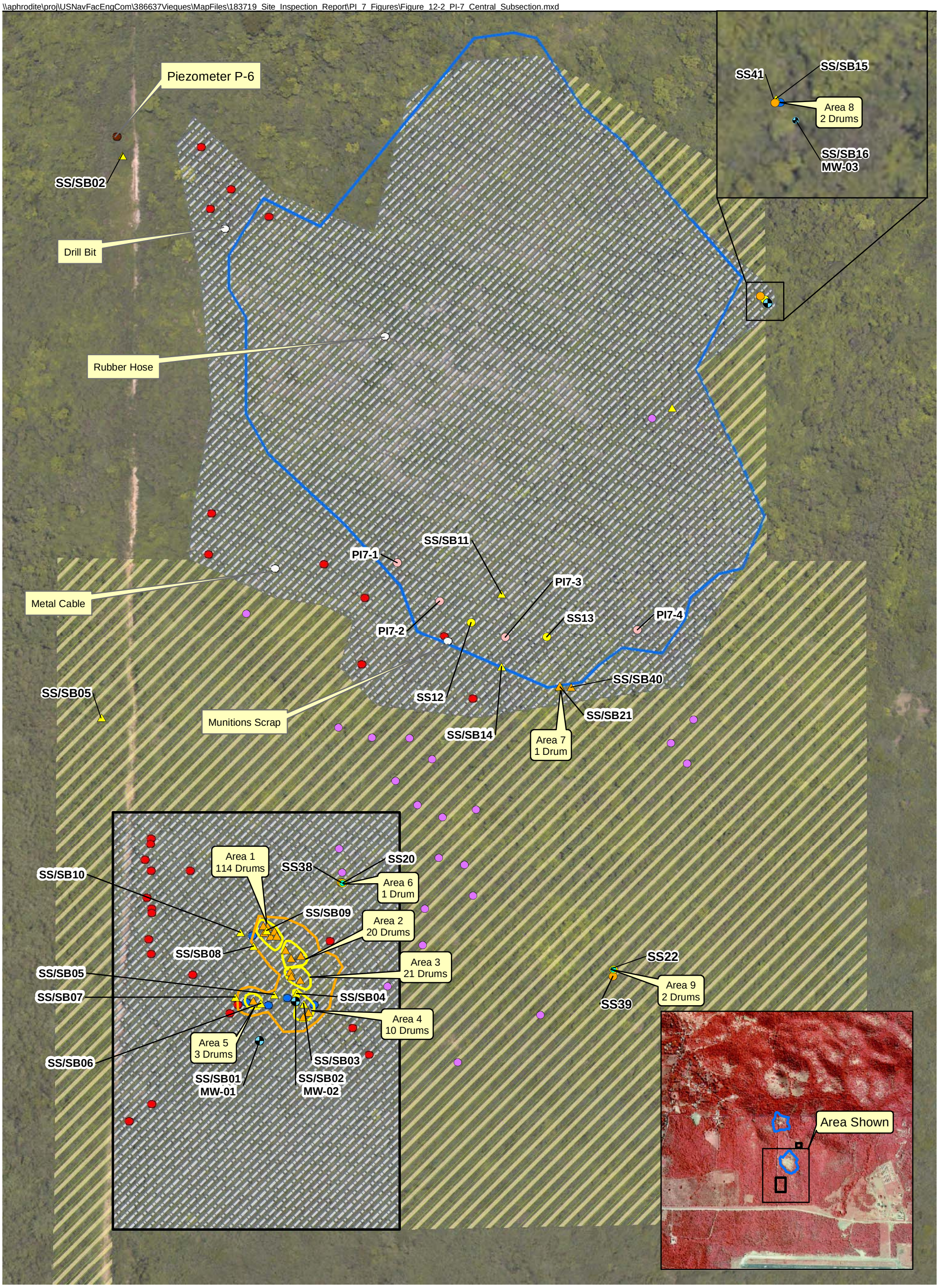


LEGEND

- PA/SI (2006) Surface and Subsurface Soil Samples and Monitoring Well Location
- Previously Installed Piezometer
- EBS (2002) Surface Soil Sample Location
- Drums Identified During 2005 Reconnaissance
- Drums Identified During 2006 Reconnaissance
- Metallic Subsurface Anomalies Identified During 2005 Reconnaissance
- Surface Debris Identified During 2006 Reconnaissance
- Supplemental SI/ESI (2010) Surface and Subsurface Soil Sample Location
- PA/SI (2006) Surface and Subsurface Soil Sample Location
- PA/SI (2006) Surface Soil Sample Location
- SI/ESI (2009) Surface and Subsurface Soil Location
- SI/ESI (2009) Surface Soil Location
- Area of Drum Removal
- Area of August 2005 PA/SI Reconnaissance
- Area of March 2006 PA/SI Reconnaissance
- ERI Aerial Photo Analysis Area

Notes:
1. SS03, SS04, SS06, and SS09 have been excavated
2. Imagery Date July 2005

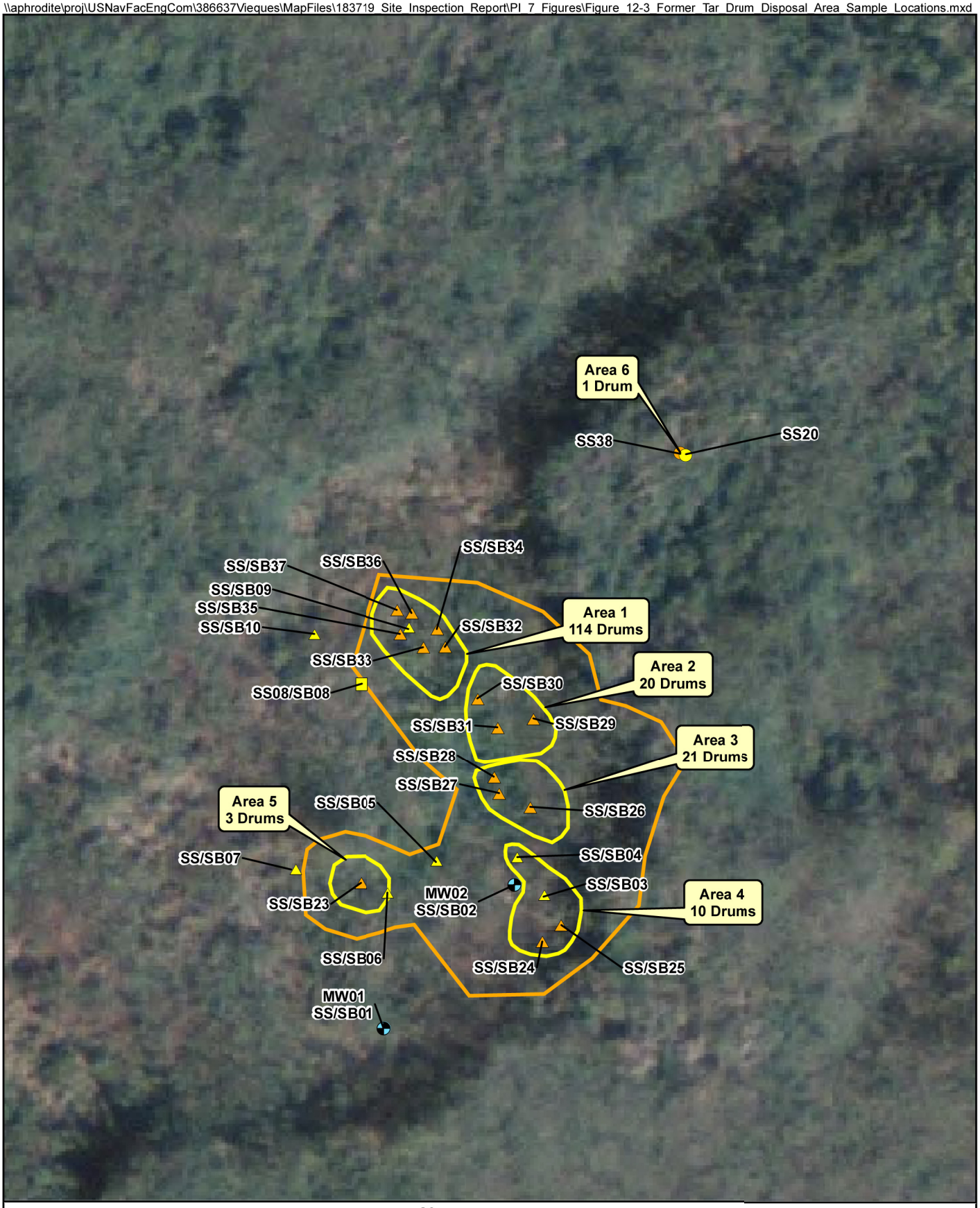
N

0 50 100 200 Feet

FIGURE 2-2
PI 7 Central and Southern Subsection - Former Quarry and Former Tar Drum Disposal Area
No Action/No Further Action Decision Document
PI 7, PAOC Q and PAOC R
Vieques, Puerto Rico

CH2MHILL

ES020811222434TPA F2-2 PI-7_Central_Subsection-rev1.ai



Legend

- PA/SI Surface and Subsurface Soil Sample Location
- PA/SI Surface Soil Sample Location
- PA/SI Surface and Subsurface Soil Sample and Monitoring Well Location
- SI/ESI Surface and Subsurface Soil Location
- SI/ESI Surface Soil Location
- Area of Drum Removal

Imagery Date 2007

N

0 20 40 Feet

Note: SS03, SS04, SS06 and SS09 have been excavated

Figure 2-3
Southern Subsection
Sample Locations
No Action/No Further Action Decision Document
PI 7, PAOC Q and PAOC R
Vieques, Puerto Rico

CH2MHILL

ES020811222434TPA

(A) PI 7 Potential former quarry
Source: DRAFT FINAL EBS, 2003

(B) PI 7 concrete slab
Source: CH2M HILL site visit, 2001

(C) PI 7 Rubber Pipe
Source: DRAFT FINAL EBS, 2003

FIGURE 2-4
PI 7 Site Photographs
No Action/No Further Action Decision Document
PI 7, PAOC Q and PAOC R
Vieques, Puerto Rico

(A) Drum excavation from Area 1. Drums staged on plastic. Bee suit worn for protection.

(B) Crushed drums with tar on plastic sheeting.

(C) Areas 1 through 5 facing Northeast after excavation. Drums covered in plastic.

(D) Loading crushed drums in plastic-lined rolloffs.

(E) Covered rolloff staged for transport.

(F) Surface Soil Sample (SS31) collection with hand auger.

(G) Soil boring with tripod-mounted, 140 pound slidehammer.

(H) Loaded rolloff awaiting transport to landfill.

(I) Post-removal site conditions, September 2009

FIGURE 2-5
PI 7 Site Photographs
No Action/No Further Action Decision Document
PI 7, PAOC Q and PAOC R
Vieques, Puerto Rico

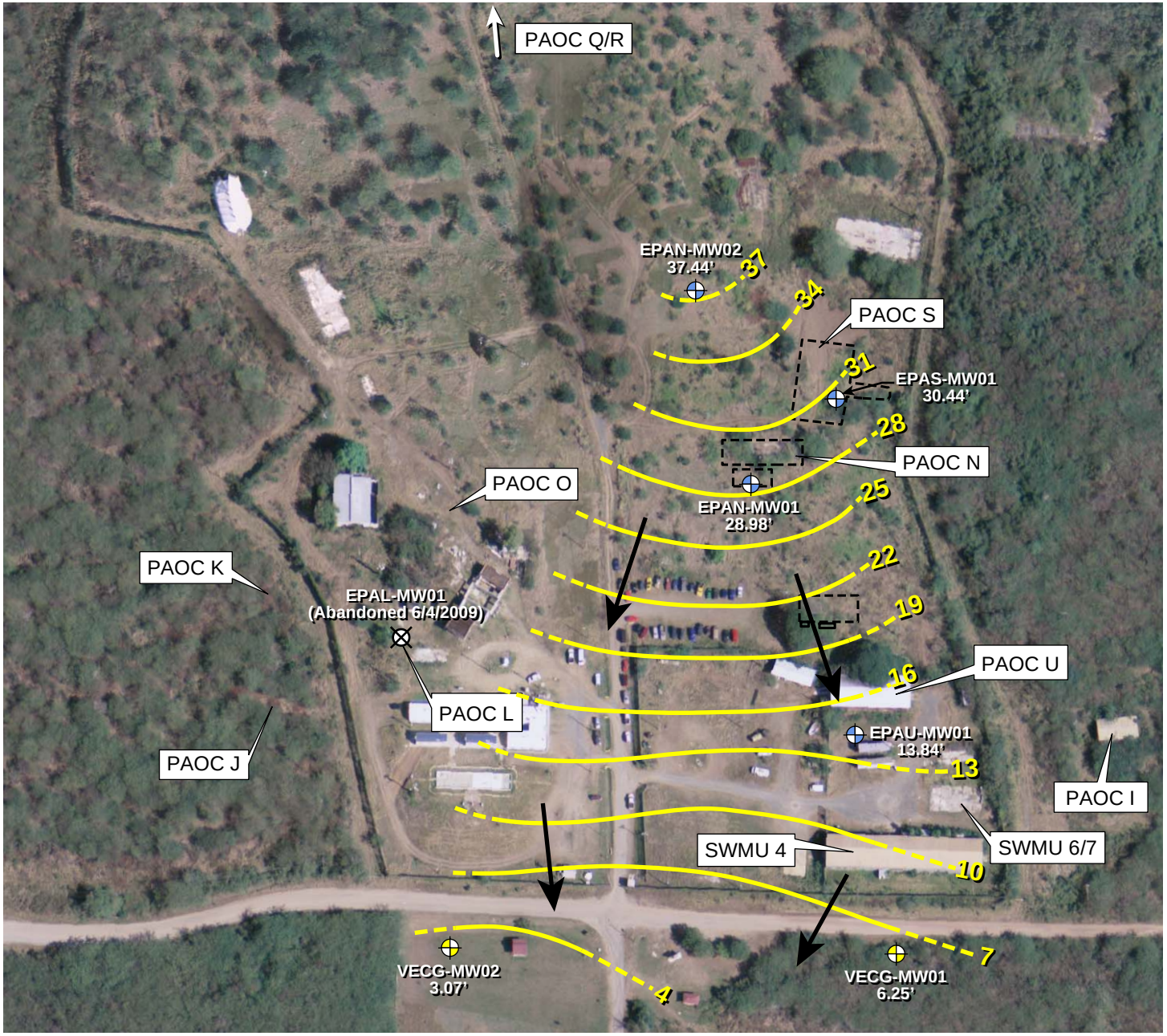
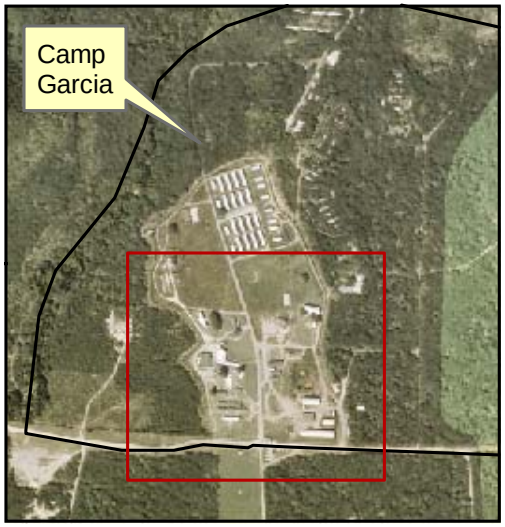


PHOTO DATE: 2007

PHOTO DATE 1983



LEGEND

- SI/ESI Monitoring Well Location
- PA/SI Monitoring Well Location
- Abandonded Well
- Groundwater FLow Direction
- Estimated Potentiometric Contour
- Dashed Where Estimated
- 37 Potentiometric Contour in Feet Above Mean Sea Level
- 37.44' Feet of Water Above Mean Sea Level (6/12/09)

North

0 150 300 Feet

FIGURE 2-6
Potentiometric Surface Map of Camp Garcia
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

CH2MHILL

SECTION 3

PAOC Q – Former Boiler Room in Heat Plant Building 607

This section presents a summary of the pertinent historical information and rationale for the no action determination for PAOC Q – Former Boiler Room in Heat Plant Building 607 at the Former VNTR. The detailed evaluation of PAOC Q presented below is from the Final SI/ESI Report (CH2M HILL, 2010) and the SI/ESI Report Addendum (CH2M HILL, 2011).

3.1 Conceptual Site Model

The CSM for PAOC Q is based on review of historical information such as records, aerial photographs, site inspection documentation, and interviews; as well as site-specific data collection.

3.1.1 Site Description and Potential Sources of Release

PAOC Q is located within the west-central portion of Camp Garcia (**Figure 1-2**) and identified in the 1983 aerial photograph (Figure 3-1). Historical information indicates that PAOC Q, constructed in 1963 and demolished in 1984, was a former boiler house in heat plant Building 607.

Although there are no records of past releases at the site and there was no evidence of past releases observed during the site visits, the potential presence of CERCLA-related hazardous substances could not be confidently ruled out without sample collection due to the nature of the historical activities. Therefore, this site was included in the 2009 SI and the 2010 Supplemental SI.

3.1.2 Investigation History

To determine if a release of hazardous constituents occurred at PAOC Q, in accordance with the Final SI/ESI SAP (CH2M HILL, 2009), one soil boring was installed during the 2009 SI. One co-located surface soil and subsurface soil sample (i.e., SS/SB01 associated with the orange triangle in **Figure 3-1**) was collected within the former footprint of Building 607 (PAOC Q). Because approximately 2 to 3 feet of soil/gravel was placed over the PAOC Q sampling location prior to sampling, only the subsurface soil sample collected at the PAOC Q location during the 2009 SI is representative of soil present when potential releases from historical activities at the site would have occurred. The surface soil sample collected at the site is representative of the soil cover material placed there during the USFWS road improvement activities.

No PID readings above 0.0 ppm were observed in the 2009 SI soil boring (see Soil Boring Logs, in Appendix A of the Final SI/ESI Report (CH2M HILL, 2010)); therefore, the subsurface soil sample at PAOC Q was collected at the default depth in accordance with the SI/ESI SAP. The surface and subsurface soil samples collected during the 2009 SI were analyzed for TCL VOCs and SVOCs, and TAL inorganics.

During the 2010 Supplemental SI, soil samples were collected from approximately the same PAOC Q location from which they were collected during the 2009 SI. The soil/gravel cover material was removed and set aside prior to sampling. Then, a slide hammer was used to collect a co-located surface soil and subsurface soil sample (i.e., SS/SB01 associated with the pink diamond in **Figure 3-1**) from within the former footprint of Building 607 (PAOC Q).

The surface fill material at this location was identified by its resemblance to PAOC Q and PAOC R historical sample locations fill material, a gravelly well graded sand or sandy gravel. Gravelly well graded sand is fill material that is noted as being present on the original boring log from 0.0-2.2′ bgs. Well graded sand with gravel was observed from 2.2-3.2′ bgs. The sand from 0-3.2′ bgs was observed to be loose which is another characteristic of fill material, being that it was not naturally deposited at this location. In addition, the original land surface elevation (i.e., where fill was placed) is visible immediately adjacent to the sampling location.

A visible fill/native soil contact was noted on the boring log at 4.0′ bgs as "natural organics within this interval appears to be old topsoil layer." Dried and partially decomposed plant matter was observed and trace fine root structure was visible within the soil. To further support that this was the old topsoil layer, the underlying soil from 4.2-5.0′ bgs was noted to be silt with fine sand, and its consistency was noted as dense.

No PID readings above 0.0 ppm were observed in the Supplemental SI soil boring (see Soil Boring Logs, in Appendix A of the SI/ESI Report Addendum (CH2M HILL, 2011)), and the surface and subsurface samples at PAOC Q were collected in accordance with the Final SI/ESI SAP (CH2M HILL, 2009). The surface and subsurface soil samples collected during the 2010 Supplemental SI were analyzed for TCL VOCs and SVOCs, and TAL inorganics.

Tables 3-1 and 3-2 summarize the constituents detected in PAOC Q surface soil and subsurface soil samples collected during the SI (2009) and the Supplemental SI (2010). The surface soil data from the SI are not included in the evaluation because the soil was not representative of native soil; it was representative of the cover material placed during road improvement activities. The subsurface soil sample collected during the SI (2009) was from a depth consistent with the surface soil elevation of the original site. Therefore, the SI subsurface soil sample data are included with the Supplemental SI (2010) surface soil data for evaluation of surface soil conditions. The tables also identify background and screening criteria exceedances. Raw analytical data for the SI samples are provided in Appendix K of the Final SI/ESI Report (CH2M HILL, 2010). Raw analytical data for the Supplemental SI are provided in Appendix B of the SI/ESI Report Addendum (CH2M HILL, 2011).

3.1.3 Physical Setting

The description of the site's physical setting is based on site inspections conducted in 2002 (EBS) and in 2009 (SI), as well as on regional information.

PAOC Q is at an elevation of approximately 94 ft amsl; the land surrounding PAOC Q slopes gently to the south and is relatively open, but not routinely maintained.

The soil overlying the bedrock found in borings at PAOC Q consists mostly of gravel with some sandy silt. See Appendix A of the Final SI/ESI Report (CH2M HILL, 2010) and Appendix A of the SI/ESI Report Addendum (CH2M HILL, 2011) for the site-specific soil boring logs. Approximately 4 ft of soil/gravel was inadvertently placed over soil sampling

locations (prior to sampling) by USFWS at PAOC Q. Therefore, the soil boring descriptions for PAOC Q in the Final SI/ESI Report (CH2M HILL, 2010) include that material.

Bedrock under PAOC Q is part of the KTd formation, which consists of plutonic rocks, largely granodiorite and quartz diorite. For more information on the bedrock geology, see Section 1.4.6 of the Final SI/ESI Report (CH2M HILL, 2010).

No surface water bodies are present at the site. The closest surface water bodies topographically downgradient of the site are Bahia Corcho and Bahia Tapon along the coast, approximately 1 mile to the south and southeast, respectively. Based on nearby wells, the topographic slope, and the regional groundwater gradient determined by the USGS (1989) and confirmed by CH2M HILL within Camp Garcia during the SI/ESI, groundwater in this area exists within the fractured bedrock and is presumed to flow in a southerly direction toward the coast, as described in Section 1.4.7 of the Final SI/ESI Report (CH2M HILL, 2010) and shown in **Figure 2-6**.

3.2 PAOC Q Release Assessment Decision Analysis

This subsection discusses the sample results in the context of the Data Evaluation Decision Tree (**Figure 1-3**) with reference to the detection tables (**Tables 3-1 and 3-2**).

Step 1: Is the site potentially CERCLA-eligible?

Historical information suggests the site was a former boiler room in a heat plant building. Although there are no records of past releases at the site and there was no evidence of past releases observed during the site visits, the potential presence of CERCLA hazardous substances could not be confidently ruled out without sample collection due to the nature of the historical activities at the site. Sample collection took place during the 2009 SI and the 2010 Supplemental SI. Therefore, the decision analysis proceeds to Step 2.

Step 2: Does the data quality evaluation indicate the dataset as a whole is available and useful for the intended purpose?

ESI (2009)

Appendix M of the Final SI/ESI Report (CH2M HILL, 2010) discusses the evaluation of the PAOC Q data quality. As detailed in Appendix M, the PAOC Q data are available for evaluating whether a release of hazardous waste or hazardous constituents warranting further action occurred at PAOC Q. However, only the subsurface soil sample from PAOC Q is useful for this purpose (see Steps 3 through 7 below) because the surface soil sample was not collected in soil representative of surficial conditions present when historical activities at the site took place. Therefore, the SI surface soil sample data are not included in the decision analysis steps below. As noted previously, the SI subsurface soil sample data are included as surface soil data because they are representative of the surface soil horizon of the original site.

Supplemental SI/ESI (2010)

Appendix C of the SI/ESI Report Addendum (CH2M HILL, 2011) presents the data quality evaluation of the Supplemental SI analytical data for PAOC Q. Based on this evaluation of the Supplemental SI data, 100 percent of the data are acceptable for use. Additionally, the

site-specific data set exceeded the 95 percent project completeness goal, achieving 100 percent completeness.

Step 3: Were any inorganics above the background UTL detected or were any non-inorganics detected?

For the samples collected during the SI (2009) and the Supplemental SI (2010), the following inorganics above the background UTLs and non-inorganics were detected by sampling event and by medium:

SI (2009) Surface Soil (sample SB01-46-0209)

- VOCs: None detected
- SVOCs: None detected
- Inorganics above background UTLs: Copper and Magnesium

Supplemental SI (2010) Surface Soil (sample SS01-0405-0810)

- VOCs: Acetone and Toluene
- SVOCs : Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and PAH HMW
- Inorganics above background UTLs : Beryllium and Magnesium

Supplemental SI (2010) Subsurface Soil (sample SB01-0810-0810)

- VOCs: Acetone
- SVOCs : None detected
- Inorganics above background UTLs : Calcium, Magnesium, and Zinc

Step 4: Are there any inorganic constituents above background or non-inorganic constituents that are potentially attributable to historic CERCLA-related releases at the site?

There are no records or visual evidence of past releases at PAOC Q. However, the applicable soil samples collected during the 2009 SI and 2010 Supplemental SI show detected VOC, SVOC, and inorganic constituents that are potentially attributable to CERCLA-related releases at PAOC Q based on the potential source area at PAOC Q (i.e., the former boiler room in the heat plant building). Therefore, all detected constituents in surface and subsurface soil are further considered in the decision analysis process.

Step 5: For potentially complete exposure pathways, are there any exceedances (over that of background) of the most conservative screening values?

In this step of the decision analysis, the data for the CERCLA-related constituents identified in Step 4 are compared to the screening criteria described in Section 1 of the Final SI/ESI Report (CH2M HILL, 2010) and shown on the detection tables. Those constituents that exceed one or more criteria (and background for inorganics) are listed below by sampling event and by medium.

SI (2009) Surface Soil (sample SB01-46-0209)

- Copper: one detection (sample SB01-46-0209) at a concentration (77 mg/kg) above the ecological soil screening value (70 mg/kg), the SSL at a DAF of 1 (46 mg/kg), and background UTL (66 mg/kg)

Supplemental SI (2010) Surface Soil (sample SS01-0405-0810)

- No exceedances

Supplemental SI (2010) Subsurface Soil (sample SB01-0810-0810)

- No exceedances

As shown above, there is an exceedance of the most conservative screening values. Therefore, the decision analysis process continues to Step 6.

Step 6: Can more realistic evaluations of the data be performed, and if so, do they suggest contaminant levels warrant no further investigation or action?

Human Health Evaluation

As a conservative approach, risk estimates were prepared for a future residential scenario at PAOC Q. The site is less than 0.003 acre in size, whereas a residential lot may be approximately 0.75 acre. No chemicals in soil were detected above background and adjusted RSLs at concentrations exceeding 100 times the screening levels (see **Table 3-3**). Therefore, no hot spots were identified and all soil data were merged in the residential evaluation.

No constituents were detected in surface or subsurface soil samples above the adjusted human health screening levels and background UTLs (**Table 3-3**). Seven constituents (aluminum, arsenic, chromium, cobalt, iron, manganese, and vanadium) were detected in soil above adjusted human health screening levels but below background UTLs. Based on the environmental conditions on Vieques (see Appendix R of the Final SI/ESI Report (CH2M HILL, 2010)), the form of chromium expected to be present at the site is Cr^{3+}, especially considering its detected concentrations are within background levels. Based on maximum detected concentrations of the seven constituents, the cumulative ELCR is 3×10^{-6} and the maximum target organ-specific HI is 0.9. Consequently, there is not a concern for potential cumulative effects from multiple constituents in site soil relative to background.

Ecological Evaluation

A quantitative ecological evaluation is not warranted for PAOC Q because the historic surface soil (or the surface soil representative of potential releases as a result of historical activities) was covered by 2 to 3 feet of soil/gravel cover material and therefore is not representative of a terrestrial pathway to ecological receptors. As a result, even though there is an ecological screening value exceedance for copper in the historic exposed soil, there is no longer a complete exposure pathway to terrestrial organisms because of the thick cover material; therefore surface soil does not pose an unacceptable risk to ecological receptors.

Additional Comparisons

When evaluating the potential for contaminant migration from soils to groundwater, the use of EPA generic soil screening levels (SSLs), applying a dilution attenuation factor (DAF) of 1, were used as the most conservative approach. However, as a general rule, DAF values

from 1 to 20* can be applied dependent upon site-specific data (e.g., size of site, depth to groundwater, etc.). In addition, in the absence of groundwater data, other information such as that listed below was used, as applicable, to evaluate the potential for groundwater impacts from soil contamination:

- depth of contamination with respect to estimated groundwater depth
- mobility of contaminant
- number of exceedances

*SSLs for DAF values of 1 and 20 are provided in Table 1 of Appendix A of the EPA Generic SSL guidance (EPA 2002). Estimated SSLs for DAF values in between 1 and 20 were used in this evaluation.

Copper was detected in surface soil above the SSL at a DAF of 1 and background UTL; however, it was not detected in the closest downgradient groundwater (i.e., wells EPAN-MW01, MW02, and EPAS-MW01 [see Tables 18-3 and 22-3 of the SI/ESI Report]; locations shown in **Figure 2-6**), and it was detected several orders of magnitude below the MCL in the regional wells installed along the southern boundary of Camp Garcia (i.e., wells VECG-MW01 and MW02 [see Table 24-1 of the SI/ESI Report]; locations shown in **Figure 2-6**). Further, there are multiple sites evaluated in the SI/ESI Report (CH2M HILL, 2010) where soil and groundwater samples collected at or near each other showed SSLs are not realistic predictors of leaching to groundwater (i.e., they overestimate leaching). This suggests the SSLs at a DAF of 1 are not realistic predictors of metals leaching to groundwater.

<u>Step 7: Does the historic information and/or spatial distribution of data indicate the potential source area was sufficiently sampled?</u>

The historical information (aerial photographs, interviews, site inspections) indicates the most likely source of CERCLA-related releases is the former boiler room in heat plant building 607. Based on this information, soil samples were collected in this area. Including the supplemental sampling, the spatial distribution of samples and associated data indicate the potential source area was sufficiently sampled.

3.3 Conclusions and No Action Determination

The decision analysis process described above indicates there has not been a CERCLA-related release at PAOC Q or, if there was a release, it has not resulted in contamination of soil at concentrations that would pose a potentially unacceptable risk to human or ecological receptors or leaching concern for groundwater. Therefore, no action is warranted for PAOC Q.

Table 3-1
Surface Soil Detection and Exceedance Results
PAOC Q
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	Background UTL (KTd)	Adjusted RSL for Residential Soil	Eco (E)	SSL (DAF=1)	VEPQ/R-SO01	
Sample ID					VEPQ/R-SB01-46-0209	VEPQ/R-SS01-0405-0810
Sample Date					02/23/09	08/11/10
Chemical Name						
Volatile Organic Compounds (UG/KG)						
Acetone	--	6,100,000	--	4,500	43 U	7.3 J
Toluene	--	500,000	40,000	690	6.0 U	1.9 J
Semivolatile Organic Compounds (UG/KG)						
Dibenz(a,h)anthracene	--	15	--	11	25 U	7.7 J
Indeno(1,2,3-cd)pyrene	--	150	--	120	25 U	11 J
PAH HMW (Total)	--	--	18,000	--	NA	19 J
PAH LMW (Total)	--	--	29,000	--	NA	0 U
Total Metals (MG/KG)						
Aluminum	35,000	7,700	--	55,000	29,800	33,800 J
Antimony	5.8	3.1	78	0.27	0.10 UJ	0.62 J
Arsenic	1.6	0.39	18	0.29	0.65	0.99
Barium	147	1,500	330	82	83	81 J
Beryllium	0.27	16	40	3.2	0.24	**0.37**
Cadmium	2.2	7.0	32	0.38	0.10 U	0.030 J
Calcium	8,840	--	--	--	4,770	6,500 J
Chromium	72	0.29	64	0.00083	17	16 J
Cobalt	16	2.3	13	0.49	12	12
Copper	66	310	70	46	**77 J**	52 J
Iron	38,100	5,500	--	640	32,800	35,300
Lead	5.4	400	120	14	1.5	2.1
Magnesium	3,710	--	--	--	**7,120**	**4,980 J**
Manganese	1,630	180	220	57	746	551 J
Nickel	22	150	38	48	10	7.1 J
Potassium	5,270	--	--	--	1,440 J	1,310 J
Silver	0.22	39	560	1.6	0.10 U	0.020 J
Sodium	1,590	--	--	--	465 J	394 J
Thallium	0.13	--	1.0	0.14	0.10 U	0.040 J
Vanadium	144	39	130	180	105	114
Zinc	32	2,300	120	680	31	28

Notes:

Exceeds Background UTL

Exceeds Background UTL, ECO (E) and SSL (DAF=1)

NA - Not Analyzed
-- Not part of background data set (where applicable) OR Regulatory standard not promulgated
J - Analyte present, value may or may not be accurate or precise
U - Not detected or not detected significantly greater than that in an associated blank.
MG/KG - Milligrams per kilogram
UG/KG - Micrograms per kilogram

Table 3-2
Subsurface Soil Detection and Exceedance Results
PAOC Q
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	**Background UTL (KTd)**	**Adjusted RSL for Residential Soil**	**SSL (DAF=1)**	**VEPQ/R-SO01**
Sample ID				**VEPQ/R-SB01-0810-0810**
Sample Date				**08/11/10**
Chemical Name				
Volatile Organic Compounds (UG/KG)				
Acetone	--	6,100,000	4,500	34
Semivolatile Organic Compounds (UG/KG)				
No Detections	**--**	**--**	**--**	ND
Total Metals (MG/KG)				
Aluminum	35,000	7,700	55,000	20,600 J
Arsenic	1.6	0.39	0.29	0.49
Barium	147	1,500	82	103 J
Beryllium	0.27	16	3.2	0.22
Cadmium	2.2	7.0	0.38	0.060 J
Calcium	8,840	--	--	**14,100 J**
Chromium	72	0.29	0.00083	21 J
Cobalt	16	2.3	0.49	12
Copper	66	310	46	66 J
Iron	38,100	5,500	640	30,800
Lead	3.3	400	14	1.5
Magnesium	3,710	--	--	**5,160 J**
Manganese	1,630	180	57	789 J
Nickel	22	150	48	9.0 J
Potassium	2,000	--	--	1,540 J
Sodium	2,250	--	--	402 J
Thallium	0.13	--	0.14	0.030 J
Vanadium	144	39	180	127
Zinc	32	2,300	680	**33**

Notes:

Exceeds Background UTL

ND - None Detected

-- Not part of background data set (where applicable) OR Regulatory standard not promulgated

J - Analyte present, value may or may not be accurate or precise

MG/KG - Milligrams per kilogram

UG/KG - Micrograms per kilogram

Table 3-3
HHRA COPC Summary Table
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques Island, Puerto Rico

Site: PAOC-Q
Media: Surface Soil, Subsurface Soil
Historical Function: Former Boiler Room in Heat Plant Building 607

Exposure Point	CAS Number	Chemical	Minimum Concentration	Qualifier	Maximum Concentration	Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Frequency of Criteria Exceedance	Range of Detection Limits	Background Value KTd (1)	Max Exceeds Background KTd	May RSL Adjusted (2)		Max Exceeds 100x SL	Cancer Screening Toxicity Value (3)	Non-cancer Screening Toxicity Value (3)	95% UCL (N/T/G)	Statistic	Basis	Target Organ	Hazard Quotient (4)	ELCR (4)
PAOC Q	7429-90-5	Aluminum	3.0E+04		3.4E+04	J	mg/kg	VEPQ/R-SO01	2 / 2	2 / 2	2.01E+00 - 2.30E+00	3.5E+04	No	7.7E+03	nc	No	--	7.7E+04	--	--	Max	CNS	0.4	--
Surface Soil	7440-38-2	Arsenic	6.5E-01		9.9E-01		mg/kg	VEPQ/R-SO01	2 / 2	3 / 2	1.10E-01 - 1.60E-01	1.6E+00	No	3.9E-01	ca	No	3.9E-01	2.2E+01	--	--	Max	Hyperpigmentation, keratosis and possible vascular complications	0.05	2.5E-06
	7440-47-3	Chromium	1.6E+01	J	1.7E+01		mg/kg	VEPQ/R-SO01	2 / 2	4 / 2	6.00E-02 - 1.00E-01	7.2E+01	No	2.9E-01	ca	No	--	1.2E+05	--	--	Max	No Observed Effects	--	--
	7440-48-4	Cobalt	1.2E+01		1.2E+01		mg/kg	VEPQ/R-SO01	2 / 2	5 / 2	1.00E-02 - 1.00E-02	1.6E+01	No	2.3E+00	nc	No	3.7E+02	2.3E+01	--	--	Max	decreased iodine uptake	0.5	3.3E-08
	7439-89-6	Iron	3.3E+04		3.5E+04		mg/kg	VEPQ/R-SO01	2 / 2	6 / 2	6.20E-01 - 1.57E+00	3.8E+04	No	5.5E+03	nc	No	--	5.5E+04	--	--	Max	gastrointestinal effects	0.6	--
	7439-96-5	Manganese	5.5E+02	J	7.5E+02		mg/kg	VEPQ/R-SO01	2 / 2	7 / 2	9.00E-02 - 4.10E-01	1.6E+03	No	1.8E+02	nc	No	--	1.8E+03	--	--	Max	CNS	--	--
	7440-62-2	Vanadium	1.1E+02		1.1E+02		mg/kg	VEPQ/R-SO01	2 / 2	8 / 2	7.00E-02 - 7.00E-02	1.4E+02	No	3.9E+01	nc	No	--	3.9E+02	--	--	Max	decreased hair cystine	--	--
PAOC Q	7429-90-5	Aluminum	2.1E+04	J	2.1E+04	J	mg/kg	VEPQ/R-SO01	1 / 1	1 / 1	1.96E+00 - 1.96E+00	3.5E+04	No	7.7E+03	nc	No	--	7.7E+04	--	--	Max	CNS	--	--
Subsurface Soil	7440-38-2	Arsenic	4.9E-01		4.9E-01		mg/kg	VEPQ/R-SO01	1 / 1	1 / 1	1.00E-01 - 1.00E-01	1.6E+00	No	3.9E-01	ca	No	3.9E-01	2.2E+01	--	--	Max	Hyperpigmentation, keratosis and	--	--
	7440-47-3	Chromium	2.1E+01	J	2.1E+01	J	mg/kg	VEPQ/R-SO01	1 / 1	1 / 1	5.00E-02 - 5.00E-02	7.2E+01	No	2.9E-01	ca	No	--	1.2E+05	--	--	Max	No Observed Effects	0.0002	--
	7440-48-4	Cobalt	1.2E+01		1.2E+01		mg/kg	VEPQ/R-SO01	1 / 1	1 / 1	1.00E-02 - 1.00E-02	1.6E+01	No	2.3E+00	nc	No	3.7E+02	2.3E+01	--	--	Max	decreased iodine uptake	--	--
	7439-89-6	Iron	3.1E+04		3.1E+04		mg/kg	VEPQ/R-SO01	1 / 1	1 / 1	1.54E+00 - 1.54E+00	3.8E+04	No	5.5E+03	nc	No	--	5.5E+04	--	--	Max	gastrointestinal effects	--	--
	7439-96-5	Manganese	7.9E+02	J	7.9E+02	J	mg/kg	VEPQ/R-SO01	1 / 1	1 / 1	9.00E-02 - 9.00E-02	1.6E+03	No	1.8E+02	nc	No	--	1.8E+03	--	--	Max	CNS	0.4	--
	7440-62-2	Vanadium	1.3E+02		1.3E+02		mg/kg	VEPQ/R-SO01	1 / 1	1 / 1	7.00E-02 - 7.00E-02	1.4E+02	No	3.9E+01	nc	No	--	3.9E+02	--	--	Max	decreased hair cystine	0.3	--

Site Cumulative Risk	Max HI *	ELCR
Soil (based on CNS effects)	0.9	3E-06
Total Risk (based on CNS effects)	0.9	3E-06

Note:
(1) East Vieques Soil Type KTd
(2) Regional Screening Levels for Residential Soil (November 2010). Concentrations based on non-carcinogenic health effects are adjusted using HQ=0.1.
(3) Regional Screening Levels for Residential Soil (November 2010) based on an ELCR of $1x10^{-6}$ and an HQ=1.0

The SL for 'Chromium (VI)' was used as the adjusted SL for Chromium. The expected form of chromium is Chromium (III). Therefore, the SL for 'Chromium (III)' was used as the Cancer and Noncancer Toxicity screening value.
The SL for 'Vanadium and Compounds' was used as the adjusted SL for Vanadium.

* - Max HI is the highest HI associated with any target organ or critical effect.

(4) When a chemical was detected in both surface and subsurface soil exposure points, the hazard quotient and ELCR were calculated based on the higher maximum detected concentration of the two exposure points to obtain conservative risk estimates.

ca = Carcinogenic
nc = Noncarcinogenic
J = compound was detected below the reporting limit in the sample
ELCR = Excess Lifetime Cancer Risk
CNS = Central nervous System

Legend

- Camp Garcia Area
- Supplemental SI Surface and Subsurface Soil Sampling Location
- SI Surface and Subsurface Soil Sampling Location

FIGURE 3-1
PAOC Q Soil Sample Locations
1983 Aerial Photograph
No Action/No Further Action Decision Document,
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

CH2MHILL

SECTION 4

PAOC R – Former Boiler Room in Heat Plant Building 617

This section presents a summary of the pertinent historical information and rationale for the no action determination for PAOC R – Former Boiler Room in Heat Plant Building 617 at the Former VNTR. The detailed evaluation of PAOC R presented below is from the Final SI/ESI Report (CH2M HILL, 2010) and the SI/ESI Report Addendum (CH2M HILL, 2011).

4.1 Conceptual Site Model

The CSM for PAOC R is based on review of historical information such as records, aerial photographs, site inspection documentation, and interviews; as well as site-specific data collection.

4.1.1 Site Description and Potential Sources of Release

PAOC R is located within the west-central portion of Camp Garcia (**Figure 1-2**) and identified in the 1983 aerial photograph (**Figure 4-1**). Historical information indicates PAOC R, constructed in 1970 and demolished in 1984, was a former boiler house in heat plant Building 617.

Although there are no records of past releases at the site and there was no evidence of past releases observed during the site visits, the potential presence of CERCLA-related hazardous substances could not be confidently ruled out without sample collection due to the nature of the historical activities. Therefore, this site was included in the 2009 SI and the 2010 Supplemental SI.

4.1.2 Investigation History

To determine if a release of hazardous constituents occurred at PAOC R, in accordance with the Final SI/ESI SAP (CH2M HILL, 2009), one soil boring was installed during the 2009 SI. One surface soil sample (i.e., SS02 associated with the orange circle in **Figure 4-1**) was collected at the former boiler room in heat plant building 617 (PAOC R). No subsurface soil sample was taken at SO02, as refusal was reached at 2 ft bgs. Because approximately 2 to 3 feet of soil/gravel was placed over the PAOC R sampling location prior to sampling, the surface soil sample collected at the PAOC R location is not representative of soil present when potential releases from historical activities at the site would have occurred. The surface soil sample collected at the site is representative of the soil cover material placed there during the USFWS road improvement activities.

No PID readings above 0.0 ppm were observed in the 2009 SI soil boring (see Soil Boring Logs, in Appendix A of the Final SI/ESI Report (CH2M HILL, 2010)). The surface soil sample was analyzed for TCL VOCs and SVOCs, and TAL inorganics.

During the 2010 Supplemental SI, soil samples were collected from approximately the same PAOC R location from which one was collected during the 2009 SI. The soil/gravel cover material was removed and set aside prior to sampling. Then, a slide hammer was used to collect

a co-located surface soil and subsurface soil sample (i.e., SS/SB02 associated with the pink diamond in **Figure 4-1**) from within the former footprint of Building 617 (PAOC R).

The surface fill material at this location was identified by its resemblance to PAOC Q and PAOC R historical sample locations fill material, a gravelly well graded sand or sandy gravel. Loose gravel with sand is noted as being present on the original boring log from 2.0-3.0′ bgs.

The visible fill/native soil contact is noted at 3.0′ bgs and was observed as dried plant matter. This shows the division between fill and historical surface soil. The dried plant matter had a fine root system that was observed in the underlying soil. Additional support that this was the fill/native soil contact was that the underlying soil was noted to be well graded sand with trace clay with a distinct color change from that of the fill (from brown to dark yellowish brown), as well as its density being medium dense.

No PID readings above 0.0 ppm were observed in the Supplemental SI soil boring (see Soil Boring Logs, in Appendix A of the SI/ESI Report Addendum (CH2M HILL, 2011), and the surface and subsurface samples were collected in accordance with the Final SI/ESI SAP (CH2M HILL, 2009). The surface and subsurface soil samples collected during the 2010 Supplemental SI were analyzed for TCL VOCs and SVOCs, and TAL inorganics.

Tables 4-1 and 4-2 summarize the constituents detected in PAOC R surface soil and subsurface soil samples collected during the Supplemental SI (2010). The surface soil data from the SI are not included in the evaluation because the soil was not representative of native soil; it was representative of the cover material placed during road improvement activities. The tables also identify background and screening criteria exceedances. Raw analytical data for the SI samples are provided in Appendix K of the Final SI/ESI Report (CH2M HILL, 2010). Raw analytical data for the Supplemental SI/ESI are provided in Appendix B of the SI/ESI Report Addendum (CH2M HILL, 2011).

4.1.3 Physical Setting

The description of the site's physical setting is based on site inspections conducted in 2002 (EBS) and in 2009 (SI), as well as on regional information.

PAOC R is at an elevation of approximately 94 ft amsl; the land surrounding PAOC R slopes gently to the south and is relatively open, but not routinely maintained.

The soil overlying the bedrock found in borings at PAOC R consists mostly of gravel with some sandy silt. See Appendix A of the Final SI/ESI Report (CH2M HILL, 2010) and Appendix A of the SI/ESI Report Addendum (CH2M HILL, 2011) for the site-specific soil boring logs. It is again noted that approximately 3 ft of soil/gravel was inadvertently placed over the soil sampling locations (prior to sampling) by USFWS at PAOC R. Therefore, the soil boring descriptions for PAOC R in the Final SI/ESI Report (CH2M HILL, 2010) include that material.

Bedrock under PAOC R is part of the KTd formation, which consists of plutonic rocks, largely granodiorite and quartz diorite. For more information on the bedrock geology, see Section 1.4.6 of the Final SI/ESI Report (CH2M HILL, 2010).

No surface water bodies are present at the site. The closest surface water bodies topographically downgradient of the site are Bahia Corcho and Bahia Tapon along the coast, approximately 1 mile to the south and southeast, respectively. Based on nearby wells, the topographic slope,

and the regional groundwater gradient determined by the USGS (1989) and confirmed by CH2M HILL within Camp Garcia during the SI/ESI, groundwater in this area exists within the fractured bedrock and is presumed to flow in a southerly direction toward the coast, as described in Section 1.4.7 of the Final SI/ESI Report (CH2M HILL, 2010) and shown in **Figure 2 -6**.

4.2 PAOC R Release Assessment Decision Analysis

This subsection discusses the sample results in the context of the Data Evaluation Decision Tree (**Figure 1-3**) with reference to the detection tables (**Tables 4-1 and 4-2**).

Step 1: Is the site potentially CERCLA-eligible?

Historical information suggests the site was a former boiler room in a heat plant building. Although there are no records of past releases at the site and there was no evidence of past releases observed during the site visits, the potential presence of CERCLA hazardous substances could not be confidently ruled out without sample collection due to the nature of the historical activities at the site. Sample collection took place during the 2009 SI and the 2010 Supplemental SI. Therefore, the decision analysis proceeds to Step 2.

Step 2: Does the data quality evaluation indicate the dataset as a whole is available and useful for the intended purpose?

ESI (2009)

Appendix M of the Final SI/ESI Report (CH2M HILL, 2010) discusses the evaluation of the PAOC R data quality. Although the PAOC R data collected during the SI are available for use, they are not useful for the intended purpose because the sample was not collected in soil representative of conditions present when historical activities at the site took place. Therefore, the 2009 SI soil sample data are not included in the decision analysis steps below.

Supplemental SI/ESI (2010)

Appendix C of the SI/ESI Report Addendum (CH2M HILL, 2011) presents the data quality evaluation of the Supplemental SI analytical data for PAOC R. Based on this evaluation of the Supplemental SI data, 100 percent of the data are acceptable for use. Additionally, the site-specific data set exceeded the 95 percent project completeness goal, achieving 100 percent completeness.

Step 3: Were any inorganics above the background UTL detected or were any non-inorganics detected?

For the samples collected during the Supplemental SI (2010), the following inorganics above the background UTLs and non-inorganics were detected by medium:

Supplemental SI (2010) Surface Soil (SS02)

- VOCs: 2-Butanone and Acetone
- SVOCs : Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Indeno(1,2,3-cd)pyrene, PAH LMW, PAH HMW, and Pyrene
- Inorganics above background UTLs : Calcium, Magnesium, and Zinc

Supplemental SI (2010) Subsurface Soil (SB02)

- VOCs: Acetone
- SVOCs : Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Carbazole, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene
- Inorganics above background UTLs : Aluminum, Barium, Beryllium, Cobalt, Copper, Iron, Magnesium, Manganese, and Zinc

Step 4: Are there any inorganic constituents above background or non-inorganic constituents that are potentially attributable to historic CERCLA-related releases at the site?

There are no records or visual evidence of past releases at PAOC R. However, the surface soil and subsurface soil samples collected during the 2010 Supplemental SI show detected constituents that are potentially attributable to CERCLA-related releases at PAOC R from the former boiler room. Therefore, all detected constituents in the 2010 surface and subsurface soil samples are further considered in the decision analysis process.

Step 5: For potentially complete exposure pathways, are there any exceedances (over that of background) of the most conservative screening values?

In this step of the decision analysis, the data for the CERCLA-related constituents identified in Step 4 are compared to the screening criteria described in Section 1 of the Final SI/ESI Report (CH2M HILL, 2010) and shown on the detection tables. Those constituents that exceed one or more criteria (and background for inorganics) are listed below by location and by medium.

Supplemental SI (2010) Surface Soil (SS02)

- No exceedances

Supplemental SI (2010) Subsurface Soil (SB02)

- Aluminum: one detection (sample SB02) at a concentration (39,400 mg/kg) above the RSL (7,700 mg/kg) and background UTL (35,000 mg/kg)
- Barium: one detection (sample SB02) at a concentration (224 mg/kg) above the SSL at a DAF of 1 (82 mg/kg) and background UTL (147 mg/kg)
- Cobalt: one detection (sample SB02) at a concentration (21 mg/kg) above the RSL (2.3 mg/kg), the SSL at a DAF of 1 (0.49 mg/kg), and background UTL (16 mg/kg)
- Copper: one detection (sample SB02) at a concentration (85 mg/kg) above the SSL at a DAF of 1 (46 mg/kg) and background UTL (66 mg/kg)
- Iron: one detection (sample SB02) at a concentration (39,700 mg/kg) above the RSL (5,500 mg/kg), the SSL at a DAF of 1 (640 mg/kg), and background UTL (38,100 mg/kg)
- Manganese: one detection (sample SB02) at a concentration (2,360 mg/kg) above the RSL (180 mg/kg), the SSL at a DAF of 1 (57 mg/kg), and background UTL (1,630 mg/kg)

As shown above, there are exceedances of the most conservative screening values. Therefore, the decision analysis process continues to Step 6.

Step 6: Can more realistic evaluations of the data be performed, and if so, do they suggest contaminant levels warrant no further investigation or action?

Human Health Evaluation

As a conservative approach, risk estimates were prepared for a future residential scenario at PAOC R. The site is less than 0.003 acre in size, whereas a residential lot may be approximately 0.75 acre. No chemicals in soil were detected above background and adjusted RSLs at concentrations exceeding 100 times the screening levels (see **Table 4-3**). Therefore, no hot spots were identified and all soil data were merged in the residential evaluation.

No constituents were detected in the surface soil above the adjusted human health screening levels and background UTLs. Four constituents were detected in subsurface soil samples above the adjusted human health screening levels and background UTLs: aluminum, cobalt, iron, and manganese (**Table 4-3**).

- Aluminum was detected in subsurface soil above its background UTL and adjusted RSL (7,700 mg/kg), at a concentration of 39,400 mg/kg. Based on the maximum detected concentration, the HQ is 0.5, which is within EPA's acceptable level and aluminum would not be identified as a risk driver.
- Cobalt was detected in subsurface soil above its background UTL and adjusted RSL (2.3 mg/kg), at a concentration of 21 mg/kg. Based on the maximum detected concentration, the HQ is 0.9 and the ELCR is 6×10^{-8}, which are within EPA's acceptable levels and cobalt would not be identified as a risk driver.
- Iron was detected in subsurface soil above its background UTL and adjusted RSL (5,500 mg/kg), at a concentration of 39,700 mg/kg. Based on the maximum detected concentration, the HQ is 0.7, which is within the EPA acceptable level and iron would not be identified as a risk driver.
- Manganese was detected in subsurface soil above its background UTL and adjusted RSL (180 mg/kg), at a concentration of 2,360 mg/kg. Based on the maximum detected concentration, the HQ is 1.3, which is slightly above EPA's acceptable level and manganese potentially would be identified as a risk driver. However, the manganese concentration in the duplicate sample was 1,100 mg/kg, which is below the background UTL of 1,630 mg/kg. In addition, the average manganese concentration in the subsurface soil sample is 1,730 mg/kg, which is very similar to the background concentration. Weathered soil derived from the parent rock (granodiorite) at the site is made primarily of clay minerals rich in silica, aluminum, iron, and manganese oxides. Manganese is primarily associated with the weathering of feldspars. The variability in the detected concentrations in soil is likely associated with manganese oxides and attributable to background. Further, the most common anthropogenic source of manganese is steel, which is not likely associated with potential releases from boilers. Also, if there had been a significant release at the site, it is unlikely that manganese would be the only contaminant identified as a risk driver.

Three additional constituents (arsenic, chromium, and vanadium) were detected in soil above adjusted human health screening levels but below background UTLs. Based on the environmental conditions on Vieques (see Appendix R of the Final SI/ESI Report (CH2M HILL, 2010)), the form of chromium expected to be present at the site is Cr^{3+}, especially considering its detected concentrations are within background levels. Based on the detected concentrations of aluminum, cobalt, iron, manganese, and the three additional constituents, the cumulative ELCR

is 3 x 10^{-6} and the maximum target organ-specific HI is 1.8 (primarily due to manganese). Based on the duplicate analytical result for manganese (which is equally as valid as the "normal" sample result), the HQ for manganese is 0.6 and manganese would not be identified as a risk driver (see the COPC Summary Table Supplement, **Table 4-4**). As indicated in **Table 4-4**, the cumulative maximum target organ-specific HI is 1.1 when the duplicate result (rather than the "normal" result) is used for manganese. Since the HI is only slightly above the target of 1.1 and the exceedance above 1.0 is due to a chemical likely associated with background, cumulative effects are not expected to be a concern.

Ecological Evaluation

There are no ecological screening value exceedances.

Additional Comparisons

When evaluating the potential for contaminant migration from soils to groundwater, the use of EPA generic soil screening levels (SSLs), applying a dilution attenuation factor (DAF) of 1, were used as the most conservative approach. However, as a general rule, DAF values from 1 to 20* can be applied dependent upon site-specific data (e.g., size of site, depth to groundwater, etc.). In addition, in the absence of groundwater data, other information such as that listed below was used, as applicable, to evaluate the potential for groundwater impacts from soil contamination:

- depth of contamination with respect to estimated groundwater depth
- mobility of contaminant
- number of exceedances

*SSLs for DAF values of 1 and 20 are provided in Table 1 of Appendix A of the EPA Generic SSL guidance (EPA 2002). Estimated SSLs for DAF values in between 1 and 20 were used in this evaluation.

Five inorganic constituents (barium, cobalt, copper, iron, and manganese) were detected in subsurface soil above their SSLs at a DAF of 1 and background UTLs. However, none of the constituents was detected in downgradient groundwater (see Tables 18-3, 22-3, and 24-1 of the SI/ESI Report) at concentrations above the MCLs or tap water Regional Screening Levels (RSLs). Further, there are multiple sites evaluated in the SI/ESI Report (CH2M HILL, 2010) where soil and groundwater samples collected at or near each other showed SSLs are not realistic predictors of leaching to groundwater (i.e., they overestimate leaching). This suggests the SSLs at a DAF of 1 are not realistic predictors of metals leaching to groundwater.

Step 7: Does the historic information and/or spatial distribution of data indicate the potential source area was sufficiently sampled?

The historical information (aerial photographs, interviews, site inspections) indicates the most likely source of CERCLA-related releases is the former boiler room in heat plant building 617. The spatial distribution of the VOC, SVOC, and inorganics data for the surface and subsurface soil samples collected during the 2010 Supplemental SI indicate the potential source area was sufficiently characterized.

4.3 Conclusions and No Action Determination

The decision analysis process described above indicates there has not been a CERCLA-related release at PAOC R or, if there was a release, it has not resulted in contamination of soil at concentrations that would pose a potentially unacceptable risk to human or ecological receptors or leaching concern for groundwater. Therefore, no action is warranted for PAOC R.

Table 4-1
Surface Soil Detection and Exceedance Results
PAOC R
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	**Background UTL (KTd)**	**Adjusted RSL for Residential Soil**	**Eco (E)**	**SSL (DAF=1)**	**VEPQ/R-SO02**
Sample ID					**VEPQ/R-SS02-0304-0810**
Sample Date					**08/10/10**
Chemical Name					
Volatile Organic Compounds (UG/KG)					
2-Butanone	--	2,800,000	--	1,500	26 J
Acetone	--	6,100,000	--	4,500	140
Semivolatile Organic Compounds (UG/KG)					
Benzo(a)anthracene	--	150	--	10	4.3 J
Benzo(a)pyrene	--	15	--	240	4.8 J
Benzo(b)fluoranthene	--	150	--	35	8.4 J
Benzo(k)fluoranthene	--	1,500	--	350	3.8 J
Chrysene	--	15,000	--	1,100	6.2 J
Fluoranthene	--	230,000	--	160,000	5.2 J
Indeno(1,2,3-cd)pyrene	--	150	--	120	13 J
PAH HMW (Total)	--	--	18,000	--	49 J
PAH LMW (Total)	--	--	29,000	--	5.0 J
Pyrene	--	170,000	--	120,000	8.1 J
Total Metals (MG/KG)					
Aluminum	35,000	7,700	--	55,000	20,800 J
Antimony	5.8	3.1	78	0.27	0.23 J
Arsenic	1.6	0.39	18	0.29	1.1
Barium	147	1,500	330	82	70 J
Beryllium	0.27	16	40	3.2	0.24
Cadmium	2.2	7.0	32	0.38	0.12
Calcium	8,840	--	--	--	**20,600 J**
Chromium	72	0.29	64	0.00083	14 J
Cobalt	16	2.3	13	0.49	12
Copper	66	310	70	46	57 J
Iron	38,100	5,500	--	640	27,500
Lead	5.4	400	120	14	5.4
Magnesium	3,710	--	--	--	**5,910 J**
Manganese	1,630	180	220	57	466 J
Mercury	0.057	0.78	0.10	0.10	0.020 J
Nickel	22	150	38	48	6.2 J
Potassium	5,270	--	--	--	1,630 J
Silver	0.22	39	560	1.6	0.010 J
Sodium	1,590	--	--	--	258 J
Thallium	0.13	--	1.0	0.14	0.030 J
Vanadium	144	39	130	180	82
Zinc	32	2,300	120	680	**58**

Notes:

Exceeds Background UTL

-- Not part of background data set (where applicable) OR Regulatory standard not promulgated
J - Analyte present, value may or may not be accurate or precise
MG/KG - Milligrams per kilogram
UG/KG - Micrograms per kilogram

Table 4-2
Subsurface Soil Detection and Exceedance Results
PAOC R
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

Station ID	Background UTL (KTd)	Adjusted RSL for Residential Soil	SSL (DAF=1)	VEPQ/R-SO02	
Sample ID				VEPQ/R-SB02-0709-0810	VEPQ/R-SB02P-0709-0810
Sample Date				08/10/10	08/10/10
Chemical Name					
Volatile Organic Compounds (UG/KG)					
Acetone	--	6,100,000	4,500	19 J	42
Semivolatile Organic Compounds (UG/KG)					
Benzo(a)anthracene	--	150	10	11 U	5.8 J
Benzo(a)pyrene	--	15	240	11 U	7.8 J
Benzo(b)fluoranthene	--	150	35	11 U	12 J
Benzo(g,h,i)perylene	--	170,000	--	11 U	5.8 J
Benzo(k)fluoranthene	--	1,500	350	11 U	5.6 J
Carbazole	--	--	--	11 U	1.6 J
Chrysene	--	15,000	1,100	11 U	8.7 J
Dibenz(a,h)anthracene	--	15	11	11 U	8.8 J
Fluoranthene	--	230,000	160,000	11 U	12 J
Indeno(1,2,3-cd)pyrene	--	150	120	11 U	17 J
Phenanthrene	--	1,700,000	--	11 U	4.4 J
Pyrene	--	170,000	120,000	11 U	12 J
Total Metals (MG/KG)					
Aluminum	35,000	7,700	55,000	**39,400 J**	**39,200 J**
Antimony	5.8	3.1	0.27	0.080 J	0.090 J
Arsenic	1.6	0.39	0.29	0.64	0.53
Barium	147	1,500	82	**224 J**	121 J
Beryllium	0.27	16	3.2	**0.34**	**0.40**
Cadmium	2.2	7.0	0.38	0.080	0.050 J
Calcium	8,840	--	--	5,370 J	6,020 J
Chromium	72	0.29	0.00083	27 J	26 J
Cobalt	16	2.3	0.49	**18**	**21**
Copper	66	310	46	**85 J**	**77 J**
Iron	38,100	5,500	640	**39,700**	**39,200**
Lead	3.3	400	14	2.0	2.0
Magnesium	3,710	--	--	**4,490 J**	**4,340 J**
Manganese	1,630	180	57	**2,360 J**	1,100 J
Mercury	0.057	0.78	0.10	0.010 J	0.010 J
Nickel	22	150	48	17 J	13 J
Potassium	2,000	--	--	1,450 J	1,480 J
Silver	0.22	39	1.6	0.032 U	0.020 J
Sodium	2,250	--	--	329 J	350 J
Thallium	0.13	--	0.14	0.050 J	0.040 J
Vanadium	144	39	180	128	116
Zinc	32	2,300	680	**34**	29

Notes:

Exceeds Background UTL
Exceeds Background UTL and Adjusted RSL for Residential Soil
Exceeds Background UTL and SSL (DAF=1)
Exceeds Background UTL, Adjusted RSL for Residential Soil and SSL (DAF=1)

-- Not part of background data set (where applicable) OR Regulatory standard not promulgated
J - Analyte present, value may or may not be accurate or precise
U - Not detected or not detected significantly greater than that in an associated blank.
MG/KG - Milligrams per kilogram
UG/KG - Micrograms per kilogram

Table 4-3
HHRA COPC Summary Table
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques Island, Puerto Rico

Site: PAOC-R
Media: Surface Soil, Subsurface Soil
Historical Function: Former Boiler Room in Heat Plant Building 617

Exposure Point	CAS Number	Chemical	Minimum Concentration Qualifier		Maximum Concentration Qualifier		Units	Location of Maximum Concentration	Detection Frequency	Frequency of Criteria Exceedance	Range of Detection Limits	Background Value KTd (1)	Max Exceeds Background KTd	November RSL Adjusted (2)		Max Exceeds 100x SL	Cancer Screening Toxicity Value (3)	Non-cancer Screening Toxicity Value (3)	95% UCL (N/T/G)	Statistic	Basis	Target Organ	Hazard Quotient (4)	ELCR (4)
PAOC R	7429-90-5	Aluminum	2.1E+04	J	2.1E+04	J	mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.91E+00 - 1.91E+00	3.5E+04	No	7.7E+03	nc	No	--	7.7E+04	--	--	Max	CNS	--	--
Surface Soil	7440-38-2	Arsenic	1.1E+00		1.1E+00		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.00E-01 - 1.00E-01	1.6E+00	No	3.9E-01	ca	No	3.9E-01	2.2E+01	--	--	Max	Hyperpigmentation, keratosis and possible vascular complications	0.05	2.8E-06
	7440-47-3	Chromium	1.4E+01	J	1.4E+01	J	mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	5.00E-02 - 5.00E-02	7.2E+01	No	2.9E-01	ca	No	--	1.2E+05	--	--	Max	No Observed Effects	--	--
	7440-48-4	Cobalt	1.2E+01		1.2E+01		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.00E-02 - 1.00E-02	1.6E+01	No	2.3E+00	nc	No	3.7E+02	2.3E+01	--	--	Max	decreased iodine uptake	--	--
	7439-89-6	Iron	2.8E+04		2.8E+04		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.50E+00 - 1.50E+00	3.8E+04	No	5.5E+03	nc	No	--	5.5E+04	--	--	Max	gastrointestinal effects	--	--
	7439-96-5	Manganese	4.7E+02	J	4.7E+02	J	mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	9.00E-02 - 9.00E-02	1.6E+03	No	1.8E+02	nc	No	--	1.8E+03	--	--	Max	CNS	--	--
	7440-62-2	Vanadium	8.2E+01		8.2E+01		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	7.00E-02 - 7.00E-02	1.4E+02	No	3.9E+01	nc	No	--	3.9E+02	--	--	Max	decreased hair cystine	--	--
PAOC R	7429-90-5	Aluminum	3.9E+04	J	3.9E+04	J	mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	3.54E+00 - 3.54E+00	3.5E+04	Yes	7.7E+03	nc	No	--	7.7E+04	--	--	Max	CNS	0.5	--
Subsurface Soil	7440-38-2	Arsenic	6.4E-01		6.4E-01		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	9.00E-02 - 9.00E-02	1.6E+00	No	3.9E-01	ca	No	3.9E-01	2.2E+01	--	--	Max	Hyperpigmentation, keratosis and possible vascular complications	--	--
	7440-47-3	Chromium	2.7E+01	J	2.7E+01	J	mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	5.00E-02 - 5.00E-02	7.2E+01	No	2.9E-01	ca	No	--	1.2E+05	--	--	Max	No Observed Effects	0.0002	--
	7440-48-4	Cobalt	2.1E+01		2.1E+01		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.00E-02 - 1.00E-02	1.6E+01	Yes	2.3E+00	nc	No	3.7E+02	2.3E+01	--	--	Max	decreased iodine uptake	0.9	5.8E-08
	7439-89-6	Iron	4.0E+04		4.0E+04		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.39E+00 - 1.39E+00	3.8E+04	Yes	5.5E+03	nc	No	--	5.5E+04	--	--	Max	gastrointestinal effects	0.7	--
	7439-96-5	Manganese	2.4E+03	J	2.4E+03	J	mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.60E-01 - 1.60E-01	1.6E+03	Yes	1.8E+02	nc	No	--	1.8E+03	--	--	Max	CNS	1.3	--
	7440-62-2	Vanadium	1.3E+02		1.3E+02		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	6.00E-02 - 6.00E-02	1.4E+02	No	3.9E+01	nc	No	--	3.9E+02	--	--	Max	decreased hair cystine	0.3	--

Site Cumulative Risk	Max HI *	ELCR
Soil (based on CNS effects)	1.8	3E-06
Total Risk (based on CNS effects)	1.8	3E-06

Note:
(1) East Vieques Soil Type KTd
(2) Regional Screening Levels for Residential Soil (November 2010). Concentrations based on non-carcinogenic health effects are adjusted using HQ=0.1.
(3) Regional Screening Levels for Residential Soil (November 2010) based on an ELCR of $1x10^{-6}$ and an HQ=1.0

The SL for 'Chromium (VI)' was used as the adjusted SL for Chromium. The expected form of chromium is Chromium (III). Therefore, the SL for 'Chromium (III)' was used as the Cancer and Noncancer Toxicity screening value.
The SL for 'Vanadium and Compounds' was used as the adjusted SL for Vanadium.

(4) When a chemical was detected in both surface and subsurface soil exposure points, the hazard quotient and ELCR were calculated based on the higher maximum detected concentration of the two exposure points to obtain conservative risk estimates.

ca = Carcinogenic
nc = Noncarcinogenic
J = compound was detected below the reporting limit in the sample
ELCR = Excess Lifetime Cancer Risk
CNS = Central nervous System

* - Max HI is the highest HI associated with any target organ or critical effect.

Table 4-4
HHRA COPC Summary Table Supplement
No Action/No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Vieques Island, Puerto Rico

Site: PAOC-R
Media: Surface Soil, Subsurface Soil
Historical Function: Former Boiler Room in Heat Plant Building 617

Exposure Point	CAS Number	Chemical	Minimum Concentration	Qualifier	Maximum Concentration	Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Frequency of Criteria Exceedance	Range of Detection Limits	Background Value KTd (1)	Max Exceeds Background KTd	November RSL Adjusted (2)		Max Exceeds 100x SL	Cancer Screening Toxicity Value (3)	Non-cancer Screening Toxicity Value (3)	95% UCL (N/T/G)	Statistic	Basis	Target Organ	Hazard Quotient	ELCR
PAOC R	7429-90-5	Aluminum	2.1E+04	J	2.1E+04	J	mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.91E+00 - 1.91E+00	3.5E+04	No	7.7E+03	nc	No	--	7.7E+04	--	--	Max	CNS	--	--
Surface Soil	7440-38-2	Arsenic	1.1E+00		1.1E+00		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.00E-01 - 1.00E-01	1.6E+00	No	3.9E-01	ca	No	3.9E-01	2.2E+01	--	--	Max	Hyperpigmentation, keratosis and possible vascular complications	0.05	2.8E-06
	7440-47-3	Chromium	1.4E+01	J	1.4E+01	J	mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	5.00E-02 - 5.00E-02	7.2E+01	No	2.9E-01	ca	No	--	1.2E+05	--	--	Max	No Observed Effects	--	--
	7440-48-4	Cobalt	1.2E+01		1.2E+01		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.00E-02 - 1.00E-02	1.6E+01	No	2.3E+00	nc	No	3.7E+02	2.3E+01	--	--	Max	decreased iodine uptake	--	--
	7439-89-6	Iron	2.8E+04		2.8E+04		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.50E+00 - 1.50E+00	3.8E+04	No	5.5E+03	nc	No	--	5.5E+04	--	--	Max	gastrointestinal effects	--	--
	7439-96-5	Manganese	4.7E+02	J	4.7E+02	J	mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	9.00E-02 - 9.00E-02	1.6E+03	No	1.8E+02	nc	No	--	1.8E+03	--	--	Max	CNS	--	--
	7440-62-2	Vanadium	8.2E+01		8.2E+01		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	7.00E-02 - 7.00E-02	1.4E+02	No	3.9E+01	nc	No	--	3.9E+02	--	--	Max	decreased hair cystine	--	--
PAOC R	7429-90-5	Aluminum	3.9E+04	J	3.9E+04	J	mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	3.54E+00 - 3.54E+00	3.5E+04	Yes	7.7E+03	nc	No	--	7.7E+04	--	--	Max	CNS	0.5	--
Subsurface Soil	7440-38-2	Arsenic	6.4E-01		6.4E-01		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	9.00E-02 - 9.00E-02	1.6E+00	No	3.9E-01	ca	No	3.9E-01	2.2E+01	--	--	Max	Hyperpigmentation, keratosis and possible vascular complications	--	--
	7440-47-3	Chromium	2.7E+01	J	2.7E+01	J	mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	5.00E-02 - 5.00E-02	7.2E+01	No	2.9E-01	ca	No	--	1.2E+05	--	--	Max	No Observed Effects	0.0002	--
	7440-48-4	Cobalt	2.1E+01		2.1E+01		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.00E-02 - 1.00E-02	1.6E+01	Yes	2.3E+00	nc	No	3.7E+02	2.3E+01	--	--	Max	decreased iodine uptake	0.9	5.8E-08
	7439-89-6	Iron	4.0E+04		4.0E+04		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.39E+00 - 1.39E+00	3.8E+04	Yes	5.5E+03	nc	No	--	5.5E+04	--	--	Max	gastrointestinal effects	0.7	--
	7439-96-5	Manganese	1.1E+03		1.1E+03	(4)	mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	1.60E-01 - 1.60E-01	1.6E+03	No	1.8E+02	nc	No	--	1.8E+03	--	--	Max	CNS	0.6	--
	7440-62-2	Vanadium	1.3E+02		1.3E+02		mg/kg	VEPQ/R-SO02	1 / 1	1 / 1	6.00E-02 - 6.00E-02	1.4E+02	No	3.9E+01	nc	No	--	3.9E+02	--	--	Max	decreased hair cystine	0.3	--

Site Cumulative Risk	Max HI *	ELCR
Soil	1.1	3E-06
Total Risk	1.1	3E-06

* - Max HI is the highest HI associated with any target organ or critical effect.

Note:
(1) East Vieques Soil Type KTd
(2) Regional Screening Levels for Residential Soil (November 2010). Concentrations based on non-carcinogenic health effects are adjusted using HQ=0.1.
(3) Regional Screening Levels for Residential Soil (November 2010) based on an ELCR of $1x10^{-6}$ and an HQ=1.0
(4) A pair of normal and duplicate samples was collected at the location of the maximum detected concentration. The manganese concentration in the duplicate sample was used in this table for comparison purposes.
The manganese data associated with the normal sample is presented in Table 3-3.

The SL for 'Chromium (VI)' was used as the adjusted SL for Chromium. The expected form of chromium is Chromium (III). Therefore, the SL for 'Chromium (III)' was used as the Cancer and Noncancer Toxicity screening value.
The SL for 'Vanadium and Compounds' was used as the adjusted SL for Vanadium.

ca = Carcinogenic
nc = Noncarcinogenic
J = compound was detected below the reporting limit in the sample
ELCR = Excess Lifetime Cancer Risk
CNS = Central nervous System

Legend

- Camp Garcia Area
- SI Surface Soil Sample Location
- Supplemental SI Surface and Subsurface Soil Sampling Location

FIGURE 4-1
PAOC R Soil Sample Locations
1983 Aerial Photograph
No Action/No Further Action Decision Document,
PI 7, PAOC Q, and PAOC R
Vieques, Puerto Rico

CH2MHILL

SECTION 5

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Appendix A
Non-CERCLA-related Contaminant Considerations (Pesticides)

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			SWMU 2	SWMU 2	SWMU 2	SWMU 2	SWMU 2	SWMU 2	SWMU 2	SWMU 2	
Station ID	**Concentration**	**Lowest**	**Highest**	CGW2SS01	CGW2SS02	CGW2SS03	CGW2SS04	CGW2SS05	CGW2SS06	CGW2SS07	CGW2SS08	
Sample ID	**Detected in surface soil**	**Detected**	**Detected**	CGW2SS01-R01	CGW2SS02-R01	CGW2SS03-R01	CGW2SS04-R01	CGW2SS05-R01	CGW2SS06-R01	CGW2SS07-R01	CGW2FD01P-R01	CGW2SS08-R01
Sample Date	**at the PI 7 Site**	**Concentration**	**Concentration**	01/21/04	01/21/04	01/21/04	01/21/04	01/21/04	01/21/04	01/21/04	01/21/04	01/21/04
Chemical Name												
Pesticides (UG/KG)												
4,4'-DDD	ND	0.16 J	26 J	3.7 U	3.9 U	3.9 U	3.7 U	3.7 U	3.8 U	3.9 U	3.9 U	3.9 U
4,4'-DDE	150	0.08 J	1,200	3.7 U	3.9 U	0.40 J	0.28 J	0.73 J	3.8 U	0.16 J	3.9 U	3.9 U
4,4'-DDT	31	0.30 J	990	3.7 U	3.9 U	3.9 U	3.7 U	3.7 U	3.8 U	3.9 U	3.9 U	3.9 U
beta-BHC	1.9J	ND	ND	1.9 U	2.0 U	2.0 U	1.9 U	1.9 U	2.0 U	2.0 U	2.0 U	2.0 U
Chlordane	ND	14	14	4.7 U	4.9 U	4.9 U	4.7 U	4.7 U	4.8 U	5.0 U	5.0 U	5.0 U
delta-BHC	0.41 J	0.73 J	0.84 J	1.9 U	2.0 U	2.0 U	1.9 U	1.9 U	2.0 U	2.0 U	2.0 U	2.0 U
Dieldrin	ND	0.37 J	0.74 J	3.7 U	3.9 U	3.9 U	3.7 U	3.7 U	3.8 U	3.9 U	3.9 U	3.9 U
Endosulfan I	ND	0.44 J	0.44 J	1.9 U	2.0 U	2.0 U	1.9 U	1.9 U	2.0 U	2.0 U	2.0 U	2.0 U
Endrin	2.4 J	112	112	3.7 U	3.9 U	3.9 U	3.7 U	3.7 U	3.8 U	3.9 U	3.9 U	3.9 U
Endrin ketone	ND	1.3 J	1.3 J	3.7 U	3.9 U	3.9 U	3.7 U	3.7 U	3.8 U	3.9 U	3.9 U	3.9 U
gamma-Chlordane	1.9 J	0.52 J	1.3 J	1.9 U	2.0 U	2.0 U	1.9 U	1.9 U	2.0 U	2.0 U	2.0 U	2.0 U
Heptachlor	ND	0.76 J	0.76 J	1.9 U	2.0 U	2.0 U	1.9 U	1.9 U	2.0 U	2.0 U	2.0 U	2.0 U
Herbicides (UG/KG)												
2,4,5-T	ND	5.2 J	5.2 J	11 UJ	12 UJ	12 U	11 U	11 UJ	12 U	12 U	12 U	12 U
2,4,5-TP (Silvex)	ND	60	87	11 UJ	12 UJ	12 U	11 U	11 UJ	12 U	12 U	12 U	12 U
2,4-D	ND	14 J	14 J	11 UJ	12 UJ	12 U	11 U	11 UJ	12 U	12 U	12 U	12 U

Notes:

Shading indicates detections

NA - Not Analyzed

J - Analyte present, value may or may not be accurate or precise

R - Unreliable Result

U - The material was analyzed for, but not detected

UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			SWMU 2	SWMU 2	SWMU 2	SWMU 2	SWMU 4	SWMU 4	SWMU 4	SWMU 4
Station ID	**Concentration**	**Lowest**	**Highest**	CGW2SS09	CGW2SS10	CGW2SS11	CGW2SS12	CGSWMU4SS001	CGSWMU4SS002	CGSWMU4SS003	CGSWMU4SS004
Sample ID	**Detected in surface soil**	**Detected**	**Detected**	CGW2SS09-R01	CGW2SS10-R01	CGW2SS11-R01	CGW2SS12-R01	NDD021	NDD022	NDD023	NDD024
Sample Date	**at the PI 7 Site**	**Concentration**	**Concentration**	01/21/04	01/21/04	01/21/04	01/21/04	06/13/00	06/13/00	06/13/00	06/13/00
Chemical Name											
Pesticides (UG/KG)											
4,4'-DDD	ND	0.16 J	26 J	3.4 U	3.4 U	3.5 U	3.4 U	3.4 UJ	34 UJ	3.7 UJ	36 UJ
4,4'-DDE	150	0.08 J	1,200	0.59 J	0.50 J	0.13 J	0.080 J	1.1 J	17 UJ	4.3 J	18 UJ
4,4'-DDT	31	0.30 J	990	3.4 U	3.4 U	3.5 U	3.4 U	1.2 J	34 UJ	2.2 J	36 UJ
beta-BHC	1.9J	ND	ND	1.8 U	1.8 U	1.8 U	1.8 U	1.7 UJ	17 UJ	1.9 UJ	18 UJ
Chlordane	ND	14	14	4.4 U	4.4 U	4.5 U	4.4 U	15 UJ	150 UJ	16 UJ	159 UJ
delta-BHC	0.41 J	0.73 J	0.84 J	1.8 U	1.8 U	1.8 U	1.8 U	1.7 UJ	17 UJ	1.9 UJ	18 UJ
Dieldrin	ND	0.37 J	0.74 J	3.4 U	3.4 U	3.5 U	3.4 U	1.7 UJ	17 UJ	1.9 UJ	18 UJ
Endosulfan I	ND	0.44 J	0.44 J	1.8 U	1.8 U	1.8 U	1.8 U	343 UJ	3,400 UJ	372 UJ	3,620 UJ
Endrin	2.4 J	112	112	3.4 U	3.4 U	3.5 U	3.4 U	3.4 UJ	34 UJ	3.7 UJ	36 UJ
Endrin ketone	ND	1.3 J	1.3 J	3.4 U	3.4 U	3.5 U	3.4 U	NA	NA	NA	NA
gamma-Chlordane	1.9 J	0.52 J	1.3 J	1.8 U	1.8 U	1.8 U	1.8 U	NA	NA	NA	NA
Heptachlor	ND	0.76 J	0.76 J	1.8 U	1.8 U	1.8 U	1.8 U	1.7 UJ	17 UJ	1.9 UJ	18 UJ
Herbicides (UG/KG)											
2,4,5-T	ND	5.2 J	5.2 J	10 U	10 UJ	11 UJ	10 U	75 UJ	755 UJ	79 UJ	79 UJ
2,4,5-TP (Silvex)	ND	60	87	10 U	10 UJ	11 UJ	10 U	75 UJ	755 UJ	79 UJ	79 UJ
2,4-D	ND	14 J	14 J	10 U	10 UJ	11 UJ	10 U	14 J	3,780 UJ	397 UJ	393 UJ

Notes:

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R - Unreliable Result

U - The material was analyzed for, but not detected

UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			SWMU 4	SWMU 4	SWMU 4	SWMU 4	SWMU 4	SWMU 4	SWMU 4	SWMU 4	
Station ID	**Concentration**	**Lowest**	**Highest**	CGSWMU4SS005	CGSWMU4SS006	CGSWMU4SS007	CGSWMU4SS008	CGSWMU4SS009	CGSWMU4SS010	CGSWMU4SS011	CGSWMU4SS012	
Sample ID	**Detected in surface soil**	**Detected**	**Detected**	NDD025	NDD026	NDD027	NDD028	NDD029	NDD030	NDD031	NDD032	NDD033FD1
Sample Date	**at the PI 7 Site**	**Concentration**	**Concentration**	06/13/00	06/13/00	06/13/00	06/13/00	06/13/00	06/13/00	06/13/00	06/13/00	06/13/00
Chemical Name												
Pesticides (UG/KG)												
4,4'-DDD	ND	0.16 J	26 J	32 UJ	3.6 UJ	3.2 UJ	3.0 UJ	3.2 UJ	3.8 UJ	3.9 UJ	3.8 UJ	3.9 UJ
4,4'-DDE	150	0.08 J	1,200	16 UJ	1.8 UJ	2.3 J	3.2 J	4.5 J	3.8 J	1.9 UJ	1.9 UJ	2.0 UJ
4,4'-DDT	31	0.30 J	990	4.1 J	4.3 J	0.59 J	1.8 J	3.4 J	0.66 J	3.9 UJ	3.8 UJ	3.9 UJ
beta-BHC	1.9J	ND	ND	16 UJ	1.8 UJ	1.6 UJ	1.5 UJ	1.6 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2.0 UJ
Chlordane	ND	14	14	142 UJ	16 UJ	14 UJ	13 UJ	14 UJ	17 UJ	17 UJ	17 UJ	17 UJ
delta-BHC	0.41 J	0.73 J	0.84 J	16 UJ	1.8 UJ	1.6 UJ	1.5 UJ	1.6 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2.0 UJ
Dieldrin	ND	0.37 J	0.74 J	16 UJ	1.8 UJ	1.6 UJ	1.5 UJ	1.6 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2.0 UJ
Endosulfan I	ND	0.44 J	0.44 J	3,230 UJ	356 UJ	320 UJ	297 UJ	322 UJ	378 UJ	387 UJ	379 UJ	393 UJ
Endrin	2.4 J	112	112	32 UJ	3.6 UJ	3.2 UJ	3.0 UJ	3.2 UJ	3.8 UJ	3.9 UJ	3.8 UJ	3.9 UJ
Endrin ketone	ND	1.3 J	1.3 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	1.9 J	0.52 J	1.3 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	ND	0.76 J	0.76 J	16 UJ	1.8 UJ	1.6 UJ	1.5 UJ	1.6 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2.0 UJ
Herbicides (UG/KG)												
2,4,5-T	ND	5.2 J	5.2 J	71 UJ	78 UJ	69 UJ	69 UJ	70 UJ	84 UJ	84 UJ	82 UJ	86 UJ
2,4,5-TP (Silvex)	ND	60	87	71 UJ	78 UJ	69 UJ	69 UJ	70 UJ	84 UJ	84 UJ	82 UJ	86 UJ
2,4-D	ND	14 J	14 J	354 UJ	392 UJ	345 UJ	345 UJ	351 UJ	418 UJ	420 UJ	408 UJ	431 UJ

Notes:

Shading indicates detections

NA - Not Analyzed

J - Analyte present, value may or may not be accurate or precise

R - Unreliable Result

U - The material was analyzed for, but not detected

UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			SWMU 5	SWMU 5	SWMU 5	SWMU 5	SWMU 6/7	SWMU 6/7	SWMU 6/7	SWMU 6/7
Station ID	**Concentration**	**Lowest**	**Highest**	CGW5SS01	CGW5SS02	CGW5SS03	CGW5SS04	CGSWMU6/7SS001	CGSWMU6/7SS002	CGSWMU6/7SS003	CGSWMU6/7SS004
Sample ID	**Detected in surface soil**	**Detected**	**Detected**	CGW5SS01-R01	CGW5SS02-R01	CGW5SS03-R01	CGW5SS04-R01	NDD034	NDD035	NDD036	NDD037
Sample Date	**at the PI 7 Site**	**Concentration**	**Concentration**	01/19/04	01/19/04	01/19/04	01/19/04	06/13/00	06/13/00	06/13/00	06/13/00
Chemical Name											
Pesticides (UG/KG)											
4,4'-DDD	ND	0.16 J	26 J	3.5 U	3.6 U	3.6 U	3.6 U	3.2 U	3.2 U	3.4 U	3.9 U
4,4'-DDE	150	0.08 J	1,200	3.5 U	3.6 U	3.6 U	3.6 U	98	22	136	3.3
4,4'-DDT	31	0.30 J	990	3.5 U	3.6 U	3.6 U	3.6 U	24	7.5	146	0.81 J
beta-BHC	1.9J	ND	ND	1.8 U	1.9 U	1.8 U	1.8 U	1.6 U	1.6 U	1.7 U	2.0 U
Chlordane	ND	14	14	4.4 U	4.6 U	4.5 U	4.5 U	14 U	14 U	15 U	17 U
delta-BHC	0.41 J	0.73 J	0.84 J	1.8 U	1.9 U	1.8 U	1.8 U	1.6 UJ	1.6 UJ	1.7 UJ	2.0 UJ
Dieldrin	ND	0.37 J	0.74 J	3.5 U	3.6 U	3.6 U	3.6 U	1.6 U	1.6 U	1.7 U	2.0 U
Endosulfan I	ND	0.44 J	0.44 J	1.8 UJ	1.9 UJ	1.8 UJ	1.8 UJ	319 U	324 U	344 U	391 U
Endrin	2.4 J	112	112	3.5 UJ	3.6 UJ	3.6 UJ	3.6 UJ	3.2 U	3.2 U	3.4 U	3.9 U
Endrin ketone	ND	1.3 J	1.3 J	3.5 U	3.6 U	3.6 U	3.6 U	NA	NA	NA	NA
gamma-Chlordane	1.9 J	0.52 J	1.3 J	1.8 U	1.9 U	1.8 U	1.8 U	NA	NA	NA	NA
Heptachlor	ND	0.76 J	0.76 J	1.8 U	1.9 U	1.8 U	1.8 U	1.6 U	1.6 U	1.7 U	2.0 U
Herbicides (UG/KG)											
2,4,5-T	ND	5.2 J	5.2 J	11 U	11 U	11 UJ	11 U	691 U	702 U	752 U	833 U
2,4,5-TP (Silvex)	ND	60	87	11 U	11 U	11 UJ	11 U	691 U	702 U	752 U	833 U
2,4-D	ND	14 J	14 J	11 U	11 U	11 UJ	11 U	3,450 U	3,510 U	3,760 U	4,160 U

Notes:

Shading indicates detections

NA - Not Analyzed

J - Analyte present, value may or may not be accurate or precise

R - Unreliable Result

U - The material was analyzed for, but not detected

UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			SWMU 6/7	SWMU 6/7		SWMU 6/7	SWMU 6/7	SWMU 6/7	SWMU 6/7	SWMU 8	
Station ID	**Concentration**	**Lowest**	**Highest**	CGSWMU6/7SS005	CGSWMU6/7SS006		CGSWMU6/7SS007	CGSWMU6/7SS008	CGSWMU6/7SS009	CGSWMU6/7SS010	CGW8SS01	
Sample ID	**Detected in surface soil**	**Detected**	**Detected**	NDD038	NDD039	NDD043FD1	NDD058	NDD040	NDD041	NDD042	CGW8FD01P-R01	CGW8SS01-R01
Sample Date	**at the PI 7 Site**	**Concentration**	**Concentration**	06/13/00	06/13/00	06/13/00	06/13/00	06/13/00	06/13/00	06/13/00	01/19/04	01/19/04
Chemical Name												
Pesticides (UG/KG)												
4,4'-DDD	ND	0.16 J	26 J	3.3 U	3.8 UJ	6.6 J	3.2 U	3.8 U	3.1 U	26 J	3.6 U	3.6 U
4,4'-DDE	150	0.08 J	1,200	5.7	6.1 J	31 J	8.2	3.2	22	3.5	3.6 U	3.6 U
4,4'-DDT	31	0.30 J	990	4.8	3.2 J	54 J	4.8 J	3.8 U	3.1	3.1 U	3.6 U	3.6 U
beta-BHC	1.9J	ND	ND	1.6 U	1.9 U	1.9 U	1.6 U	1.9 U	1.6 U	1.6 U	1.8 U	1.9 U
Chlordane	ND	14	14	14 U	17 U	17 U	14 U	17 U	14 U	14	4.6 U	4.6 U
delta-BHC	0.41 J	0.73 J	0.84 J	1.6 UJ	0.84 J	1.9 UJ	1.6 UJ	1.9 UJ	1.6 UJ	1.6 UJ	1.8 UJ	1.9 UJ
Dieldrin	ND	0.37 J	0.74 J	1.6 U	1.9 U	1.9 U	1.6 U	1.9 U	1.6 U	1.6 U	3.6 U	3.6 U
Endosulfan I	ND	0.44 J	0.44 J	329 U	380 U	382 U	318 U	384 U	313 U	312 U	1.8 UJ	1.9 UJ
Endrin	2.4 J	112	112	3.3 U	3.8 U	3.8 U	3.2 U	3.8 U	3.1 U	3.1 U	3.6 U	3.6 U
Endrin ketone	ND	1.3 J	1.3 J	NA	NA	NA	NA	NA	NA	NA	3.6 U	3.6 U
gamma-Chlordane	1.9 J	0.52 J	1.3 J	NA	NA	NA	NA	NA	NA	NA	1.8 U	1.9 U
Heptachlor	ND	0.76 J	0.76 J	1.6 U	1.9 U	1.9 U	1.6 U	1.9 U	1.6 U	0.76 J	1.8 U	1.9 U
Herbicides (UG/KG)												
2,4,5-T	ND	5.2 J	5.2 J	709 U	835 U	840 U	702 U	826 U	678 U	688 U	11 U	11 U
2,4,5-TP (Silvex)	ND	60	87	709 U	835 R	840 U	702 U	826 U	678 U	688 U	11 U	11 U
2,4-D	ND	14 J	14 J	3,550 U	4,180 U	4,200 U	3,510 U	4,130 U	3,390 U	3,440 U	11 U	11 U

Notes:

Shading indicates detections

NA - Not Analyzed

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UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			SWMU 8	SWMU 8	SWMU 8	SWMU 8	SWMU 10	SWMU 10	SWMU 10	SWMU 10	SWMU 10
Station ID	**Concentration**	**Lowest**	**Highest**	CGW8SS02	CGW8SS03	CGW8SS04	CGW8SS05	CGW10SS05	CGW10SS06	CGW10SS07	CGW10SS08	CGW10SS09
Sample ID	**Detected in surface soil**	**Detected**	**Detected**	CGW8SS02-R01	CGW8SS03-R01	CGW8SS04-R01	CGW8SS05-R01	CGW10SS05-R01	CGW10SS06-R01	CGW10SS07-R01	CGW10SS08-R01	CGW10SS09-R01
Sample Date	**at the PI 7 Site**	**Concentration**	**Concentration**	01/19/04	01/19/04	01/19/04	01/19/04	01/22/04	01/20/04	01/20/04	01/22/04	01/20/04
Chemical Name												
Pesticides (UG/KG)												
4,4'-DDD	ND	0.16 J	26 J	4.0 U	3.5 U	3.4 U	3.4 U	0.26 J	0.19 J	3.9 U	0.30 J	11 J
4,4'-DDE	150	0.08 J	1,200	4.0 U	3.5 U	3.4 U	3.4 U	110 J	74 J	28 J	47 J	120 J
4,4'-DDT	31	0.30 J	990	0.46 J	0.31 J	3.4 U	3.4 U	0.92 J	0.97 J	3.9 U	4.0 U	3.8 U
beta-BHC	1.9J	ND	ND	2.0 U	1.8 U	1.8 U	1.8 U	1.9 U	2.0 U	2.0 U	2.1 U	1.9 U
Chlordane	ND	14	14	5.0 U	4.5 U	4.3 U	4.4 U	4.7 U	5.1 U	5.0 U	5.1 U	4.8 U
delta-BHC	0.41 J	0.73 J	0.84 J	2.0 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 U	2.0 UJ	2.0 UJ	2.1 U	1.9 UJ
Dieldrin	ND	0.37 J	0.74 J	4.0 U	3.5 U	3.4 U	3.4 U	3.7 U	4.0 U	3.9 U	4.0 U	0.37 J
Endosulfan I	ND	0.44 J	0.44 J	2.0 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 U	2.0 U	2.0 U	2.1 U	1.9 U
Endrin	2.4 J	112	112	4.0 U	3.5 U	3.4 U	3.4 U	3.7 U	4.0 U	3.9 U	4.0 U	3.8 U
Endrin ketone	ND	1.3 J	1.3 J	4.0 U	3.5 U	3.4 U	3.4 U	3.7 U	4.0 U	3.9 U	4.0 U	3.8 U
gamma-Chlordane	1.9 J	0.52 J	1.3 J	2.0 U	1.8 U	1.8 U	1.8 U	1.9 U	2.0 U	2.0 U	2.1 U	1.9 U
Heptachlor	ND	0.76 J	0.76 J	2.0 U	1.8 U	1.8 U	1.8 U	1.9 U	2.0 U	2.0 U	2.1 U	1.9 U
Herbicides (UG/KG)												
2,4,5-T	ND	5.2 J	5.2 J	12 U	11 U	10 U	114 U	11 UJ	12 U	12 U	12 UJ	11 UJ
2,4,5-TP (Silvex)	ND	60	87	12 U	11 U	10 U	114 U	11 UJ	12 U	12 U	12 UJ	11 UJ
2,4-D	ND	14 J	14 J	12 U	11 U	10 U	114 U	11 UJ	12 U	12 U	12 UJ	11 UJ

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UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			SWMU 10	SWMU 10	SWMU 10	SWMU 10	SWMU 10	SWMU 10	SWMU 10	SWMU 10
Station ID	**Concentration**	**Lowest**	**Highest**	CGW10SS10	CGW10SS11	CGW10SS12		CGW10SS13	CGW10SS14	CGW10SS15	CGW10SS16
Sample ID	**Detected in surface soil**	**Detected**	**Detected**	CGW10SS10-R01	CGW10SS11-R01	CGW10FD01P-R01	CGW10SS12-R01	CGW10SS13-R01	CGW10SS14-R01	CGW10SS15-R01	CGW10SS16-R01
Sample Date	**at the PI 7 Site**	**Concentration**	**Concentration**	01/20/04	01/20/04	01/20/04	01/20/04	01/20/04	01/20/04	01/20/04	01/22/04
Chemical Name											
Pesticides (UG/KG)											
4,4'-DDD	ND	0.16 J	26 J	0.44 J	0.50 J	0.56 J	0.60 J	3.8 U	3.8 U	0.23 J	3.8 U
4,4'-DDE	150	0.08 J	1,200	70 J	100 J	20 J	40 J	5.8 J	12 J	17 J	4.8 J
4,4'-DDT	31	0.30 J	990	4.0 U	3.7 U	3.6 U	3.6 U	3.8 U	3.8 U	3.8 U	0.30 J
beta-BHC	1.9J	ND	ND	2.1 U	1.9 U	1.9 U	1.8 U	1.9 U	2.0 U	2.0 U	2.0 U
Chlordane	ND	14	14	5.1 U	4.8 U	4.6 U	4.6 U	4.8 U	4.9 U	4.8 U	4.9 U
delta-BHC	0.41 J	0.73 J	0.84 J	2.1 UJ	1.9 UJ	1.9 UJ	1.8 UJ	1.9 UJ	2.0 UJ	2.0 UJ	2.0 U
Dieldrin	ND	0.37 J	0.74 J	4.0 U	3.7 U	3.6 U	0.74 J	3.8 U	3.8 U	3.8 U	3.8 U
Endosulfan I	ND	0.44 J	0.44 J	2.1 U	1.9 U	1.9 U	1.8 U	1.9 U	2.0 U	2.0 U	2.0 U
Endrin	2.4 J	112	112	4.0 U	3.7 U	3.6 U	3.6 U	3.8 U	3.8 U	3.8 U	3.8 U
Endrin ketone	ND	1.3 J	1.3 J	4.0 U	3.7 U	3.6 U	3.6 U	3.8 U	3.8 U	3.8 U	3.8 U
gamma-Chlordane	1.9 J	0.52 J	1.3 J	2.1 U	1.9 U	1.9 U	1.8 U	1.9 U	2.0 U	2.0 U	2.0 U
Heptachlor	ND	0.76 J	0.76 J	2.1 U	1.9 U	1.9 U	1.8 U	1.9 U	2.0 U	2.0 U	2.0 U
Herbicides (UG/KG)											
2,4,5-T	ND	5.2 J	5.2 J	12 UJ	11 UJ	11 UJ	11 UJ	11 UJ	12 U	11 U	12 UJ
2,4,5-TP (Silvex)	ND	60	87	12 UJ	11 UJ	11 UJ	11 UJ	11 UJ	12 U	11 U	12 UJ
2,4-D	ND	14 J	14 J	12 UJ	11 UJ	11 UJ	11 UJ	11 UJ	12 U	11 U	12 UJ

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UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			SWMU 10	SWMU 10	SWMU 10	SWMU 10	SWMU 12	SWMU 12
Station ID	**Concentration**	**Lowest**	**Highest**	CGW10SS17	CGW10SS18	CGW10SS19	CGW10SS20	CGW12SS01	CGW12SS02
Sample ID	**Detected in surface soil**	**Detected**	**Detected**	CGW10SS17-R01	CGW10SS18-R01	CGW10SS19-R01	CGW10SS20-R01	CGW12SS01-R01	CGW12SS02-R01
Sample Date	**at the PI 7 Site**	**Concentration**	**Concentration**	01/22/04	01/22/04	01/20/04	01/22/04	01/19/04	01/19/04
Chemical Name									
Pesticides (UG/KG)									
4,4'-DDD	ND	0.16 J	26 J	10 J	0.16 J	0.54 J	0.33 J	3.5 U	3.5 U
4,4'-DDE	150	0.08 J	1,200	73 J	19 J	66 J	20 J	3.5 U	3.5 U
4,4'-DDT	31	0.30 J	990	84	0.39 J	3.8 U	0.44 J	3.5 U	3.5 U
beta-BHC	1.9J	ND	ND	1.9 U	2.0 U	2.0 U	1.9 U	1.8 U	1.8 U
Chlordane	ND	14	14	4.8 U	5.0 U	4.9 U	4.8 U	4.5 U	4.5 U
delta-BHC	0.41 J	0.73 J	0.84 J	1.9 U	2.0 U	2.0 UJ	1.9 U	1.8 U	1.8 U
Dieldrin	ND	0.37 J	0.74 J	3.8 U	3.9 U	3.8 U	3.7 U	3.5 U	3.5 U
Endosulfan I	ND	0.44 J	0.44 J	1.9 U	NA	2.0 U	1.9 U	1.8 UJ	1.8 UJ
Endrin	2.4 J	112	112	3.8 U	3.9 U	3.8 U	3.7 U	3.5 UJ	3.5 UJ
Endrin ketone	ND	1.3 J	1.3 J	3.8 U	3.9 U	3.8 U	3.7 U	3.5 U	3.5 U
gamma-Chlordane	1.9 J	0.52 J	1.3 J	1.9 U	2.0 U	2.0 U	1.9 U	1.8 U	1.8 U
Heptachlor	ND	0.76 J	0.76 J	1.9 U	2.0 U	2.0 U	1.9 U	1.8 U	1.8 U
Herbicides (UG/KG)									
2,4,5-T	ND	5.2 J	5.2 J	11 UJ	12 UJ	12 UJ	11 UJ	11 UJ	11 U
2,4,5-TP (Silvex)	ND	60	87	11 UJ	12 UJ	12 UJ	11 UJ	11 UJ	11 U
2,4-D	ND	14 J	14 J	11 UJ	12 UJ	12 UJ	11 UJ	11 UJ	11 U

Notes:

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UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			SWMU 12		SWMU 12	SWMU 12	AOC G	AOC G	AOC G	AOC G
Station ID	Concentration	Lowest	Highest	CGW12SS03		CGW12SS04	CGW12SS05	CGAGSS01	CGAGSS02	CGAGSS03	CGAGSS04
Sample ID	Detected in surface soil	Detected	Detected	CGW12FD01P-R01	CGW12SS03-R01	CGW12SS04-R01	CGW12SS05-R01	CGAGSS01-R01	CGAGSS02-R01	CGAGSS03-R01	CGAGSS04-R01
Sample Date	at the PI 7 Site	Concentration	Concentration	01/19/04	01/19/04	01/19/04	01/19/04	01/22/04	01/22/04	01/22/04	01/22/04
Chemical Name											
Pesticides (UG/KG)											
4,4'-DDD	ND	0.16 J	26 J	3.4 U	3.5 U	3.5 U	3.5 U	0.17 J	0.31 J	0.33 J	0.93 J
4,4'-DDE	150	0.080 J	1,200	3.4 U	3.5 U	3.5 U	3.5 U	13 J	5.8 J	9.2 J	31 J
4,4'-DDT	31	0.30 J	990	3.4 U	3.5 U	3.5 U	3.5 U	2.4 J	1.4 J	1.4 J	2.0 J
beta-BHC	1.9J	1.9 J	1.9 J	1.7 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	2.1 U	2.0 U
Chlordane	ND	14	14	4.3 U	4.4 U	4.4 U	4.4 U	4.6 U	4.7 U	5.1 U	4.8 U
delta-BHC	0.41 J	0.41 J	0.84 J	1.7 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	2.1 U	2.0 U
Dieldrin	ND	0.37 J	0.74 J	3.4 U	3.5 U	3.5 U	3.5 U	3.6 U	3.7 U	4.0 U	3.8 U
Endosulfan I	ND	0.44 J	0.44 J	1.7 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 U	1.9 U	2.1 U	2.0 U
Endrin	2.4 J	112	112	3.4 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.6 U	3.7 U	4.0 U	3.8 U
Endrin ketone	ND	1.3 J	1.3 J	3.4 U	3.5 U	3.5 U	3.5 U	3.6 U	3.7 U	4.0 U	3.8 U
gamma-Chlordane	1.9 J	0.52 J	1.9 J	1.7 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	2.1 U	2.0 U
Heptachlor	ND	0.76 J	0.76 J	1.7 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	2.1 U	2.0 U
Herbicides (UG/KG)											
2,4,5-T	ND	5.2 J	57	10 U	10 U	10 UJ	10 U	11 UJ	11 UJ	12 U	12 U
2,4,5-TP (Silvex)	ND	60	87	10 U	10 U	10 UJ	10 U	11 UJ	11 UJ	12 U	12 U
2,4-D	ND	14 J	14 J	10 U	10 U	10 UJ	10 U	11 UJ	11 UJ	12 U	12 U

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UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			AOC G		AOC F	AOC F	AOC F	AOC F	AOC F		PI 4
Station ID	Concentration	Lowest	Highest	CGAGSS05		CGAOCFSS001	CGAOCFSS002	CGAOCFSS003	CGAOCFSS004	CGAOCFSS005		EPI04-SO01
Sample ID	Detected in surface soil	Detected	Detected	CGAGSS05-R01	CGAGSSFD01P-R01	NDD044	NDD045	NDD046	NDD047	NDD048	NDD049FD1	EPI04-SS01-0001
Sample Date	at the PI 7 Site	Concentration	Concentration	01/22/04	01/22/04	06/14/00	06/14/00	06/14/00	06/14/00	06/14/00	06/14/00	01/26/06
Chemical Name												
Pesticides (UG/KG)												
4,4'-DDD	ND	0.16 J	26 J	0.72 J	0.56 J	3.6 UJ	3.1 UJ	4.2 UJ	3.5 UJ	3.9 UJ	3.4 UJ	3.7 U
4,4'-DDE	150	0.080 J	1,200	12 J	15 J	1.8 UJ	1.5 UJ	2.1 UJ	1.7 UJ	2.0 UJ	1.7 UJ	3.8
4,4'-DDT	31	0.30 J	990	1.2 J	0.96 J	3.6 UJ	3.1 UJ	4.2 UJ	3.5 UJ	3.9 UJ	3.4 UJ	1.4 J
beta-BHC	1.9J	1.9 J	1.9 J	2.0 U	2.0 U	1.8 UJ	1.5 UJ	2.1 UJ	1.7 UJ	2.0 UJ	1.7 UJ	1.9 U
Chlordane	ND	14	14	4.9 U	4.9 U	16 UJ	14 UJ	18 UJ	15 UJ	17 UJ	15 UJ	NA
delta-BHC	0.41 J	0.41 J	0.84 J	2.0 U	2.0 U	1.8 UJ	1.5 UJ	2.1 UJ	1.7 UJ	2.0 UJ	0.73 J	1.9 U
Dieldrin	ND	0.37 J	0.74 J	3.9 U	3.8 U	1.8 UJ	1.5 UJ	2.1 UJ	1.7 UJ	2.0 UJ	1.7 UJ	3.7 U
Endosulfan I	ND	0.44 J	0.44 J	2.0 U	2.0 U	362 UJ	307 UJ	420 UJ	346 UJ	395 UJ	339 UJ	1.9 U
Endrin	2.4 J	112	112	3.9 U	3.8 U	3.6 UJ	3.1 UJ	4.2 UJ	3.5 UJ	3.9 UJ	3.4 UJ	3.7 U
Endrin ketone	ND	1.3 J	1.3 J	3.9 U	3.8 U	NA	NA	NA	NA	NA	NA	3.7 U
gamma-Chlordane	1.9 J	0.52 J	1.9 J	2.0 U	2.0 U	NA	NA	NA	NA	NA	NA	0.69 J
Heptachlor	ND	0.76 J	0.76 J	2.0 U	2.0 U	1.8 UJ	1.5 UJ	2.1 UJ	1.7 UJ	2.0 UJ	1.7 UJ	1.9 U
Herbicides (UG/KG)												
2,4,5-T	ND	5.2 J	57	12 UJ	12 UJ	79 UJ	67 UJ	5.2 J	75 UJ	86 UJ	73 UJ	NA
2,4,5-TP (Silvex)	ND	60	87	12 UJ	12 UJ	79 UJ	67 UJ	92 UJ	75 UJ	86 UJ	73 UJ	NA
2,4-D	ND	14 J	14 J	12 UJ	12 UJ	394 UJ	336 UJ	460 UJ	376 UJ	432 UJ	366 UJ	NA

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UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PI 4	PI 4	PI 4	PI 4		PI 4	PI 4	PI 4	
Station ID	Concentration	Lowest	Highest	EPI04-SO02	EPI04-SO03	EPI04-SO04	EPI04-SO05		EPI04-SO06	EPI04-SO07	EPI04-SO08	
Sample ID	Detected in surface soil	Detected	Detected	EPI04-SS02-0001	EPI04-SS03-0001	EPI04-SS04-0001	EPI04-SS05-0001	EPI04-SS05P-0001	EPI04-SS06-0001	EPI04-SS07-0001	EPI04-SS08-0001	EPI04-SS08P-0001
Sample Date	at the PI 7 Site	Concentration	Concentration	01/26/06	01/26/06	01/26/06	01/26/06	01/26/06	01/26/06	01/25/06	01/25/06	01/25/06
Chemical Name												
Pesticides (UG/KG)												
4,4'-DDD	ND	0.16 J	26 J	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	2.1 J	3.1 J	3.5 U	3.5 U
4,4'-DDE	150	0.080 J	1,200	2.2 J	12	1.2 J	2.7 J	4.7	620	36	29	27
4,4'-DDT	31	0.30 J	990	3.6 U	3.1 J	3.5 U	1.4 J	27	100	7.8	3.1 J	5.3
beta-BHC	1.9J	1.9 J	1.9 J	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	3.7 U	1.9 U	1.8 U	1.8 U
Chlordane	ND	14	14	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	0.41 J	0.41 J	0.84 J	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.75 J	1.9 U	1.8 U	1.8 U
Dieldrin	ND	0.37 J	0.74 J	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	7.3 U	3.7 U	3.5 U	3.5 U
Endosulfan I	ND	0.44 J	0.44 J	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	3.7 U	1.9 U	1.8 U	1.8 U
Endrin	2.4 J	112	112	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	7.3 U	3.7 U	3.5 U	3.5 U
Endrin ketone	ND	1.3 J	1.3 J	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	7.3 U	3.7 U	3.5 U	3.5 U
gamma-Chlordane	1.9 J	0.52 J	1.9 J	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.0 J	1.9 U	1.8 U	1.8 U
Heptachlor	ND	0.76 J	0.76 J	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	3.7 U	1.9 U	1.8 U	1.8 U
Herbicides (UG/KG)												
2,4,5-T	ND	5.2 J	57	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	ND	60	87	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-D	ND	14 J	14 J	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

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UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PI 4	PI 4	PI 4	PI 4	PI 4	PI 6	PI 6
Station ID	Concentration	Lowest	Highest	EPI04-SO09	EPI04-SO10	EPI04-SO11	EPI04-SO12	EPI04-SO13	VNTR-PI6-1	VNTR-PI6-2
Sample ID	Detected in surface soil	Detected	Detected	EPI04-SS09-0001	EPI04-SS10-0001	EPI04-SS11-0001	EPI04-SS12-0001	EPI04-SS13-0001	VNTR-PI6-1	VNTR-PI6-2
Sample Date	at the PI 7 Site	Concentration	Concentration	01/24/06	01/24/06	01/25/06	01/24/06	01/25/06	12/12/02	12/12/2002
Chemical Name										
Pesticides (UG/KG)										
4,4'-DDD	ND	0.16 J	26 J	3.7 U	3.6 U	3.6 U	3.6 U	3.7 U	3.3 U	3.3 U
4,4'-DDE	150	0.080 J	1,200	9.1	84	26	180	5.9	3.3 U	5.9
4,4'-DDT	31	0.30 J	990	1.4 J	2.8 J	3.6	22	3.7 U	3.3 U	3.3 U
beta-BHC	1.9J	1.9 J	1.9 J	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.7 U	1.7 U
Chlordane	ND	14	14	NA	NA	NA	NA	NA	17 U	17 U
delta-BHC	0.41 J	0.41 J	0.84 J	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.7 U	1.7 U
Dieldrin	ND	0.37 J	0.74 J	3.7 U	3.6 U	3.6 U	3.6 U	3.7 U	3.3 U	3.3 U
Endosulfan I	ND	0.44 J	0.44 J	1.9 U	0.44 J	1.8 U	1.8 U	1.9 U	1.7 U	1.7 U
Endrin	2.4 J	112	112	3.7 U	3.6 U	3.6 U	3.6 U	3.7 U	3.3 U	3.3 U
Endrin ketone	ND	1.3 J	1.3 J	3.7 U	3.6 U	3.6 U	3.6 U	3.7 U	NA	NA
gamma-Chlordane	1.9 J	0.52 J	1.9 J	0.79 J	1.8 U	1.8 U	1.8 U	0.57 J	NA	NA
Heptachlor	ND	0.76 J	0.76 J	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.7 U	1.7 U
Herbicides (UG/KG)										
2,4,5-T	ND	5.2 J	57	NA	NA	NA	NA	NA	10 U	13
2,4,5-TP (Silvex)	ND	60	87	NA	NA	NA	NA	NA	10 U	60
2,4-D	ND	14 J	14 J	NA	NA	NA	NA	NA	40 U	40 U

Notes:

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UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PI 6		PI 6	PI 6	PI 6	PI 8	PI 8
Station ID	Concentration	Lowest	Highest	VNTR-PI6-3		VEP6-SO04	VEP6-SO05	VEP6-SO06	VNTR-PI8-1	VNTR-PI8-2
Sample ID	Detected in surface soil	Detected	Detected	VNTR-PI6-3	VNTR-PI6-3D	VEP6-SS04-0H-0309	VEP6-SS05-01-0309	VEP6-SS06-01-0309	VNTR-PI8-1	VNTR-PI8-2
Sample Date	at the PI 7 Site	Concentration	Concentration	12/12/2002	12/12/2002	03/05/09	03/11/09	03/11/09	12/12/02	12/12/02
Chemical Name										
Pesticides (UG/KG)										
4,4'-DDD	ND	0.16 J	26 J	3.3 U	3.3 U	NA	NA	NA	66 U	33 U
4,4'-DDE	150	0.080 J	1,200	6.9	7.3	NA	NA	NA	363	634
4,4'-DDT	31	0.30 J	990	3.3 U	3.3 U	NA	NA	NA	411	772
beta-BHC	1.9J	1.9 J	1.9 J	1.7 U	1.7 U	NA	NA	NA	34 U	17 U
Chlordane	ND	14	14	17 U	17 U	NA	NA	NA	334 U	167 U
delta-BHC	0.41 J	0.41 J	0.84 J	1.7 U	1.7 U	NA	NA	NA	34 U	17 U
Dieldrin	ND	0.37 J	0.74 J	3.3 U	3.3 U	NA	NA	NA	66 U	33 U
Endosulfan I	ND	0.44 J	0.44 J	1.7 U	1.7 U	NA	NA	NA	34 U	17 U
Endrin	2.4 J	112	112	3.3 U	3.3 U	NA	NA	NA	66 U	112
Endrin ketone	ND	1.3 J	1.3 J			NA	NA	NA	NA	NA
gamma-Chlordane	1.9 J	0.52 J	1.9 J			NA	NA	NA	NA	NA
Heptachlor	ND	0.76 J	0.76 J	1.7 U	3.3 U	NA	NA	NA	34 U	17 U
Herbicides (UG/KG)										
2,4,5-T	ND	5.2 J	57	27	27	NA	NA	NA	23	10 U
2,4,5-TP (Silvex)	ND	60	87	87	10 U	NA	NA	NA	73	10 U
2,4-D	ND	14 J	14 J	40 U	40 U	NA	NA	NA	40 U	40 U

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UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PI 8		PI 8	PI 8	PI 8	PI 8	
Station ID	Concentration	Lowest	Highest	VNTR-PI8-3		VNTR-PI8-4	VEP8-SO05	VEP8-SO06	VEP8-SO07	
Sample ID	Detected in surface soil	Detected	Detected	VNTR-PI8-3	VNTR-PI8-3D	VNTR-PI8-4	VEP8-SS05-01-0209	VEP8-SS06-01-0209	VEP8-SS07-01-0209	VEP8-SS07P-01-0209
Sample Date	at the PI 7 Site	Concentration	Concentration	12/12/02	12/12/02	12/12/02	02/19/09	02/19/09	02/20/09	02/20/09
Chemical Name										
Pesticides (UG/KG)										
4,4'-DDD	ND	0.16 J	26 J	17 U	17 U	17 U	NA	NA	NA	NA
4,4'-DDE	150	0.080 J	1,200	159	62	147	NA	NA	NA	NA
4,4'-DDT	31	0.30 J	990	59	59	57	NA	NA	NA	NA
beta-BHC	1.9J	1.9 J	1.9 J	8.5 U	8.5 U	8.5 U	NA	NA	NA	NA
Chlordane	ND	14	14	84 U	84 U	84 U	NA	NA	NA	NA
delta-BHC	0.41 J	0.41 J	0.84 J	8.5 U	8.5 U	8.5 U	NA	NA	NA	NA
Dieldrin	ND	0.37 J	0.74 J	17 U	17 U	17 U	NA	NA	NA	NA
Endosulfan I	ND	0.44 J	0.44 J	8.5 U	8.5 U	8.5 U	NA	NA	NA	NA
Endrin	2.4 J	112	112	17 U	17 U	17 U	NA	NA	NA	NA
Endrin ketone	ND	1.3 J	1.3 J	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	1.9 J	0.52 J	1.9 J	NA	NA	NA	NA	NA	NA	NA
Heptachlor	ND	0.76 J	0.76 J	8.5 U	8.5 U	8.5 U	NA	NA	NA	NA
Herbicides (UG/KG)										
2,4,5-T	ND	5.2 J	57	10 U	57	10 U	NA	NA	NA	NA
2,4,5-TP (Silvex)	ND	60	87	10 U	10 U	10 U	NA	NA	NA	NA
2,4-D	ND	14 J	14 J	40 U	40 U	40 U	NA	NA	NA	NA

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UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			PI 8	PI 8	PI 8	PI 10	PI 10		PI 10
Station ID	**Concentration**	**Lowest**	**Highest**	VEP8-SO08	VEP8-SO09	VEP8-SO14	VNTR-PI10-1	VNTR-PI10-2		VNTR-PI10-3
Sample ID	**Detected in surface soil**	**Detected**	**Detected**	VEP8-SS08-01-0209	VEP8-SS09-01-0209	VEP8-SS14-01-0209	VNTR-PI10-1	VNTR-PI10-2	VNTR-PI10-2D	VNTR-PI10-3
Sample Date	**at the PI 7 Site**	**Concentration**	**Concentration**	02/19/09	02/20/09	02/23/09	12/12/02	12/12/02	12/12/02	12/12/02
Chemical Name										
Pesticides (UG/KG)										
4,4'-DDD	ND	0.16 J	26 J	NA	NA	NA	3.3 U	3.3 U	3.3 U	3.3 U
4,4'-DDE	150	0.080 J	1,200	NA	NA	NA	3.3 U	3.3 U	3.3 U	3.3 U
4,4'-DDT	31	0.30 J	990	NA	NA	NA	3.3 U	3.3 U	3.3 U	3.3 U
beta-BHC	1.9J	1.9 J	1.9 J	NA	NA	NA	1.7 U	1.7 U	1.7 U	1.7 U
Chlordane	ND	14	14	NA	NA	NA	17 U	17 U	17 U	17 U
delta-BHC	0.41 J	0.41 J	0.84 J	NA	NA	NA	1.7 U	1.7 U	1.7 U	1.7 U
Dieldrin	ND	0.37 J	0.74 J	NA	NA	NA	3.3 U	3.3 U	3.3 U	3.3 U
Endosulfan I	ND	0.44 J	0.44 J	NA	NA	NA	1.7 U	1.7 U	1.7 U	1.7 U
Endrin	2.4 J	112	112	NA	NA	NA	3.3 U	3.3 U	3.3 U	3.3 U
Endrin ketone	ND	1.3 J	1.3 J	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	1.9 J	0.52 J	1.9 J	NA	NA	NA	NA	NA	NA	NA
Heptachlor	ND	0.76 J	0.76 J	NA	NA	NA	1.7 U	1.7 U	1.7 U	1.7 U
Herbicides (UG/KG)										
2,4,5-T	ND	5.2 J	57	NA	NA	NA	10 U	10 U	10 U	10 U
2,4,5-TP (Silvex)	ND	60	87	NA	NA	NA	10 U	10 U	10 U	10 U
2,4-D	ND	14 J	14 J	NA	NA	NA	40 U	40 U	40 U	40 U

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UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PAOC I	PAOC I	PAOC I		PAOC I	PAOC I	PAOC J	PAOC J
Station ID	Concentration	Lowest	Highest	VEPI-SO01	VEPI-SO02	VEPI-SO03		VEPI-SO04	VEPI-SO05	EPAJ-SO01	EPAJ-SO02
Sample ID	Detected in surface soil	Detected	Detected	VEPI-SS01-01-0209	VEPI-SS02-01-0209	VEPI-SS03-01-0209	VEPI-SS03P-01-0209	VEPI-SS04-01-0209	VEPI-SS05-01-0209	EPAJ-SS01-0001	EPAJ-SS02-0001
Sample Date	at the PI 7 Site	Concentration	Concentration	02/24/09	02/24/09	02/24/09	02/24/09	02/24/09	02/24/09	03/02/06	03/01/06
Chemical Name											
Pesticides (UG/KG)											
4,4'-DDD	ND	0.16 J	26 J	NA	NA	NA	NA	NA	NA	2.0 J	3.6 U
4,4'-DDE	150	0.080 J	1,200	NA	NA	NA	NA	NA	NA	92	51
4,4'-DDT	31	0.30 J	990	NA	NA	NA	NA	NA	NA	28	8.5
beta-BHC	1.9J	1.9 J	1.9 J	NA	NA	NA	NA	NA	NA	1.8 U	1.9 U
Chlordane	ND	14	14	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	0.41 J	0.41 J	0.84 J	NA	NA	NA	NA	NA	NA	1.8 U	1.9 U
Dieldrin	ND	0.37 J	0.74 J	NA	NA	NA	NA	NA	NA	3.6 U	3.6 U
Endosulfan I	ND	0.44 J	0.44 J	NA	NA	NA	NA	NA	NA	1.8 U	1.9 U
Endrin	2.4 J	112	112	NA	NA	NA	NA	NA	NA	3.6 U	3.6 U
Endrin ketone	ND	1.3 J	1.3 J	NA	NA	NA	NA	NA	NA	3.6 U	3.6 U
gamma-Chlordane	1.9 J	0.52 J	1.9 J	NA	NA	NA	NA	NA	NA	1.8 U	1.9 U
Heptachlor	ND	0.76 J	0.76 J	NA	NA	NA	NA	NA	NA	1.8 U	1.9 U
Herbicides (UG/KG)											
2,4,5-T	ND	5.2 J	57	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	ND	60	87	NA	NA	NA	NA	NA	NA	NA	NA
2,4-D	ND	14 J	14 J	NA	NA	NA	NA	NA	NA	NA	NA

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Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			PAOC J	PAOC J	PAOC J		PAOC J	PAOC K	PAOC K	PAOC K
Station ID	**Concentration**	**Lowest**	**Highest**	EPAJ-SO03	EPAJ-SO04	EPAJ-SO05		EPAJ-SO06	EPAK-SO01	EPAK-SO02	EPAK-SO03
Sample ID	**Detected in surface soil**	**Detected**	**Detected**	EPAJ-SS03-0001	EPAJ-SS04-0001	EPAJ-SS05-0001	EPAJ-SS05P-0001	EPAJ-SS06-0001	EPAK-SS01-0001	EPAK-SS02-0001	EPAK-SS03-0001
Sample Date	**at the PI 7 Site**	**Concentration**	**Concentration**	03/01/06	03/01/06	03/02/06	03/02/06	03/01/06	03/01/06	02/28/06	03/02/06
Chemical Name											
Pesticides (UG/KG)											
4,4'-DDD	ND	0.16 J	26 J	4.0	6.8 J	3.5 U	3.6 U	3.8 U	3.8 U	3.9 U	3.5 U
4,4'-DDE	150	0.080 J	1,200	420	1,200	49	3.0 J	1.2 J	25	3.3 J	110
4,4'-DDT	31	0.30 J	990	46	990	11	21	1.7 J	8.7	3.9 U	27
beta-BHC	1.9J	1.9 J	1.9 J	1.8 U	8.9 U	1.8 U	1.9 U	1.9 U	2.0 U	2.0 U	1.8 U
Chlordane	ND	14	14	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	0.41 J	0.41 J	0.84 J	1.8 U	8.9 U	1.8 U	1.9 U	1.9 U	2.0 U	2.0 U	1.8 U
Dieldrin	ND	0.37 J	0.74 J	3.4 U	17 U	3.5 U	3.6 U	3.8 U	3.8 U	3.9 U	3.5 U
Endosulfan I	ND	0.44 J	0.44 J	1.8 U	8.9 U	1.8 U	1.9 U	1.9 U	2.0 U	2.0 U	1.8 U
Endrin	2.4 J	112	112	3.4 U	17 U	3.5 U	3.6 U	3.8 U	3.8 U	3.9 U	3.5 U
Endrin ketone	ND	1.3 J	1.3 J	3.4 U	17 U	3.5 U	3.6 U	3.8 U	3.8 U	3.9 U	3.5 U
gamma-Chlordane	1.9 J	0.52 J	1.9 J	1.8 U	8.9 U	1.8 U	1.9 U	1.9 U	2.0 U	2.0 U	1.8 U
Heptachlor	ND	0.76 J	0.76 J	1.8 U	8.9 U	1.8 U	1.9 U	1.9 U	2.0 U	2.0 U	1.8 U
Herbicides (UG/KG)											
2,4,5-T	ND	5.2 J	57	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	ND	60	87	NA	NA	NA	NA	NA	NA	NA	NA
2,4-D	ND	14 J	14 J	NA	NA	NA	NA	NA	NA	NA	NA

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Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PAOC K		PAOC K	PAOC S		PAOC S	PAOC S
Station ID	Concentration	Lowest	Highest	EPAK-SO04		EPAK-SO05	EPAS-SO01		EPAS-SO02	EPAS-SO03
Sample ID	Detected in surface soil	Detected	Detected	EPAK-SS04-0001	EPAK-SS04P-0001	EPAK-SS05-0001	EPAS-SS01-0001	EPAS-SS01P-0001	EPAS-SS02-0001	EPAS-SS03-0001
Sample Date	at the PI 7 Site	Concentration	Concentration	02/28/06	02/28/06	02/28/06	02/02/06	02/02/06	02/02/06	02/02/06
Chemical Name										
Pesticides (UG/KG)										
4,4'-DDD	ND	0.16 J	26 J	6.1 J	7.9	3.4 U	7.9	4.6	1.8 J	3.4 U
4,4'-DDE	150	0.080 J	1,200	1,200	830	50	550	650	270	330
4,4'-DDT	31	0.30 J	990	490	320	16	110	100	70	15
beta-BHC	1.9J	1.9 J	1.9 J	8.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.8 U
Chlordane	ND	14	14	NA	NA	NA	NA	NA	NA	NA
delta-BHC	0.41 J	0.41 J	0.84 J	8.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.8 U
Dieldrin	ND	0.37 J	0.74 J	17 U	3.4 U	3.4 U	3.8 U	3.6 U	3.7 U	3.4 U
Endosulfan I	ND	0.44 J	0.44 J	8.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.8 U
Endrin	2.4 J	112	112	17 U	3.4 U	3.4 U	3.8 U	3.6 U	3.7 U	3.4 U
Endrin ketone	ND	1.3 J	1.3 J	17 U	3.4 U	3.4 U	3.8 U	3.6 U	3.7 U	3.4 U
gamma-Chlordane	1.9 J	0.52 J	1.9 J	8.8 U	1.3 J	1.8 U	1.9 U	1.8 U	1.9 U	1.8 U
Heptachlor	ND	0.76 J	0.76 J	8.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.8 U
Herbicides (UG/KG)										
2,4,5-T	ND	5.2 J	57	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	ND	60	87	NA	NA	NA	NA	NA	NA	NA
2,4-D	ND	14 J	14 J	NA	NA	NA	NA	NA	NA	NA

Notes:

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UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PAOC S	PAOC S	PAOC U	PAOC U	PAOC U	PAOC U	
Station ID	Concentration	Lowest	Highest	EPAS-SO04	EPAS-SO05	EPAU-SO01	EPAU-SO02	EPAU-SO03	EPAU-SO04	
Sample ID	Detected in surface soil	Detected	Detected	EPAS-SS04-0001	EPAS-SS05-0001	EPAU-SS01-0001	EPAU-SS02-0001	EPAU-SS03-0001	EPAU-SS04-0001	EPAU-SS04P-0001
Sample Date	at the PI 7 Site	Concentration	Concentration	02/02/06	02/02/06	03/01/06	03/03/06	03/03/06	03/03/06	03/03/06
Chemical Name										
Pesticides (UG/KG)										
4,4'-DDD	ND	0.16 J	26 J	3.8 U	6.9	3.6 U	3.4 U	3.6 U	3.5 U	3.5 U
4,4'-DDE	150	0.080 J	1,200	17	580	23	54	82	4.5 J	4.7
4,4'-DDT	31	0.30 J	990	5.4	270	31	8.0	10	1.7 J	2.1 J
beta-BHC	1.9J	1.9 J	1.9 J	2.0 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Chlordane	ND	14	14	NA	NA	NA	NA	NA	NA	NA
delta-BHC	0.41 J	0.41 J	0.84 J	2.0 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Dieldrin	ND	0.37 J	0.74 J	3.8 U	3.6 U	3.6 U	3.4 U	3.6 U	3.5 U	3.5 U
Endosulfan I	ND	0.44 J	0.44 J	2.0 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Endrin	2.4 J	112	112	3.8 U	3.6 U	3.6 U	3.4 U	3.6 U	3.5 U	3.5 U
Endrin ketone	ND	1.3 J	1.3 J	3.8 U	3.6 U	3.6 U	3.4 U	3.6 U	3.5 U	3.5 U
gamma-Chlordane	1.9 J	0.52 J	1.9 J	2.0 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Heptachlor	ND	0.76 J	0.76 J	2.0 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Herbicides (UG/KG)										
2,4,5-T	ND	5.2 J	57	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	ND	60	87	NA	NA	NA	NA	NA	NA	NA
2,4-D	ND	14 J	14 J	NA	NA	NA	NA	NA	NA	NA

Notes:

Shading indicates detections

NA - Not Analyzed

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R - Unreliable Result

U - The material was analyzed for, but not detected

UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PAOC U	PAOC U	PAOC U	PAOC U	PAOC U	PAOC X	PAOC X
Station ID	Concentration	Lowest	Highest	EPAU-SO05	EPAU-SO06	EPAU-SO07	EPAU-SO08	EPAU-SO09	VNTR-X-1	VNTR-X-2
Sample ID	Detected in surface soil	Detected	Detected	EPAU-SS05-0001	EPAU-SS06-0001	EPAU-SS07-0001	EPAU-SS08-0001	EPAU-SS09-0001	VNTR-X-1	VNTR-X-2
Sample Date	at the PI 7 Site	Concentration	Concentration	03/03/06	03/03/06	03/03/06	03/01/06	03/03/06	12/12/02	12/12/02
Chemical Name										
Pesticides (UG/KG)										
4,4'-DDD	ND	0.16 J	26 J	3.5 U	3.5 U	3.5 U	3.4 U	3.8 U	14	3.3 U
4,4'-DDE	150	0.080 J	1,200	51	3.5 U	53	37	3.8 U	19	8.3
4,4'-DDT	31	0.30 J	990	3.7	3.5 U	18	2.9 J	3.8 U	38	3.3 U
beta-BHC	1.9J	1.9 J	1.9 J	1.8 U	1.8 U	1.8 U	1.8 U	3.2 R	1.7 U	1.7 U
Chlordane	ND	14	14	NA	NA	NA	NA	NA	17 U	17 U
delta-BHC	0.41 J	0.41 J	0.84 J	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.7 U	1.7 U
Dieldrin	ND	0.37 J	0.74 J	3.5 U	3.5 U	3.5 U	3.4 U	3.8 U	3.3 U	3.3 U
Endosulfan I	ND	0.44 J	0.44 J	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.7 U	1.7 U
Endrin	2.4 J	112	112	3.5 U	3.5 U	3.5 U	3.4 U	3.8 U	3.3 U	3.3 U
Endrin ketone	ND	1.3 J	1.3 J	3.5 U	3.5 U	3.5 U	1.3 J	3.8 U	NA	NA
gamma-Chlordane	1.9 J	0.52 J	1.9 J	1.8 U	1.8 U	0.52 J	1.8 U	1.9 U	NA	NA
Heptachlor	ND	0.76 J	0.76 J	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.7 U	1.7 U
Herbicides (UG/KG)										
2,4,5-T	ND	5.2 J	57	NA	NA	NA	NA	NA	10 U	10 U
2,4,5-TP (Silvex)	ND	60	87	NA	NA	NA	NA	NA	10 U	10 U
2,4-D	ND	14 J	14 J	NA	NA	NA	NA	NA	40 U	40 U

Notes:

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UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 1
East Vieques Surface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			PAOC X	PAOC X
Station ID	**Concentration**	**Lowest**	**Highest**	VNTR-X-3	VNTR-X-4
Sample ID	**Detected in surface soil**	**Detected**	**Detected**	VNTR-X-3	VNTR-X-4
Sample Date	**at the PI 7 Site**	**Concentration**	**Concentration**	12/12/02	12/12/02
Chemical Name					
Pesticides (UG/KG)					
4,4'-DDD	ND	0.16 J	26 J	33 U	5.5
4,4'-DDE	150	0.080 J	1,200	310	45
4,4'-DDT	31	0.30 J	990	76	8.0
beta-BHC	1.9J	1.9 J	1.9 J	17 U	1.7 U
Chlordane	ND	14	14	167 U	17 U
delta-BHC	0.41 J	0.41 J	0.84 J	17 U	1.7 U
Dieldrin	ND	0.37 J	0.74 J	33 U	3.3 U
Endosulfan I	ND	0.44 J	0.44 J	17 U	1.7 U
Endrin	2.4 J	112	112	33 U	3.3 U
Endrin ketone	ND	1.3 J	1.3 J	NA	NA
gamma-Chlordane	1.9 J	0.52 J	1.9 J	NA	NA
Heptachlor	ND	0.76 J	0.76 J	17 U	1.7 U
Herbicides (UG/KG)					
2,4,5-T	ND	5.2 J	57	10 U	10 U
2,4,5-TP (Silvex)	ND	60	87	10 U	10 U
2,4-D	ND	14 J	14 J	40 U	40 U

Notes:

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UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 2
East Vieques Subsurface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			SWMU 2	SWMU 2	SWMU 4		SWMU 10	SWMU 10	SWMU 10	SWMU 10
Station ID	Concentration	Lowest	Highest	CGW2SB01	CGW2SB02	CGW4SB01		CGW10SB05	CGW10SB06	CGW10SB07	CGW10SB08
Sample ID	Detected in subsurface	Detected	Detected	CGW2SB01-R01-10	CGW2SB02-R01-5	CGW4FD01P-R01-5	CGW4SB01-R01-5	CGW10SB05-R01-5	CGW10SB06-R01-5	CGW10SB07-R01-5	CGW10SB08-R01-5
Sample Date	soil at the PI 7 Site	Concentration	Concentration	01/21/04	01/22/04	01/21/04	01/21/04	01/22/04	01/20/04	01/20/04	01/22/04
Chemical Name											
Pesticides (UG/KG)											
4,4'-DDD	ND	0.89 J	44	NA	NA	NA	NA	44 U	3.8 U	3.9 U	3.9 UJ
4,4'-DDE	130	0.076 J	540	NA	NA	NA	NA	140 J	2.9 J	12 J	6.1 J
4,4'-DDT	2.2 J	0.31 J	950	NA	NA	NA	NA	44 U	3.8 U	3.9 U	3.9 UJ
beta-BHC	ND	0.77 J	2.2 JN	NA	NA	NA	NA	22 U	2.0 U	2.0 U	2.0 UJ
Endrin aldehyde	ND	1.5 J	1.5 J	NA	NA	NA	NA	44 U	3.8 U	3.9 U	3.9 UJ
Endrin ketone	ND	0.82 J	0.82 J	NA	NA	NA	NA	44 U	3.8 U	3.9 U	3.9 UJ
gamma-Chlordane	ND	0.45 J	1.1 J	NA	NA	NA	NA	22 U	2.0 U	2.0 U	2.0 UJ
Methoxychlor	ND	11 J	11 J	NA	NA	NA	NA	220 U	20 U	20 U	20 UJ
Herbicides (UG/KG)											
No Detections		--	--	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

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JN - Analyte present at approximate quantity

R - Unreliable Result

U - The material was analyzed for, but not detected

UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 2
East Vieques Subsurface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			SWMU 10	SWMU 10	SWMU 10	SWMU 10	SWMU 10	SWMU 10	SWMU 10
Station ID	Concentration	Lowest	Highest	CGW10SB09	CGW10SB10	CGW10SB11	CGW10SB12	CGW10SB13	CGW10SB14	CGW10SB15
Sample ID	Detected in subsurface	Detected	Detected	CGW10SB09-R01-5	CGW10SB10-R01-5	CGW10SB11-R01-5	CGW10SB12-R01-5	CGW10SB13-R01-5	CGW10SB14-R01-5	CGW10SB15-R01-5
Sample Date	soil at the PI 7 Site	Concentration	Concentration	01/20/04	01/20/04	01/20/04	01/20/04	01/20/04	01/20/04	01/20/04
Chemical Name										
Pesticides (UG/KG)										
4,4'-DDD	ND	0.89 J	44	3.8 U	3.8 U	3.7 U	3.8 U	4.0 U	3.6 U	3.7 U
4,4'-DDE	130	0.076 J	540	13 J	18 J	2.4 J	9.4 J	0.076 J	2.0 J	1.4 J
4,4'-DDT	2.2 J	0.31 J	950	3.8 U	3.8 U	3.7 U	3.8 U	4.0 U	3.6 U	3.7 U
beta-BHC	ND	0.77 J	2.2 JN	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	1.9 U
Endrin aldehyde	ND	1.5 J	1.5 J	3.8 U	3.8 U	3.7 U	3.8 U	4.0 U	3.6 U	3.7 U
Endrin ketone	ND	0.82 J	0.82 J	3.8 U	3.8 UJ	3.7 U	3.8 U	4.0 U	3.6 U	3.7 U
gamma-Chlordane	ND	0.45 J	1.1 J	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	1.9 U	1.9 U
Methoxychlor	ND	11 J	11 J	19 U	20 U	19 U	20 U	20 U	19 U	19 U
Herbicides (UG/KG)										
No Detections		--	--	ND	ND	ND	ND	ND	ND	ND

Notes:

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JN - Analyte present at approximate quantity

R - Unreliable Result

U - The material was analyzed for, but not detected

UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 2
East Vieques Subsurface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			SWMU 10		SWMU 10	SWMU 10	SWMU 10	SWMU 10		PI 4
Station ID	Concentration	Lowest	Highest	CGW10SB16		CGW10SB17	CGW10SB18	CGW10SB19	CGW10SB20		EPI04-SO01
Sample ID	Detected in subsurface	Detected	Detected	CGW10FD02P-R01	CGW10SB16-R01-5	CGW10SB17-R01-5	CGW10SB18-R01-5	CGW10SB19-R01-5	CGW10FD04P-R01	CGW10SB20-R01-5	EPI04-SB01-0406
Sample Date	soil at the PI 7 Site	Concentration	Concentration	01/22/04	01/22/04	01/22/04	01/22/04	01/20/04	01/22/04	01/22/04	01/26/06
Chemical Name											
Pesticides (UG/KG)											
4,4'-DDD	ND	0.89 J	44	4.0 U	41 U	3.8 U	3.7 U	3.7 U	3.8 UJ	3.8 U	3.5 U
4,4'-DDE	130	0.076 J	540	0.21 J	2.5 J	4.6 J	4.5 J	2.2 J	1.5 J	0.87 J	3.5 U
4,4'-DDT	2.2 J	0.31 J	950	4.0 U	41 U	0.31 J	3.7 U	3.7 U	3.8 UJ	3.8 U	3.5 U
beta-BHC	ND	0.77 J	2.2 JN	2.0 U	21 U	1.9 U	1.9 U	1.9 U	1.9 UJ	2.0 U	1.8 U
Endrin aldehyde	ND	1.5 J	1.5 J	4.0 U	41 U	3.8 U	3.7 U	3.7 U	3.8 UJ	3.8 U	3.5 U
Endrin ketone	ND	0.82 J	0.82 J	4.0 U	41 U	3.8 U	3.7 U	3.7 U	3.8 UJ	3.8 U	3.5 U
gamma-Chlordane	ND	0.45 J	1.1 J	2.0 U	21 U	1.9 U	1.9 U	1.9 U	1.9 UJ	2.0 U	0.49 J
Methoxychlor	ND	11 J	11 J	20 U	210 U	19 U	19 U	19 U	19 UJ	20 U	18 U
Herbicides (UG/KG)											
No Detections		--	--	ND	ND	ND	ND	ND	ND	ND	NA

Notes:

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JN - Analyte present at approximate quantity

R - Unreliable Result

U - The material was analyzed for, but not detected

UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 2
East Vieques Subsurface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PI 4	PI 4	PI 4	PI 4	PI 4	PI 4	PI 4	
Station ID	Concentration	Lowest	Highest	EPI04-SO02	EPI04-SO03	EPI04-SO04	EPI04-SO05	EPI04-SO06	EPI04-SO07	EPI04-SO08	
Sample ID	Detected in subsurface	Detected	Detected	EPI04-SB02-0406	EPI04-SB03-0406	EPI04-SB04-0406	EPI04-SB05-0406	EPI04-SB06-0406	EPI04-SB07-0406	EPI04-SB08-0406	EPI04-SB08P-0406
Sample Date	soil at the PI 7 Site	Concentration	Concentration	01/26/06	01/26/06	01/26/06	01/26/06	01/26/06	01/25/06	01/25/06	01/25/06
Chemical Name											
Pesticides (UG/KG)											
4,4'-DDD	ND	0.89 J	44	3.4 U	3.5 U	3.8 U	3.5 U	3.7 U	1.2 J	3.5 U	3.5 U
4,4'-DDE	130	0.076 J	540	3.4 U	1.5 J	3.8 U	3.5 U	2.7 J	1.1 J	71	47
4,4'-DDT	2.2 J	0.31 J	950	3.4 U	3.5 U	3.8 U	3.5 U	2.2 J	3.7 U	8.5	11
beta-BHC	ND	0.77 J	2.2 JN	1.8 U	1.8 U	2.0 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U
Endrin aldehyde	ND	1.5 J	1.5 J	3.4 U	3.5 U	3.8 U	3.5 U	3.7 U	3.7 U	1.5 J	3.5 U
Endrin ketone	ND	0.82 J	0.82 J	3.4 U	3.5 U	3.8 U	3.5 U	3.7 U	3.7 U	3.5 U	3.5 U
gamma-Chlordane	ND	0.45 J	1.1 J	0.45 J	1.8 U	2.0 U	0.65 J	0.50 J	0.48 J	1.8 U	1.8 U
Methoxychlor	ND	11 J	11 J	18 U	18 U	20 U	18 U	19 U	19 U	18 U	18 U
Herbicides (UG/KG)											
No Detections		--	--	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

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JN - Analyte present at approximate quantity

R - Unreliable Result

U - The material was analyzed for, but not detected

UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 2
East Vieques Subsurface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PI 4	PI 4	PI 4	PI 4	PI 4	PI 6		PI 6
Station ID	Concentration	Lowest	Highest	EPI04-SO09	EPI04-SO10	EPI04-SO11	EPI04-SO12	EPI04-SO13	VEP6-SO05		VEP6-SO06
Sample ID	Detected in subsurface	Detected	Detected	EPI04-SB09-0406	EPI04-SB10-0406	EPI04-SB11-0406	EPI04-SB12-0406	EPI04-SB13-0406	VEP6-SB05-46-0309	VEP6-SB05P-46-0309	VEP6-SB06-46-0309
Sample Date	soil at the PI 7 Site	Concentration	Concentration	01/24/06	01/24/06	01/25/06	01/24/06	01/25/06	03/11/09	03/11/09	03/11/09
Chemical Name											
Pesticides (UG/KG)											
4,4'-DDD	ND	0.89 J	44	0.89 J	3.6 U	3.8 U	3.5 U	3.8 U	NA	NA	NA
4,4'-DDE	130	0.076 J	540	44	50	0.79 J	220	3.8 U	NA	NA	NA
4,4'-DDT	2.2 J	0.31 J	950	56	1.9 J	3.8 U	6.1	3.8 U	NA	NA	NA
beta-BHC	ND	0.77 J	2.2 JN	1.8 U	1.8 U	1.9 U	1.8 U	2.0 U	NA	NA	NA
Endrin aldehyde	ND	1.5 J	1.5 J	3.5 U	3.6 U	3.8 U	3.5 U	3.8 U	NA	NA	NA
Endrin ketone	ND	0.82 J	0.82 J	3.5 U	3.6 U	3.8 U	3.5 U	3.8 U	NA	NA	NA
gamma-Chlordane	ND	0.45 J	1.1 J	1.8 U	1.1 J	1.9 U	1.8 U	2.0 U	NA	NA	NA
Methoxychlor	ND	11 J	11 J	18 U	18 U	19 U	18 U	20 U	NA	NA	NA
Herbicides (UG/KG)											
No Detections		--	--	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
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J - Analyte present, value may or may not be accurate or precise
JN - Analyte present at approximate quantity
R - Unreliable Result
U - The material was analyzed for, but not detected
UJ - Analyte not detected, quantitation limit may be inaccurate
UG/KG - Micrograms per kilogram

Table 2
East Vieques Subsurface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PI 8	PI 8	PI 8	PI 8	PI 8	PAOC I	PAOC I	PAOC I	PAOC I
Station ID	Concentration	Lowest	Highest	VEP8-SO05	VEP8-SO06	VEP8-SO07	VEP8-SO08	VEP8-SO14	VEPI-SO01	VEPI-SO02	VEPI-SO03	VEPI-SO04
Sample ID	Detected in subsurface	Detected	Detected	VEP8-SB05-46-0209	VEP8-SB06-46-0209	VEP8-SB07-46-0209	VEP8-SB08-46-0209	VEP8-SB14-46-0209	VEPI-SB01-46-0209	VEPI-SB02-46-0209	VEPI-SB03-46-0209	VEPI-SB04-46-0209
Sample Date	soil at the PI 7 Site	Concentration	Concentration	02/19/09	02/19/09	02/20/09	02/19/09	02/23/09	02/24/09	02/24/09	02/24/09	02/24/09
Chemical Name												
Pesticides (UG/KG)												
4,4'-DDD	ND	0.89 J	44	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	130	0.076 J	540	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	2.2 J	0.31 J	950	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	ND	0.77 J	2.2 JN	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	ND	1.5 J	1.5 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	ND	0.82 J	0.82 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	ND	0.45 J	1.1 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	ND	11 J	11 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (UG/KG)												
No Detections		--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
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J - Analyte present, value may or may not be accurate or precise
JN - Analyte present at approximate quantity
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U - The material was analyzed for, but not detected
UJ - Analyte not detected, quantitation limit may be inaccurate
UG/KG - Micrograms per kilogram

Table 2
East Vieques Subsurface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PAOC I	PAOC J	PAOC J	PAOC J	PAOC J	PAOC J		PAOC J
Station ID	Concentration	Lowest	Highest	VEPI-SO05	EPAJ-SO01	EPAJ-SO02	EPAJ-SO03	EPAJ-SO04	EPAJ-SO05		EPAJ-SO06
Sample ID	Detected in subsurface	Detected	Detected	VEPI-SB05-46-0209	EPAJ-SB01-0405	EPAJ-SB02-0406	EPAJ-SB03-0406	EPAJ-SB04-0406	EPAJ-SB05-0406	EPAJ-SB05P-0406	EPAJ-SB06-0406
Sample Date	soil at the PI 7 Site	Concentration	Concentration	02/24/09	03/02/06	03/01/06	03/01/06	03/02/06	03/02/06	03/02/06	03/01/06
Chemical Name											
Pesticides (UG/KG)											
4,4'-DDD	ND	0.89 J	44	NA	3.4 U	3.7 U	3.5 U	3.7 U	3.7 U	3.7 U	3.4 U
4,4'-DDE	130	0.076 J	540	NA	3.1 J	3.7 U	2.1 J	48	2.5 J	3.1 J	1.3 J
4,4'-DDT	2.2 J	0.31 J	950	NA	1.7 J	3.7 U	3.5 U	27	1.3 J	1.3 J	27
beta-BHC	ND	0.77 J	2.2 JN	NA	1.8 U	1.9 U	1.8 U	1.9 U	1.9 U	2.2 JN	1.8 U
Endrin aldehyde	ND	1.5 J	1.5 J	NA	3.4 U	3.7 U	3.5 U	3.7 U	3.7 U	3.7 U	3.4 U
Endrin ketone	ND	0.82 J	0.82 J	NA	3.4 U	3.7 U	3.5 U	3.7 U	3.7 U	3.7 U	3.4 U
gamma-Chlordane	ND	0.45 J	1.1 J	NA	1.8 U	1.9 U	1.8 U	1.9 U	1.9 U	1.9 U	1.8 U
Methoxychlor	ND	11 J	11 J	NA	18 U	19 U	18 U	19 U	19 U	19 U	18 U
Herbicides (UG/KG)											
No Detections		--	--	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shading indicates detections

NA - Not Analyzed

J - Analyte present, value may or may not be accurate or precise

JN - Analyte present at approximate quantity

R - Unreliable Result

U - The material was analyzed for, but not detected

UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 2
East Vieques Subsurface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PAOC K	PAOC K	PAOC K	PAOC K	PAOC K	PAOC S	PAOC S	PAOC S	
Station ID	Concentration	Lowest	Highest	EPAK-SO01	EPAK-SO02	EPAK-SO03	EPAK-SO04	EPAK-SO05	EPAS-SO01	EPAS-SO02	EPAS-SO03	
Sample ID	Detected in subsurface	Detected	Detected	EPAK-SB01-0406	EPAK-SB02-0406	EPAK-SB03-0406	EPAK-SB04-0406	EPAK-SB05-0406	EPAS-SB01-0406	EPAS-SB02-0406	EPAS-SB03-0406	EPAS-SB03P-0406
Sample Date	soil at the PI 7 Site	Concentration	Concentration	03/01/06	02/28/06	03/02/06	03/08/06	02/28/06	02/02/06	02/02/06	02/02/06	02/02/06
Chemical Name												
Pesticides (UG/KG)												
4,4'-DDD	ND	0.89 J	44	3.8 U	3.6 U	3.3 U	44	4.3 U	3.9 U	3.5 U	3.8 U	3.8 U
4,4'-DDE	130	0.076 J	540	0.89 J	3.6 U	21	540	4.6	35	29	3.8 U	3.8 U
4,4'-DDT	2.2 J	0.31 J	950	3.8 U	3.6 U	7.5	950	4.3 U	6.7	13	3.8 U	3.8 U
beta-BHC	ND	0.77 J	2.2 JN	2.0 U	1.9 U	1.7 U	1.8 U	2.2 U	2.0 U	1.8 U	2.0 U	2.0 U
Endrin aldehyde	ND	1.5 J	1.5 J	3.8 U	3.6 U	3.3 U	3.6 U	4.3 U	3.9 U	3.5 U	3.8 U	3.8 U
Endrin ketone	ND	0.82 J	0.82 J	3.8 U	3.6 U	0.82 J	3.6 U	4.3 U	3.9 U	3.5 U	3.8 U	3.8 U
gamma-Chlordane	ND	0.45 J	1.1 J	2.0 U	1.9 U	1.7 U	0.76 J	2.2 U	2.0 U	1.8 U	2.0 U	2.0 U
Methoxychlor	ND	11 J	11 J	20 U	19 U	17 U	18 U	22 U	20 U	18 U	20 U	20 U
Herbicides (UG/KG)												
No Detections		--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shading indicates detections

NA - Not Analyzed

J - Analyte present, value may or may not be accurate or precise

JN - Analyte present at approximate quantity

R - Unreliable Result

U - The material was analyzed for, but not detected

UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 2
East Vieques Subsurface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PAOC S	PAOC S	PAOC U	PAOC U	PAOC U	PAOC U	PAOC U	PAOC U	PAOC U
Station ID	Concentration	Lowest	Highest	EPAS-SO04	EPAS-SO05	EPAU-SO01	EPAU-SO02	EPAU-SO03	EPAU-SO04	EPAU-SO05	EPAU-SO06	EPAU-SO07
Sample ID	Detected in subsurface	Detected	Detected	EPAS-SB04-0406	EPAS-SB05-0406	EPAU-SB01-0406	EPAU-SB02-0406	EPAU-SB03-0406	EPAU-SB04-0406	EPAU-SB05-0406	EPAU-SB06-0406	EPAU-SB07-0406
Sample Date	soil at the PI 7 Site	Concentration	Concentration	02/02/06	02/02/06	03/01/06	03/03/06	03/03/06	03/03/06	03/03/06	03/03/06	03/03/06
Chemical Name												
Pesticides (UG/KG)												
4,4'-DDD	ND	0.89 J	44	3.8 U	3.6 U	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	3.8 U	3.5 U
4,4'-DDE	130	0.076 J	540	3.8 U	2.8 J	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	3.8 U	3.5 U
4,4'-DDT	2.2 J	0.31 J	950	3.8 U	1.8 J	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	3.8 U	3.5 U
beta-BHC	ND	0.77 J	2.2 JN	1.9 U	1.9 U	1.8 U	0.77 J	1.8 U	1.8 U	1.8 U	2.0 U	1.8 U
Endrin aldehyde	ND	1.5 J	1.5 J	3.8 U	3.6 U	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	3.8 U	3.5 U
Endrin ketone	ND	0.82 J	0.82 J	3.8 U	3.6 U	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	3.8 U	3.5 U
gamma-Chlordane	ND	0.45 J	1.1 J	1.9 U	1.9 U	1.8 U	1.8 U	2.3 R	1.8 U	1.8 U	2.0 U	1.8 U
Methoxychlor	ND	11 J	11 J	19 U	11 J	18 U	18 U	18 U	18 U	18 U	20 U	18 U
Herbicides (UG/KG)												
No Detections		--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Shading indicates detections

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JN - Analyte present at approximate quantity

R - Unreliable Result

U - The material was analyzed for, but not detected

UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 2
East Vieques Subsurface Soil Pesticide and Herbicide Detections
Vieques, Puerto Rico

Site ID	Maximum			PAOC U	PAOC U	
Station ID	Concentration	Lowest	Highest	EPAU-SO08	EPAU-SO09	
Sample ID	Detected in subsurface	Detected	Detected	EPAU-SB08-0406	EPAU-SB09-0406	EPAU-SB09P-0406
Sample Date	soil at the PI 7 Site	Concentration	Concentration	03/01/06	03/03/06	03/03/06
Chemical Name						
Pesticides (UG/KG)						
4,4'-DDD	ND	0.89 J	44	3.4 U	3.5 U	3.5 U
4,4'-DDE	130	0.076 J	540	3.4 U	3.5 U	3.5 U
4,4'-DDT	2.2 J	0.31 J	950	3.4 U	3.5 U	3.5 U
beta-BHC	ND	0.77 J	2.2 JN	1.8 U	1.8 U	1.8 U
Endrin aldehyde	ND	1.5 J	1.5 J	3.4 U	3.5 U	3.5 U
Endrin ketone	ND	0.82 J	0.82 J	3.4 U	3.5 U	3.5 U
gamma-Chlordane	ND	0.45 J	1.1 J	1.8 U	1.8 U	1.8 U
Methoxychlor	ND	11 J	11 J	18 U	18 U	18 U
Herbicides (UG/KG)						
No Detections		--	--	NA	NA	NA

Notes:

Shading indicates detections

NA - Not Analyzed

J - Analyte present, value may or may not be accurate or precise

JN - Analyte present at approximate quantity

R - Unreliable Result

U - The material was analyzed for, but not detected

UJ - Analyte not detected, quantitation limit may be inaccurate

UG/KG - Micrograms per kilogram

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-B								
Station ID	**Concentration**	**Lowest**	**Highest**	AB-SB05	AB-SB06	AB-SB07	AB-SB08	AB-SB09	AB-SB10		AB-SB11	AB-SB12
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDE239	NDE241	NDE243	NDE245	NDE247	NDE249	NDE250	NDE252	NDE254
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/13/01	04/13/01	04/13/01	04/13/01	04/13/01	04/13/01	04/13/01	04/13/01	04/13/01
Chemical Name												
Pesticide (UG_KG)												
4,4'-DDD	ND	0.33 J	40	3.80 U	4 U	4 U	4.30 U	5.10 U	4.10 U	4.40 U	4.40 U	3.70 U
4,4'-DDE	150	0.16 J	3,990 J	3.80 U	4 U	4 U	4.30 U	5.10 U	4.10 U	0.880 J	1.80 J	3.70 U
4,4'-DDT	31	0.26 J	2,190 J	3.80 U	4 U	4 U	4.30 U	5.10 U	4.10 U	4.40 U	4.40 U	3.70 U
Aldrin	ND	0.2 J	0.87 J	2 U	2.10 U	2.10 U	2.20 U	2.60 U	2.10 U	2.30 U	2.30 U	1.90 U
Dieldrin	ND	0.18 J	3.90	3.90	4 U	4 U	4.30 U	5.10 U	4.10 U	4.40 U	1.80 J	0.770 J
Endosulfan I	ND	3.5 J	3.5 J	2 U	2.10 U	2.10 U	2.20 U	2.60 U	2.10 U	2.30 U	2.30 U	1.90 U
Endosulfan II	ND	0.65 J	0.65 J	3.80 U	4 U	4 U	4.30 U	5.10 U	4.10 U	4.40 U	4.40 U	3.70 U
Endosulfan sulfate	ND	0.22 J	90 J	3.80 U	4 U	4 U	4.30 U	5.10 U	4.10 U	4.40 U	4.40 U	3.70 U
Endrin	2.4 J	0.22 J	16 JN	3.80 U	4 U	4 U	4.30 U	5.10 U	4.10 U	4.40 U	4.40 U	3.70 U
Endrin aldehyde	ND	0.21 J	11	3.80 U	4 U	4 U	4.30 U	5.10 U	4.10 U	4.40 U	4.40 U	3.70 U
Heptachlor	ND	0.43 J	1.5 J	2 U	2.10 U	2.10 U	2.20 U	2.60 U	2.10 U	2.30 U	2.30 U	1.90 U
Heptachlor epoxide	ND	0.2 J	1.7 J	2 U	2.10 U	2.10 U	2.20 U	2.60 U	2.10 U	2.30 U	2.30 U	1.90 U
Methoxychlor	ND	0.49 J	240 J	20 U	21 U	21 U	22 U	26 U	21 U	23 U	23 U	19 U
alpha-Chlordane	ND	0.30 J	4.6 J	2 U	2.10 U	2.10 U	2.20 U	2.60 U	2.10 U	2.30 U	2.30 U	1.90 U
beta-BHC	1.9J	0.59 J	1.4 J	2 U	2.10 U	2.10 U	2.20 U	2.60 U	2.10 U	2.30 U	2.30 U	1.90 U
delta-BHC	0.41 J	0.54 J	0.59 J	2 U	2.10 U	2.10 U	2.20 U	2.60 U	2.10 U	2.30 U	2.30 U	1.90 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2 U	2.10 U	2.10 U	2.20 U	2.60 U	2.10 U	2.30 U	2.30 U	1.90 U
gamma-Chlordane	1.9 J	0.2 J	270 J	2 U	2.10 U	2.10 U	2.20 U	2.60 U	2.10 U	2.30 U	2.30 U	1.90 U

Notes:
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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-B (continued)								
Station ID	**Concentration**	**Lowest**	**Highest**	AB-SB13	AB-SB14	AB-SB15	AB-SB15	AB-SB16	WWTPSB001	WWTPSB002	WWTPSB003	WWTPSB004
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDE256	NDE258	NDE260	NDE261	NDE263	NDE188	NDE190	NDE192	NDE194
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/13/01	04/13/01	04/13/01	04/13/01	04/13/01	12/04/00	12/04/00	12/04/00	12/04/00
Chemical Name												
Pesticide (UG_KG)												
4,4'-DDD	ND	0.33 J	40	4.40 U	4 U	3.90 U	4 U	4 U	3.70 UJ	3.90 UJ	3.80 UJ	4.20 UJ
4,4'-DDE	150	0.16 J	3,990 J	0.570 J	0.680 J	0.900 J	1.10 J	1.20 J	3.70 UJ	3.90 UJ	3.80 UJ	4.20 UJ
4,4'-DDT	31	0.26 J	2,190 J	4.40 U	4 U	3.90 U	4 U	4 U	3.70 UJ	3.90 UJ	3.80 UJ	4.20 UJ
Aldrin	ND	0.2 J	0.87 J	2.30 U	2.10 U	2 U	2.10 U	2.10 U	1.90 UJ	2 UJ	1.90 UJ	2.20 UJ
Dieldrin	ND	0.18 J	3.90	4.40 U	4 U	3.90 U	4 U	4 U	3.70 UJ	3.90 UJ	3.80 UJ	4.20 UJ
Endosulfan I	ND	3.5 J	3.5 J	2.30 U	2.10 U	2 U	2.10 U	2.10 U	1.90 UJ	2 UJ	1.90 UJ	2.20 UJ
Endosulfan II	ND	0.65 J	0.65 J	4.40 U	4 U	3.90 U	4 U	4 U	3.70 UJ	3.90 UJ	3.80 UJ	4.20 UJ
Endosulfan sulfate	ND	0.22 J	90 J	4.40 U	4 U	3.90 U	4 U	4 U	3.70 UJ	3.90 UJ	3.80 UJ	4.20 UJ
Endrin	2.4 J	0.22 J	16 JN	4.40 U	4 U	3.90 U	4 U	4 U	3.70 UJ	3.90 UJ	3.80 UJ	4.20 UJ
Endrin aldehyde	ND	0.21 J	11	4.40 U	4 U	3.90 U	4 U	4 U	3.70 UJ	3.90 UJ	3.80 UJ	4.20 UJ
Heptachlor	ND	0.43 J	1.5 J	2.30 U	2.10 U	2 U	2.10 U	2.10 U	1.90 UJ	2 UJ	1.90 UJ	2.20 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	2.30 U	2.10 U	2 U	2.10 U	2.10 U	1.90 UJ	2 UJ	1.90 UJ	2.20 UJ
Methoxychlor	ND	0.49 J	240 J	23 U	21 U	20 U	21 U	21 U	19 UJ	20 UJ	19 UJ	22 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	2.30 U	2.10 U	2 U	2.10 U	2.10 U	1.90 UJ	2 UJ	1.90 UJ	2.20 UJ
beta-BHC	1.9J	0.59 J	1.4 J	2.30 U	2.10 U	2 U	2.10 U	2.10 U	1.90 UJ	2 UJ	1.90 UJ	2.20 UJ
delta-BHC	0.41 J	0.54 J	0.59 J	2.30 U	2.10 U	2 U	2.10 U	2.10 U	1.90 UJ	2 UJ	1.90 UJ	2.20 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2.30 U	2.10 U	2 U	2.10 U	2.10 U	1.90 UJ	2 UJ	1.90 UJ	2.20 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	2.30 U	2.10 U	2 U	2.10 U	2.10 U	1.90 UJ	2 UJ	1.90 UJ	2.20 UJ

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-C											
Station ID	Concentration	Lowest	Highest	AC-SB01		AC-SB02	AC-SB03	AC-SB04	AC-SB05	AC-SB06	AC-SB07	AC-SB08		AC-SB09	AC-SB10
Sample ID	Detected in surface	Detected	Detected	NDA196	NDA197FD1	NDA198	NDA199	NDA200	NDA201	NDA202	NDA203	NDA204	NDA205FD1	NDA206	NDA207
Sample Date	soil at the PI 7 Site	Concentration	Concentration	04/10/00	04/10/00	04/10/00	04/10/00	04/10/00	04/11/00	04/11/00	04/11/00	04/11/00	04/11/00	04/11/00	04/11/00
Chemical Name															
Pesticide (UG_KG)															
4,4'-DDD	ND	0.33 J	40	3.6 U	3.6 U	4.3 U	4.3 U	3.5 U	3.3 U	3.8 U	2.1 J	4.3 UJ	3.8 U	3.4 U	3.8 U
4,4'-DDE	150	0.16 J	3,990 J	3.6 U	3.6 U	4.3 U	4.3 U	0.53 J	3.3 U	0.58 J	6.4	0.8 J	0.84 J	3.4 U	0.48 J
4,4'-DDT	31	0.26 J	2,190 J	3.6 UJ	3.6 UJ	4.3 UJ	4.3 UJ	3.5 UJ	3.3 U	3.8 U	16	4.3 U	0.53 J	3.4 U	3.8 U
Aldrin	ND	0.2 J	0.87 J	1.8 U	1.8 U	2.2 U	2.2 U	1.8 U	1.7 U	1.9 U	2.1 U	2.2 U	1.9 U	1.8 U	1.9 U
Dieldrin	ND	0.18 J	3.90	3.6 U	3.6 U	4.3 U	4.3 U	3.5 U	3.3 U	3.8 U	4.2 U	4.3 U	3.8 U	3.4 U	3.8 U
Endosulfan I	ND	3.5 J	3.5 J	1.8 U	1.8 U	2.2 U	2.2 U	1.8 U	1.7 U	1.9 U	2.1 U	2.2 U	1.9 U	1.8 U	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	3.6 U	3.6 U	4.3 U	4.3 U	3.5 U	3.3 U	3.8 U	4.2 U	4.3 U	3.8 U	3.4 U	3.8 U
Endosulfan sulfate	ND	0.22 J	90 J	3.6 U	3.6 U	4.3 U	4.3 U	3.5 U	3.3 U	3.8 U	4.2 U	4.3 U	3.8 U	3.4 U	3.8 U
Endrin	2.4 J	0.22 J	16 JN	3.6 U	3.6 U	4.3 U	4.3 U	3.5 U	3.3 U	3.8 U	4.2 U	4.3 U	3.8 U	3.4 U	3.8 U
Endrin aldehyde	ND	0.21 J	11	3.6 U	3.6 U	4.3 U	4.3 U	3.5 U	3.3 U	3.8 U	4.2 U	4.3 U	3.8 U	3.4 U	3.8 U
Heptachlor	ND	0.43 J	1.5 J	1.8 U	1.8 U	2.2 U	2.2 U	1.8 U	1.7 U	1.9 U	2.1 U	2.2 U	1.9 U	1.8 U	1.9 U
Heptachlor epoxide	ND	0.2 J	1.7 J	1.8 U	1.8 U	2.2 U	2.2 U	1.8 U	1.7 U	1.9 U	2.1 U	2.2 U	1.9 U	1.8 U	1.9 U
Methoxychlor	ND	0.49 J	240 J	18 UJ	18 UJ	22 UJ	22 UJ	18 UJ	17 U	19 U	21 U	22 U	19 U	18 U	19 U
alpha-Chlordane	ND	0.30 J	4.6 J	1.8 U	1.8 U	2.2 U	2.2 U	1.8 U	1.7 U	1.9 U	2.1 U	2.2 U	1.9 U	1.8 U	1.9 U
beta-BHC	1.9J	0.59 J	1.4 J	1.8 U	1.8 U	2.2 U	2.2 U	1.8 U	1.7 U	1.9 U	2.1 U	2.2 U	1.9 U	1.8 U	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.8 UJ	1.8 UJ	2.2 UJ	2.2 UJ	1.8 UJ	1.7 U	1.9 U	2.1 U	2.2 U	1.9 U	1.8 U	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.8 UJ	1.8 UJ	2.2 UJ	2.2 UJ	1.8 UJ	1.7 U	1.9 U	2.1 U	2.2 U	1.9 U	1.8 U	1.9 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.8 U	1.8 U	2.2 U	2.2 U	1.8 U	1.7 U	1.9 U	2.1 U	2.2 U	1.9 U	1.8 U	1.9 U

Notes:
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JN - Analyte present at approximate quantity
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UJ - Analyte not detected; quantitation limit may be imprecise
Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-C					W-AOC-E					
Station ID	**Concentration**	**Lowest**	**Highest**	AC-SB11	AC-SB12	AC-SB13	AC-SB14	AC-SB15	WAE-SO13	WAE-SO14	WAE-SO15	WAE-SO16	WAE-SO17	
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDA208	NDA209	NDA210	NDA211	NDA212	WAE-SS13-0002	WAE-SS14-0002	WAE-SS15-0002	WAE-SS16-0002	WAE-SS17-0002	WAE-SS17P-0002
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/11/00	04/11/00	04/11/00	04/11/00	04/11/00	11/30/05	11/30/05	12/01/05	12/01/05	11/30/05	11/30/05
Chemical Name														
Pesticide (UG_KG)														
4,4'-DDD	ND	0.33 J	40	3.4 U	4.7 U	3.4 U	3.3 U	3.7 U	3.5 U	3.6 U	2.1 J	3.7 U	3.6 U	3.6 U
4,4'-DDE	150	0.16 J	3,990 J	3.4 U	1.4 J	0.94 J	0.58 J	0.7 J	3.5 U	3.6 U	3.6 U	3.7 U	8.4	8
4,4'-DDT	31	0.26 J	2,190 J	0.47 J	0.82 J	0.81 J	0.81 J	3.7 U	3.5 U	3.6 U	3.6 U	3.7 U	3.5 J	3.6
Aldrin	ND	0.2 J	0.87 J	1.7 U	2.4 U	1.7 U	1.7 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U
Dieldrin	ND	0.18 J	3.90	3.4 U	4.7 U	3.4 U	3.3 U	3.7 U	3.5 U	3.6 U	3.6 U	3.7 U	3.6 U	3.6 U
Endosulfan I	ND	3.5 J	3.5 J	1.7 U	2.4 U	1.7 U	1.7 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U
Endosulfan II	ND	0.65 J	0.65 J	3.4 U	4.7 U	3.4 U	3.3 U	3.7 U	3.5 U	3.6 U	3.6 U	3.7 U	3.6 U	3.6 U
Endosulfan sulfate	ND	0.22 J	90 J	3.4 U	4.7 U	3.4 U	3.3 U	3.7 U	3.5 U	3.6 U	3.6 U	3.7 U	3.6 U	3.6 U
Endrin	2.4 J	0.22 J	16 JN	3.4 U	4.7 U	3.4 U	3.3 U	3.7 U	3.5 U	3.6 U	3.6 U	3.7 U	3.6 U	3.6 U
Endrin aldehyde	ND	0.21 J	11	3.4 U	4.7 U	3.4 U	3.3 U	3.7 U	3.5 U	3.6 U	3.6 U	3.7 U	3.6 U	3.6 U
Heptachlor	ND	0.43 J	1.5 J	1.7 U	2.4 U	1.7 U	1.7 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U
Heptachlor epoxide	ND	0.2 J	1.7 J	1.7 U	2.4 U	1.7 U	1.7 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U
Methoxychlor	ND	0.49 J	240 J	17 U	24 U	17 U	17 U	19 U	18 U	18 U	18 U	19 U	18 U	18 U
alpha-Chlordane	ND	0.30 J	4.6 J	1.7 U	2.4 U	1.7 U	1.7 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U
beta-BHC	1.9J	0.59 J	1.4 J	1.7 U	2.4 U	1.7 U	1.7 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.7 U	2.4 U	1.7 U	1.7 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.7 U	2.4 U	1.7 U	1.7 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.7 U	2.4 U	1.7 U	1.7 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U

Notes:
NA - Not analyzed
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JN - Analyte present at approximate quantity
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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-E		W-AOC-H									
Station ID	**Concentration**	**Lowest**	**Highest**	WAE-SO18	WAE-SO19	AOCHSB001		AOCHSB002	AOCHSB003	AOCHSB004	AOCHSB005	AOCHSB006	AOCHSB007	AOCHSB008	AOCHSB009
Sample ID	**Detected in surface**	**Detected**	**Detected**	WAE-SS18-0002	WAE-SS19-0002	NDE004	NDE005FD1	NDE007	NDE009	NDE011	NDE013	NDE015	NDE017	NDE019	NDE021
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	11/30/05	11/30/05	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00
Chemical Name															
Pesticide (UG_KG)															
4,4'-DDD	ND	0.33 J	40	3.5 U	3.7 U	3.5 UJ	3.6 UJ	3.5 UJ	2.4 J	2.9 J	3.4 UJ	3.4 UJ	3.6 UJ	3.6 UJ	3.7 UJ
4,4'-DDE	150	0.16 J	3,990 J	3.5 U	3.7 U	3,990 J	3,440 J	2,660 J	50 J	41 J	14 J	10 J	126 J	1.6 J	7.8 J
4,4'-DDT	31	0.26 J	2,190 J	3.5 U	3.7 U	1,940 J	2,190 J	1,090 J	14 UJ	17 J	10 J	11 J	75 J	3.6 UJ	6.7 J
Aldrin	ND	0.2 J	0.87 J	1.8 U	1.9 U	1.8 UJ	1.8 UJ	1.8 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.9 UJ
Dieldrin	ND	0.18 J	3.90	3.5 U	3.7 U	3.5 UJ	3.6 UJ	3.5 UJ	3.8 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.6 UJ	3.7 UJ
Endosulfan I	ND	3.5 J	3.5 J	1.8 U	1.9 U	1.8 UJ	1.8 UJ	1.8 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.9 UJ
Endosulfan II	ND	0.65 J	0.65 J	3.5 U	3.7 U	3.5 UJ	3.6 UJ	3.5 UJ	3.8 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.6 UJ	3.7 UJ
Endosulfan sulfate	ND	0.22 J	90 J	3.5 U	3.7 U	3.5 UJ	3.6 UJ	3.5 UJ	3.8 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.6 UJ	3.7 UJ
Endrin	2.4 J	0.22 J	16 JN	3.5 U	3.7 U	3.5 UJ	3.6 UJ	3.5 UJ	3.8 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.6 UJ	3.7 UJ
Endrin aldehyde	ND	0.21 J	11	3.5 U	3.7 U	3.5 UJ	3.6 UJ	3.5 UJ	3.8 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.6 UJ	3.6 UJ	3.7 UJ
Heptachlor	ND	0.43 J	1.5 J	1.8 U	1.9 U	1.8 UJ	1.8 UJ	1.8 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.9 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	1.8 U	1.9 U	1.8 UJ	1.8 UJ	1.8 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.9 UJ
Methoxychlor	ND	0.49 J	240 J	18 U	19 U	18 UJ	18 UJ	18 UJ	20 UJ	18 UJ	18 UJ	18 UJ	18 UJ	19 UJ	19 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	1.8 U	1.9 U	1.8 UJ	1.8 UJ	1.8 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.9 UJ
beta-BHC	1.9J	0.59 J	1.4 J	1.8 U	1.9 U	1.8 UJ	1.8 UJ	1.8 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.9 UJ
delta-BHC	0.41 J	0.54 J	0.59 J	1.8 U	1.9 U	1.8 UJ	1.8 UJ	1.8 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.9 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.8 U	1.9 U	1.8 UJ	1.8 UJ	1.8 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.9 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	1.8 U	1.9 U	1.8 UJ	1.8 UJ	1.8 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.9 UJ

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-H											
Station ID	Concentration	Lowest	Highest	AOCHSB010		AOCHSB011	AOCHSB012	AOCHSB013	AOCHSB014	AOCHSB015	AOCHSB016	AOCHSS001	AOCHSS002	AOCHSS003	AOCHSS004
Sample ID	Detected in surface	Detected	Detected	NDE023	NDE024FD1	NDE026	NDE028	NDE030	NDE032	NDE034	NDE037	NDE176	NDE177	NDE178	NDE179
Sample Date	soil at the PI 7 Site	Concentration	Concentration	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00
Chemical Name															
Pesticide (UG_KG)															
4,4'-DDD	ND	0.33 J	40	3.5 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	3.9 UJ	3.5 UJ	4.8 J	3.6 UJ	3.6 UJ	3.7 UJ	3.5 UJ
4,4'-DDE	150	0.16 J	3,990 J	3.5 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	3.9 UJ	3.5 UJ	41 J	3.6 UJ	3.6 UJ	3.7 UJ	3.5 UJ
4,4'-DDT	31	0.26 J	2,190 J	3.5 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	3.9 UJ	3.5 UJ	29 J	3.6 UJ	3.6 UJ	3.7 UJ	3.5 UJ
Aldrin	ND	0.2 J	0.87 J	1.8 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.8 UJ
Dieldrin	ND	0.18 J	3.90	3.5 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	3.9 UJ	3.5 UJ	3.5 UJ	3.6 UJ	3.6 UJ	3.7 UJ	3.5 UJ
Endosulfan I	ND	3.5 J	3.5 J	1.8 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.8 UJ
Endosulfan II	ND	0.65 J	0.65 J	3.5 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	3.9 UJ	3.5 UJ	3.5 UJ	3.6 UJ	3.6 UJ	3.7 UJ	3.5 UJ
Endosulfan sulfate	ND	0.22 J	90 J	3.5 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	3.9 UJ	3.5 UJ	3.5 UJ	3.6 UJ	3.6 UJ	3.7 UJ	3.5 UJ
Endrin	2.4 J	0.22 J	16 JN	3.5 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	3.9 UJ	3.5 UJ	3.5 UJ	3.6 UJ	3.6 UJ	3.7 UJ	3.5 UJ
Endrin aldehyde	ND	0.21 J	11	3.5 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	3.9 UJ	3.5 UJ	3.5 UJ	3.6 UJ	3.6 UJ	3.7 UJ	3.5 UJ
Heptachlor	ND	0.43 J	1.5 J	1.8 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.8 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	1.8 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.8 UJ
Methoxychlor	ND	0.49 J	240 J	18 UJ	20 UJ	19 UJ	19 UJ	19 UJ	20 UJ	18 UJ	18 UJ	18 UJ	18 UJ	19 UJ	18 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	1.8 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.8 UJ
beta-BHC	1.9J	0.59 J	1.4 J	1.8 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.8 UJ
delta-BHC	0.41 J	0.54 J	0.59 J	1.8 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.8 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.8 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.8 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	1.8 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.8 UJ

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-H									
Station ID	Concentration	Lowest	Highest	NDAHSS17	NDAHSS18	NDAHSS19	NDAHSS20	NDAHSS20	NDAHSS21	NDAHSS22	NDAHSS23	NDAHSS24	NDAHSS25
Sample ID	Detected in surface	Detected	Detected	NDAHSS17-R01	NDAHSS18-R01	NDAHSS19-R01	NDAHFD04P-R01	NDAHSS20-R01	NDAHSS21-R01	NDAHSS22-R01	NDAHSS23-R01	NDAHSS24-R01	NDAHSS25-R01
Sample Date	soil at the PI 7 Site	Concentration	Concentration	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03
Chemical Name													
Pesticide (UG_KG)													
4,4'-DDD	ND	0.33 J	40	0.52 J	2.1 J	20 R	6.6 J	3.5 R	3.6 U	10 J	3.6 J	3.6 U	0.62 J
4,4'-DDE	150	0.16 J	3,990 J	40	95 J	23	69 J	3.5 R	1.4 J	190	16 J	5 J	2.5 J
4,4'-DDT	31	0.26 J	2,190 J	18 J	25 J	8.6 J	4.6	3.5 R	3.6 U	9.2 J	8.3 J	5.5 J	1.3 J
Aldrin	ND	0.2 J	0.87 J	2 U	1.8 U	2.1 U	1.8 U	1.8 R	1.9 U	1.8 U	1.8 UJ	1.8 U	1.9 U
Dieldrin	ND	0.18 J	3.90	3.8 U	3.5 U	4.1 U	3.5 U	3.5 R	3.6 U	3.6 U	3.6 UJ	3.6 U	3.6 U
Endosulfan I	ND	3.5 J	3.5 J	2 U	1.8 U	2.1 U	1.8 U	1.8 R	1.9 U	1.8 U	1.8 UJ	1.8 U	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	3.8 U	3.5 U	4.1 U	3.5 U	0.073 R	3.6 U	3.6 U	3.6 UJ	3.6 U	3.6 U
Endosulfan sulfate	ND	0.22 J	90 J	3.8 U	3.5 U	4.1 U	3.5 U	3.5 R	3.6 U	3.6 U	3.6 UJ	3.6 U	3.6 U
Endrin	2.4 J	0.22 J	16 JN	3.8 U	3.5 U	4.1 U	3.5 U	3.5 R	3.6 U	3.6 U	3.6 UJ	3.6 U	3.6 U
Endrin aldehyde	ND	0.21 J	11	3.8 U	3.5 U	4.1 U	3.5 U	3.5 R	3.6 U	3.6 U	3.6 UJ	3.6 U	3.6 U
Heptachlor	ND	0.43 J	1.5 J	2 U	1.8 U	2.1 U	1.8 U	1.8 R	1.9 U	1.8 U	1.8 UJ	1.8 U	1.9 U
Heptachlor epoxide	ND	0.2 J	1.7 J	2 U	1.8 U	2.1 U	1.8 U	1.8 R	1.9 U	1.8 U	1.8 UJ	1.8 U	1.9 U
Methoxychlor	ND	0.49 J	240 J	20 U	18 U	0.74 J	18 U	18 R	19 U	18 U	18 UJ	18 U	19 U
alpha-Chlordane	ND	0.30 J	4.6 J	2 U	1.8 U	2.1 U	1.8 U	1.8 R	1.9 U	1.8 U	1.8 UJ	1.8 U	1.9 U
beta-BHC	1.9J	0.59 J	1.4 J	2 U	1.8 U	2.1 U	1.8 U	1.8 R	1.9 U	1.8 U	1.8 UJ	1.8 U	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	2 UJ	1.8 UJ	2.1 UJ	1.8 U	1.8 R	1.9 U	1.8 U	1.8 UJ	1.8 U	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2 U	1.8 U	2.1 U	1.8 U	1.8 R	1.9 U	1.8 U	1.8 UJ	1.8 U	1.9 U
gamma-Chlordane	1.9 J	0.2 J	270 J	2 U	1.8 U	2.1 U	1.8 U	1.8 R	1.9 U	1.8 U	1.8 UJ	1.8 U	1.9 U

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-H (continued)					W-AOC-I					
Station ID	**Concentration**	**Lowest**	**Highest**	NDAHSS26	NDAHSS27	NDAHSS27	NDAHSS28	NDAHSS29	AOCISB001	AOCISB002	AOCISB003	AOCISB004	AOCISB005	AOCISB006
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDAHSS26-R01	NDAHFD06P-R01	NDAHSS27-R01	NDAHSS28-R01	NDAHSS29-R01	NDE043	NDE045	NDE047	NDE049	NDE051	NDE053
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	11/29/00	11/29/00	11/29/00	11/29/00	11/29/00	11/30/00
Chemical Name														
Pesticide (UG_KG)														
4,4'-DDD	ND	0.33 J	40	2.3 J	3 J	1.9 J	1.1 J	4.4	3.6 U	3.4 U	3.5 U	3.4 U	3.4 U	3.7 U
4,4'-DDE	150	0.16 J	3,990 J	16 J	7.5	8.8 J	92 J	35	3.6 U	3.4 U	3.5 U	3.4 U	3.4 U	3.7 U
4,4'-DDT	31	0.26 J	2,190 J	10 J	2.2 J	11 J	160 J	7.7 J	3.6 U	3.4 U	3.5 U	3.4 U	3.4 U	3.7 U
Aldrin	ND	0.2 J	0.87 J	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U	1.8 U	1.9 U
Dieldrin	ND	0.18 J	3.90	3.8 U	3.6 U	3.6 U	3.7 U	3.5 U	3.6 U	3.4 U	3.5 U	3.4 U	3.4 U	3.7 U
Endosulfan I	ND	3.5 J	3.5 J	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U	1.8 U	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	3.8 U	3.6 U	3.6 U	3.7 U	3.5 U	3.6 U	3.4 U	3.5 U	3.4 U	3.4 U	3.7 U
Endosulfan sulfate	ND	0.22 J	90 J	3.8 U	3.6 U	3.6 U	3.7 U	3.5 U	3.6 U	3.4 U	3.5 U	3.4 U	3.4 U	3.7 U
Endrin	2.4 J	0.22 J	16 JN	3.8 U	3.6 U	3.6 U	3.7 U	3.5 U	3.6 U	3.4 U	3.5 U	3.4 U	3.4 U	3.7 U
Endrin aldehyde	ND	0.21 J	11	3.8 U	3.6 U	3.6 U	3.7 U	3.5 U	3.6 U	3.4 U	3.5 U	3.4 U	3.4 U	3.7 U
Heptachlor	ND	0.43 J	1.5 J	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U	1.8 U	1.9 U
Heptachlor epoxide	ND	0.2 J	1.7 J	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U	1.8 U	1.9 U
Methoxychlor	ND	0.49 J	240 J	19 U	19 U	19 U	19 U	18 U	19 U	17 U	18 U	18 U	18 U	19 U
alpha-Chlordane	ND	0.30 J	4.6 J	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U	1.8 U	1.9 U
beta-BHC	1.9J	0.59 J	1.4 J	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U	1.8 U	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U	1.8 U	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U	1.8 U	1.9 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U	1.8 U	1.9 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-I (continued)		W-AOC-I										
Station ID	**Concentration**	**Lowest**	**Highest**	AOCISB007	AOCISB008	AOCISB009	AOCISB010	AOCISB011		AOCISB012	AOCISB013	AOCISB014	AOCISB015	AOCISB016	AOCISB017	AOCISB018
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDE055	NDE057	NDE059	NDE061	NDE062FD1	NDE064	NDE066	NDE068	NDE070	NDE072	NDE075	NDE077	NDE074FD1
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	12/01/00
Chemical Name																
Pesticide (UG_KG)																
4,4'-DDD	ND	0.33 J	40	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.7 U	3.7 U	3.6 U	3.5 U	3.5 U	3.5 U
4,4'-DDE	150	0.16 J	3,990 J	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.7 U	3.7 U	3.6 U	3.5 U	3.5 U	3.5 U
4,4'-DDT	31	0.26 J	2,190 J	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 UJ	3.7 UJ	3.7 UJ	3.6 UJ	3.5 U	3.5 U	3.5 U
Aldrin	ND	0.2 J	0.87 J	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U
Dieldrin	ND	0.18 J	3.90	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.7 U	3.7 U	3.6 U	3.5 U	3.5 U	3.5 U
Endosulfan I	ND	3.5 J	3.5 J	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U
Endosulfan II	ND	0.65 J	0.65 J	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.7 U	3.7 U	3.6 U	3.5 U	3.5 U	3.5 U
Endosulfan sulfate	ND	0.22 J	90 J	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.7 U	3.7 U	3.6 U	3.5 U	3.5 U	3.5 U
Endrin	2.4 J	0.22 J	16 JN	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.7 U	3.7 U	3.6 U	3.5 U	3.5 U	3.5 U
Endrin aldehyde	ND	0.21 J	11	3.6 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.7 U	3.7 U	3.6 U	3.5 U	3.5 U	3.5 U
Heptachlor	ND	0.43 J	1.5 J	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U
Heptachlor epoxide	ND	0.2 J	1.7 J	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U
Methoxychlor	ND	0.49 J	240 J	19 U	18 U	18 U	18 U	18 U	18 U	18 U	19 U	19 U	18 U	18 U	18 U	18 U
alpha-Chlordane	ND	0.30 J	4.6 J	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U
beta-BHC	1.9J	0.59 J	1.4 J	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U

Notes:
NA - Not analyzed
J - Reported value is estimated

JN - Analyte present at approximate quantity
R - Unreliable result
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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-I											
Station ID	Concentration	Lowest	Highest	AOCISB018	AOCISB019	AOCISB020		AOCISB021	AOCISB022	AOCISB023		AOCISB024	AOCISB025	AOCISB026	
Sample ID	Detected in surface	Detected	Detected	NDE079	NDE081	NDE083	NDE084FD1	NDE086	NDE088	NDE090	NDE091FD1	NDE093	NDE095	NDE097	NDE099FD1
Sample Date	soil at the PI 7 Site	Concentration	Concentration	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00
Chemical Name															
Pesticide (UG_KG)															
4,4'-DDD	ND	0.33 J	40	3.5 U	3.5 UJ	4.1 UJ	4.3 UJ	3.6 UJ	4 UJ	3.7 U	3.8 U	3.4 U	3.3 U	3.3 U	3.3 U
4,4'-DDE	150	0.16 J	3,990 J	3.5 U	3.5 UJ	4.1 UJ	4.3 UJ	3.6 UJ	4 UJ	3.7 U	3.8 U	3.4 U	3.3 U	3.3 U	3.3 U
4,4'-DDT	31	0.26 J	2,190 J	3.5 U	3.5 UJ	4.1 UJ	4.3 UJ	3.6 UJ	4 UJ	3.7 U	3.8 U	3.4 U	3.3 UJ	3.3 UJ	3.3 UJ
Aldrin	ND	0.2 J	0.87 J	1.8 U	1.8 UJ	2.1 UJ	2.2 UJ	1.9 UJ	2 UJ	1.9 U	2 U	1.8 U	1.7 U	1.7 U	1.7 U
Dieldrin	ND	0.18 J	3.90	3.5 U	3.5 UJ	4.1 UJ	4.3 UJ	3.6 UJ	4 UJ	3.7 U	3.8 U	3.4 U	3.3 U	3.3 U	3.3 U
Endosulfan I	ND	3.5 J	3.5 J	1.8 U	1.8 UJ	2.1 UJ	2.2 UJ	1.9 UJ	2 UJ	1.9 U	2 U	1.8 U	1.7 U	1.7 U	1.7 U
Endosulfan II	ND	0.65 J	0.65 J	3.5 U	3.5 UJ	4.1 UJ	4.3 UJ	3.6 UJ	4 UJ	3.7 U	3.8 U	3.4 U	3.3 U	3.3 U	3.3 U
Endosulfan sulfate	ND	0.22 J	90 J	3.5 U	3.5 UJ	4.1 UJ	4.3 UJ	3.6 UJ	4 UJ	3.7 U	3.8 U	3.4 U	3.3 U	3.3 U	3.3 U
Endrin	2.4 J	0.22 J	16 JN	3.5 U	3.5 UJ	4.1 UJ	4.3 UJ	3.6 UJ	4 UJ	3.7 U	3.8 U	3.4 U	3.3 U	3.3 U	3.3 U
Endrin aldehyde	ND	0.21 J	11	3.5 U	3.5 UJ	4.1 UJ	4.3 UJ	3.6 UJ	4 UJ	3.7 U	3.8 U	3.4 U	3.3 U	3.3 U	3.3 U
Heptachlor	ND	0.43 J	1.5 J	1.8 U	1.8 UJ	2.1 UJ	2.2 UJ	1.9 UJ	2 UJ	1.9 U	2 U	1.8 U	1.7 U	1.7 U	1.7 U
Heptachlor epoxide	ND	0.2 J	1.7 J	1.8 U	1.8 UJ	2.1 UJ	2.2 UJ	1.9 UJ	2 UJ	1.9 U	2 U	1.8 U	1.7 U	1.7 U	1.7 U
Methoxychlor	ND	0.49 J	240 J	18 U	18 UJ	21 UJ	22 UJ	19 UJ	20 UJ	19 U	20 U	18 U	17 UJ	17 UJ	17 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	1.8 U	1.8 UJ	2.1 UJ	2.2 UJ	1.9 UJ	2 UJ	1.9 U	2 U	1.8 U	1.7 U	1.7 U	1.7 U
beta-BHC	1.9J	0.59 J	1.4 J	1.8 U	1.8 UJ	2.1 UJ	2.2 UJ	1.9 UJ	2 UJ	1.9 U	2 U	1.8 U	1.7 U	1.7 U	1.7 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.8 U	1.8 UJ	2.1 UJ	2.2 UJ	1.9 UJ	2 UJ	1.9 U	2 U	1.8 U	1.7 U	1.7 U	1.7 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.8 U	1.8 UJ	2.1 UJ	2.2 UJ	1.9 UJ	2 UJ	1.9 U	2 U	1.8 U	1.7 U	1.7 U	1.7 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.8 U	1.8 UJ	2.1 UJ	2.2 UJ	1.9 UJ	2 UJ	1.9 U	2 U	1.8 U	1.7 U	1.7 U	1.7 U

Notes:
NA - Not analyzed
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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-J										W-AOC-L	
Station ID	**Concentration**	**Lowest**	**Highest**	AOCJSB001	AOCJSB002	AOCJSB003	AOCJSB004	AOCJSB005	NDAJSS06	NDAJSS07	NDAJSS08	NDAJSS09	NDAJSS10	AOCLSB001	AOCLSB002
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDE102	NDE104	NDE106	NDE108	NDE110	NDAJSS06-R01	NDAJSS07-R01	NDAJSS08-R01	NDAJSS09-R01	NDAJSS10-R01	NDE121	NDE123
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	12/08/00	12/08/00	12/08/00	12/08/00	12/08/00	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03	11/29/00	11/29/00
Chemical Name															
Pesticide (UG_KG)															
4,4'-DDD	ND	0.33 J	40	3.4 UJ	3.4 UJ	3.9 UJ	4.9 UJ	4.1 UJ	4 U	3.9 U	3.9 UJ	4.2 U	3.8 UJ	3.8 U	3.8 U
4,4'-DDE	150	0.16 J	3,990 J	3.4 UJ	3.4 UJ	3.9 UJ	4.9 UJ	4.1 UJ	4 U	3.9 U	3.9 UJ	0.22 J	3.8 UJ	3.8 U	1.6 J
4,4'-DDT	31	0.26 J	2,190 J	3.4 UJ	3.4 UJ	3.9 UJ	4.9 UJ	4.1 UJ	4 U	0.26 J	3.9 UJ	1.1 J	3.8 UJ	3.8 U	9.1
Aldrin	ND	0.2 J	0.87 J	1.8 UJ	1.8 UJ	0.73 J	2.5 UJ	2.1 UJ	2.1 U	2 U	2 UJ	2.1 U	2 UJ	2 U	1.9 U
Dieldrin	ND	0.18 J	3.90	3.4 UJ	3.4 UJ	3.9 UJ	4.9 UJ	4.1 UJ	4 U	0.18 J	3.9 UJ	4.2 U	3.8 UJ	3.8 U	3.8 U
Endosulfan I	ND	3.5 J	3.5 J	1.8 UJ	1.8 UJ	2 UJ	2.5 UJ	2.1 UJ	2.1 U	2 U	2 UJ	2.1 U	2 UJ	2 U	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	3.4 UJ	3.4 UJ	3.9 UJ	4.9 UJ	4.1 UJ	4 U	3.9 U	3.9 UJ	4.2 U	3.8 UJ	3.8 U	3.8 U
Endosulfan sulfate	ND	0.22 J	90 J	3.4 UJ	3.4 UJ	3.9 UJ	4.9 UJ	4.1 UJ	4 U	3.9 U	3.9 UJ	4.2 U	3.8 UJ	3.8 U	3.8 U
Endrin	2.4 J	0.22 J	16 JN	3.4 UJ	3.4 UJ	3.9 UJ	4.9 UJ	4.1 UJ	4 U	3.9 U	3.9 UJ	4.2 U	3.8 UJ	3.8 U	3.8 U
Endrin aldehyde	ND	0.21 J	11	3.4 UJ	3.4 UJ	3.9 UJ	4.9 UJ	4.1 UJ	4 U	3.9 U	3.9 UJ	4.2 U	3.8 UJ	3.8 U	3.8 U
Heptachlor	ND	0.43 J	1.5 J	1.8 UJ	1.8 UJ	2 UJ	2.5 UJ	2.1 UJ	2.1 U	2 U	2 UJ	2.1 U	2 UJ	2 U	1.9 U
Heptachlor epoxide	ND	0.2 J	1.7 J	1.8 UJ	1.8 UJ	2 UJ	2.5 UJ	2.1 UJ	2.1 U	2 U	2 UJ	2.1 U	2 UJ	2 U	1.9 U
Methoxychlor	ND	0.49 J	240 J	18 UJ	18 UJ	20 UJ	25 UJ	21 UJ	21 U	20 U	20 UJ	21 U	20 UJ	20 U	19 U
alpha-Chlordane	ND	0.30 J	4.6 J	1.8 UJ	1.8 UJ	2 UJ	2.5 UJ	2.1 UJ	2.1 U	2 U	2 UJ	2.1 U	2 UJ	2 U	1.9 U
beta-BHC	1.9J	0.59 J	1.4 J	1.8 UJ	1.8 UJ	2 UJ	2.5 UJ	2.1 UJ	2.1 U	2 U	2 UJ	2.1 U	2 UJ	2 U	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.8 UJ	1.8 UJ	2 UJ	2.5 UJ	2.1 UJ	2.1 U	2 U	2 UJ	2.1 U	2 UJ	2 U	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.8 UJ	1.8 UJ	2 UJ	2.5 UJ	2.1 UJ	2.1 UJ	2 U	2 UJ	2.1 U	2 UJ	2 U	1.9 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.8 UJ	1.8 UJ	2 UJ	2.5 UJ	2.1 UJ	2.1 U	2 U	2 UJ	2.1 U	2 UJ	2 U	1.9 U

Notes:
NA - Not analyzed
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JN - Analyte present at approximate quantity
R - Unreliable result
U - Analyte not detected
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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-L		
Station ID	**Concentration**	**Lowest**	**Highest**	AOCLSB003	AOCLSB004	
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDE125	NDE127	NDE128FD1
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	11/29/00	11/29/00	11/29/00
Chemical Name						
Pesticide (UG_KG)						
4,4'-DDD	ND	0.33 J	40	3.8 U	3.7 U	3.7 U
4,4'-DDE	150	0.16 J	3,990 J	3.8 U	2.3 J	0.74 J
4,4'-DDT	31	0.26 J	2,190 J	3.8 U	1.2 J	0.59 J
Aldrin	ND	0.2 J	0.87 J	2 U	1.9 U	1.9 U
Dieldrin	ND	0.18 J	3.90	3.8 U	3.7 U	3.7 U
Endosulfan I	ND	3.5 J	3.5 J	2 U	1.9 U	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	3.8 U	3.7 U	3.7 U
Endosulfan sulfate	ND	0.22 J	90 J	3.8 U	3.7 U	3.7 U
Endrin	2.4 J	0.22 J	16 JN	3.8 U	3.7 U	3.7 U
Endrin aldehyde	ND	0.21 J	11	3.8 U	3.7 U	3.7 U
Heptachlor	ND	0.43 J	1.5 J	2 U	1.9 U	1.9 U
Heptachlor epoxide	ND	0.2 J	1.7 J	2 U	1.9 U	1.9 U
Methoxychlor	ND	0.49 J	240 J	20 U	19 U	19 U
alpha-Chlordane	ND	0.30 J	4.6 J	2 U	1.9 U	1.9 U
beta-BHC	1.9J	0.59 J	1.4 J	2 U	1.9 U	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	2 U	1.9 U	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2 U	1.9 U	1.9 U
gamma-Chlordane	1.9 J	0.2 J	270 J	2 U	1.9 U	1.9 U

Notes:
NA - Not analyzed
J - Reported value is estimated

JN - Analyte present at approximate quantity
R - Unreliable result
U - Analyte not detected
UJ - Analyte not detected; quantitation limit may be imprecise
Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-R						
Station ID	**Concentration**	**Lowest**	**Highest**	AOCRSS001	AOCRSS002	AOCRSS003	AOCRSS004	AOCRSS005	AOCRSS006	AOCRSS007
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDE133	NDE134	NDE135	NDE136	NDE137	NDE138	NDE139
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.33 J	40	12 J	4 U	4 U	3.7 U	7.4 J	3.7 U	4 U
4,4'-DDE	150	0.16 J	3,990 J	46	0.66 J	4 U	1.5 J	43	3.7 U	0.85 J
4,4'-DDT	31	0.26 J	2,190 J	34 J	4 UJ	4 UJ	0.7 J	19 J	3.7 UJ	4 UJ
Aldrin	ND	0.2 J	0.87 J	1.9 U	2.1 U	2.1 U	1.9 U	2 U	1.9 U	2.1 U
Dieldrin	ND	0.18 J	3.90	3.7 U	4 U	4 U	3.7 U	3.8 U	3.7 U	4 U
Endosulfan I	ND	3.5 J	3.5 J	1.9 U	2.1 U	2.1 U	1.9 U	2 U	1.9 U	2.1 U
Endosulfan II	ND	0.65 J	0.65 J	3.7 U	4 U	4 U	3.7 U	3.8 U	3.7 U	4 U
Endosulfan sulfate	ND	0.22 J	90 J	3.7 U	4 U	4 U	3.7 U	3.8 U	3.7 U	4 U
Endrin	2.4 J	0.22 J	16 JN	3.7 U	4 U	4 U	3.7 U	3.8 U	3.7 U	4 U
Endrin aldehyde	ND	0.21 J	11	3.7 U	4 U	4 U	3.7 U	3.8 U	3.7 U	4 U
Heptachlor	ND	0.43 J	1.5 J	1.9 U	2.1 U	2.1 U	1.9 U	2 U	1.9 U	2.1 U
Heptachlor epoxide	ND	0.2 J	1.7 J	1.9 U	2.1 U	2.1 U	1.9 U	2 U	1.9 U	2.1 U
Methoxychlor	ND	0.49 J	240 J	19 UJ	21 UJ	21 UJ	19 UJ	20 UJ	19 UJ	21 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	1.9 U	2.1 U	2.1 U	1.9 U	2 U	1.9 U	2.1 U
beta-BHC	1.9J	0.59 J	1.4 J	1.9 U	2.1 U	2.1 U	1.9 U	2 U	1.9 U	2.1 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.9 U	2.1 U	2.1 U	1.9 U	2 U	1.9 U	2.1 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.9 U	2.1 U	2.1 U	1.9 U	2 U	1.9 U	2.1 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.9 U	2.1 U	2.1 U	1.9 U	2 U	1.9 U	2.1 U

Notes:

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-R (continued)							
Station ID	Concentration	Lowest	Highest	AOCRSS008	AOCRSS009	AOCRSS010		AOCRSS011	AOCRSS012	AOCRSS013	AOCRSS014
Sample ID	Detected in surface	Detected	Detected	NDE140	NDE141	NDE142	NDE143FD1	NDE144	NDE145	NDE146	NDE147
Sample Date	soil at the PI 7 Site	Concentration	Concentration	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00	11/28/00
Chemical Name											
Pesticide (UG_KG)											
4,4'-DDD	ND	0.33 J	40	0.8 J	2.1 J	2.2 J	2.6 J	3.5 J	14 J	6.4 J	3.8 U
4,4'-DDE	150	0.16 J	3,990 J	1.1 J	22	49	52	50	83	48	2.4 J
4,4'-DDT	31	0.26 J	2,190 J	0.5 J	7.6 J	9.2 J	11 J	22 J	48 J	44 J	3.8 UJ
Aldrin	ND	0.2 J	0.87 J	2 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	2 U
Dieldrin	ND	0.18 J	3.90	3.8 U	3.8 U	3.6 U	3.7 U	3.6 U	3.5 U	3.7 U	3.8 U
Endosulfan I	ND	3.5 J	3.5 J	2 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	2 U
Endosulfan II	ND	0.65 J	0.65 J	3.8 U	3.8 U	3.6 U	3.7 U	3.6 U	3.5 U	3.7 U	3.8 U
Endosulfan sulfate	ND	0.22 J	90 J	3.8 U	3.8 U	3.6 U	3.7 U	3.6 U	3.5 U	3.7 U	3.8 U
Endrin	2.4 J	0.22 J	16 JN	3.8 U	3.8 U	3.6 U	3.7 U	3.6 U	3.5 U	3.7 U	3.8 U
Endrin aldehyde	ND	0.21 J	11	3.8 U	3.8 U	3.6 U	3.7 U	3.6 U	3.5 U	3.7 U	3.8 U
Heptachlor	ND	0.43 J	1.5 J	2 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	2 U
Heptachlor epoxide	ND	0.2 J	1.7 J	2 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	2 U
Methoxychlor	ND	0.49 J	240 J	20 UJ	20 UJ	19 UJ	19 UJ	19 UJ	18 UJ	19 UJ	20 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	2 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	2 U
beta-BHC	1.9J	0.59 J	1.4 J	2 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	2 U
delta-BHC	0.41 J	0.54 J	0.59 J	2 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	2 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	2 U
gamma-Chlordane	1.9 J	0.2 J	270 J	2 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U	2 U

Notes:

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-R (continued)								
Station ID	Concentration	Lowest	Highest	AOCRSS015	AOCRSS016	AOCRSS017	AOCRSS018	AOCRSS019	AOCRSS020		AOCRSS021	AOCRSS022
Sample ID	Detected in surface	Detected	Detected	NDE148	NDE149	NDE150	NDE151	NDE152	NDE153	NDE154FD1	NDE155	NDE156
Sample Date	soil at the PI 7 Site	Concentration	Concentration	11/28/00	11/28/00	11/28/00	11/29/00	11/29/00	11/29/00	11/29/00	11/29/00	11/29/00
Chemical Name												
Pesticide (UG_KG)												
4,4'-DDD	ND	0.33 J	40	9.4 J	4 U	3.8 U	4 J	3.7 U	3.7 U	3.7 U	18	3.7 U
4,4'-DDE	150	0.16 J	3,990 J	57	54	10	70	18	48 J	89 J	328	45
4,4'-DDT	31	0.26 J	2,190 J	32	19 J	6.6 J	34	12	32 J	27	111 J	46
Aldrin	ND	0.2 J	0.87 J	2.1 U	2.1 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Dieldrin	ND	0.18 J	3.90	4.1 U	4 U	3.8 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
Endosulfan I	ND	3.5 J	3.5 J	2.1 U	2.1 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	4.1 U	4 U	3.8 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
Endosulfan sulfate	ND	0.22 J	90 J	4.1 U	4 U	3.8 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
Endrin	2.4 J	0.22 J	16 JN	4.1 U	4 U	3.8 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
Endrin aldehyde	ND	0.21 J	11	4.1 U	4 U	3.8 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
Heptachlor	ND	0.43 J	1.5 J	2.1 U	2.1 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Heptachlor epoxide	ND	0.2 J	1.7 J	2.1 U	2.1 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Methoxychlor	ND	0.49 J	240 J	21 UJ	21 UJ	19 UJ	19 U	19 U	19 U	19 U	19 U	19 U
alpha-Chlordane	ND	0.30 J	4.6 J	2.1 U	2.1 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
beta-BHC	1.9J	0.59 J	1.4 J	2.1 U	2.1 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	2.1 U	2.1 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2.1 U	2.1 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
gamma-Chlordane	1.9 J	0.2 J	270 J	2.1 U	2.1 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-R (continued)						
Station ID	**Concentration**	**Lowest**	**Highest**	AOCRSS023	AOCRSS024	AOCRSS025	AOCRSS026	AOCRSS027	AOCRSS028	AOCRSS029
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDE157	NDE158	NDE159	NDE160	NDE161	NDE162	NDE163
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	11/29/00	11/29/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.33 J	40	3.5 U	3.7 U	3.6 U	3.7 U	7.7 UJ	3.5 UJ	4.2 U
4,4'-DDE	150	0.16 J	3,990 J	161	3.7 U	3.6 U	19 J	9.4 J	1 J	4.2 U
4,4'-DDT	31	0.26 J	2,190 J	42	3.7 U	3.6 U	8.9 J	8.7 J	3.5 J	4.2 U
Aldrin	ND	0.2 J	0.87 J	1.8 U	1.9 U	1.8 U	1.9 U	3.9 UJ	1.8 UJ	2.1 U
Dieldrin	ND	0.18 J	3.90	3.5 U	3.7 U	3.6 U	3.7 U	7.7 UJ	3.5 UJ	4.2 U
Endosulfan I	ND	3.5 J	3.5 J	1.8 U	1.9 U	1.8 U	1.9 U	3.9 UJ	1.8 UJ	2.1 U
Endosulfan II	ND	0.65 J	0.65 J	3.5 U	3.7 U	3.6 U	3.7 U	7.7 UJ	3.5 UJ	4.2 U
Endosulfan sulfate	ND	0.22 J	90 J	3.5 U	3.7 U	3.6 U	3.7 U	7.7 UJ	3.5 UJ	4.2 U
Endrin	2.4 J	0.22 J	16 JN	3.5 U	3.7 U	3.6 U	3.7 U	7.7 UJ	3.5 UJ	4.2 U
Endrin aldehyde	ND	0.21 J	11	3.5 U	3.7 U	3.6 U	3.7 U	7.7 UJ	3.5 UJ	4.2 U
Heptachlor	ND	0.43 J	1.5 J	1.8 U	1.9 U	1.8 U	1.9 U	3.9 UJ	1.8 UJ	2.1 U
Heptachlor epoxide	ND	0.2 J	1.7 J	1.8 U	1.9 U	1.8 U	1.9 U	3.9 UJ	1.8 UJ	2.1 U
Methoxychlor	ND	0.49 J	240 J	18 U	19 U	18 U	19 U	39 UJ	18 UJ	21 U
alpha-Chlordane	ND	0.30 J	4.6 J	1.8 U	1.9 U	1.8 U	1.9 U	3.9 UJ	1.8 UJ	2.1 U
beta-BHC	1.9J	0.59 J	1.4 J	1.8 U	1.9 U	1.8 U	1.9 U	3.9 UJ	1.8 UJ	2.1 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.8 U	1.9 U	1.8 U	1.9 U	3.9 UJ	1.8 UJ	2.1 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.8 U	1.9 U	1.8 U	1.9 U	3.9 UJ	1.8 UJ	2.1 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.8 U	1.9 U	1.8 U	1.9 U	3.9 UJ	1.8 UJ	2.1 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-R (continued)							
Station ID	Concentration	Lowest	Highest	AOCRSS030		AOCRSS031	AOCRSS032	AOCRSS033	AOCRSS034	WAR-SO35	
Sample ID	Detected in surface	Detected	Detected	NDE164	NDE165FD1	NDE166	NDE167	NDE168	NDE169	WAR-SS35-0002	WAR-SS35P-0002
Sample Date	soil at the PI 7 Site	Concentration	Concentration	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00	03/03/06	03/03/06
Chemical Name											
Pesticide (UG_KG)											
4,4'-DDD	ND	0.33 J	40	3.6 UJ	3.8 UJ	4 UJ	3.9 UJ	3.6 UJ	3.9 UJ	4 U	3.8 U
4,4'-DDE	150	0.16 J	3,990 J	83 J	85 J	76 J	157 J	4.9 J	6 J	4 U	3.8 U
4,4'-DDT	31	0.26 J	2,190 J	82 J	61 J	89 J	54 J	3.6 J	3.9 UJ	4 U	3.8 U
Aldrin	ND	0.2 J	0.87 J	1.9 UJ	2 UJ	2.1 UJ	2 UJ	1.8 UJ	2 UJ	2.1 U	1.9 U
Dieldrin	ND	0.18 J	3.90	3.6 UJ	3.8 UJ	4 UJ	3.9 UJ	3.6 UJ	3.9 UJ	4 U	3.8 U
Endosulfan I	ND	3.5 J	3.5 J	1.9 UJ	2 UJ	2.1 UJ	2 UJ	1.8 UJ	2 UJ	2.1 U	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	3.6 UJ	3.8 UJ	4 UJ	3.9 UJ	3.6 UJ	3.9 UJ	4 U	3.8 U
Endosulfan sulfate	ND	0.22 J	90 J	3.6 UJ	3.8 UJ	4 UJ	3.9 UJ	3.6 UJ	3.9 UJ	4 U	3.8 U
Endrin	2.4 J	0.22 J	16 JN	3.6 UJ	3.8 UJ	4 UJ	3.9 UJ	3.6 UJ	3.9 UJ	4 U	2.5 J
Endrin aldehyde	ND	0.21 J	11	3.6 UJ	3.8 UJ	4 UJ	3.9 UJ	3.6 UJ	3.9 UJ	4 U	3.8 U
Heptachlor	ND	0.43 J	1.5 J	1.9 UJ	2 UJ	2.1 UJ	2 UJ	1.8 UJ	2 UJ	2.1 U	1.9 U
Heptachlor epoxide	ND	0.2 J	1.7 J	1.9 UJ	2 UJ	2.1 UJ	2 UJ	1.8 UJ	2 UJ	2.1 U	1.9 U
Methoxychlor	ND	0.49 J	240 J	19 UJ	20 UJ	21 UJ	20 UJ	18 UJ	20 UJ	21 U	19 U
alpha-Chlordane	ND	0.30 J	4.6 J	1.9 UJ	2 UJ	2.1 UJ	2 UJ	1.8 UJ	2 UJ	2.1 U	1.9 U
beta-BHC	1.9J	0.59 J	1.4 J	1.9 UJ	2 UJ	2.1 UJ	2 UJ	1.8 UJ	2 UJ	2.1 U	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.9 UJ	2 UJ	2.1 UJ	2 UJ	1.8 UJ	2 UJ	2.1 U	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.9 UJ	2 UJ	2.1 UJ	2 UJ	1.8 UJ	2 UJ	2.1 U	1.9 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.9 UJ	2 UJ	2.1 UJ	2 UJ	1.8 UJ	2 UJ	2.1 U	1.9 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-R (continued)						
Station ID	Concentration	Lowest	Highest	WAR-SO36	WAR-SO37	WAR-SO38	WAR-SO39	WAR-SO40	WAR-SO41	WAR-SO42
Sample ID	Detected in surface	Detected	Detected	WAR-SS36-0002	WAR-SS37-0002	WAR-SS38-0002	WAR-SS39-0002	WAR-SS40-0002	WAR-SS41-0002	WAR-SS42-0002
Sample Date	soil at the PI 7 Site	Concentration	Concentration	03/03/06	03/03/06	12/08/05	12/08/05	12/08/05	12/07/05	12/07/05
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.33 J	40	4 JN	7.3	7.8	40	6.2 U	3.7 U	4 U
4,4'-DDE	150	0.16 J	3,990 J	13	8 J	180	230	98 JN	13	4 U
4,4'-DDT	31	0.26 J	2,190 J	8.6 J	51 J	110	180	200	8	4 U
Aldrin	ND	0.2 J	0.87 J	2 U	1.9 U	1.9 U	1.9 U	3.2 U	1.9 U	2.1 U
Dieldrin	ND	0.18 J	3.90	3.9 U	3.8 U	3.7 U	3.8 U	6.2 U	3.7 U	4 U
Endosulfan I	ND	3.5 J	3.5 J	2 U	1.9 U	1.9 U	1.9 U	3.2 U	1.9 U	2.1 U
Endosulfan II	ND	0.65 J	0.65 J	3.9 U	3.8 U	3.7 U	3.8 U	6.2 U	3.7 U	4 U
Endosulfan sulfate	ND	0.22 J	90 J	3.9 U	3.8 U	63 R	61 R	90 JN	3.7 U	4 U
Endrin	2.4 J	0.22 J	16 JN	3.9 U	3.8 U	26 R	28 R	16 JN	3.7 U	4 U
Endrin aldehyde	ND	0.21 J	11	12 R	3.8 U	3.7 U	3.8 U	6.2 U	3.7 U	4 U
Heptachlor	ND	0.43 J	1.5 J	2 U	1.9 U	1.9 U	1.9 U	3.2 U	1.9 U	2.1 U
Heptachlor epoxide	ND	0.2 J	1.7 J	2 U	1.9 U	1.9 U	1.9 U	3.2 U	1.9 U	2.1 U
Methoxychlor	ND	0.49 J	240 J	230 JN	210 R	140 R	170 R	240 J	19 U	21 U
alpha-Chlordane	ND	0.30 J	4.6 J	2 U	1.9 U	1.9 U	1.9 U	3.2 U	1.9 U	2.1 U
beta-BHC	1.9J	0.59 J	1.4 J	3.2 R	2.7 R	3.8 R	6.8 R	3.2 U	1.8 U	2.1 U
delta-BHC	0.41 J	0.54 J	0.59 J	2 U	1.9 U	1.9 U	1.9 U	3.2 U	1.9 U	2.1 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2 U	1.9 U	1.9 U	1.9 U	3.2 U	1.9 U	2.1 U
gamma-Chlordane	1.9 J	0.2 J	270 J	2 U	1.9 U	19 U	270	270 J	1.9 U	2.1 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-R (continued)						
Station ID	Concentration	Lowest	Highest	WAR-SO43	WAR-SO44	WAR-SO45		WAR-SO46	WAR-SO47	WAR-SO48
Sample ID	Detected in surface	Detected	Detected	WAR-SS43-0002	WAR-SS44-0002	WAR-SS45-0002	WAR-SS45P-0002	WAR-SS46-0002	WAR-SS47-0002	WAR-SS48-0002
Sample Date	soil at the PI 7 Site	Concentration	Concentration	12/05/05	12/07/05	12/07/05	12/07/05	12/15/05	12/16/05	12/15/05
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.33 J	40	2.6 J	3.9 U	3.6 U	3.6 U	3.6 U	4.9	3.8 U
4,4'-DDE	150	0.16 J	3,990 J	84	1.9 J	8 J	6.8	34	6.6	21
4,4'-DDT	31	0.26 J	2,190 J	76	3.9 U	3.6 U	2.3 J	24 J	4.6	8.8
Aldrin	ND	0.2 J	0.87 J	1.9 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U
Dieldrin	ND	0.18 J	3.90	3.6 U	3.9 U	3.6 U	3.6 U	3.6 U	3.5 U	3.8 U
Endosulfan I	ND	3.5 J	3.5 J	1.9 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	3.6 U	3.9 U	3.6 U	3.6 U	3.6 U	3.5 U	3.8 U
Endosulfan sulfate	ND	0.22 J	90 J	3.6 U	3.9 U	3.6 U	3.6 U	3.6 U	3.5 U	3.8 U
Endrin	2.4 J	0.22 J	16 JN	3.9 R	3.9 U	3.6 U	3.6 U	3.6 U	3.5 U	3.8 U
Endrin aldehyde	ND	0.21 J	11	3.6 U	3.9 U	3.6 U	3.6 U	3.6 U	3.5 U	3.8 U
Heptachlor	ND	0.43 J	1.5 J	1.9 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U
Heptachlor epoxide	ND	0.2 J	1.7 J	1.9 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U
Methoxychlor	ND	0.49 J	240 J	19 U	20 U	19 U	19 U	19 U	18 U	19 U
alpha-Chlordane	ND	0.30 J	4.6 J	1.9 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U
beta-BHC	1.9J	0.59 J	1.4 J	1.9 U	2 U	1.9 U	1.9 U	0.64 J	1.8 U	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.9 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.9 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.9 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.9 U	2 U	1.9 U	0.38 J	1.9 U	1.8 U	1.9 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-R (continued)					
Station ID	Concentration	Lowest	Highest	WAR-SO49	WAR-SO50	WAR-SO51	WAR-SO52	WAR-SO53	WAR-SO54
Sample ID	Detected in surface	Detected	Detected	WAR-SS49-0002	WAR-SS50-0002	WAR-SS51-0002	WAR-SS52-0002	WAR-SS53-0002	WAR-SS54-0002
Sample Date	soil at the PI 7 Site	Concentration	Concentration	12/15/05	12/15/05	12/15/05	12/15/05	12/15/05	12/16/05
Chemical Name									
Pesticide (UG_KG)									
4,4'-DDD	ND	0.33 J	40	3.8 U	3.7 U	3.7 U	3.8 U	3.8 U	3.6 U
4,4'-DDE	150	0.16 J	3,990 J	15	7.2	6.4	14	14	13
4,4'-DDT	31	0.26 J	2,190 J	3.9	5.5	3.8	11	5.7	4.7
Aldrin	ND	0.2 J	0.87 J	1.9 U	1.9 U	1.9 U	2 U	2 U	1.9 U
Dieldrin	ND	0.18 J	3.90	3.8 U	3.7 U	3.7 U	3.8 U	3.8 U	3.6 U
Endosulfan I	ND	3.5 J	3.5 J	1.9 U	1.9 U	1.9 U	2 U	2 U	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	3.8 U	3.7 U	3.7 U	3.8 U	3.8 U	3.6 U
Endosulfan sulfate	ND	0.22 J	90 J	3.8 U	3.7 U	3.7 U	3.8 U	3.8 U	3.6 U
Endrin	2.4 J	0.22 J	16 JN	3.8 U	3.7 U	3.7 U	3.8 U	3.8 U	3.6 U
Endrin aldehyde	ND	0.21 J	11	3.8 U	3.7 U	3.7 U	3.8 U	3.8 U	3.6 U
Heptachlor	ND	0.43 J	1.5 J	1.9 U	1.9 U	1.9 U	2 U	2 U	1.9 U
Heptachlor epoxide	ND	0.2 J	1.7 J	1.9 U	1.9 U	1.9 U	2 U	2 U	1.9 U
Methoxychlor	ND	0.49 J	240 J	19 U	19 U	19 U	20 U	20 U	19 U
alpha-Chlordane	ND	0.30 J	4.6 J	1.9 U	1.9 U	1.9 U	2 U	2 U	1.9 U
beta-BHC	1.9J	0.59 J	1.4 J	1.9 U	1.9 U	1.9 U	2 U	2 U	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.9 U	1.9 U	1.9 U	2 U	2 U	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.9 U	1.9 U	1.9 U	2 U	2 U	1.9 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.9 U	1.9 U	1.9 U	0.51 J	2 U	1.9 U

Notes:

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-R (continued)						
Station ID	Concentration	Lowest	Highest	WAR-SO55		WAR-SO56	WAR-SO57	WAR-SO58	WAR-SO59	WAR-SO60
Sample ID	Detected in surface	Detected	Detected	WAR-SS55-0002	WAR-SS55P-0002	WAR-SS56-0002	WAR-SS57-0002	WAR-SS58-0002	WAR-SS59-0002	WAR-SS60-0002
Sample Date	soil at the PI 7 Site	Concentration	Concentration	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05	12/15/05
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.33 J	40	3.8 U	3.9 U	3.6 U	3.9 U	2.1 J	4 U	3.9 U
4,4'-DDE	150	0.16 J	3,990 J	4.5	1.8 J	3.6 U	7.8	4.2 J	4 U	1.7 J
4,4'-DDT	31	0.26 J	2,190 J	2.9 J	3.9 U	3.6 U	6.4	4.2 U	4 U	5.2
Aldrin	ND	0.2 J	0.87 J	2 U	2 U	1.8 U	2 U	2.2 U	2.1 U	2 U
Dieldrin	ND	0.18 J	3.90	3.8 U	3.9 U	3.6 U	3.9 U	4.2 U	4 U	3.9 U
Endosulfan I	ND	3.5 J	3.5 J	2 U	2 U	1.8 U	2 U	2.2 U	2.1 U	2 U
Endosulfan II	ND	0.65 J	0.65 J	3.8 U	3.9 U	3.6 U	3.9 U	4.2 U	4 U	3.9 U
Endosulfan sulfate	ND	0.22 J	90 J	3.8 U	3.9 U	3.6 U	3.9 U	4.2 U	4 U	3.9 U
Endrin	2.4 J	0.22 J	16 JN	3.8 U	3.9 U	3.6 U	3.9 U	4.2 U	4 U	3.9 U
Endrin aldehyde	ND	0.21 J	11	3.8 U	3.9 U	3.6 U	3.9 U	4.2 U	4 U	3.9 U
Heptachlor	ND	0.43 J	1.5 J	2 U	2 U	1.8 U	2 U	2.2 U	2.1 U	2 U
Heptachlor epoxide	ND	0.2 J	1.7 J	2 U	2 U	1.8 U	2 U	2.2 U	2.1 U	2 U
Methoxychlor	ND	0.49 J	240 J	20 U	20 U	18 U	20 U	22 U	21 U	20 U
alpha-Chlordane	ND	0.30 J	4.6 J	2 U	2 U	3.3	2 U	2.2 U	2.1 U	2 U
beta-BHC	1.9J	0.59 J	1.4 J	2 U	2 U	1.8 U	0.59 J	2.2 U	2.1 U	2 U
delta-BHC	0.41 J	0.54 J	0.59 J	2 U	2 U	1.8 U	2 U	2.2 U	2.1 U	2 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2 U	2 U	1.8 U	2 U	2.2 U	2.1 U	2 U
gamma-Chlordane	1.9 J	0.2 J	270 J	2 U	2 U	1.8 U	2 U	2.2 U	2.1 U	2 U

Notes:

NA - Not analyzed
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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-R (continued)			W-SWMU-10				
Station ID	Concentration	Lowest	Highest	WAR-SO61	WAR-SO62	WAR-SO63	W10-SB01	W10-SB02		W10-SB03	W10-SB04
Sample ID	Detected in surface	Detected	Detected	WAR-SS61-0002	WAR-SS62-0002	WAR-SS63-0002	NDA125	NDA127	NDA128FD1	NDA131	NDA133
Sample Date	soil at the PI 7 Site	Concentration	Concentration	12/15/05	12/15/05	12/15/05	04/04/00	04/04/00	04/04/00	04/04/00	04/04/00
Chemical Name											
Pesticide (UG_KG)											
4,4'-DDD	ND	0.33 J	40	4 U	3.8 U	4.1 U	3.9 U	3.6 U	4.2 U	3.8 U	3.9 U
4,4'-DDE	150	0.16 J	3,990 J	4 U	3.8 U	4.1 U	190	2.7 J	3.8 J	16	13
4,4'-DDT	31	0.26 J	2,190 J	4 U	3.8 U	4.1 U	125 J	4.4	4.2	10 J	9.4 J
Aldrin	ND	0.2 J	0.87 J	2 U	2 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	2 U
Dieldrin	ND	0.18 J	3.90	4 U	3.8 U	4.1 U	3.9 U	3.6 U	4.2 U	3.8 U	3.9 U
Endosulfan I	ND	3.5 J	3.5 J	2 U	2 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	2 U
Endosulfan II	ND	0.65 J	0.65 J	4 U	3.8 U	4.1 U	3.9 U	3.6 U	4.2 U	3.8 U	3.9 U
Endosulfan sulfate	ND	0.22 J	90 J	4 U	3.8 U	4.1 U	3.9 U	3.6 U	4.2 U	3.8 U	3.9 U
Endrin	2.4 J	0.22 J	16 JN	4 U	3.8 U	4.1 U	3.9 U	3.6 U	4.2 U	3.8 U	3.9 U
Endrin aldehyde	ND	0.21 J	11	4 U	3.8 U	4.1 U	3.9 U	3.6 U	4.2 U	3.8 U	3.9 U
Heptachlor	ND	0.43 J	1.5 J	2 U	2 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	2 U
Heptachlor epoxide	ND	0.2 J	1.7 J	2 U	2 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	2 U
Methoxychlor	ND	0.49 J	240 J	20 U	20 U	21 U	20 UJ	19 UJ	21 UJ	19 UJ	20 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	2 U	2 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	2 U
beta-BHC	1.9J	0.59 J	1.4 J	2 U	2 U	0.79 J	2 U	1.9 U	2.1 U	1.9 U	2 U
delta-BHC	0.41 J	0.54 J	0.59 J	2 U	2 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	2 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2 U	2 U	2.1 U	2 UJ	1.9 UJ	2.1 UJ	1.9 UJ	2 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	2 U	2 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	2 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-SWMU-10 (continued)					
Station ID	**Concentration**	**Lowest**	**Highest**	W10-SB05	W10-SB06	W10-SB07	W10-SB08	W10-SB09	W10-SB10
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDA135	NDA137	NDA139	NDA141	NDA143	NDA145
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/04/00	04/04/00	04/04/00	04/04/00	04/04/00	04/04/00
Chemical Name									
Pesticide (UG_KG)									
4,4'-DDD	ND	0.33 J	40	0.77 J	0.8 J	0.43 J	4.2 U	3.4 U	3.7 U
4,4'-DDE	150	0.16 J	3,990 J	50	55	10	1.2 J	14	4.9
4,4'-DDT	31	0.26 J	2,190 J	44	26	5.7 J	0.82 J	7.1 J	4.9
Aldrin	ND	0.2 J	0.87 J	2.1 U	1.8 U	1.8 U	2.1 U	1.7 U	1.9 U
Dieldrin	ND	0.18 J	3.90	4.1 U	3.5 U	3.5 U	4.2 U	3.4 U	3.7 U
Endosulfan I	ND	3.5 J	3.5 J	2.1 U	1.8 U	1.8 U	2.1 U	1.7 U	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	4.1 U	3.5 U	3.5 U	4.2 U	3.4 U	3.7 U
Endosulfan sulfate	ND	0.22 J	90 J	4.1 U	3.5 U	3.5 U	4.2 U	3.4 U	3.7 U
Endrin	2.4 J	0.22 J	16 JN	4.1 U	3.5 U	3.5 U	4.2 U	3.4 U	3.7 U
Endrin aldehyde	ND	0.21 J	11	4.1 U	3.5 U	3.5 U	4.2 U	3.4 U	3.7 U
Heptachlor	ND	0.43 J	1.5 J	2.1 U	1.8 U	1.8 U	2.1 U	1.7 U	1.9 U
Heptachlor epoxide	ND	0.2 J	1.7 J	2.1 U	1.8 U	1.8 U	2.1 U	1.7 U	1.9 U
Methoxychlor	ND	0.49 J	240 J	21 UJ	18 UJ	18 UJ	21 UJ	17 UJ	19 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	2.1 U	1.8 U	1.8 U	2.1 U	1.7 U	1.9 U
beta-BHC	1.9J	0.59 J	1.4 J	2.1 U	1.8 U	1.8 U	2.1 U	1.7 U	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	2.1 U	1.8 U	1.8 U	2.1 U	1.7 U	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2.1 UJ	1.8 UJ	1.8 UJ	2.1 UJ	1.7 UJ	1.9 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	2.1 U	1.8 U	1.8 U	2.1 U	1.7 U	1.9 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-SWMU-14							
Station ID	**Concentration**	**Lowest**	**Highest**	W14-SB01	W14-SB02		W14-SB03	W14-SB04	W14-SB05	W14-SB06	W14-SB07
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDA147	NDA149	NDA150FD1	NDA153	NDA155	NDA157	NDA159	NDA161
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/05/00	04/05/00	04/05/00	04/05/00	04/05/00	04/05/00	04/05/00	04/05/00
Chemical Name											
Pesticide (UG_KG)											
4,4'-DDD	ND	0.33 J	40	3.5 U	3.6 U	3.4 U	3.5 U	3.8 U	0.68 J	3.4 U	3.5 U
4,4'-DDE	150	0.16 J	3,990 J	0.5 J	0.77 J	0.64 J	3.5 U	3.8 U	3 J	3.4 U	0.69 J
4,4'-DDT	31	0.26 J	2,190 J	3.5 UJ	3.6 U	3.4 U	3.5 UJ	3.8 U	3.4 U	3.4 U	3.5 U
Aldrin	ND	0.2 J	0.87 J	1.8 U	1.9 U	1.7 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U
Dieldrin	ND	0.18 J	3.90	3.5 U	3.6 U	3.4 U	3.5 U	3.8 U	3.4 U	3.4 U	3.5 U
Endosulfan I	ND	3.5 J	3.5 J	1.8 U	1.9 U	1.7 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U
Endosulfan II	ND	0.65 J	0.65 J	3.5 U	3.6 U	3.4 U	3.5 U	3.8 U	3.4 U	3.4 U	3.5 U
Endosulfan sulfate	ND	0.22 J	90 J	3.5 U	3.6 U	3.4 U	3.5 U	3.8 U	3.4 U	3.4 U	3.5 U
Endrin	2.4 J	0.22 J	16 JN	3.5 U	3.6 UJ	3.4 UJ	3.5 U	3.8 UJ	3.4 UJ	3.4 UJ	3.5 UJ
Endrin aldehyde	ND	0.21 J	11	3.5 U	3.6 U	3.4 U	3.5 U	3.8 U	3.4 U	3.4 U	3.5 U
Heptachlor	ND	0.43 J	1.5 J	1.8 U	1.9 U	1.7 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U
Heptachlor epoxide	ND	0.2 J	1.7 J	1.8 U	1.9 U	1.7 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U
Methoxychlor	ND	0.49 J	240 J	18 UJ	1.2 J	17 UJ	18 UJ	19 UJ	17 UJ	18 UJ	18 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	1.8 U	1.9 U	1.7 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U
beta-BHC	1.9J	0.59 J	1.4 J	1.8 U	1.9 U	1.7 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.8 UJ	1.9 U	1.7 U	1.8 UJ	1.9 U	1.7 U	1.8 U	1.8 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.8 UJ	1.9 UJ	1.7 UJ	1.8 UJ	1.9 UJ	1.7 UJ	1.8 UJ	1.8 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	1.8 U	1.9 U	1.7 U	1.8 U	1.9 U	1.7 U	1.8 U	1.8 U

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-SWMU-14 (continued)						
Station ID	**Concentration**	**Lowest**	**Highest**	W14-SB08	W14-SB09	W14-SB10	W14-SB11	W14-SB12	W14-SB13	W14-SB14
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDA164	NDA166	NDA168	NDA170	NDA172	NDA174	NDA176
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/06/00	04/06/00	04/06/00	04/06/00	04/06/00	04/06/00	04/06/00
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.33 J	40	4.1 UJ	4.1 UJ	3.9 UJ	4 UJ	3.6 UJ	3.5 UJ	9.3 UJ
4,4'-DDE	150	0.16 J	3,990 J	4.1 UJ	4.1 UJ	3.9 UJ	0.77 J	3.6 UJ	1 J	9.3 UJ
4,4'-DDT	31	0.26 J	2,190 J	4.1 UJ	4.1 UJ	3.9 UJ	4 UJ	3.6 UJ	3.5 UJ	9.3 UJ
Aldrin	ND	0.2 J	0.87 J	2.1 UJ	2.1 UJ	2 UJ	2 UJ	1.8 UJ	1.8 UJ	4.8 UJ
Dieldrin	ND	0.18 J	3.90	4.1 UJ	4.1 UJ	0.45 UJ	4 UJ	3.6 UJ	3.5 UJ	9.3 UJ
Endosulfan I	ND	3.5 J	3.5 J	2.1 UJ	2.1 UJ	2 UJ	2 UJ	1.8 UJ	1.8 UJ	4.8 UJ
Endosulfan II	ND	0.65 J	0.65 J	4.1 UJ	4.1 UJ	3.9 UJ	4 UJ	3.6 UJ	3.5 UJ	9.3 UJ
Endosulfan sulfate	ND	0.22 J	90 J	4.1 UJ	4.1 UJ	3.9 UJ	4 UJ	3.6 UJ	3.5 UJ	9.3 UJ
Endrin	2.4 J	0.22 J	16 JN	4.1 UJ	4.1 UJ	3.9 UJ	4 UJ	3.6 UJ	3.5 UJ	9.3 UJ
Endrin aldehyde	ND	0.21 J	11	4.1 UJ	4.1 UJ	3.9 UJ	4 UJ	3.6 UJ	3.5 UJ	9.3 UJ
Heptachlor	ND	0.43 J	1.5 J	2.1 UJ	2.1 UJ	2 UJ	2 UJ	1.8 UJ	1.8 UJ	4.8 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	2.1 UJ	2.1 UJ	2 UJ	2 UJ	1.8 UJ	1.8 UJ	4.8 UJ
Methoxychlor	ND	0.49 J	240 J	21 UJ	21 UJ	20 UJ	20 UJ	18 UJ	18 UJ	48 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	2.1 UJ	2.1 UJ	2 UJ	2 UJ	1.8 UJ	1.8 UJ	4.8 UJ
beta-BHC	1.9J	0.59 J	1.4 J	2.1 UJ	2.1 UJ	2 UJ	2 UJ	1.8 UJ	1.8 UJ	4.8 UJ
delta-BHC	0.41 J	0.54 J	0.59 J	2.1 UJ	2.1 UJ	2 UJ	2 UJ	1.8 UJ	1.8 UJ	4.8 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2.1 UJ	2.1 UJ	2 UJ	2 UJ	1.8 UJ	1.8 UJ	4.8 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	2.1 UJ	2.1 UJ	2 UJ	2 UJ	1.8 UJ	1.8 UJ	4.8 UJ

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-15							
Station ID	Concentration	Lowest	Highest	W15-SB01	W15-SB02	W15-SB03	W15-SB04	W15-SB05	W15-SB06		W15-SB07
Sample ID	Detected in surface	Detected	Detected	NDA178	NDA179	NDA180	NDA181	NDA182	NDA183	NDA184FD1	NDA185
Sample Date	soil at the PI 7 Site	Concentration	Concentration	04/11/00	04/11/00	04/11/00	04/11/00	04/11/00	04/11/00	04/11/00	04/12/00
Chemical Name											
Pesticide (UG_KG)											
4,4'-DDD	ND	0.33 J	40	3.40 U	3.5 U	3.40 U	3.70 U	3.90 U	3.80 U	3.70 U	3.90 UJ
4,4'-DDE	150	0.16 J	3,990 J	3.40 U	3.5 U	0.620 J	3.70 U	3.90 U	3.80 U	3.70 U	3.90 UJ
4,4'-DDT	31	0.26 J	2,190 J	3.40 U	3.5 U	3.40 U	3.70 U	3.90 U	3.80 U	3.70 U	3.90 UJ
Aldrin	ND	0.2 J	0.87 J	1.70 U	1.80 U	1.70 U	1.90 U	2 U	1.90 U	1.90 U	2 UJ
Dieldrin	ND	0.18 J	3.90	3.40 U	3.5 U	3.40 U	3.70 U	3.90 U	3.80 U	3.70 U	3.90 UJ
Endosulfan I	ND	3.5 J	3.5 J	1.70 U	1.80 U	1.70 U	1.90 U	2 U	1.90 U	1.90 U	2 UJ
Endosulfan II	ND	0.65 J	0.65 J	3.40 U	3.5 U	3.40 U	3.70 U	3.90 U	3.80 U	3.70 U	3.90 UJ
Endosulfan sulfate	ND	0.22 J	90 J	3.40 U	3.5 U	3.40 U	3.70 U	3.90 U	3.80 U	3.70 U	3.90 UJ
Endrin	2.4 J	0.22 J	16 JN	3.40 U	3.5 U	3.40 U	3.70 U	3.90 U	3.80 U	3.70 U	3.90 UJ
Endrin aldehyde	ND	0.21 J	11	3.40 U	3.5 U	3.40 U	3.70 U	3.90 U	3.80 U	3.70 U	3.90 UJ
Heptachlor	ND	0.43 J	1.5 J	1.70 U	1.80 U	1.70 U	1.90 U	2 U	1.90 U	1.90 U	2 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	1.70 U	1.80 U	1.70 U	1.90 U	2 U	1.90 U	1.90 U	2 UJ
Methoxychlor	ND	0.49 J	240 J	17 U	18 U	17 U	19 U	20 U	19 U	19 U	20 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	1.70 U	1.80 U	1.70 U	1.90 U	2 U	1.90 U	1.90 U	2 UJ
beta-BHC	1.9J	0.59 J	1.4 J	1.70 U	1.80 U	1.70 U	1.90 U	2 U	1.90 U	1.90 U	2 UJ
delta-BHC	0.41 J	0.54 J	0.59 J	1.70 U	1.80 U	1.70 U	1.90 U	2 U	1.90 U	1.90 U	2 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.70 U	1.80 U	1.70 U	1.90 U	2 U	1.90 U	1.90 U	2 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	1.70 U	1.80 U	1.70 U	1.90 U	2 U	1.90 U	1.90 U	2 UJ

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-SWMU-15 (continued)						
Station ID	**Concentration**	**Lowest**	**Highest**	W15-SB08	W15-SB09	W15-SB10	W15-SB11	W15-SB12	W15-SB13	
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDA186	NDA187	NDA188	NDA189	NDA190	NDA191	NDA192FD1
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/12/00	04/12/00	04/12/00	04/12/00	04/12/00	04/12/00	04/12/00
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.33 J	40	3.70 UJ	3.60 UJ	4.60 UJ	3.70 UJ	3.80 UJ	3.40 UJ	3.90 UJ
4,4'-DDE	150	0.16 J	3,990 J	0.420 J	3.60 UJ	4.60 UJ	3.70 UJ	3.80 UJ	3.40 UJ	0.440 J
4,4'-DDT	31	0.26 J	2,190 J	3.70 UJ	3.60 UJ	4.60 UJ	3.70 UJ	3.80 UJ	3.40 UJ	3.90 UJ
Aldrin	ND	0.2 J	0.87 J	1.90 UJ	1.80 UJ	2.30 UJ	1.90 UJ	1.90 UJ	1.70 UJ	2 UJ
Dieldrin	ND	0.18 J	3.90	3.70 UJ	3.60 UJ	4.60 UJ	3.70 UJ	3.80 UJ	3.40 UJ	3.90 UJ
Endosulfan I	ND	3.5 J	3.5 J	1.90 UJ	1.80 UJ	2.30 UJ	1.90 UJ	1.90 UJ	1.70 UJ	2 UJ
Endosulfan II	ND	0.65 J	0.65 J	3.70 UJ	3.60 UJ	4.60 UJ	3.70 UJ	3.80 UJ	3.40 UJ	3.90 UJ
Endosulfan sulfate	ND	0.22 J	90 J	3.70 UJ	3.60 UJ	4.60 UJ	3.70 UJ	3.80 UJ	3.40 UJ	3.90 UJ
Endrin	2.4 J	0.22 J	16 JN	3.70 UJ	3.60 UJ	4.60 UJ	3.70 UJ	3.80 UJ	3.40 UJ	3.90 UJ
Endrin aldehyde	ND	0.21 J	11	3.70 UJ	3.60 UJ	4.60 UJ	3.70 UJ	3.80 UJ	3.40 UJ	3.90 UJ
Heptachlor	ND	0.43 J	1.5 J	1.90 UJ	1.80 UJ	2.30 UJ	1.90 UJ	1.90 UJ	1.70 UJ	2 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	1.90 UJ	1.80 UJ	2.30 UJ	1.90 UJ	1.90 UJ	1.70 UJ	2 UJ
Methoxychlor	ND	0.49 J	240 J	19 UJ	18 UJ	23 UJ	19 UJ	19 UJ	17 UJ	20 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	1.90 UJ	1.80 UJ	2.30 UJ	1.90 UJ	1.90 UJ	1.70 UJ	2 UJ
beta-BHC	1.9J	0.59 J	1.4 J	1.90 UJ	1.80 UJ	2.30 UJ	1.90 UJ	1.90 UJ	1.70 UJ	2 UJ
delta-BHC	0.41 J	0.54 J	0.59 J	1.90 UJ	1.80 UJ	2.30 UJ	1.90 UJ	1.90 UJ	1.70 UJ	2 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.90 UJ	1.80 UJ	2.30 UJ	1.90 UJ	1.90 UJ	1.70 UJ	2 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	1.90 UJ	1.80 UJ	2.30 UJ	1.90 UJ	1.90 UJ	1.70 UJ	2 UJ

Notes:

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-SWMU-15 (continued)		
Station ID	**Concentration**	**Lowest**	**Highest**	W15-SB14	W15-SB15	W15-SB16
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDA193	NDA194	NDA195
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/12/00	04/12/00	04/12/00
Chemical Name						
Pesticide (UG_KG)						
4,4'-DDD	ND	0.33 J	40	3.40 UJ	4.10 UJ	3.40 UJ
4,4'-DDE	150	0.16 J	3,990 J	1.10 J	4.10 UJ	3.40 UJ
4,4'-DDT	31	0.26 J	2,190 J	0.550 J	4.10 UJ	3.40 UJ
Aldrin	ND	0.2 J	0.87 J	1.80 UJ	2.10 UJ	1.70 UJ
Dieldrin	ND	0.18 J	3.90	0.450 J	4.10 UJ	3.40 UJ
Endosulfan I	ND	3.5 J	3.5 J	1.80 UJ	2.10 UJ	1.70 UJ
Endosulfan II	ND	0.65 J	0.65 J	3.40 UJ	4.10 UJ	3.40 UJ
Endosulfan sulfate	ND	0.22 J	90 J	3.40 UJ	4.10 UJ	3.40 UJ
Endrin	2.4 J	0.22 J	16 JN	3.40 UJ	4.10 UJ	3.40 UJ
Endrin aldehyde	ND	0.21 J	11	3.40 UJ	4.10 UJ	3.40 UJ
Heptachlor	ND	0.43 J	1.5 J	1.80 UJ	2.10 UJ	1.70 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	1.80 UJ	2.10 UJ	1.70 UJ
Methoxychlor	ND	0.49 J	240 J	18 UJ	21 UJ	17 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	1.80 UJ	2.10 UJ	1.70 UJ
beta-BHC	1.9J	0.59 J	1.4 J	1.80 UJ	2.10 UJ	1.70 UJ
delta-BHC	0.41 J	0.54 J	0.59 J	1.80 UJ	2.10 UJ	1.70 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.80 UJ	2.10 UJ	1.70 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	1.80 UJ	2.10 UJ	1.70 UJ

Notes:

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-SWMU-4								
Station ID	**Concentration**	**Lowest**	**Highest**	SWMU4-MW05	SWMU4-MW06		SWMU4-MW07	SWMU4-MW08	W4-SB01	W4-SB02	W4-SB03	
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDB001	NDB003	NDB004FD1	NDB006	NDB008	NDA057	NDA059	NDA061	NDA062FD1
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	06/06/00	06/06/00	06/06/00	06/06/00	06/06/00	04/18/00	04/18/00	04/18/00	04/18/00
Chemical Name												
Pesticide (UG_KG)												
4,4'-DDD	ND	0.33 J	40	3.60 U	3.5 U	3.5 U	3.5 U	3.30 U	4.10 UJ	3.60 UJ	3.5 UJ	3.5 UJ
4,4'-DDE	150	0.16 J	3,990 J	3.60 U	3.5 U	3.5 U	3.5 U	3.30 U	4.10 UJ	3.60 UJ	3.5 UJ	3.5 UJ
4,4'-DDT	31	0.26 J	2,190 J	3.60 U	3.5 U	3.5 U	3.5 U	3.30 U	4.10 UJ	3.60 UJ	3.5 UJ	3.5 UJ
Aldrin	ND	0.2 J	0.87 J	1.80 U	1.80 U	1.80 U	1.80 U	1.70 U	2.10 UJ	1.80 UJ	1.80 UJ	1.80 UJ
Dieldrin	ND	0.18 J	3.90	3.60 U	3.5 U	3.5 U	3.5 U	3.30 U	4.10 UJ	3.60 UJ	3.5 UJ	3.5 UJ
Endosulfan I	ND	3.5 J	3.5 J	1.80 U	1.80 U	1.80 U	1.80 U	1.70 U	2.10 UJ	1.80 UJ	1.80 UJ	1.80 UJ
Endosulfan II	ND	0.65 J	0.65 J	3.60 U	3.5 U	3.5 U	3.5 U	3.30 U	4.10 UJ	3.60 UJ	3.5 UJ	3.5 UJ
Endosulfan sulfate	ND	0.22 J	90 J	3.60 U	3.5 U	3.5 U	3.5 U	3.30 U	4.10 UJ	3.60 UJ	3.5 UJ	3.5 UJ
Endrin	2.4 J	0.22 J	16 JN	3.60 U	3.5 U	3.5 U	3.5 U	3.30 U	4.10 UJ	3.60 UJ	3.5 UJ	3.5 UJ
Endrin aldehyde	ND	0.21 J	11	3.60 U	3.5 U	3.5 U	3.5 U	3.30 U	4.10 UJ	3.60 UJ	3.5 UJ	3.5 UJ
Heptachlor	ND	0.43 J	1.5 J	1.80 U	1.80 U	1.80 U	1.80 U	1.70 U	2.10 UJ	1.80 UJ	1.80 UJ	1.80 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	1.80 U	1.80 U	1.80 U	1.80 U	1.70 U	2.10 UJ	1.80 UJ	1.80 UJ	1.80 UJ
Methoxychlor	ND	0.49 J	240 J	18 U	18 U	18 U	18 U	17 U	21 UJ	18 UJ	18 UJ	18 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	1.80 U	1.80 U	1.80 U	1.80 U	1.70 U	2.10 UJ	1.80 UJ	1.80 UJ	1.80 UJ
beta-BHC	1.9J	0.59 J	1.4 J	1.80 U	1.80 U	1.80 U	1.80 U	1.70 U	2.10 UJ	1.80 UJ	1.80 UJ	1.80 UJ
delta-BHC	0.41 J	0.54 J	0.59 J	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.70 UJ	2.10 UJ	1.80 UJ	1.80 UJ	1.80 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.70 UJ	2.10 UJ	1.80 UJ	1.80 UJ	1.80 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	1.80 U	1.80 U	1.80 U	1.80 U	1.70 U	2.10 UJ	1.80 UJ	1.80 UJ	1.80 UJ

Notes:

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-4 (continued)							
Station ID	Concentration	Lowest	Highest	W4-SB04	W4-SB05	W4-SB06	W4-SB07		W4-SB08	W4-SB09	W4-SB10
Sample ID	Detected in surface	Detected	Detected	NDA065	NDA067	NDA069	NDA071	NDA072FD1	NDA074	NDA076	NDA078
Sample Date	soil at the PI 7 Site	Concentration	Concentration	04/18/00	04/18/00	04/18/00	04/19/00	04/19/00	04/19/00	04/19/00	04/19/00
Chemical Name											
Pesticide (UG_KG)											
4,4'-DDD	ND	0.33 J	40	4.20 UJ	3.60 UJ	3.40 UJ	4 UJ	3.5 UJ	0.350 UJ	0.350 UJ	0.350 UJ
4,4'-DDE	150	0.16 J	3,990 J	4.20 UJ	3.60 UJ	3.40 UJ	4 UJ	3.5 UJ	0.350 UJ	0.350 UJ	0.350 UJ
4,4'-DDT	31	0.26 J	2,190 J	4.20 UJ	3.60 UJ	3.40 UJ	4 UJ	3.5 UJ	0.350 UJ	0.350 UJ	0.350 UJ
Aldrin	ND	0.2 J	0.87 J	2.10 UJ	1.80 UJ	1.70 UJ	2 UJ	1.80 UJ	0.180 UJ	0.180 UJ	0.180 UJ
Dieldrin	ND	0.18 J	3.90	4.20 UJ	3.60 UJ	3.40 UJ	4 UJ	3.5 UJ	0.350 UJ	0.350 UJ	0.350 UJ
Endosulfan I	ND	3.5 J	3.5 J	2.10 UJ	1.80 UJ	1.70 UJ	2 UJ	1.80 UJ	0.180 UJ	0.180 UJ	0.180 UJ
Endosulfan II	ND	0.65 J	0.65 J	4.20 UJ	3.60 UJ	3.40 UJ	4 UJ	3.5 UJ	0.350 UJ	0.350 UJ	0.350 UJ
Endosulfan sulfate	ND	0.22 J	90 J	4.20 UJ	3.60 UJ	3.40 UJ	4 UJ	3.5 UJ	0.350 UJ	0.350 UJ	0.350 UJ
Endrin	2.4 J	0.22 J	16 JN	4.20 UJ	3.60 UJ	3.40 UJ	4 UJ	3.5 UJ	0.350 UJ	0.350 UJ	0.350 UJ
Endrin aldehyde	ND	0.21 J	11	4.20 UJ	3.60 UJ	3.40 UJ	4 UJ	3.5 UJ	0.350 UJ	0.350 UJ	0.350 UJ
Heptachlor	ND	0.43 J	1.5 J	2.10 UJ	1.80 UJ	1.70 UJ	2 UJ	1.80 UJ	0.180 UJ	0.180 UJ	0.180 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	2.10 UJ	1.80 UJ	1.70 UJ	2 UJ	1.80 UJ	0.180 UJ	0.180 UJ	0.180 UJ
Methoxychlor	ND	0.49 J	240 J	21 UJ	18 UJ	17 UJ	20 UJ	18 UJ	1.80 UJ	1.80 UJ	1.80 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	2.10 UJ	1.80 UJ	1.70 UJ	2 UJ	1.80 UJ	0.180 UJ	0.180 UJ	0.180 UJ
beta-BHC	1.9J	0.59 J	1.4 J	2.10 UJ	1.80 UJ	1.70 UJ	2 UJ	1.80 UJ	0.180 UJ	0.180 UJ	0.180 UJ
delta-BHC	0.41 J	0.54 J	0.59 J	2.10 UJ	1.80 UJ	1.70 UJ	2 UJ	1.80 UJ	0.180 UJ	0.180 UJ	0.180 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2.10 UJ	1.80 UJ	1.70 UJ	2 UJ	1.80 UJ	0.180 UJ	0.180 UJ	0.180 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	2.10 UJ	1.80 UJ	1.70 UJ	2 UJ	1.80 UJ	0.180 UJ	0.180 UJ	0.180 UJ

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-4 (continued)						
Station ID	Concentration	Lowest	Highest	W4-SB11	W4-SB12	WW04-SO17	WW04-SO18	WW04-SO19		WW04-SO20
Sample ID	Detected in surface	Detected	Detected	NDA080	NDA082	WW04-SS17-01-07A	WW04-SS18-01-07A	WW04-SS19-01-07A	WW04-SS19P-01-07A	WW04-SS20-01-07A
Sample Date	soil at the PI 7 Site	Concentration	Concentration	04/19/00	04/19/00	02/02/07	02/07/07	02/05/07	02/05/07	02/08/07
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.33 J	40	0.340 UJ	0.340 UJ	0.87 J	3.5 U	3.5 U	3.6 U	3.5 U
4,4'-DDE	150	0.16 J	3,990 J	0.340 UJ	0.340 UJ	3.4 U	0.35 U	0.89 U	0.94 J	0.42 U
4,4'-DDT	31	0.26 J	2,190 J	0.340 UJ	0.340 UJ	3.4 U	0.55 U	3.5 U	3.6 U	3.5 U
Aldrin	ND	0.2 J	0.87 J	0.170 UJ	0.170 UJ	1.8 U	1.8 U	0.61 U	1.3 U	1.8 U
Dieldrin	ND	0.18 J	3.90	0.340 UJ	0.340 UJ	0.069 U	3.5 U	1.3 U	1.1 U	3.5 U
Endosulfan I	ND	3.5 J	3.5 J	0.170 UJ	0.170 UJ	1.8 U	1.8 U	1.3 U	3.5 J	1.8 U
Endosulfan II	ND	0.65 J	0.65 J	0.340 UJ	0.340 UJ	0.25 U	3.5 U	0.33 U	0.29 U	3.5 U
Endosulfan sulfate	ND	0.22 J	90 J	0.340 UJ	0.340 UJ	3.4 U	3.5 U	3.5 U	3.6 U	3.5 U
Endrin	2.4 J	0.22 J	16 JN	0.340 UJ	0.340 UJ	3.4 U	3.5 U	0.25 U	3.6 U	3.5 U
Endrin aldehyde	ND	0.21 J	11	0.340 UJ	0.340 UJ	3.4 U	0.34 J	3.5 U	3.6 U	0.21 U
Heptachlor	ND	0.43 J	1.5 J	0.170 UJ	0.170 UJ	0.047 U	1.8 UJ	1.5 J	1.5 J	1.8 U
Heptachlor epoxide	ND	0.2 J	1.7 J	0.170 UJ	0.170 UJ	1.8 U	1.8 U	1.3 U	1.7 J	0.2 J
Methoxychlor	ND	0.49 J	240 J	1.70 UJ	1.70 UJ	18 U	0.81 U	18 U	0.7 J	0.65 U
alpha-Chlordane	ND	0.30 J	4.6 J	0.170 UJ	0.170 UJ	1.8 U	1 J	3.7	4.6 J	0.39 J
beta-BHC	1.9J	0.59 J	1.4 J	0.170 UJ	0.170 UJ	1.8 U	1.8 U	0.51 U	1.4 J	1.8 U
delta-BHC	0.41 J	0.54 J	0.59 J	0.170 UJ	0.170 UJ	1.8 U	1.8 U	0.97 U	1.2 U	1.8 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	0.170 UJ	0.170 UJ	1.8 U	1.8 U	0.44 U	0.66 J	1.8 U
gamma-Chlordane	1.9 J	0.2 J	270 J	0.170 UJ	0.170 UJ	0.11 U	0.24 U	1 U	2.3 R	1.8 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-4 (continued)					
Station ID	Concentration	Lowest	Highest	WW04-SO21	WW04-SO22	WW04-SO23	WW04-SO24	WW04-SO25	WW04-SO26
Sample ID	Detected in surface	Detected	Detected	WW04-SS21-01-07A	WW04-SS22-01-07A	WW04-SS23-02-07A	WW04-SS24-02-07A	WW04-SS25-02-07A	WW04-SS26-01-07A
Sample Date	soil at the PI 7 Site	Concentration	Concentration	02/08/07	02/08/07	01/30/07	01/31/07	01/30/07	01/30/07
Chemical Name									
Pesticide (UG_KG)									
4,4'-DDD	ND	0.33 J	40	3.5 U	3.4 U	0.33 J	4.6 U	3.6 U	3.5 U
4,4'-DDE	150	0.16 J	3,990 J	0.45 J	3.4 U	3.7 U	4.6 U	3.6 U	0.11 U
4,4'-DDT	31	0.26 J	2,190 J	3.5 U	3.4 U	3.7 U	4.6 U	3.6 U	3.5 U
Aldrin	ND	0.2 J	0.87 J	0.2 J	1.8 U	1.9 U	2.3 U	1.9 U	0.87 J
Dieldrin	ND	0.18 J	3.90	3.5 U	3.4 U	0.56 J	4.6 U	3.6 U	1.6 J
Endosulfan I	ND	3.5 J	3.5 J	1.8 U	1.8 U	1.9 U	2.3 U	1.9 U	0.1 U
Endosulfan II	ND	0.65 J	0.65 J	3.5 U	3.4 U	3.7 U	4.6 U	3.6 U	1.1 U
Endosulfan sulfate	ND	0.22 J	90 J	0.22 J	3.4 U	3.7 U	4.6 U	3.6 U	3.5 U
Endrin	2.4 J	0.22 J	16 JN	3.5 U	3.4 U	3.7 U	4.6 U	3.6 U	0.34 J
Endrin aldehyde	ND	0.21 J	11	0.46 U	0.25 J	3.7 U	4.6 U	3.6 U	3.5 U
Heptachlor	ND	0.43 J	1.5 J	1.8 U	1.8 U	0.1 U	2.3 UJ	1.9 UJ	0.61 U
Heptachlor epoxide	ND	0.2 J	1.7 J	1.8 U	1.8 U	1.9 U	2.3 U	1.9 U	0.32 U
Methoxychlor	ND	0.49 J	240 J	0.44 U	0.26 U	19 U	23 U	19 U	18 U
alpha-Chlordane	ND	0.30 J	4.6 J	0.48 U	1.8 U	1.9 U	2.3 U	1.9 U	3
beta-BHC	1.9J	0.59 J	1.4 J	1.8 U	1.8 U	1.9 U	2.3 U	1.9 U	1.8 U
delta-BHC	0.41 J	0.54 J	0.59 J	0.2 U	1.8 U	1.9 U	2.3 U	1.9 U	0.54 J
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.8 U	1.8 U	1.9 U	2.3 U	1.9 U	0.28 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.8 U	1.8 U	1.9 U	2.3 U	1.9 U	0.58 U

Notes:

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-4 (continued)						
Station ID	Concentration	Lowest	Highest	WW04-SO27		WW04-SO28	WW04-SO29	WW04-SO30	WW04-SO31	WW04-SO32
Sample ID	Detected in surface	Detected	Detected	WW04-SS27-01-07A	WW04-SS27P-01-07A	WW04-SS28-01-07A	WW04-SS29-01-07A	WW04-SS30-01-07A	WW04-SS31-01-07A	WW04-SS32-01-07A
Sample Date	soil at the PI 7 Site	Concentration	Concentration	01/26/07	01/26/07	01/31/07	01/23/07	01/25/07	01/31/07	01/24/07
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.33 J	40	3.7 U	3.7 U	3.8 U	3.6 U	3.4 U	3.7 U	3.6 U
4,4'-DDE	150	0.16 J	3,990 J	3.7 U	3.7 U	3.8 U	3.6 U	3.4 U	3.7 U	0.75 U
4,4'-DDT	31	0.26 J	2,190 J	3.7 U	3.7 U	3.8 U	3.6 U	3.4 U	3.7 U	3.6 U
Aldrin	ND	0.2 J	0.87 J	1.9 U	1.9 U	0.1 U	1.8 U	1.7 U	0.089 U	1.9 U
Dieldrin	ND	0.18 J	3.90	3.7 U	3.7 U	0.099 U	3.6 U	3.4 U	3.7 U	3.6 U
Endosulfan I	ND	3.5 J	3.5 J	1.9 U	1.9 U	0.43 U	1.8 U	1.7 U	1.9 U	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	3.7 U	3.7 U	3.8 U	3.6 U	3.4 U	3.7 U	3.6 U
Endosulfan sulfate	ND	0.22 J	90 J	3.7 U	3.7 U	3.8 U	3.6 U	3.4 U	3.7 U	3.6 U
Endrin	2.4 J	0.22 J	16 JN	3.7 U	3.7 U	0.18 U	3.6 U	3.4 U	3.7 U	3.6 U
Endrin aldehyde	ND	0.21 J	11	3.7 U	3.7 U	3.8 U	0.32 J	0.3 U	3.7 U	0.21 U
Heptachlor	ND	0.43 J	1.5 J	1.9 UJ	1.9 UJ	1.9 UJ	1.8 UJ	1.7 UJ	1.9 UJ	1.9 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	1.9 U	1.9 U	1.9 U	1.8 U	1.7 U	1.9 U	1.9 U
Methoxychlor	ND	0.49 J	240 J	19 U	19 U	0.49 J	18 U	17 U	19 U	19 U
alpha-Chlordane	ND	0.30 J	4.6 J	1.9 U	1.9 U	1.9 U	1.8 U	1.7 U	1.9 U	1.9
beta-BHC	1.9J	0.59 J	1.4 J	1.9 U	1.9 U	1.9 U	1.8 U	1.7 U	1.9 U	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.9 U	1.9 U	1.9 U	1.8 U	1.7 U	1.9 U	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.9 U	1.9 U	1.9 U	1.8 U	1.7 U	0.063 U	1.9 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.9 U	1.9 U	1.9 U	1.8 U	1.7 U	1.9 U	0.26 U

Notes:

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-4 (continued)						
Station ID	Concentration	Lowest	Highest	WW04-SO33	WW04-SO34	WW04-SO35	WW04-SO36	WW04-SO37		WW04-SO38
Sample ID	Detected in surface	Detected	Detected	WW04-SS33-01-07A	WW04-SS34-01-07A	WW04-SS35-01-07A	WW04-SS36-01-07A	WW04-SS37-01-07A	WW04-SS37P-01-07A	WW04-SS38-01-07A
Sample Date	soil at the PI 7 Site	Concentration	Concentration	02/01/07	01/25/07	02/01/07	02/13/07	02/13/07	02/13/07	02/13/07
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.33 J	40	3.8 U	3.5 U	0.11 U	3.6 U	3.5 U	3.5 U	0.39 J
4,4'-DDE	150	0.16 J	3,990 J	0.091 U	3.5 U	0.24 U	3.6 U	3.5 U	3.5 U	3.7 U
4,4'-DDT	31	0.26 J	2,190 J	3.8 U	3.5 U	3.7 U	3.6 U	3.5 U	3.5 U	0.71 J
Aldrin	ND	0.2 J	0.87 J	2 U	1.8 U	0.41 U	1.8 U	1.8 U	1.8 U	1.9 U
Dieldrin	ND	0.18 J	3.90	3.8 U	3.5 U	0.89 U	3.6 U	3.5 U	3.5 U	3.7 U
Endosulfan I	ND	3.5 J	3.5 J	2 U	1.8 U	0.29 U	1.8 U	1.8 U	1.8 U	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	1.2 U	3.5 U	0.42 U	0.18 U	3.5 U	3.5 U	3.7 U
Endosulfan sulfate	ND	0.22 J	90 J	3.8 U	3.5 U	3.7 U	3.6 R	3.5 U	3.5 U	0.26 J
Endrin	2.4 J	0.22 J	16 JN	3.8 U	3.5 U	0.26 U	3.6 U	3.5 U	3.5 U	3.7 U
Endrin aldehyde	ND	0.21 J	11	3.8 U	0.21 J	0.12 U	0.34 U	3.5 U	0.2 U	3.7 U
Heptachlor	ND	0.43 J	1.5 J	0.069 U	1.8 UJ	0.19 U	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	2 U	1.8 U	0.079 U	1.8 U	1.8 U	1.8 U	1.9 U
Methoxychlor	ND	0.49 J	240 J	20 U	0.32 U	0.43 U	18 U	0.35 U	18 U	19 U
alpha-Chlordane	ND	0.30 J	4.6 J	2 U	1.8 U	1.8 U	0.26 U	1.8 U	1.8 U	0.3 J
beta-BHC	1.9J	0.59 J	1.4 J	2 U	1.8 U	0.39 U	1.8 U	1.8 U	1.8 U	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	2 U	0.19 U	0.62 U	1.8 U	1.8 U	1.8 U	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U
gamma-Chlordane	1.9 J	0.2 J	270 J	2 U	1.8 U	0.96 U	1.8 U	0.2 J	0.22 U	0.29 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-4 (continued)						
Station ID	Concentration	Lowest	Highest	WW04-SO39	WW04-SO40	WW04-SO41	WW04-SO42	WW04-SO44	WW04-SO45	WW04-SO46
Sample ID	Detected in surface	Detected	Detected	WW04-SS39-01-07A	WW04-SS40-01-07A	WW04-SS41-01-07A	WW04-SS42-01-07A	WW04-SS44-01-07A	WW04-SS45-02-07A	WW04-SS46-01-07A
Sample Date	soil at the PI 7 Site	Concentration	Concentration	02/12/07	02/09/07	02/09/07	02/12/07	02/02/07	02/15/07	01/26/07
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.33 J	40	3.6 U	3.5 U	3.6 U	3.5 U	4 U	3.4 U	3.7 U
4,4'-DDE	150	0.16 J	3,990 J	3.6 U	3.5 U	3.6 U	3.5 U	4 U	3.4 U	3.7 U
4,4'-DDT	31	0.26 J	2,190 J	0.6 U	3.5 U	3.6 U	3.5 U	4 U	3.4 U	3.7 U
Aldrin	ND	0.2 J	0.87 J	1.8 U	1.8 U	1.9 U	1.8 U	2.1 U	0.67 J	1.9 U
Dieldrin	ND	0.18 J	3.90	3.6 U	3.5 U	3.6 U	3.5 U	0.12 U	3.4 U	3.7 U
Endosulfan I	ND	3.5 J	3.5 J	1.8 U	1.8 U	1.9 U	1.8 U	2.1 U	1.8 U	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	3.6 U	3.5 U	3.6 U	3.5 U	4 U	3.4 U	3.7 U
Endosulfan sulfate	ND	0.22 J	90 J	0.18 U	3.5 U	0.27 U	3.5 U	0.3 U	0.28 U	3.7 U
Endrin	2.4 J	0.22 J	16 JN	3.6 U	0.22 J	3.6 U	3.5 U	4 U	0.31 U	3.7 U
Endrin aldehyde	ND	0.21 J	11	0.18 U	0.25 U	0.26 U	1.5 J	4 U	1.8 U	3.7 U
Heptachlor	ND	0.43 J	1.5 J	1.8 UJ	1.8 U	1.9 U	1.8 UJ	0.066 U	1.8 UJ	1.9 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	1.8 U	1.8 U	1.9 U	1.8 U	1.1 J	1.8 U	1.9 U
Methoxychlor	ND	0.49 J	240 J	1.1 U	18 U	19 U	18 U	21 U	0.56 U	19 U
alpha-Chlordane	ND	0.30 J	4.6 J	0.59 J	0.49 J	1.8 J	1.1 J	2.1 U	2.2 J	0.27 J
beta-BHC	1.9J	0.59 J	1.4 J	0.39 U	1.8 U	1.9 U	1.8 U	2.1 U	1.8 U	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.8 U	1.8 U	1.9 U	1.8 U	2.1 U	1.8 U	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.8 U	1.8 U	1.9 U	1.8 U	2.1 U	1.8 U	1.9 U
gamma-Chlordane	1.9 J	0.2 J	270 J	0.42 J	0.19 U	0.22 U	0.2 J	2.1 U	0.6 U	1.9 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-4 (continued)					
Station ID	Concentration	Lowest	Highest	WW04-SO47	WW04-SO48	WW04-SO49	WW04-SO50	WW04-SO51	WW04-SO54
Sample ID	Detected in surface	Detected	Detected	WW04-SS47-01-07A	WW04-SS48-01-07A	WW04-SS49-01-07A	WW04-SS50-02-07A	WW04-SS51-02-07A	WW04-SS54-01-07A
Sample Date	soil at the PI 7 Site	Concentration	Concentration	01/29/07	01/29/07	01/23/07	02/09/07	02/15/07	02/14/07
Chemical Name									
Pesticide (UG_KG)									
4,4'-DDD	ND	0.33 J	40	3.7 U	3.7 U	3.5 U	4 U	3.5 U	3.9 U
4,4'-DDE	150	0.16 J	3,990 J	3.7 U	3.7 U	3.5 U	4 U	3.5 U	3.9 U
4,4'-DDT	31	0.26 J	2,190 J	3.7 U	3.7 U	3.5 U	4 U	3.5 U	3.9 U
Aldrin	ND	0.2 J	0.87 J	1.9 U	1.9 U	1.8 U	0.22 U	1.8 U	2 U
Dieldrin	ND	0.18 J	3.90	3.7 U	0.062 U	3.5 U	4 U	3.5 U	3.9 U
Endosulfan I	ND	3.5 J	3.5 J	1.9 U	1.9 U	1.8 U	2 U	1.8 U	2 U
Endosulfan II	ND	0.65 J	0.65 J	0.65 J	3.7 U	3.5 U	4 U	3.5 U	3.9 U
Endosulfan sulfate	ND	0.22 J	90 J	0.66 U	3.7 U	3.5 U	4 U	3.5 U	3.9 U
Endrin	2.4 J	0.22 J	16 JN	3.7 U	3.7 U	3.5 U	4 U	3.5 U	3.9 U
Endrin aldehyde	ND	0.21 J	11	3.7 U	3.7 U	0.33 U	4 U	3.5 U	0.8 J
Heptachlor	ND	0.43 J	1.5 J	1.9 UJ	1.9 UJ	1.8 UJ	2 U	1.8 UJ	2 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	1.9 U	1.9 U	1.8 U	2 U	1.8 U	0.39 J
Methoxychlor	ND	0.49 J	240 J	0.39 U	19 U	1.2 J	0.39 U	1.1 U	20 U
alpha-Chlordane	ND	0.30 J	4.6 J	1.9 U	1.9 U	1.1 J	2 U	1.8 U	2 U
beta-BHC	1.9J	0.59 J	1.4 J	1.9 U	1.9 U	1.8 U	2 U	1.8 U	2 U
delta-BHC	0.41 J	0.54 J	0.59 J	1.9 U	1.9 U	1.8 U	2 U	1.8 U	2 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.9 U	1.9 U	1.8 U	2 U	1.8 U	2 U
gamma-Chlordane	1.9 J	0.2 J	270 J	1.9 U	1.9 U	1.8 U	2 U	1.8 U	2 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-SWMU-4 (continued)		W-SWMU-6				
Station ID	**Concentration**	**Lowest**	**Highest**	WW04-SO55	WW04-SO55	NDW06SS09		NDW06SS10	NDW06SS11	NDW06SS12
Sample ID	**Detected in surface**	**Detected**	**Detected**	WW04-SS55-01-07A	WW04-SS55P-01-07A	NDW06SS09-R01	NDW06SS09-R01	NDW06SS10-R01	NDW06SS11-R01	NDW06SS12-R01
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	02/14/07	02/14/07	08/28/03	08/28/03	08/28/03	08/28/03	08/28/03
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.33 J	40	0.2 U	0.51 U	4.3 U	4.4 U	4.4 U	4.3 UJ	4.8 U
4,4'-DDE	150	0.16 J	3,990 J	0.35 U	0.31 U	0.16 J	4.4 U	4.4 U	4.3 UJ	2.8 J
4,4'-DDT	31	0.26 J	2,190 J	0.19 U	0.25 U	4.3 U	4.4 U	4.4 U	4.3 UJ	4.8 U
Aldrin	ND	0.2 J	0.87 J	1.8 U	1.8 U	2.2 U	2.3 U	2.3 U	2.2 UJ	2.4 U
Dieldrin	ND	0.18 J	3.90	0.74 U	0.9 U	4.3 U	4.4 U	4.4 U	4.3 UJ	4.8 U
Endosulfan I	ND	3.5 J	3.5 J	0.18 U	1.8 U	2.2 U	2.3 U	2.3 U	2.2 UJ	2.4 U
Endosulfan II	ND	0.65 J	0.65 J	1.7 U	1.8 U	4.3 U	4.4 U	4.4 U	4.3 UJ	4.8 U
Endosulfan sulfate	ND	0.22 J	90 J	0.8 J	0.67 J	4.3 U	4.4 U	4.4 U	4.3 UJ	4.8 U
Endrin	2.4 J	0.22 J	16 JN	0.39 U	0.4 U	4.3 U	4.4 U	4.4 U	4.3 UJ	4.8 U
Endrin aldehyde	ND	0.21 J	11	0.54 U	0.59 U	4.3 U	4.4 U	4.4 U	4.3 UJ	4.8 U
Heptachlor	ND	0.43 J	1.5 J	1.8 UJ	1.8 UJ	2.2 U	2.3 U	2.3 U	2.2 UJ	2.4 U
Heptachlor epoxide	ND	0.2 J	1.7 J	0.26 U	0.24 U	2.2 U	2.3 U	2.3 U	2.2 UJ	2.4 U
Methoxychlor	ND	0.49 J	240 J	18 U	0.3 U	22 U	23 U	23 U	22 UJ	24 U
alpha-Chlordane	ND	0.30 J	4.6 J	0.82 U	0.82 U	2.2 U	2.3 U	2.3 U	2.2 UJ	2.4 U
beta-BHC	1.9J	0.59 J	1.4 J	0.82 U	0.67 U	2.2 U	2.3 U	2.3 U	2.2 UJ	2.4 U
delta-BHC	0.41 J	0.54 J	0.59 J	0.18 U	0.59 J	2.2 U	2.3 UJ	2.3 UJ	2.2 UJ	2.4 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.8 U	1.8 U	2.2 U	2.3 U	2.3 U	2.2 UJ	2.4 U
gamma-Chlordane	1.9 J	0.2 J	270 J	0.45 U	0.51 U	2.2 U	2.3 U	2.3 U	2.2 UJ	2.4 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-6 (continued)							
Station ID	Concentration	Lowest	Highest	NDW06SS13	NDW06SS14	NDW06SS15	NDW06SS16	NDW06SS17	NDW06SS18	NDW06SS19	NDW06SS20
Sample ID	Detected in surface	Detected	Detected	NDW06SS13-R01	NDW06SS14-R01	NDW06SS15-R01	NDW06SS16-R01	NDW06SS17-R01	NDW06SS18-R01	NDW06SS19-R01	NDW06SS20-R01
Sample Date	soil at the PI 7 Site	Concentration	Concentration	08/28/03	08/28/03	08/28/03	08/28/03	08/28/03	08/28/03	08/28/03	08/28/03
Chemical Name											
Pesticide (UG_KG)											
4,4'-DDD	ND	0.33 J	40	28 J	5.8 U	2.5 J	5.8 U	5.6 U	5.7 U	56 U	48 U
4,4'-DDE	150	0.16 J	3,990 J	23 J	5.8 U	6 U	5.8 U	5.6 U	5.7 U	56 U	48 U
4,4'-DDT	31	0.26 J	2,190 J	9.2 J	5.8 U	6 U	5.8 U	5.6 U	5.7 U	56 U	48 U
Aldrin	ND	0.2 J	0.87 J	2.2 U	3 U	3.1 U	3 U	2.9 U	2.9 U	29 U	25 U
Dieldrin	ND	0.18 J	3.90	4.2 U	5.8 U	6 U	5.8 U	5.6 U	5.7 U	56 U	48 U
Endosulfan I	ND	3.5 J	3.5 J	2.2 U	3 U	3.1 U	3 U	2.9 U	2.9 U	29 U	25 U
Endosulfan II	ND	0.65 J	0.65 J	4.2 U	5.8 U	6 U	5.8 U	5.6 U	5.7 U	56 U	48 U
Endosulfan sulfate	ND	0.22 J	90 J	4.2 U	5.8 U	6 U	5.8 U	5.6 U	5.7 U	56 U	48 U
Endrin	2.4 J	0.22 J	16 JN	4.2 U	5.8 U	6 U	5.8 U	5.6 U	5.7 U	56 U	48 U
Endrin aldehyde	ND	0.21 J	11	4.2 U	5.8 U	6 U	5.8 U	5.6 U	5.7 U	11 J	48 U
Heptachlor	ND	0.43 J	1.5 J	2.2 U	3 U	3.1 U	3 U	2.9 U	2.9 U	29 U	25 U
Heptachlor epoxide	ND	0.2 J	1.7 J	2.2 U	3 U	3.1 U	3 U	2.9 U	2.9 U	29 U	25 U
Methoxychlor	ND	0.49 J	240 J	22 U	30 U	31 U	30 U	29 U	29 U	290 U	250 U
alpha-Chlordane	ND	0.30 J	4.6 J	2.2 U	3 U	3.1 U	3 U	2.9 U	2.9 U	29 U	25 U
beta-BHC	1.9J	0.59 J	1.4 J	2.2 U	3 U	3.1 U	3 U	2.9 U	2.9 U	29 U	25 U
delta-BHC	0.41 J	0.54 J	0.59 J	2.2 UJ	3 UJ	3.1 UJ	3 UJ	2.9 UJ	2.9 UJ	29 U	25 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2.2 U	3 U	3.1 U	3 U	2.9 U	2.9 U	29 U	25 U
gamma-Chlordane	1.9 J	0.2 J	270 J	2.2 U	3 U	3.1 U	3 U	2.9 U	2.9 U	29 U	25 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-6 (continued)							
Station ID	Concentration	Lowest	Highest	NDW06SS21	NDW06SS22	NDW06SS23	W6-SB01	W6-SB02		W6-SB03	W6-SB04
Sample ID	Detected in surface	Detected	Detected	NDW06SS21-R01	NDW06SS22-R01	NDW06SS23-R01	NDA101	NDA103	NDA104FD1	NDA107	NDA109
Sample Date	soil at the PI 7 Site	Concentration	Concentration	08/28/03	08/28/03	08/28/03	04/24/00	04/24/00	04/24/00	04/24/00	04/24/00
Chemical Name											
Pesticide (UG_KG)											
4,4'-DDD	ND	0.33 J	40	44 U	4.3 U	4.2 J	11 J	4.5 UJ	4.70 UJ	4.20 UJ	0.620 J
4,4'-DDE	150	0.16 J	3,990 J	44 U	0.37 J	18 J	29 J	3.80 J	3 J	6.70 J	1.20 J
4,4'-DDT	31	0.26 J	2,190 J	44 U	4.3 U	44 U	7.20 J	4.5 UJ	4.70 UJ	3 J	4.30 UJ
Aldrin	ND	0.2 J	0.87 J	22 U	2.2 U	23 U	2.30 UJ	2.30 UJ	2.40 UJ	2.10 UJ	2.20 UJ
Dieldrin	ND	0.18 J	3.90	44 U	4.3 U	44 U	4.40 UJ	4.5 UJ	4.70 UJ	4.20 UJ	4.30 UJ
Endosulfan I	ND	3.5 J	3.5 J	22 U	2.2 U	23 U	2.30 UJ	2.30 UJ	2.40 UJ	2.10 UJ	2.20 UJ
Endosulfan II	ND	0.65 J	0.65 J	44 U	4.3 U	44 U	4.40 UJ	4.5 UJ	4.70 UJ	4.20 UJ	4.30 UJ
Endosulfan sulfate	ND	0.22 J	90 J	44 U	4.3 U	44 U	4.40 UJ	4.5 UJ	4.70 UJ	4.20 UJ	4.30 UJ
Endrin	2.4 J	0.22 J	16 JN	44 U	4.3 U	44 U	4.40 UJ	4.5 UJ	4.70 UJ	4.20 UJ	4.30 UJ
Endrin aldehyde	ND	0.21 J	11	44 U	4.3 U	44 U	4.40 UJ	4.5 UJ	4.70 UJ	4.20 UJ	4.30 UJ
Heptachlor	ND	0.43 J	1.5 J	22 U	2.2 U	23 U	2.30 UJ	2.30 UJ	2.40 UJ	2.10 UJ	2.20 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	22 U	2.2 U	23 U	2.30 UJ	2.30 UJ	2.40 UJ	2.10 UJ	2.20 UJ
Methoxychlor	ND	0.49 J	240 J	220 U	22 U	230 U	23 UJ	23 UJ	24 UJ	21 UJ	22 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	22 U	2.2 U	23 U	2.30 UJ	2.30 UJ	2.40 UJ	2.10 UJ	2.20 UJ
beta-BHC	1.9J	0.59 J	1.4 J	22 U	2.2 U	23 U	2.30 UJ	2.30 UJ	2.40 UJ	2.10 UJ	2.20 UJ
delta-BHC	0.41 J	0.54 J	0.59 J	22 U	2.2 U	23 U	2.30 UJ	2.30 UJ	2.40 UJ	2.10 UJ	2.20 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	22 U	2.2 U	23 U	2.30 UJ	2.30 UJ	2.40 UJ	2.10 UJ	2.20 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	22 U	2.2 U	23 U	2.30 UJ	2.30 UJ	2.40 UJ	2.10 UJ	2.20 UJ

Notes:

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-SWMU-6 (continued)				W-SWMU-7			
Station ID	**Concentration**	**Lowest**	**Highest**	W6-SB05	W6-SB06	W6-SB07	W6-SB08	NDW07SS07		NDW07SS08	NDW07SS09
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDA111	NDA113	NDA115	NDA117	NDW07FD02P-R01	NDW07SS07-R01	NDW07SS08-R01	NDW07SS09-R01
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/24/00	04/20/00	04/20/00	04/20/00	08/26/03	08/26/03	08/27/03	08/26/03
Chemical Name											
Pesticide (UG_KG)											
4,4'-DDD	ND	0.33 J	40	2 J	4.10 UJ	3.80 UJ	13 J	3.8 U	3.7 U	3.9 U	3.9 U
4,4'-DDE	150	0.16 J	3,990 J	7.5 J	74 J	1.80 J	46 J	3.8 U	0.31 J	3.9 U	0.97 J
4,4'-DDT	31	0.26 J	2,190 J	4.40 UJ	17 J	3.80 UJ	7 J	0.64 J	0.43 J	3.9 U	3.9 U
Aldrin	ND	0.2 J	0.87 J	2.20 UJ	2.10 UJ	1.90 UJ	2.10 UJ	1.9 U	1.9 U	2 U	2 U
Dieldrin	ND	0.18 J	3.90	4.40 UJ	4.10 UJ	3.80 UJ	4.20 UJ	3.8 U	3.7 U	3.9 U	3.9 U
Endosulfan I	ND	3.5 J	3.5 J	2.20 UJ	2.10 UJ	1.90 UJ	2.10 UJ	1.9 U	1.9 U	2 U	2 U
Endosulfan II	ND	0.65 J	0.65 J	4.40 UJ	4.10 UJ	3.80 UJ	4.20 UJ	3.8 U	3.7 U	3.9 U	3.9 U
Endosulfan sulfate	ND	0.22 J	90 J	4.40 UJ	4.10 UJ	3.80 UJ	4.20 UJ	3.8 U	3.7 U	3.9 U	3.9 U
Endrin	2.4 J	0.22 J	16 JN	4.40 UJ	4.10 UJ	3.80 UJ	4.20 UJ	3.8 U	3.7 U	3.9 U	3.9 U
Endrin aldehyde	ND	0.21 J	11	4.40 UJ	4.10 UJ	3.80 UJ	4.20 UJ	3.8 U	3.7 U	3.9 U	3.9 U
Heptachlor	ND	0.43 J	1.5 J	2.20 UJ	2.10 UJ	1.90 UJ	2.10 UJ	1.9 U	1.9 U	2 U	2 U
Heptachlor epoxide	ND	0.2 J	1.7 J	2.20 UJ	2.10 UJ	1.90 UJ	2.10 UJ	1.9 U	1.9 U	2 U	2 U
Methoxychlor	ND	0.49 J	240 J	22 UJ	21 UJ	19 UJ	21 UJ	19 U	19 U	20 U	20 U
alpha-Chlordane	ND	0.30 J	4.6 J	2.20 UJ	0.610 J	1.90 UJ	2.10 UJ	1.9 U	1.9 U	2 U	2 U
beta-BHC	1.9J	0.59 J	1.4 J	2.20 UJ	2.10 UJ	1.90 UJ	2.10 UJ	1.9 U	1.9 U	2 U	2 U
delta-BHC	0.41 J	0.54 J	0.59 J	2.20 UJ	2.10 UJ	1.90 UJ	2.10 UJ	1.9 UJ	1.9 U	2 U	2 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2.20 UJ	2.10 UJ	1.90 UJ	2.10 UJ	1.9 U	1.9 U	2 U	2 U
gamma-Chlordane	1.9 J	0.2 J	270 J	2.20 UJ	2.10 UJ	1.90 UJ	2.10 UJ	1.9 U	1.9 U	2 U	2 U

Notes:

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-7 (continued)						
Station ID	Concentration	Lowest	Highest	NDW07SS10	NDW07SS11	NDW07SS12	NDW07SS13	NDW07SS14	NDW07SS15	NDW07SS16
Sample ID	Detected in surface	Detected	Detected	NDW07SS10-R01	NDW07SS11-R01	NDW07SS12-R01	NDW07SS13-R01	NDW07SS14-R01	NDW07SS15-R01	NDW07SS16-R01
Sample Date	soil at the PI 7 Site	Concentration	Concentration	08/27/03	08/27/03	08/27/03	08/27/03	08/26/03	08/27/03	08/25/03
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.33 J	40	4 U	4 U	4.3 U	4.2 U	3.8 U	3.9 UJ	3.8 U
4,4'-DDE	150	0.16 J	3,990 J	4 U	4 U	4.3 U	4.2 U	3.8 U	3.9 UJ	3.8 U
4,4'-DDT	31	0.26 J	2,190 J	4 U	4 U	4.3 U	4.2 U	3.8 U	3.9 UJ	3.8 UJ
Aldrin	ND	0.2 J	0.87 J	2 U	2.1 U	2.2 U	2.2 U	1.9 U	2 UJ	1.9 U
Dieldrin	ND	0.18 J	3.90	4 U	4 U	4.3 U	4.2 U	3.8 U	3.9 UJ	3.8 U
Endosulfan I	ND	3.5 J	3.5 J	2 U	2.1 U	2.2 U	2.2 U	1.9 U	2 UJ	1.9 U
Endosulfan II	ND	0.65 J	0.65 J	4 U	4 U	4.3 U	4.2 U	3.8 U	3.9 UJ	3.8 U
Endosulfan sulfate	ND	0.22 J	90 J	4 U	4 U	4.3 U	4.2 U	3.8 U	3.9 UJ	3.8 U
Endrin	2.4 J	0.22 J	16 JN	4 U	4 U	4.3 U	4.2 U	3.8 U	3.9 UJ	3.8 U
Endrin aldehyde	ND	0.21 J	11	4 U	4 U	4.3 U	4.2 U	3.8 U	3.9 UJ	3.8 U
Heptachlor	ND	0.43 J	1.5 J	2 U	2.1 U	2.2 U	2.2 U	1.9 U	2 UJ	0.51 J
Heptachlor epoxide	ND	0.2 J	1.7 J	2 U	2.1 U	2.2 U	2.2 U	1.9 U	2 UJ	1.9 U
Methoxychlor	ND	0.49 J	240 J	20 U	21 U	22 U	22 U	19 U	20 UJ	19 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	2 U	2.1 U	2.2 U	2.2 U	1.9 U	2 UJ	1.9 U
beta-BHC	1.9J	0.59 J	1.4 J	2 U	2.1 U	2.2 U	2.2 U	1.9 U	2 UJ	1.9 U
delta-BHC	0.41 J	0.54 J	0.59 J	2 U	2.1 U	2.2 U	2.2 U	1.9 UJ	2 UJ	1.9 U
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2 U	2.1 U	2.2 U	2.2 U	1.9 U	2 UJ	1.9 U
gamma-Chlordane	1.9 J	0.2 J	270 J	2 U	2.1 U	2.2 U	2.2 U	1.9 U	2 UJ	1.9 U

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Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-7 (continued)							
Station ID	Concentration	Lowest	Highest	NDW07SS17		NDW07SS18	NDW07SS19	NDW07SS20	NDW07SS21	W7-SB01	W7-SB02
Sample ID	Detected in surface	Detected	Detected	NDW07SS17-R01	NDW07SS17-R01FD	NDW07SS18-R01	NDW07SS19-R01	NDW07SS20-R01	NDW07SS21-R01	NDA119	NDA120
Sample Date	soil at the PI 7 Site	Concentration	Concentration	08/25/03	08/25/03	08/27/03	08/27/03	08/27/03	08/27/03	04/18/00	04/18/00
Chemical Name											
Pesticide (UG_KG)											
4,4'-DDD	ND	0.33 J	40	4.2 U	4.1 U	3.7 UJ	4 U	3.5 U	3.5 U	3.70 UJ	4.40 UJ
4,4'-DDE	150	0.16 J	3,990 J	4.2 U	4.1 U	3.7 UJ	4 U	3.5 U	3.5 U	3.70 UJ	4.40 UJ
4,4'-DDT	31	0.26 J	2,190 J	4.2 UJ	4.1 U	3.7 UJ	4 U	3.5 U	3.5 U	2 J	0.700 J
Aldrin	ND	0.2 J	0.87 J	2.1 U	2.1 U	1.9 UJ	2 U	1.8 U	1.8 U	1.90 UJ	2.20 UJ
Dieldrin	ND	0.18 J	3.90	4.2 U	4.1 U	3.7 UJ	4 U	3.5 U	3.5 U	3.70 UJ	4.40 UJ
Endosulfan I	ND	3.5 J	3.5 J	2.1 U	2.1 U	1.9 UJ	2 U	1.8 U	1.8 U	1.90 UJ	2.20 UJ
Endosulfan II	ND	0.65 J	0.65 J	4.2 U	4.1 U	3.7 UJ	4 U	3.5 U	3.5 U	3.70 UJ	4.40 UJ
Endosulfan sulfate	ND	0.22 J	90 J	4.2 U	4.1 U	3.7 UJ	4 U	3.5 U	3.5 U	3.70 UJ	4.40 UJ
Endrin	2.4 J	0.22 J	16 JN	4.2 U	4.1 U	3.7 UJ	4 U	3.5 U	3.5 U	3.70 UJ	4.40 UJ
Endrin aldehyde	ND	0.21 J	11	4.2 U	4.1 U	3.7 UJ	4 U	3.5 U	3.5 U	3.70 UJ	4.40 UJ
Heptachlor	ND	0.43 J	1.5 J	0.43 J	2.1 U	1.9 UJ	2 U	1.8 U	1.8 U	1.90 UJ	2.20 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	2.1 U	2.1 U	1.9 UJ	2 U	1.8 U	1.8 U	1.90 UJ	2.20 UJ
Methoxychlor	ND	0.49 J	240 J	21 UJ	21 U	19 UJ	20 U	18 U	18 U	19 UJ	22 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	2.1 U	2.1 U	1.9 UJ	2 U	1.8 U	1.8 U	1.90 UJ	2.20 UJ
beta-BHC	1.9J	0.59 J	1.4 J	2.1 U	2.1 U	1.9 UJ	2 U	1.8 U	1.8 U	1.90 UJ	2.20 UJ
delta-BHC	0.41 J	0.54 J	0.59 J	2.1 U	2.1 UJ	1.9 UJ	2 U	1.8 U	1.8 U	1.90 UJ	2.20 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	2.1 U	2.1 U	1.9 UJ	2 U	1.8 U	1.8 U	1.90 UJ	2.20 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	2.1 U	2.1 U	1.9 UJ	2 U	1.8 U	1.8 U	1.90 UJ	2.20 UJ

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Shading Indicates Detection

Table 3
West Vieques Surface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-SWMU-7 (continued)			
Station ID	**Concentration**	**Lowest**	**Highest**	W7-SB03	W7-SB04	W7-SB05	W7-SB06
Sample ID	**Detected in surface**	**Detected**	**Detected**	NDA121	NDA122	NDA123	NDA124
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/18/00	04/18/00	04/18/00	04/18/00
Chemical Name							
Pesticide (UG_KG)							
4,4'-DDD	ND	0.33 J	40	3.60 UJ	3.70 UJ	3.70 UJ	3.70 UJ
4,4'-DDE	150	0.16 J	3,990 J	3.60 UJ	9.90 J	2.30 J	0.400 J
4,4'-DDT	31	0.26 J	2,190 J	3.60 UJ	23 J	16 J	3.60 J
Aldrin	ND	0.2 J	0.87 J	1.90 UJ	1.90 UJ	1.90 UJ	1.90 UJ
Dieldrin	ND	0.18 J	3.90	3.60 UJ	3.70 UJ	3.70 UJ	3.70 UJ
Endosulfan I	ND	3.5 J	3.5 J	1.90 UJ	1.90 UJ	1.90 UJ	1.90 UJ
Endosulfan II	ND	0.65 J	0.65 J	3.60 UJ	3.70 UJ	3.70 UJ	3.70 UJ
Endosulfan sulfate	ND	0.22 J	90 J	3.60 UJ	3.70 UJ	3.70 UJ	3.70 UJ
Endrin	2.4 J	0.22 J	16 JN	3.60 UJ	3.70 UJ	3.70 UJ	3.70 UJ
Endrin aldehyde	ND	0.21 J	11	3.60 UJ	3.70 UJ	3.70 UJ	3.70 UJ
Heptachlor	ND	0.43 J	1.5 J	1.90 UJ	1.90 UJ	1.90 UJ	1.90 UJ
Heptachlor epoxide	ND	0.2 J	1.7 J	1.90 UJ	1.90 UJ	1.90 UJ	1.90 UJ
Methoxychlor	ND	0.49 J	240 J	19 UJ	19 UJ	19 UJ	19 UJ
alpha-Chlordane	ND	0.30 J	4.6 J	1.90 UJ	1.90 UJ	1.90 UJ	1.90 UJ
beta-BHC	1.9J	0.59 J	1.4 J	1.90 UJ	1.90 UJ	1.90 UJ	1.90 UJ
delta-BHC	0.41 J	0.54 J	0.59 J	1.90 UJ	1.90 UJ	1.90 UJ	1.90 UJ
gamma-BHC (Lindane)	ND	0.66 J	0.66 J	1.90 UJ	1.90 UJ	1.90 UJ	1.90 UJ
gamma-Chlordane	1.9 J	0.2 J	270 J	1.90 UJ	1.90 UJ	1.90 UJ	1.90 UJ

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-B										
Station ID	**Concentration**	**Lowest**	**Highest**	AB-SB05	AB-SB06	AB-SB07	AB-SB08	AB-SB09	AB-SB10	AB-SB11	AB-SB12	AB-SB13	AB-SB14	AB-SB15
Sample ID	**Detected in subsurface**	**Detected**	**Detected**	NDE240	NDE242	NDE244	NDE246	NDE248	NDE251	NDE253	NDE255	NDE257	NDE259	NDE262
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/13/01	04/13/01	04/13/01	04/13/01	04/13/01	04/13/01	04/13/01	04/13/01	04/13/01	04/13/01	04/13/01
Chemical Name														
Pesticide (UG_KG)														
4,4'-DDD	ND	0.19 J	24	3.5 U	3.90 U	4 U	4.20 U	3.80 U	3.90 U	3.90 U	3.5 U	3.80 U	3.70 U	4.10 U
4,4'-DDE	130	0.1 J	764	3.5 U	3.90 U	4 U	4.20 U	3.80 U	3.90 U	3.90 U	3.5 U	3.80 U	3.70 U	4.10 U
4,4'-DDT	2.2 J	0.25 J	928	3.5 U	3.90 U	4 U	4.20 U	3.80 U	3.90 U	3.90 U	3.5 U	3.80 U	3.70 U	4.10 U
Aldrin	ND	0.550 J	1.1 J	1.80 U	2 U	2.10 U	2.20 U	2 U	2 U	2 U	1.80 U	2 U	0.550 J	2.10 U
Dieldrin	ND	0.26 J	1.3 J	3.5 U	3.90 U	4 U	4.20 U	3.80 U	3.90 U	3.90 U	3.5 U	3.80 U	3.70 U	4.10 U
Endosulfan I	ND	0.29 J	0.67 J	1.80 U	2 U	2.10 U	2.20 U	2 U	2 U	2 U	1.80 U	2 U	1.90 U	2.10 U
Endosulfan sulfate	ND	0.26 J	0.29 J	3.5 U	3.90 U	4 U	4.20 U	3.80 U	3.90 U	3.90 U	3.5 U	3.80 U	3.70 U	4.10 U
Endrin	ND	0.26 J	0.26 J	3.5 U	3.90 U	4 U	4.20 U	3.80 U	3.90 U	3.90 U	3.5 U	3.80 U	3.70 U	4.10 U
Endrin aldehyde	ND	0.2 J	13	3.5 U	3.90 U	4 U	4.20 U	3.80 U	3.90 U	3.90 U	3.5 U	3.80 U	3.70 U	4.10 U
Endrin ketone	ND	1.4 J	1.4 J	3.5 U	3.90 U	4 U	4.20 U	3.80 U	3.90 U	3.90 U	3.5 U	3.80 U	3.70 U	4.10 U
Heptachlor	ND	0.2 J	0.66 J	1.80 U	2 U	2.10 U	2.20 U	2 U	2 U	2 U	1.80 U	2 U	1.90 U	2.10 U
Heptachlor epoxide	ND	0.31 J	0.31 J	1.80 U	2 U	2.10 U	2.20 U	2 U	2 U	2 U	1.80 U	2 U	1.90 U	2.10 U
alpha-BHC	ND	4.1 J	5.3 JN	1.80 U	2 U	2.10 U	2.20 U	2 U	2 U	2 U	1.80 U	2 U	1.90 U	2.10 U
alpha-Chlordane	ND	0.22 J	3	1.80 U	2 U	2.10 U	2.20 U	2 U	2 U	2 U	1.80 U	2 U	1.90 U	2.10 U
beta-BHC	ND	0.76 J	0.76 J	1.80 U	2 U	2.10 U	2.20 U	2 U	2 U	2 U	1.80 U	2 U	1.90 U	2.10 U
delta-BHC	ND	0.22 J	0.22 J	1.80 U	2 U	2.10 U	2.20 U	2 U	2 U	2 U	1.80 U	2 U	1.90 U	2.10 U
gamma-Chlordane	ND	0.20 J	8.3	1.80 U	2 U	2.10 U	2.20 U	2 U	2 U	2 U	1.80 U	2 U	1.90 U	2.10 U

Notes:

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-B (continued)						W-AOC-C					
Station ID	Concentration	Lowest	Highest	AB-SB16	WWTPSB001	WWTPSB002	WWTPSB003	WWTPSB004		AC-SB16			AC-SB16		
Sample ID	Detected in subsurface	Detected	Detected	NDE264	NDE189	NDE191	NDE193	NDE195FD1	NDE196	NDA213	NDA214FD1	NDA215	NDA216	NDA217	NDA218
Sample Date	soil at the PI 7 Site	Concentration	Concentration	04/13/01	12/04/00	12/04/00	12/04/00	12/04/00	12/04/00	04/07/00	04/07/00	04/07/00	04/07/00	04/07/00	04/07/00
Chemical Name															
Pesticide (UG_KG)															
4,4'-DDD	ND	0.19 J	24	3.60 U	3.70 UJ	3.80 UJ	3.70 UJ	3.60 UJ	3.60 UJ	3.8 UJ	3.7 UJ	3.8 UJ	3.6 UJ	3.8 UJ	3.7 UJ
4,4'-DDE	130	0.1 J	764	3.60 U	3.70 UJ	3.80 UJ	3.70 UJ	3.60 UJ	3.60 UJ	3.8 UJ	3.7 UJ	3.8 UJ	3.6 UJ	3.8 UJ	3.7 UJ
4,4'-DDT	2.2 J	0.25 J	928	3.60 U	3.70 UJ	3.80 UJ	3.70 UJ	3.60 UJ	3.60 UJ	3.8 UJ	3.7 UJ	3.8 UJ	3.6 UJ	3.8 UJ	3.7 UJ
Aldrin	ND	0.550 J	1.1 J	1.90 U	1.90 UJ	2 UJ	1.90 UJ	1.90 UJ	1.90 UJ	2 UJ	1.9 UJ	2 UJ	1.8 UJ	1.9 UJ	1.9 UJ
Dieldrin	ND	0.26 J	1.3 J	3.60 U	3.70 UJ	3.80 UJ	3.70 UJ	3.60 UJ	3.60 UJ	3.8 UJ	3.7 UJ	3.8 UJ	3.6 UJ	3.8 UJ	3.7 UJ
Endosulfan I	ND	0.29 J	0.67 J	1.90 U	1.90 UJ	2 UJ	1.90 UJ	1.90 UJ	1.90 UJ	2 UJ	1.9 UJ	2 UJ	1.8 UJ	1.9 UJ	1.9 UJ
Endosulfan sulfate	ND	0.26 J	0.29 J	3.60 U	3.70 UJ	3.80 UJ	3.70 UJ	3.60 UJ	3.60 UJ	3.8 UJ	3.7 UJ	3.8 UJ	3.6 UJ	3.8 UJ	3.7 UJ
Endrin	ND	0.26 J	0.26 J	3.60 U	3.70 UJ	3.80 UJ	3.70 UJ	3.60 UJ	3.60 UJ	3.8 UJ	3.7 UJ	3.8 UJ	3.6 UJ	3.8 UJ	3.7 UJ
Endrin aldehyde	ND	0.2 J	13	3.60 U	3.70 UJ	3.80 UJ	3.70 UJ	3.60 UJ	3.60 UJ	3.8 UJ	3.7 UJ	3.8 UJ	3.6 UJ	3.8 UJ	3.7 UJ
Endrin ketone	ND	1.4 J	1.4 J	3.60 U	3.70 UJ	3.80 UJ	3.70 UJ	3.60 UJ	3.60 UJ	3.8 UJ	3.7 UJ	3.8 UJ	3.6 UJ	3.8 UJ	3.7 UJ
Heptachlor	ND	0.2 J	0.66 J	1.90 U	1.90 UJ	2 UJ	1.90 UJ	1.90 UJ	1.90 UJ	2 UJ	1.9 UJ	2 UJ	1.8 UJ	1.9 UJ	1.9 UJ
Heptachlor epoxide	ND	0.31 J	0.31 J	1.90 U	1.90 UJ	2 UJ	1.90 UJ	1.90 UJ	1.90 UJ	2 UJ	1.9 UJ	2 UJ	1.8 UJ	1.9 UJ	1.9 UJ
alpha-BHC	ND	4.1 J	5.3 JN	1.90 U	1.90 UJ	2 UJ	1.90 UJ	1.90 UJ	1.90 UJ	2 UJ	1.9 UJ	2 UJ	1.8 UJ	1.9 UJ	1.9 UJ
alpha-Chlordane	ND	0.22 J	3	1.90 U	1.90 UJ	2 UJ	1.90 UJ	1.90 UJ	1.90 UJ	2 UJ	1.9 UJ	2 UJ	1.8 UJ	1.9 UJ	1.9 UJ
beta-BHC	ND	0.76 J	0.76 J	1.90 U	1.90 UJ	2 UJ	1.90 UJ	1.90 UJ	1.90 UJ	2 UJ	1.9 UJ	2 UJ	1.8 UJ	1.9 UJ	1.9 UJ
delta-BHC	ND	0.22 J	0.22 J	1.90 U	1.90 UJ	2 UJ	1.90 UJ	1.90 UJ	1.90 UJ	2 UJ	1.9 UJ	2 UJ	1.8 UJ	1.9 UJ	1.9 UJ
gamma-Chlordane	ND	0.20 J	8.3	1.90 U	1.90 UJ	2 UJ	1.90 UJ	1.90 UJ	1.90 UJ	2 UJ	1.9 UJ	2 UJ	1.8 UJ	1.9 UJ	1.9 UJ

Notes:

NA - Not analyzed

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JN - Analyte present at approximate quantity

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-C (continued)											
Station ID	Concentration	Lowest	Highest	AC-SB17			AC-SB17		AC-SB18						AC-SB19
Sample ID	Detected in subsurface	Detected	Detected	NDA219	NDA220	NDA221	NDA222	NDA223	NDA224	NDA225	NDA226	NDA227FD1	NDA228	NDA229	NDA230
Sample Date	soil at the PI 7 Site	Concentration	Concentration	04/07/00	04/07/00	04/07/00	04/07/00	04/07/00	04/10/00	04/10/00	04/10/00	04/10/00	04/10/00	04/10/00	04/10/00
Chemical Name															
Pesticide (UG_KG)															
4,4'-DDD	ND	0.19 J	24	3.7 UJ	3.8 UJ	3.6 UJ	3.3 UJ	3.8 UJ	3.8 U	4.1 U	3.9 U	3.8 U	4 U	4.3 U	3.6 U
4,4'-DDE	130	0.1 J	764	3.7 UJ	3.8 UJ	3.6 UJ	3.3 UJ	3.8 UJ	3.8 U	4.1 U	3.9 U	3.8 U	4 U	4.3 U	3.6 U
4,4'-DDT	2.2 J	0.25 J	928	3.7 UJ	3.8 UJ	3.6 UJ	3.3 UJ	3.8 UJ	3.8 UJ	4.1 UJ	3.9 UJ	3.8 UJ	4 UJ	4.3 UJ	3.6 UJ
Aldrin	ND	0.550 J	1.1 J	1.9 UJ	1.9 UJ	1.8 UJ	1.7 UJ	1.9 UJ	1.9 U	2.1 U	2 U	1.9 U	2 U	2.2 U	1.8 U
Dieldrin	ND	0.26 J	1.3 J	3.7 UJ	3.8 UJ	3.6 UJ	3.3 UJ	3.8 UJ	3.8 U	4.1 U	3.9 U	3.8 U	4 U	4.3 U	3.6 U
Endosulfan I	ND	0.29 J	0.67 J	1.9 UJ	1.9 UJ	1.8 UJ	1.7 UJ	1.9 UJ	1.9 U	2.1 U	2 U	1.9 U	2 U	2.2 U	1.8 U
Endosulfan sulfate	ND	0.26 J	0.29 J	3.7 UJ	3.8 UJ	3.6 UJ	3.3 UJ	3.8 UJ	3.8 U	4.1 U	3.9 U	3.8 U	4 U	4.3 U	3.6 U
Endrin	ND	0.26 J	0.26 J	3.7 UJ	3.8 UJ	3.6 UJ	3.3 UJ	3.8 UJ	3.8 U	4.1 U	3.9 U	3.8 U	4 U	4.3 U	3.6 U
Endrin aldehyde	ND	0.2 J	13	3.7 UJ	3.8 UJ	3.6 UJ	3.3 UJ	3.8 UJ	3.8 U	4.1 U	3.9 U	3.8 U	4 U	4.3 U	3.6 U
Endrin ketone	ND	1.4 J	1.4 J	3.7 UJ	3.8 UJ	3.6 UJ	3.3 UJ	3.8 UJ	3.8 U	4.1 U	3.9 U	3.8 U	4 U	4.3 U	3.6 U
Heptachlor	ND	0.2 J	0.66 J	1.9 UJ	1.9 UJ	1.8 UJ	1.7 UJ	1.9 UJ	1.9 U	2.1 U	2 U	1.9 U	2 U	2.2 U	1.8 U
Heptachlor epoxide	ND	0.31 J	0.31 J	1.9 UJ	1.9 UJ	1.8 UJ	1.7 UJ	1.9 UJ	1.9 U	2.1 U	2 U	1.9 U	2 U	2.2 U	1.8 U
alpha-BHC	ND	4.1 J	5.3 JN	1.9 UJ	1.9 UJ	1.8 UJ	1.7 UJ	1.9 UJ	1.9 UJ	2.1 UJ	2 UJ	1.9 UJ	2 UJ	2.2 UJ	1.8 UJ
alpha-Chlordane	ND	0.22 J	3	1.9 UJ	1.9 UJ	1.8 UJ	1.7 UJ	1.9 UJ	1.9 U	2.1 U	2 U	1.9 U	2 U	2.2 U	1.8 U
beta-BHC	ND	0.76 J	0.76 J	1.9 UJ	1.9 UJ	1.8 UJ	1.7 UJ	1.9 UJ	1.9 U	2.1 U	2 U	1.9 U	2 U	2.2 U	1.8 U
delta-BHC	ND	0.22 J	0.22 J	1.9 UJ	1.9 UJ	1.8 UJ	1.7 UJ	1.9 UJ	1.9 UJ	2.1 UJ	2 UJ	1.9 UJ	2 UJ	2.2 UJ	1.8 UJ
gamma-Chlordane	ND	0.20 J	8.3	1.9 UJ	1.9 UJ	1.8 UJ	1.7 UJ	1.9 UJ	1.9 U	2.1 U	2 U	1.9 U	2 U	2.2 U	1.8 U

Notes:

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JN - Analyte present at approximate quantity

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-C (continued)			
Station ID	**Concentration**	**Lowest**	**Highest**	AC-SB19			
Sample ID	**Detected in subsurface**	**Detected**	**Detected**	NDA231	NDA232	NDA233	NDA234
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/10/00	04/10/00	04/10/00	04/10/00
Chemical Name							
Pesticide (UG_KG)							
4,4'-DDD	ND	0.19 J	24	3.6 U	3.7 U	3.5 U	3.8 U
4,4'-DDE	130	0.1 J	764	3.6 U	3.7 U	3.5 U	3.8 U
4,4'-DDT	2.2 J	0.25 J	928	3.6 UJ	3.7 UJ	3.5 UJ	3.8 UJ
Aldrin	ND	0.550 J	1.1 J	1.8 U	1.9 U	1.8 U	1.9 U
Dieldrin	ND	0.26 J	1.3 J	3.6 U	3.7 U	3.5 U	3.8 U
Endosulfan I	ND	0.29 J	0.67 J	1.8 U	1.9 U	1.8 U	1.9 U
Endosulfan sulfate	ND	0.26 J	0.29 J	3.6 U	3.7 U	3.5 U	3.8 U
Endrin	ND	0.26 J	0.26 J	3.6 U	3.7 U	3.5 U	3.8 U
Endrin aldehyde	ND	0.2 J	13	3.6 U	3.7 U	3.5 U	3.8 U
Endrin ketone	ND	1.4 J	1.4 J	3.6 U	3.7 U	3.5 U	3.8 U
Heptachlor	ND	0.2 J	0.66 J	1.8 U	1.9 U	1.8 U	1.9 U
Heptachlor epoxide	ND	0.31 J	0.31 J	1.8 U	1.9 U	1.8 U	1.9 U
alpha-BHC	ND	4.1 J	5.3 JN	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ
alpha-Chlordane	ND	0.22 J	3	1.8 U	1.9 U	1.8 U	1.9 U
beta-BHC	ND	0.76 J	0.76 J	1.8 U	1.9 U	1.8 U	1.9 U
delta-BHC	ND	0.22 J	0.22 J	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ
gamma-Chlordane	ND	0.20 J	8.3	1.8 U	1.9 U	1.8 U	1.9 U

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-E										W-AOC-F
Station ID	**Concentration**	**Lowest**	**Highest**	NDAEMW01	WAE-SO13				WAE-SO14			WAE-SO15	WAE-SO16	AF-SB01
Sample ID	**Detected in subsurface**	**Detected**	**Detected**	NDAEGW01-FP1	WAE-SB13-0406R	WAE-SB13P-0406R	WAE-SB13-3234	WAE-SB13-3436	WAE-SB14-0406	WAE-SB14-4244	WAE-SB14-4446	WAE-SB15-0406R	WAE-SB16-0406	NDA235
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	09/01/04	12/12/05	12/12/05	12/14/05	12/14/05	12/01/05	12/12/05	12/12/05	12/05/05	12/05/05	04/11/00
Chemical Name														
Pesticide (UG_KG)														
4,4'-DDD	ND	0.19 J	24	21,000 U	3.6 U	3.6 U	3.8 U	3.6 U	3.7 U	3.8 U	3.6 U	3.8 U	3.8 U	4.4 UJ
4,4'-DDE	130	0.1 J	764	21,000 U	3.6 U	1.5 J	3.8 U	3.6 U	3.7 U	3.8 U	7.8	3.8 U	3.8 U	4.4 UJ
4,4'-DDT	2.2 J	0.25 J	928	21,000 U	3.6 U	3.6 U	3.8 U	3.6 U	3.7 U	3.8 U	9.2	3.8 U	3.8 U	4.4 UJ
Aldrin	ND	0.550 J	1.1 J	11,000 U	1.9 U	1.9 U	2 U	1.1 J	1.9 U	1.9 U	1.9 U	1.9 U	2 U	2.2 UJ
Dieldrin	ND	0.26 J	1.3 J	21,000 U	3.6 U	3.6 U	3.8 U	3.6 U	3.7 U	3.8 U	3.6 U	3.8 U	3.8 U	4.4 UJ
Endosulfan I	ND	0.29 J	0.67 J	11,000 U	1.9 U	1.9 U	2 U	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U	2 U	2.2 UJ
Endosulfan sulfate	ND	0.26 J	0.29 J	21,000 U	3.6 U	3.6 U	3.8 U	3.6 U	3.7 U	3.8 U	3.6 U	3.8 U	3.8 U	4.4 UJ
Endrin	ND	0.26 J	0.26 J	21,000 U	3.6 U	3.6 U	3.8 U	3.6 U	3.7 U	3.8 U	3.6 U	3.8 U	3.8 U	4.4 UJ
Endrin aldehyde	ND	0.2 J	13	21,000 U	3.6 U	3.6 U	2.1 J	3.6 U	3.7 U	3.8 U	3.6 U	3.8 U	3.8 U	4.4 UJ
Endrin ketone	ND	1.4 J	1.4 J	21,000 U	3.6 U	3.6 U	3.8 U	3.6 U	3.7 U	3.8 U	4 R	3.8 U	3.8 U	4.4 UJ
Heptachlor	ND	0.2 J	0.66 J	11,000 U	1.9 U	1.9 U	2 U	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U	2 U	2.2 UJ
Heptachlor epoxide	ND	0.31 J	0.31 J	11,000 U	1.9 U	1.9 U	2 U	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U	2 U	2.2 UJ
alpha-BHC	ND	4.1 J	5.3 JN	11,000 U	1.9 U	1.9 U	5.3 JN	4.1 J	1.9 U	1.9 U	1.9 U	1.9 U	2 U	2.2 UJ
alpha-Chlordane	ND	0.22 J	3	11,000 U	1.9 U	1.9 U	2 U	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U	2 U	2.2 UJ
beta-BHC	ND	0.76 J	0.76 J	11,000 U	1.9 U	1.9 U	2 U	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U	2 U	2.2 UJ
delta-BHC	ND	0.22 J	0.22 J	11,000 U	1.9 U	1.9 U	2 U	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U	2 U	2.2 UJ
gamma-Chlordane	ND	0.20 J	8.3	11,000 U	1.9 U	5	2 U	1.8 U	1.9 U	1.9 U	8.3	1.9 U	2 U	2.2 UJ

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-F (continued)											
Station ID	Concentration	Lowest	Highest	AF-SB01					AF-SB02					AF-SB03	
Sample ID	Detected in subsurface	Detected	Detected	NDA236	NDA237FD1	NDA238	NDA239	NDA240	NDA241	NDA242	NDA243	NDA244	NDA245	NDA246	NDA247FD1
Sample Date	soil at the PI 7 Site	Concentration	Concentration	04/11/00	04/11/00	04/11/00	04/11/00	04/11/00	04/11/00	04/11/00	04/11/00	04/11/00	04/12/00	04/12/00	04/12/00
Chemical Name															
Pesticide (UG_KG)															
4,4'-DDD	ND	0.19 J	24	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	4 UJ	3.7 UJ	4.2 UJ	3.9 UJ	3.7 UJ	3.8 UJ	4.1 UJ	3.8 UJ
4,4'-DDE	130	0.1 J	764	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	4 UJ	3.7 UJ	4.2 UJ	3.9 UJ	3.7 UJ	3.8 UJ	0.47 J	3.8 UJ
4,4'-DDT	2.2 J	0.25 J	928	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	4 UJ	3.7 UJ	4.2 UJ	3.9 UJ	3.7 UJ	3.8 UJ	4.1 UJ	3.8 UJ
Aldrin	ND	0.550 J	1.1 J	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.9 UJ	2.1 UJ	2 UJ	1.9 UJ	2 UJ	2.1 UJ	2 UJ
Dieldrin	ND	0.26 J	1.3 J	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	4 UJ	3.7 UJ	4.2 UJ	3.9 UJ	3.7 UJ	3.8 UJ	4.1 UJ	3.8 UJ
Endosulfan I	ND	0.29 J	0.67 J	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.9 UJ	2.1 UJ	2 UJ	1.9 UJ	2 UJ	2.1 UJ	2 UJ
Endosulfan sulfate	ND	0.26 J	0.29 J	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	4 UJ	3.7 UJ	4.2 UJ	3.9 UJ	3.7 UJ	3.8 UJ	4.1 UJ	3.8 UJ
Endrin	ND	0.26 J	0.26 J	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	4 UJ	3.7 UJ	4.2 UJ	3.9 UJ	3.7 UJ	3.8 UJ	4.1 UJ	3.8 UJ
Endrin aldehyde	ND	0.2 J	13	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	4 UJ	3.7 UJ	4.2 UJ	3.9 UJ	3.7 UJ	3.8 UJ	4.1 UJ	3.8 UJ
Endrin ketone	ND	1.4 J	1.4 J	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ	4 UJ	3.7 UJ	4.2 UJ	3.9 UJ	3.7 UJ	3.8 UJ	4.1 UJ	3.8 UJ
Heptachlor	ND	0.2 J	0.66 J	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.9 UJ	2.1 UJ	2 UJ	1.9 UJ	2 UJ	2.1 UJ	2 UJ
Heptachlor epoxide	ND	0.31 J	0.31 J	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.9 UJ	2.1 UJ	2 UJ	1.9 UJ	2 UJ	2.1 UJ	2 UJ
alpha-BHC	ND	4.1 J	5.3 JN	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.9 UJ	2.1 UJ	2 UJ	1.9 UJ	2 UJ	2.1 UJ	2 UJ
alpha-Chlordane	ND	0.22 J	3	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.9 UJ	2.1 UJ	2 UJ	1.9 UJ	2 UJ	2.1 UJ	2 UJ
beta-BHC	ND	0.76 J	0.76 J	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.9 UJ	2.1 UJ	2 UJ	1.9 UJ	2 UJ	2.1 UJ	2 UJ
delta-BHC	ND	0.22 J	0.22 J	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.9 UJ	2.1 UJ	2 UJ	1.9 UJ	2 UJ	2.1 UJ	2 UJ
gamma-Chlordane	ND	0.20 J	8.3	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	1.9 UJ	2.1 UJ	2 UJ	1.9 UJ	2 UJ	2.1 UJ	2 UJ

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-F (continued)						W-AOC-H						
Station ID	**Concentration**	**Lowest**	**Highest**	AF-SB03		AF-SB04				AOCHSB001	AOCHSB002	AOCHSB003	AOCHSB004	AOCHSB005	AOCHSB006	AOCHSB007
Sample ID	**Detected in subsurface**	**Detected**	**Detected**	NDA248	NDA249	NDA252	NDA253	NDA254	NDA255	NDE006	NDE008	NDE010	NDE012	NDE014	NDE016	NDE018
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/12/00	04/12/00	04/12/00	04/12/00	04/12/00	04/12/00	12/05/00	12/05/00	12/05/00	12/05/00	12/05/00	12/06/00	12/06/00
Chemical Name																
Pesticide (UG_KG)																
4,4'-DDD	ND	0.19 J	24	4 UJ	3.7 UJ	3.9 UJ	4.2 UJ	4.2 UJ	4.1 UJ	3.9 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 U	3.5 U
4,4'-DDE	130	0.1 J	764	4 UJ	3.7 UJ	3.9 UJ	4.2 UJ	4.2 UJ	4.1 UJ	764 J	124 J	3.9 J	1.6 J	8.7 J	2 J	4.5
4,4'-DDT	2.2 J	0.25 J	928	4 UJ	3.7 UJ	3.9 UJ	4.2 UJ	4.2 UJ	4.1 UJ	928 J	22 J	3.5 UJ	3.5 UJ	7.6 J	1.5 J	2.5 J
Aldrin	ND	0.550 J	1.1 J	2.1 UJ	1.9 UJ	2 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 U	1.8 U
Dieldrin	ND	0.26 J	1.3 J	4 UJ	3.7 UJ	3.9 UJ	4.2 UJ	4.2 UJ	4.1 UJ	3.9 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 U	3.5 U
Endosulfan I	ND	0.29 J	0.67 J	2.1 UJ	1.9 UJ	2 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 U	1.8 U
Endosulfan sulfate	ND	0.26 J	0.29 J	4 UJ	3.7 UJ	3.9 UJ	4.2 UJ	4.2 UJ	4.1 UJ	3.9 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 U	3.5 U
Endrin	ND	0.26 J	0.26 J	4 UJ	3.7 UJ	3.9 UJ	4.2 UJ	4.2 UJ	4.1 UJ	3.9 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 U	3.5 U
Endrin aldehyde	ND	0.2 J	13	4 UJ	3.7 UJ	3.9 UJ	4.2 UJ	4.2 UJ	4.1 UJ	3.9 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 U	3.5 U
Endrin ketone	ND	1.4 J	1.4 J	4 UJ	3.7 UJ	3.9 UJ	4.2 UJ	4.2 UJ	4.1 UJ	3.9 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 UJ	3.5 U	3.5 U
Heptachlor	ND	0.2 J	0.66 J	2.1 UJ	1.9 UJ	2 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 U	1.8 U
Heptachlor epoxide	ND	0.31 J	0.31 J	2.1 UJ	1.9 UJ	2 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 U	1.8 U
alpha-BHC	ND	4.1 J	5.3 JN	2.1 UJ	1.9 UJ	2 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 U	1.8 U
alpha-Chlordane	ND	0.22 J	3	2.1 UJ	1.9 UJ	2 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 U	1.8 U
beta-BHC	ND	0.76 J	0.76 J	2.1 UJ	1.9 UJ	2 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 U	1.8 U
delta-BHC	ND	0.22 J	0.22 J	2.1 UJ	1.9 UJ	2 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 U	1.8 U
gamma-Chlordane	ND	0.20 J	8.3	2.1 UJ	1.9 UJ	2 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.8 U	1.8 U

Notes:

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-H (continued)												
Station ID	**Concentration**	**Lowest**	**Highest**	AOCHSB008	AOCHSB009			AOCHSB010	AOCHSB011	AOCHSB012	AOCHSB013	AOCHSB014	AOCHSB015		AOCHSB016	
Sample ID	**Detected in subsurface**	**Detected**	**Detected**	NDE020	NDE022	NDE203	NDE204	NDE025	NDE027	NDE029	NDE031	NDE033	NDE035	NDE036FD1	NDE038	NDE039FD1
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	12/06/00	12/06/00	12/06/00	12/06/00	12/06/00	12/06/00	12/06/00	12/06/00	12/07/00	12/07/00	12/07/00	12/07/00	12/07/00
Chemical Name																
Pesticide (UG_KG)																
4,4'-DDD	ND	0.19 J	24	3.7 U	3.6 U	3.9 U	3.9 U	3.8 U	4.9	13	2.5 J	3.7 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ
4,4'-DDE	130	0.1 J	764	3.7 U	3.6 U	3.9 U	3.9 U	1.5 J	419	24	1.7 J	3.7 UJ	3.8 UJ	3.7 UJ	3.8 J	3.7 UJ
4,4'-DDT	2.2 J	0.25 J	928	3.7 U	3.6 UJ	3.9 UJ	3.9 UJ	0.9 J	3.7 U	3.8 U	3.6 U	3.7 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ
Aldrin	ND	0.550 J	1.1 J	1.9 U	1.9 U	2 U	2 U	2 U	1.9 U	2 U	1.8 U	1.9 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Dieldrin	ND	0.26 J	1.3 J	3.7 U	3.6 U	3.9 U	3.9 U	3.8 U	3.7 U	3.8 U	3.6 U	3.7 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ
Endosulfan I	ND	0.29 J	0.67 J	1.9 U	1.9 U	2 U	2 U	2 U	1.9 U	2 U	1.8 U	1.9 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Endosulfan sulfate	ND	0.26 J	0.29 J	3.7 U	3.6 U	3.9 U	3.9 U	3.8 U	3.7 U	3.8 U	3.6 U	3.7 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ
Endrin	ND	0.26 J	0.26 J	3.7 U	3.6 U	3.9 U	3.9 U	3.8 U	3.7 U	3.8 U	3.6 U	3.7 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ
Endrin aldehyde	ND	0.2 J	13	3.7 U	3.6 U	3.9 U	3.9 U	3.8 U	3.7 U	3.8 U	3.6 U	3.7 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ
Endrin ketone	ND	1.4 J	1.4 J	3.7 U	3.6 U	3.9 U	3.9 U	3.8 U	3.7 U	3.8 U	3.6 U	3.7 UJ	3.8 UJ	3.7 UJ	3.7 UJ	3.7 UJ
Heptachlor	ND	0.2 J	0.66 J	1.9 U	1.9 U	2 U	2 U	2 U	1.9 U	2 U	1.8 U	1.9 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Heptachlor epoxide	ND	0.31 J	0.31 J	1.9 U	1.9 U	2 U	2 U	2 U	1.9 U	2 U	1.8 U	1.9 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ
alpha-BHC	ND	4.1 J	5.3 JN	1.9 U	1.9 U	2 U	2 U	2 U	1.9 U	2 U	1.8 U	1.9 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ
alpha-Chlordane	ND	0.22 J	3	1.9 U	1.9 U	2 U	2 U	2 U	1.9 U	2 U	1.8 U	1.9 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ
beta-BHC	ND	0.76 J	0.76 J	1.9 U	1.9 U	2 U	2 U	2 U	1.9 U	2 U	1.8 U	1.9 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ
delta-BHC	ND	0.22 J	0.22 J	1.9 U	1.9 U	2 U	2 U	2 U	1.9 U	2 U	1.8 U	1.9 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ
gamma-Chlordane	ND	0.20 J	8.3	1.9 U	1.9 U	2 U	2 U	2 U	1.9 U	2 U	1.8 U	1.9 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-H (continued)										
Station ID	**Concentration**	**Lowest**	**Highest**	NDAHSB17	NDAHSB18	NDAHSB19	NDAHSB20		NDAHSB21	NDAHSB22	NDAHSB23	NDAHSB24	NDAHSB25	NDAHSB26
Sample ID	**Detected in subsurface**	**Detected**	**Detected**	NDAHSB17-R01	NDAHSB18-R01	NDAHSB19-R01	NDAHFD05P-R01	NDAHSB20-R01	NDAHSB21-R01	NDAHSB22-R01	NDAHSB23-R01	NDAHSB24-R01	NDAHSB25-R01	NDAHSB26-R01
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03	08/26/03
Chemical Name														
Pesticide (UG_KG)														
4,4'-DDD	ND	0.19 J	24	3.5 UJ	3.9 UJ	3.4 UJ	3.4 U	3.5 UJ	3.4 UJ	3.4 UJ	3.4 UJ	3.4 UJ	3.6 U	3.6 U
4,4'-DDE	130	0.1 J	764	3.5 U	0.2 J	3.4 U	0.1 J	0.14 J	3.4 U	3.4 U	3.4 U	3.4 U	3.6 U	3.6 U
4,4'-DDT	2.2 J	0.25 J	928	3.5 U	3.9 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 U	3.4 U	3.4 U	3.6 U	3.6 U
Aldrin	ND	0.550 J	1.1 J	1.8 U	2 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U
Dieldrin	ND	0.26 J	1.3 J	3.5 U	3.9 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 U	3.4 U	3.4 U	3.6 U	3.6 U
Endosulfan I	ND	0.29 J	0.67 J	1.8 U	2 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U
Endosulfan sulfate	ND	0.26 J	0.29 J	3.5 U	3.9 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 U	3.4 U	3.4 U	3.6 U	3.6 U
Endrin	ND	0.26 J	0.26 J	3.5 U	3.9 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 U	3.4 U	3.4 U	3.6 U	3.6 U
Endrin aldehyde	ND	0.2 J	13	3.5 U	3.9 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 U	3.4 U	3.4 U	3.6 U	3.6 U
Endrin ketone	ND	1.4 J	1.4 J	3.5 U	3.9 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 U	3.4 U	3.4 U	3.6 U	3.6 U
Heptachlor	ND	0.2 J	0.66 J	1.8 U	2 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U
Heptachlor epoxide	ND	0.31 J	0.31 J	1.8 U	2 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U
alpha-BHC	ND	4.1 J	5.3 JN	1.8 U	2 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U
alpha-Chlordane	ND	0.22 J	3	1.8 U	2 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U
beta-BHC	ND	0.76 J	0.76 J	1.8 U	2 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U
delta-BHC	ND	0.22 J	0.22 J	1.8 U	2 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U
gamma-Chlordane	ND	0.20 J	8.3	1.8 U	2 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U

Notes:

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-H (continued)			W-AOC-I									
Station ID	**Concentration**	**Lowest**	**Highest**	NDAHSB27	NDAHSB28	NDAHSB29	AOCISB001	AOCISB002	AOCISB003	AOCISB004	AOCISB005	AOCISB006	AOCISB007	AOCISB008	AOCISB009	AOCISB010
Sample ID	**Detected in subsurface**	**Detected**	**Detected**	NDAHSB27-R01	NDAHSB28-R01	NDAHSB29-R01	NDE044	NDE046	NDE048	NDE050	NDE052	NDE054	NDE056	NDE058	NDE060	NDE063
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	08/26/03	08/26/03	08/26/03	11/29/00	11/29/00	11/29/00	11/29/00	11/29/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00
Chemical Name																
Pesticide (UG_KG)																
4,4'-DDD	ND	0.19 J	24	10 J	0.19 J	3.5 R	4 U	3.7 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U	3.9 U	3.5 U	3.5 U
4,4'-DDE	130	0.1 J	764	2.7 J	0.61 J	3.2 J	4 U	3.7 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U	3.9 U	3.5 U	3.5 U
4,4'-DDT	2.2 J	0.25 J	928	37 U	0.48 J	0.82 J	4 U	3.7 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U	3.9 U	3.5 U	3.5 U
Aldrin	ND	0.550 J	1.1 J	19 U	2 U	1.8 R	2.1 U	1.9 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	2 U	1.8 U	1.8 U
Dieldrin	ND	0.26 J	1.3 J	37 U	4 U	3.5 R	4 U	3.7 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U	3.9 U	3.5 U	3.5 U
Endosulfan I	ND	0.29 J	0.67 J	19 U	2 U	1.8 R	2.1 U	1.9 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	2 U	1.8 U	1.8 U
Endosulfan sulfate	ND	0.26 J	0.29 J	37 U	4 U	3.5 R	4 U	3.7 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U	3.9 U	3.5 U	3.5 U
Endrin	ND	0.26 J	0.26 J	37 U	4 U	3.5 R	4 U	3.7 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U	3.9 U	3.5 U	3.5 U
Endrin aldehyde	ND	0.2 J	13	37 U	4 U	3.5 R	4 U	3.7 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U	3.9 U	3.5 U	3.5 U
Endrin ketone	ND	1.4 J	1.4 J	37 U	4 U	3.5 R	4 U	3.7 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U	3.9 U	3.5 U	3.5 U
Heptachlor	ND	0.2 J	0.66 J	19 U	2 U	1.8 R	2.1 U	1.9 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	2 U	1.8 U	1.8 U
Heptachlor epoxide	ND	0.31 J	0.31 J	19 U	2 U	1.8 R	2.1 U	1.9 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	2 U	1.8 U	1.8 U
alpha-BHC	ND	4.1 J	5.3 JN	19 U	2 U	1.8 R	2.1 U	1.9 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	2 U	1.8 U	1.8 U
alpha-Chlordane	ND	0.22 J	3	19 U	2 U	1.8 R	2.1 U	1.9 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	2 U	1.8 U	1.8 U
beta-BHC	ND	0.76 J	0.76 J	19 U	2 U	1.8 R	2.1 U	1.9 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	2 U	1.8 U	1.8 U
delta-BHC	ND	0.22 J	0.22 J	19 U	2 U	1.8 R	2.1 U	1.9 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	2 U	1.8 U	1.8 U
gamma-Chlordane	ND	0.20 J	8.3	19 U	2 U	1.8 R	2.1 U	1.9 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	2 U	1.8 U	1.8 U

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Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-I (continued)											
Station ID	**Concentration**	**Lowest**	**Highest**	AOCISB011	AOCISB012	AOCISB013	AOCISB014	AOCISB015	AOCISB016	AOCISB017	AOCISB018	AOCISB019	AOCISB020	AOCISB021	AOCISB022
Sample ID	**Detected in subsurface**	**Detected**	**Detected**	NDE065	NDE067	NDE069	NDE071	NDE073	NDE076	NDE078	NDE080	NDE082	NDE085	NDE087	NDE089
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	11/30/00	12/01/00	12/01/00	12/01/00	12/01/00	12/01/00
Chemical Name															
Pesticide (UG_KG)															
4,4'-DDD	ND	0.19 J	24	3.5 U	3.5 U	3.5 U	3.5 U	3.6 U	3.5 U	3.5 U	4.2 UJ	3.5 UJ	3.6 UJ	3.5 UJ	4 UJ
4,4'-DDE	130	0.1 J	764	3.5 U	3.5 U	3.5 U	3.5 U	3.6 U	3.5 U	3.5 U	4.2 UJ	3.5 UJ	3.6 UJ	3.5 UJ	4 UJ
4,4'-DDT	2.2 J	0.25 J	928	3.5 U	3.5 UJ	3.5 UJ	3.5 UJ	3.6 UJ	3.5 U	3.5 U	4.2 UJ	3.5 UJ	3.6 UJ	3.5 UJ	4 UJ
Aldrin	ND	0.550 J	1.1 J	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	2.2 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2.1 UJ
Dieldrin	ND	0.26 J	1.3 J	3.5 U	3.5 U	3.5 U	3.5 U	3.6 U	3.5 U	3.5 U	4.2 UJ	3.5 UJ	3.6 UJ	3.5 UJ	4 UJ
Endosulfan I	ND	0.29 J	0.67 J	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	2.2 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2.1 UJ
Endosulfan sulfate	ND	0.26 J	0.29 J	3.5 U	3.5 U	3.5 U	3.5 U	3.6 U	3.5 U	3.5 U	4.2 UJ	3.5 UJ	3.6 UJ	3.5 UJ	4 UJ
Endrin	ND	0.26 J	0.26 J	3.5 U	3.5 U	3.5 U	3.5 U	3.6 U	3.5 U	3.5 U	4.2 UJ	3.5 UJ	3.6 UJ	3.5 UJ	4 UJ
Endrin aldehyde	ND	0.2 J	13	3.5 U	3.5 U	3.5 U	3.5 U	3.6 U	3.5 U	3.5 U	4.2 UJ	3.5 UJ	3.6 UJ	3.5 UJ	4 UJ
Endrin ketone	ND	1.4 J	1.4 J	3.5 U	3.5 U	3.5 U	3.5 U	3.6 U	3.5 U	3.5 U	4.2 UJ	3.5 UJ	3.6 UJ	3.5 UJ	4 UJ
Heptachlor	ND	0.2 J	0.66 J	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	2.2 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2.1 UJ
Heptachlor epoxide	ND	0.31 J	0.31 J	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	2.2 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2.1 UJ
alpha-BHC	ND	4.1 J	5.3 JN	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	2.2 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2.1 UJ
alpha-Chlordane	ND	0.22 J	3	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	2.2 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2.1 UJ
beta-BHC	ND	0.76 J	0.76 J	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	2.2 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2.1 UJ
delta-BHC	ND	0.22 J	0.22 J	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	2.2 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2.1 UJ
gamma-Chlordane	ND	0.20 J	8.3	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	2.2 UJ	1.8 UJ	1.9 UJ	1.8 UJ	2.1 UJ

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-I (continued)				W-AOC-J								
Station ID	Concentration	Lowest	Highest	AOCISB023	AOCISB024	AOCISB025	AOCISB026	AOCJSB001	AOCJSB002	AOCJSB003	AOCJSB004	AOCJSB005		NDAJSB06		NDAJSB07
Sample ID	Detected in subsurface	Detected	Detected	NDE092	NDE094	NDE096	NDE098	NDE103	NDE105	NDE107	NDE109	NDE111FD1	NDE112	NDAJFD04P-R01	NDAJSB06-R01	NDAJSB07-R01
Sample Date	soil at the PI 7 Site	Concentration	Concentration	12/01/00	12/01/00	12/01/00	12/01/00	12/12/00	12/12/00	12/12/00	12/12/00	12/12/00	12/12/00	08/25/03	08/25/03	08/25/03
Chemical Name																
Pesticide (UG_KG)																
4,4'-DDD	ND	0.19 J	24	3.6 U	3.6 U	3.3 U	3.5 U	4.3 U	3.8 U	3.7 U	3.8 U	3.3 U	3.3 U	4 U	4.1 U	3.7 U
4,4'-DDE	130	0.1 J	764	3.6 U	3.6 U	3.3 U	3.5 U	4.3 U	3.8 U	3.7 U	3.8 U	3.3 U	3.3 U	4 U	4.1 U	3.7 U
4,4'-DDT	2.2 J	0.25 J	928	3.6 U	3.6 U	3.3 UJ	3.5 U	4.3 U	3.8 U	3.7 U	3.8 U	3.3 U	3.3 U	4 U	4.1 U	3.7 U
Aldrin	ND	0.550 J	1.1 J	1.9 U	1.8 U	1.7 U	1.8 U	2.2 U	2 U	1.9 U	1.9 U	1.7 U	1.7 U	2 U	2.1 U	1.9 U
Dieldrin	ND	0.26 J	1.3 J	3.6 U	3.6 U	3.3 U	3.5 U	4.3 U	3.8 U	3.7 U	3.8 U	3.3 U	3.3 U	4 U	4.1 U	3.7 U
Endosulfan I	ND	0.29 J	0.67 J	1.9 U	1.8 U	1.7 U	1.8 U	2.2 U	2 U	1.9 U	1.9 U	1.7 U	1.7 U	2 U	2.1 U	1.9 U
Endosulfan sulfate	ND	0.26 J	0.29 J	3.6 U	3.6 U	3.3 U	3.5 U	4.3 U	3.8 U	3.7 U	3.8 U	3.3 U	3.3 U	4 U	4.1 U	3.7 U
Endrin	ND	0.26 J	0.26 J	3.6 U	3.6 U	3.3 U	3.5 U	4.3 U	3.8 U	3.7 U	3.8 U	3.3 U	3.3 U	4 U	4.1 U	3.7 U
Endrin aldehyde	ND	0.2 J	13	3.6 U	3.6 U	3.3 U	3.5 U	4.3 U	3.8 U	3.7 U	3.8 U	3.3 U	3.3 U	4 U	4.1 U	3.7 U
Endrin ketone	ND	1.4 J	1.4 J	3.6 U	3.6 U	3.3 U	3.5 U	4.3 U	3.8 U	3.7 U	3.8 U	3.3 U	3.3 U	4 U	4.1 U	3.7 U
Heptachlor	ND	0.2 J	0.66 J	1.9 U	1.8 U	1.7 U	1.8 U	2.2 U	2 U	1.9 U	1.9 U	1.7 U	1.7 U	2 U	2.1 U	1.9 U
Heptachlor epoxide	ND	0.31 J	0.31 J	1.9 U	1.8 U	1.7 U	1.8 U	2.2 U	2 U	1.9 U	1.9 U	1.7 U	1.7 U	2 U	2.1 U	1.9 U
alpha-BHC	ND	4.1 J	5.3 JN	1.9 U	1.8 U	1.7 U	1.8 U	2.2 UJ	2 UJ	1.9 UJ	1.9 UJ	1.7 UJ	1.7 UJ	2 U	2.1 U	1.9 U
alpha-Chlordane	ND	0.22 J	3	1.9 U	1.8 U	1.7 U	1.8 U	2.2 U	2 U	1.9 U	1.9 U	1.7 U	1.7 U	2 U	2.1 U	1.9 U
beta-BHC	ND	0.76 J	0.76 J	1.9 U	1.8 U	1.7 U	1.8 U	2.2 U	2 U	1.9 U	1.9 U	1.7 U	1.7 U	2 U	2.1 U	1.9 U
delta-BHC	ND	0.22 J	0.22 J	1.9 U	1.8 U	1.7 U	1.8 U	2.2 U	2 U	1.9 U	1.9 U	1.7 U	1.7 U	2 U	2.1 U	1.9 U
gamma-Chlordane	ND	0.20 J	8.3	1.9 U	1.8 U	1.7 U	1.8 U	2.2 U	2 U	1.9 U	1.9 U	1.7 U	1.7 U	2 U	2.1 U	1.9 U

Notes:

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-J (continued)			W-AOC-L			
Station ID	**Concentration**	**Lowest**	**Highest**	NDAJSB08	NDAJSB09	NDAJSB10	AOCLSB001	AOCLSB002	AOCLSB003	AOCLSB004
Sample ID	**Detected in subsurface**	**Detected**	**Detected**	NDAJSB08-R01	NDAJSB09-R01	NDAJSB10-R01	NDE122	NDE124	NDE126	NDE129
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	08/25/03	08/25/03	08/25/03	11/29/00	11/29/00	11/29/00	11/29/00
Chemical Name										
Pesticide (UG_KG)										
4,4'-DDD	ND	0.19 J	24	4.4 U	4.7 U	3.8 U	4.2 U	3.6 U	3.6 U	3.9 U
4,4'-DDE	130	0.1 J	764	4.4 U	4.7 U	3.8 U	4.2 U	3.6 U	3.6 U	3.9 U
4,4'-DDT	2.2 J	0.25 J	928	4.4 U	4.7 U	3.8 U	4.2 U	3.6 U	3.6 U	3.9 U
Aldrin	ND	0.550 J	1.1 J	2.2 U	2.4 U	1.9 U	2.2 U	1.8 U	1.9 U	2 U
Dieldrin	ND	0.26 J	1.3 J	4.4 U	4.7 U	3.8 U	4.2 U	3.6 U	3.6 U	3.9 U
Endosulfan I	ND	0.29 J	0.67 J	2.2 U	2.4 U	1.9 U	2.2 U	1.8 U	1.9 U	2 U
Endosulfan sulfate	ND	0.26 J	0.29 J	4.4 U	4.7 U	3.8 U	4.2 U	3.6 U	3.6 U	3.9 U
Endrin	ND	0.26 J	0.26 J	4.4 U	4.7 U	3.8 U	4.2 U	3.6 U	3.6 U	3.9 U
Endrin aldehyde	ND	0.2 J	13	4.4 U	4.7 U	3.8 U	4.2 U	3.6 U	3.6 U	3.9 U
Endrin ketone	ND	1.4 J	1.4 J	4.4 U	4.7 U	3.8 U	4.2 U	3.6 U	3.6 U	3.9 U
Heptachlor	ND	0.2 J	0.66 J	2.2 U	2.4 U	1.9 U	2.2 U	1.8 U	1.9 U	2 U
Heptachlor epoxide	ND	0.31 J	0.31 J	2.2 U	2.4 U	1.9 U	2.2 U	1.8 U	1.9 U	2 U
alpha-BHC	ND	4.1 J	5.3 JN	2.2 U	2.4 U	1.9 U	2.2 U	1.8 U	1.9 U	2 U
alpha-Chlordane	ND	0.22 J	3	2.2 U	2.4 U	1.9 U	2.2 U	1.8 U	1.9 U	2 U
beta-BHC	ND	0.76 J	0.76 J	2.2 U	2.4 U	1.9 U	2.2 U	1.8 U	1.9 U	2 U
delta-BHC	ND	0.22 J	0.22 J	2.2 U	2.4 U	1.9 U	2.2 U	1.8 U	1.9 U	2 U
gamma-Chlordane	ND	0.20 J	8.3	2.2 U	2.4 U	1.9 U	2.2 U	1.8 U	1.9 U	2 U

Notes:

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-AOC-R											
Station ID	**Concentration**	**Lowest**	**Highest**	WAR-SO49	WAR-SO50		WAR-SO51	WAR-SO52	WAR-SO53	WAR-SO54	WAR-SO55	WAR-SO56	WAR-SO57	WAR-SO58	WAR-SO59
Sample ID	**Detected in subsurface**	**Detected**	**Detected**	WAR-SB49-0406	WAR-SB50-0406	WAR-SB50P-0406	WAR-SB51-0406	WAR-SB52-0406	WAR-SB53-0406	WAR-SB54-0406	WAR-SB55-0406	WAR-SB56-0406	WAR-SB57-0406	WAR-SB58-0406	WAR-SB59-0406
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	12/15/05	12/15/05	12/15/05	12/15/05	12/15/05	12/15/05	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05	12/16/05
Chemical Name															
Pesticide (UG_KG)															
4,4'-DDD	ND	0.19 J	24	3.8 U	3.8 U	3.4 U	3.7 U	3.8 U	4 U	4 U	3.8 U	3.8 U	4.1 U	3.7 U	3.7 U
4,4'-DDE	130	0.1 J	764	1.1 J	3.8 U	1.3 J	3.2 J	1.7 J	1.7 J	4 U	3.8 U	3.8 U	0.98 J	3.7 U	3.7 U
4,4'-DDT	2.2 J	0.25 J	928	3.8 U	3.8 U	3.4 U	2.6 J	3.8 U	4 U	4 U	3.8 U	3.8 U	4.1 U	3.7 U	3.7 U
Aldrin	ND	0.550 J	1.1 J	2 U	2 U	1.8 U	1.9 U	2 U	2.1 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	1.9 U
Dieldrin	ND	0.26 J	1.3 J	3.8 U	3.8 U	3.4 U	3.7 U	3.8 U	4 U	4 U	3.8 U	3.8 U	4.1 U	3.7 U	3.7 U
Endosulfan I	ND	0.29 J	0.67 J	2 U	2 U	1.8 U	1.9 U	2 U	2.1 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	1.9 U
Endosulfan sulfate	ND	0.26 J	0.29 J	3.8 U	3.8 U	3.4 U	3.7 U	3.8 U	4 U	4 U	3.8 U	3.8 U	4.1 U	3.7 U	3.7 U
Endrin	ND	0.26 J	0.26 J	3.8 U	3.8 U	3.4 U	3.7 U	3.8 U	4 U	4 U	3.8 U	3.8 U	4.1 U	3.7 U	3.7 U
Endrin aldehyde	ND	0.2 J	13	3.8 U	3.8 U	3.4 U	3.7 U	3.8 U	4 U	4 U	3.8 U	3.8 U	4.1 U	3.7 U	3.7 U
Endrin ketone	ND	1.4 J	1.4 J	3.8 U	3.8 U	3.4 U	3.7 U	3.8 U	4 U	4 U	3.8 U	3.8 U	4.1 U	3.7 U	3.7 U
Heptachlor	ND	0.2 J	0.66 J	2 U	2 U	1.8 U	1.9 U	2 U	2.1 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	1.9 U
Heptachlor epoxide	ND	0.31 J	0.31 J	2 U	2 U	1.8 U	1.9 U	2 U	2.1 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	1.9 U
alpha-BHC	ND	4.1 J	5.3 JN	2 U	2 U	1.8 U	1.9 U	2 U	2.1 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	1.9 U
alpha-Chlordane	ND	0.22 J	3	2 U	2 U	1.8 U	1.9 U	2 U	2.1 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	1.9 U
beta-BHC	ND	0.76 J	0.76 J	2 U	2 U	1.8 U	1.9 U	2 U	2.1 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	1.9 U
delta-BHC	ND	0.22 J	0.22 J	2 U	2 U	1.8 U	1.9 U	2 U	2.1 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	1.9 U
gamma-Chlordane	ND	0.20 J	8.3	2 U	2 U	1.8 U	1.9 U	2 U	2.1 U	2.1 U	2 U	1.9 U	2.1 U	1.9 U	1.9 U

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-AOC-R (continued)					W-SWMU-4					
Station ID	Concentration	Lowest	Highest	WAR-SO60		WAR-SO61	WAR-SO62	WAR-SO63	SWMU4-MW05	SWMU4-MW06	SWMU4-MW07	SWMU4-MW08	W4-SB01	W4-SB02
Sample ID	Detected in subsurface	Detected	Detected	WAR-SB60-0406	WAR-SB60P-0406	WAR-SB61-0406	WAR-SB62-0406	WAR-SB63-0406	NDB002	NDB005	NDB007	NDB009	NDA058	NDA060
Sample Date	soil at the PI 7 Site	Concentration	Concentration	12/15/05	12/15/05	12/15/05	12/15/05	12/15/05	06/06/00	06/06/00	06/06/00	06/06/00	04/18/00	04/18/00
Chemical Name														
Pesticide (UG_KG)														
4,4'-DDD	ND	0.19 J	24	3.8 U	4 U	4 U	4.1 U	4.1 U	3.80 U	3.5 U	3.40 U	4 U	3.70 UJ	3.70 UJ
4,4'-DDE	130	0.1 J	764	3.8 U	4 U	4.5	0.94 J	1.9 J	3.80 U	3.5 U	3.40 U	4 U	3.70 UJ	3.70 UJ
4,4'-DDT	2.2 J	0.25 J	928	3.8 U	4 U	7.9	1.8 J	3.2 J	3.80 U	3.5 U	3.40 U	4 U	3.70 UJ	3.70 UJ
Aldrin	ND	0.550 J	1.1 J	2 U	2 U	2.1 U	2.1 U	2.1 U	1.90 U	1.80 U	1.80 U	2 U	1.90 UJ	1.90 UJ
Dieldrin	ND	0.26 J	1.3 J	3.8 U	4 U	4 U	4.1 U	4.1 U	3.80 U	3.5 U	3.40 U	4 U	3.70 UJ	3.70 UJ
Endosulfan I	ND	0.29 J	0.67 J	2 U	2 U	2.1 U	2.1 U	2.1 U	1.90 U	1.80 U	1.80 U	2 U	1.90 UJ	1.90 UJ
Endosulfan sulfate	ND	0.26 J	0.29 J	3.8 U	4 U	4 U	4.1 U	4.1 U	3.80 U	3.5 U	3.40 U	4 U	3.70 UJ	3.70 UJ
Endrin	ND	0.26 J	0.26 J	3.8 U	4 U	4 U	4.1 U	4.1 U	3.80 U	3.5 U	3.40 U	4 U	3.70 UJ	3.70 UJ
Endrin aldehyde	ND	0.2 J	13	3.8 U	4 U	4 U	4.1 U	4.1 U	3.80 U	3.5 U	3.40 U	4 U	3.70 UJ	3.70 UJ
Endrin ketone	ND	1.4 J	1.4 J	3.8 U	4 U	1.4 J	4.1 U	4.1 U	3.80 U	3.5 U	3.40 U	4 U	3.70 UJ	3.70 UJ
Heptachlor	ND	0.2 J	0.66 J	2 U	2 U	2.1 U	2.1 U	2.1 U	1.90 U	1.80 U	1.80 U	2 U	1.90 UJ	1.90 UJ
Heptachlor epoxide	ND	0.31 J	0.31 J	2 U	2 U	2.1 U	2.1 U	2.1 U	1.90 U	1.80 U	1.80 U	2 U	1.90 UJ	1.90 UJ
alpha-BHC	ND	4.1 J	5.3 JN	2 U	2 U	2.1 U	2.1 U	2.1 U	1.90 UJ	1.80 UJ	1.80 UJ	2 UJ	1.90 UJ	1.90 UJ
alpha-Chlordane	ND	0.22 J	3	2 U	2 U	0.92 J	2.1 U	2.1 U	1.90 U	1.80 U	1.80 U	2 U	1.90 UJ	1.90 UJ
beta-BHC	ND	0.76 J	0.76 J	2 U	2 U	2.1 U	2.1 U	2.1 U	1.90 U	1.80 U	1.80 U	2 U	1.90 UJ	1.90 UJ
delta-BHC	ND	0.22 J	0.22 J	2 U	2 U	2.1 U	2.1 U	2.1 U	1.90 UJ	1.80 UJ	1.80 UJ	2 UJ	1.90 UJ	1.90 UJ
gamma-Chlordane	ND	0.20 J	8.3	2 U	2 U	2.1 U	2.1 U	2.1 U	1.90 U	1.80 U	1.80 U	2 U	1.90 UJ	1.90 UJ

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-4 (continued)											
Station ID	Concentration	Lowest	Highest	W4-SB03		W4-SB04	W4-SB05	W4-SB06	W4-SB07	W4-SB08	W4-SB09	W4-SB10	W4-SB11	W4-SB12	WW04-SO17
Sample ID	Detected in subsurface	Detected	Detected	NDA063	NDA064FD1	NDA066	NDA068	NDA070	NDA073	NDA075	NDA077	NDA079	NDA081	NDA083	WW04-SB17-12-07A
Sample Date	soil at the PI 7 Site	Concentration	Concentration	04/18/00	04/18/00	04/18/00	04/18/00	04/19/00	04/19/00	04/19/00	04/19/00	04/19/00	04/19/00	04/19/00	02/06/07
Chemical Name															
Pesticide (UG_KG)															
4,4'-DDD	ND	0.19 J	24	3.60 UJ	3.60 UJ	3.5 UJ	3.60 UJ	3.5 UJ	3.5 UJ	0.350 UJ	0.400 UJ	0.380 UJ	0.350 UJ	0.340 UJ	3.5 U
4,4'-DDE	130	0.1 J	764	3.60 UJ	3.60 UJ	3.5 UJ	3.60 UJ	3.5 UJ	3.5 UJ	0.350 UJ	0.400 UJ	0.380 UJ	0.350 UJ	0.340 UJ	3.5 U
4,4'-DDT	2.2 J	0.25 J	928	3.60 UJ	3.60 UJ	3.5 UJ	3.60 UJ	3.5 UJ	3.5 UJ	0.350 UJ	0.400 UJ	0.380 UJ	0.350 UJ	0.340 UJ	3.5 U
Aldrin	ND	0.550 J	1.1 J	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	0.180 UJ	0.200 UJ	0.190 UJ	0.180 UJ	0.170 UJ	1.8 U
Dieldrin	ND	0.26 J	1.3 J	3.60 UJ	3.60 UJ	3.5 UJ	3.60 UJ	3.5 UJ	3.5 UJ	0.350 UJ	0.400 UJ	0.380 UJ	0.350 UJ	0.340 UJ	3.5 U
Endosulfan I	ND	0.29 J	0.67 J	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	0.180 UJ	0.200 UJ	0.190 UJ	0.180 UJ	0.170 UJ	0.062 U
Endosulfan sulfate	ND	0.26 J	0.29 J	3.60 UJ	3.60 UJ	3.5 UJ	3.60 UJ	3.5 UJ	3.5 UJ	0.350 UJ	0.400 UJ	0.380 UJ	0.350 UJ	0.340 UJ	0.29 J
Endrin	ND	0.26 J	0.26 J	3.60 UJ	3.60 UJ	3.5 UJ	3.60 UJ	3.5 UJ	3.5 UJ	0.350 UJ	0.400 UJ	0.380 UJ	0.350 UJ	0.340 UJ	3.5 U
Endrin aldehyde	ND	0.2 J	13	3.60 UJ	3.60 UJ	3.5 UJ	3.60 UJ	3.5 UJ	3.5 UJ	0.350 UJ	0.400 UJ	0.380 UJ	0.350 UJ	0.340 UJ	0.2 U
Endrin ketone	ND	1.4 J	1.4 J	3.60 UJ	3.60 UJ	3.5 UJ	3.60 UJ	3.5 UJ	3.5 UJ	0.350 UJ	0.400 UJ	0.380 UJ	0.350 UJ	0.340 UJ	3.5 U
Heptachlor	ND	0.2 J	0.66 J	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	0.180 UJ	0.200 UJ	0.190 UJ	0.180 UJ	0.170 UJ	0.096 U
Heptachlor epoxide	ND	0.31 J	0.31 J	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	0.180 UJ	0.200 UJ	0.190 UJ	0.180 UJ	0.170 UJ	1.8 U
alpha-BHC	ND	4.1 J	5.3 JN	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	0.180 UJ	0.200 UJ	0.190 UJ	0.180 UJ	0.170 UJ	1.8 U
alpha-Chlordane	ND	0.22 J	3	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	0.180 UJ	0.200 UJ	0.190 UJ	0.180 UJ	0.170 UJ	1.8 U
beta-BHC	ND	0.76 J	0.76 J	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	0.180 UJ	0.200 UJ	0.190 UJ	0.180 UJ	0.170 UJ	1.8 U
delta-BHC	ND	0.22 J	0.22 J	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	0.180 UJ	0.200 UJ	0.190 UJ	0.180 UJ	0.170 UJ	0.096 U
gamma-Chlordane	ND	0.20 J	8.3	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	1.80 UJ	0.180 UJ	0.200 UJ	0.190 UJ	0.180 UJ	0.170 UJ	0.088 U

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-4 (continued)								
Station ID	Concentration	Lowest	Highest	WW04-SO18	WW04-SO19	WW04-SO20	WW04-SO21		WW04-SO25	WW04-SO26		WW04-SO27
Sample ID	Detected in subsurface	Detected	Detected	WW04-SB18-13-07A	WW04-SB19-13-07A	WW04-SB20-12-07A	WW04-SB21-13-07A	WW04-SB21P-13-07A	WW04-SB25-46-07A	WW04-SB26-46-07A	WW04-SB26P-46-07A	WW04-SB27-46-07A
Sample Date	soil at the PI 7 Site	Concentration	Concentration	02/09/07	02/06/07	02/08/07	02/08/07	02/08/07	01/30/07	01/30/07	01/30/07	01/26/07
Chemical Name												
Pesticide (UG_KG)												
4,4'-DDD	ND	0.19 J	24	3.4 U	0.068 U	3.4 U	3.4 U	3.5 U	3.6 U	3.5 U	3.5 U	3.8 U
4,4'-DDE	130	0.1 J	764	3.4 U	0.34 J	3.4 U	0.5 U	0.24 U	3.6 U	3.5 U	3.5 U	3.8 U
4,4'-DDT	2.2 J	0.25 J	928	3.4 U	3.5 U	3.4 U	3.4 U	3.5 U	0.25 J	3.5 U	3.5 U	3.8 U
Aldrin	ND	0.550 J	1.1 J	1.8 U	0.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
Dieldrin	ND	0.26 J	1.3 J	3.4 U	1.3 J	3.4 U	3.4 U	3.5 U	0.26 J	3.5 U	3.5 U	3.8 U
Endosulfan I	ND	0.29 J	0.67 J	1.8 U	1 U	1.8 U	1.7 U	1.8 U	1.8 U	0.38 J	1.8 U	1.9 U
Endosulfan sulfate	ND	0.26 J	0.29 J	3.4 U	3.5 U	3.4 U	3.4 U	3.5 U	3.6 U	3.5 U	3.5 U	3.8 U
Endrin	ND	0.26 J	0.26 J	0.18 U	3.5 U	3.4 U	3.4 U	3.5 U	0.26 J	3.5 U	3.5 U	3.8 U
Endrin aldehyde	ND	0.2 J	13	3.4 U	3.5 U	0.2 J	0.29 U	0.21 U	3.6 U	3.5 U	3.5 U	3.8 U
Endrin ketone	ND	1.4 J	1.4 J	3.4 U	0.32 U	3.4 U	3.4 U	3.5 U	3.6 U	3.5 U	3.5 U	3.8 U
Heptachlor	ND	0.2 J	0.66 J	1.8 U	0.53 U	1.8 U	0.2 J	1.8 U	0.22 U	0.17 U	0.13 U	1.9 UJ
Heptachlor epoxide	ND	0.31 J	0.31 J	1.8 U	0.59 U	1.8 U	0.31 J	1.8 U	1.8 U	0.082 U	0.07 U	1.9 U
alpha-BHC	ND	4.1 J	5.3 JN	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
alpha-Chlordane	ND	0.22 J	3	1.6 J	3	1.8 U	1.1 J	0.27 J	1.8 U	0.47 J	0.49 J	1.9 U
beta-BHC	ND	0.76 J	0.76 J	1.8 U	0.76 J	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
delta-BHC	ND	0.22 J	0.22 J	0.22 J	0.43 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
gamma-Chlordane	ND	0.20 J	8.3	0.25 U	5	1.8 U	1.7 U	1.8 U	1.8 U	1 J	0.77 J	1.9 U

Notes:

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-4 (continued)							
Station ID	Concentration	Lowest	Highest	WW04-SO28	WW04-SO29	WW04-SO30	WW04-SO31		WW04-SO32	WW04-SO33	WW04-SO34
Sample ID	Detected in subsurface	Detected	Detected	WW04-SB28-46-07A	WW04-SB29-46-07A	WW04-SB30-46-07A	WW04-SB31-46-07A	WW04-SB31-68-07A	WW04-SB32-46-07A	WW04-SB33-46-07A	WW04-SB34-46-07A
Sample Date	soil at the PI 7 Site	Concentration	Concentration	01/31/07	01/23/07	01/25/07	01/31/07	01/31/07	01/24/07	02/01/07	01/25/07
Chemical Name											
Pesticide (UG_KG)											
4,4'-DDD	ND	0.19 J	24	3.6 U	3.6 U	3.7 U	3.7 U	3.7 U	3.6 U	3.7 U	3.7 U
4,4'-DDE	130	0.1 J	764	3.6 U	3.6 U	3.7 U	3.7 U	3.7 U	3.6 U	3.7 U	3.7 U
4,4'-DDT	2.2 J	0.25 J	928	3.6 U	3.6 U	3.7 U	3.7 U	3.7 U	3.6 U	3.7 U	3.7 U
Aldrin	ND	0.550 J	1.1 J	1.9 U	1.8 U	1.9 U	0.11 U	1.9 U	1.9 U	1.9 U	1.9 U
Dieldrin	ND	0.26 J	1.3 J	3.6 U	3.6 U	3.7 U	3.7 U	3.7 U	3.6 U	3.7 U	3.7 U
Endosulfan I	ND	0.29 J	0.67 J	1.9 U	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Endosulfan sulfate	ND	0.26 J	0.29 J	3.6 U	3.6 U	3.7 U	3.7 U	3.7 U	3.6 U	3.7 U	3.7 U
Endrin	ND	0.26 J	0.26 J	3.6 U	3.6 U	3.7 U	3.7 U	3.7 U	3.6 U	3.7 U	3.7 U
Endrin aldehyde	ND	0.2 J	13	3.6 U	3.6 U	13	3.7 U	3.7 U	3.6 U	3.7 U	3.7 U
Endrin ketone	ND	1.4 J	1.4 J	3.6 U	3.6 U	3.7 U	3.7 U	3.7 U	3.6 U	0.15 U	3.7 U
Heptachlor	ND	0.2 J	0.66 J	0.16 U	1.8 UJ	1.9 UJ	0.079 U	0.13 U	1.9 UJ	0.075 U	1.9 UJ
Heptachlor epoxide	ND	0.31 J	0.31 J	1.9 U	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
alpha-BHC	ND	4.1 J	5.3 JN	1.9 U	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
alpha-Chlordane	ND	0.22 J	3	1.9 U	1.8 U	1.9 U	1.9 U	1.9 U	0.22 J	1.9 U	1.9 U
beta-BHC	ND	0.76 J	0.76 J	1.9 U	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
delta-BHC	ND	0.22 J	0.22 J	1.9 U	1.8 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
gamma-Chlordane	ND	0.20 J	8.3	1.9 U	0.2 J	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-4 (continued)								
Station ID	Concentration	Lowest	Highest	WW04-SO35		WW04-SO36	WW04-SO37	WW04-SO38	WW04-SO38	WW04-SO39		
Sample ID	Detected in subsurface	Detected	Detected	WW04-SB35-46-07A	WW04-SB35-68-07A	WW04-SB36-46-07A	WW04-SB37-46-07A	WW04-SB38-12-07A	WW04-SB38P-12-07A	WW04-SB39-46-07A	WW04-SB39P-46-07A	WW04-SB39-67-07A
Sample Date	soil at the PI 7 Site	Concentration	Concentration	02/01/07	02/02/07	02/13/07	02/13/07	02/13/07	02/13/07	02/12/07	02/12/07	02/12/07
Chemical Name												
Pesticide (UG_KG)												
4,4'-DDD	ND	0.19 J	24	3.7 U	3.7 U	3.7 U	3.6 U	3.5 U	24	3.6 U	3.7 U	3.7 U
4,4'-DDE	130	0.1 J	764	3.7 U	3.7 U	3.7 U	3.6 U	0.42 J	6.9 NJ	3.6 U	3.7 U	3.7 U
4,4'-DDT	2.2 J	0.25 J	928	3.7 U	0.11 U	3.7 U	3.6 U	3.5 U	4.5 R	3.6 U	3.7 U	3.7 U
Aldrin	ND	0.550 J	1.1 J	0.069 U	0.21 U	1.9 U	1.9 U	1.8 U	0.42 U	1.8 U	1.9 U	1.9 U
Dieldrin	ND	0.26 J	1.3 J	0.084 U	3.7 U	3.7 U	3.6 U	3.5 U	2.4 U	3.6 U	3.7 U	3.7 U
Endosulfan I	ND	0.29 J	0.67 J	1.9 U	0.67 J	1.9 U	1.9 U	1.8 U	1.3 U	1.8 U	1.9 U	1.9 U
Endosulfan sulfate	ND	0.26 J	0.29 J	3.7 U	3.7 U	3.7 R	3.6 U	0.26 J	0.19 U	3.6 U	3.7 U	3.7 U
Endrin	ND	0.26 J	0.26 J	3.7 U	3.7 U	3.7 U	3.6 U	3.5 U	1.1 U	3.6 U	3.7 U	3.7 U
Endrin aldehyde	ND	0.2 J	13	3.7 U	3.7 U	0.48 U	3.6 U	0.31 U	2.5 J	0.21 U	0.81 U	0.25 U
Endrin ketone	ND	1.4 J	1.4 J	0.14 U	3.7 U	3.7 U	3.6 U	3.5 U	0.18 U	3.6 U	3.7 U	3.7 U
Heptachlor	ND	0.2 J	0.66 J	0.09 U	0.29 U	1.9 UJ	1.9 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.9 UJ
Heptachlor epoxide	ND	0.31 J	0.31 J	0.072 U	1.9 U	1.9 U	1.9 U	1.8 U	3.5 R	1.8 U	1.9 U	1.9 U
alpha-BHC	ND	4.1 J	5.3 JN	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U
alpha-Chlordane	ND	0.22 J	3	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U	0.73 U	1.8 U	1.9 U	1.9 U
beta-BHC	ND	0.76 J	0.76 J	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U	1.8 R	1.8 U	0.25 U	0.21 U
delta-BHC	ND	0.22 J	0.22 J	1.9 U	1.9 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U	1.9 U	1.9 U
gamma-Chlordane	ND	0.20 J	8.3	1.9 U	1.9 U	0.23 U	1.9 U	1.8 U	0.59 U	0.3 U	0.23 J	0.26 J

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-4 (continued)								
Station ID	Concentration	Lowest	Highest	WW04-SO40	WW04-SO41	WW04-SO42	WW04-SO46	WW04-SO47	WW04-SO48	WW04-SO49	WW04-SO54	WW04-SO55
Sample ID	Detected in subsurface	Detected	Detected	WW04-SB40-46-07A	WW04-SB41-46-07A	WW04-SB42-46-07A	WW04-SB46-46-07A	WW04-SB47-46-07A	WW04-SB48-46-07A	WW04-SB49-46-07A	WW04-SB54-35-07A	WW04-SB55-24-07A
Sample Date	soil at the PI 7 Site	Concentration	Concentration	02/09/07	02/09/07	02/12/07	01/26/07	01/29/07	01/29/07	01/23/07	02/14/07	02/14/07
Chemical Name												
Pesticide (UG_KG)												
4,4'-DDD	ND	0.19 J	24	3.5 U	3.7 U	3.5 U	3.5 U	3.8 U	3.8 U	3.5 U	3.6 U	3.6 U
4,4'-DDE	130	0.1 J	764	3.5 U	3.7 U	3.5 U	3.5 U	3.8 U	3.8 U	3.5 U	3.6 U	0.35 U
4,4'-DDT	2.2 J	0.25 J	928	3.5 U	3.7 U	3.5 U	3.5 U	3.8 U	3.8 U	3.5 U	3.6 U	3.6 U
Aldrin	ND	0.550 J	1.1 J	1.8 U	1.9 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U
Dieldrin	ND	0.26 J	1.3 J	3.5 U	3.7 U	3.5 U	3.5 U	0.24 U	0.11 U	3.5 U	3.6 U	3.6 U
Endosulfan I	ND	0.29 J	0.67 J	1.8 U	1.9 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	0.29 J
Endosulfan sulfate	ND	0.26 J	0.29 J	3.5 U	3.7 U	3.5 U	3.5 U	3.8 U	3.8 U	3.5 U	3.6 U	3.6 U
Endrin	ND	0.26 J	0.26 J	3.5 U	3.7 U	3.5 U	3.5 U	3.8 U	3.8 U	3.5 U	3.6 U	3.6 U
Endrin aldehyde	ND	0.2 J	13	0.48 U	0.19 U	3.5 U	3.5 U	3.8 U	3.8 U	3.5 U	3.6 U	0.43 J
Endrin ketone	ND	1.4 J	1.4 J	3.5 U	3.7 U	3.5 U	3.5 U	3.8 U	3.8 U	3.5 U	3.6 U	3.6 U
Heptachlor	ND	0.2 J	0.66 J	1.8 U	1.9 U	1.8 UJ	1.8 UJ	1.9 UJ	1.9 UJ	1.8 UJ	1.8 UJ	1.8 UJ
Heptachlor epoxide	ND	0.31 J	0.31 J	1.8 U	1.9 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	0.43 U
alpha-BHC	ND	4.1 J	5.3 JN	1.8 U	1.9 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U
alpha-Chlordane	ND	0.22 J	3	0.97 J	0.33 J	0.31 J	1.8 U	1.9 U	1.9 U	0.45 J	1.8 U	0.91 J
beta-BHC	ND	0.76 J	0.76 J	1.8 U	1.9 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U
delta-BHC	ND	0.22 J	0.22 J	1.8 U	1.9 U	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U
gamma-Chlordane	ND	0.20 J	8.3	0.2 J	0.23 J	1.8 U	1.8 U	1.9 U	1.9 U	1.8 U	1.8 U	1.8 U

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-SWMU-6									W-SWMU-7		
Station ID	**Concentration**	**Lowest**	**Highest**	W6-SB01	W6-SB02	W6-SB02	W6-SB03	W6-SB04	W6-SB05	W6-SB06	W6-SB07	W6-SB08	NDW07SB07	NDW07SB08	NDW07SB09
Sample ID	**Detected in subsurface**	**Detected**	**Detected**	NDA102	NDA105	NDA106FD1	NDA108	NDA110	NDA112	NDA114	NDA116	NDA118	NDW07SB07-R01	NDW07SB08-R01	NDW07SB09-R01
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/24/00	04/24/00	04/24/00	04/24/00	04/24/00	04/24/00	04/20/00	04/20/00	04/20/00	08/26/03	08/27/03	08/26/03
Chemical Name															
Pesticide (UG_KG)															
4,4'-DDD	ND	0.19 J	24	13 J	0.840 J	0.970 J	1 J	4.40 UJ	0.320 J	12 J	4.20 UJ	4.30 UJ	3.8 U	4 U	3.7 U
4,4'-DDE	130	0.1 J	764	30 J	11 J	5.30 J	5.80 J	0.880 J	2 J	316 J	4.20 UJ	4.30 UJ	3.8 U	4 U	3.7 U
4,4'-DDT	2.2 J	0.25 J	928	5.20 UJ	5.30 UJ	5.30 UJ	1.80 J	4.40 UJ	4.30 UJ	19 J	4.20 UJ	4.30 UJ	3.8 U	4 U	3.7 U
Aldrin	ND	0.550 J	1.1 J	2.60 UJ	2.70 UJ	2.70 UJ	2.30 UJ	2.30 UJ	2.20 UJ	2.20 UJ	2.10 UJ	2.20 UJ	1.9 U	2 U	1.9 U
Dieldrin	ND	0.26 J	1.3 J	5.20 UJ	5.30 UJ	5.30 UJ	4.40 UJ	4.40 UJ	4.30 UJ	4.30 UJ	4.20 UJ	4.30 UJ	3.8 U	4 U	3.7 U
Endosulfan I	ND	0.29 J	0.67 J	2.60 UJ	2.70 UJ	2.70 UJ	2.30 UJ	2.30 UJ	2.20 UJ	2.20 UJ	2.10 UJ	2.20 UJ	1.9 U	2 U	1.9 U
Endosulfan sulfate	ND	0.26 J	0.29 J	5.20 UJ	5.30 UJ	5.30 UJ	4.40 UJ	4.40 UJ	4.30 UJ	4.30 UJ	4.20 UJ	4.30 UJ	3.8 U	4 U	3.7 U
Endrin	ND	0.26 J	0.26 J	5.20 UJ	5.30 UJ	5.30 UJ	4.40 UJ	4.40 UJ	4.30 UJ	4.30 UJ	4.20 UJ	4.30 UJ	3.8 U	4 U	3.7 U
Endrin aldehyde	ND	0.2 J	13	5.20 UJ	5.30 UJ	5.30 UJ	4.40 UJ	4.40 UJ	4.30 UJ	4.30 UJ	4.20 UJ	4.30 UJ	3.8 U	4 U	3.7 U
Endrin ketone	ND	1.4 J	1.4 J	5.20 UJ	5.30 UJ	5.30 UJ	4.40 UJ	4.40 UJ	4.30 UJ	4.30 UJ	4.20 UJ	4.30 UJ	3.8 UJ	4 U	3.7 UJ
Heptachlor	ND	0.2 J	0.66 J	2.60 UJ	2.70 UJ	2.70 UJ	2.30 UJ	2.30 UJ	2.20 UJ	2.20 UJ	2.10 UJ	2.20 UJ	1.9 U	2 U	0.22 J
Heptachlor epoxide	ND	0.31 J	0.31 J	2.60 UJ	2.70 UJ	2.70 UJ	2.30 UJ	2.30 UJ	2.20 UJ	2.20 UJ	2.10 UJ	2.20 UJ	1.9 U	2 U	1.9 U
alpha-BHC	ND	4.1 J	5.3 JN	2.60 UJ	2.70 UJ	2.70 UJ	2.30 UJ	2.30 UJ	2.20 UJ	2.20 UJ	2.10 UJ	2.20 UJ	1.9 U	2 U	1.9 U
alpha-Chlordane	ND	0.22 J	3	2.60 UJ	2.70 UJ	2.70 UJ	2.30 UJ	2.30 UJ	2.20 UJ	2.20 UJ	2.10 UJ	2.20 UJ	1.9 U	2 U	1.9 U
beta-BHC	ND	0.76 J	0.76 J	2.60 UJ	2.70 UJ	2.70 UJ	2.30 UJ	2.30 UJ	2.20 UJ	2.20 UJ	2.10 UJ	2.20 UJ	1.9 U	2 U	1.9 U
delta-BHC	ND	0.22 J	0.22 J	2.60 UJ	2.70 UJ	2.70 UJ	2.30 UJ	2.30 UJ	2.20 UJ	2.20 UJ	2.10 UJ	2.20 UJ	1.9 U	2 U	1.9 U
gamma-Chlordane	ND	0.20 J	8.3	2.60 UJ	2.70 UJ	2.70 UJ	2.30 UJ	2.30 UJ	2.20 UJ	2.20 UJ	2.10 UJ	2.20 UJ	1.9 U	2 U	1.9 U

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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	Maximum			W-SWMU-7 (continued)								W-SMMU-10			
Station ID	Concentration	Lowest	Highest	NDW07SB10	NDW07SB11	NDW07SB12	NDW07SB13	NDW07SB14	NDW07SB15	NDW07SB16	NDW07SB17	W10-SB01	W10-SB02		W10-SB03
Sample ID	Detected in subsurface	Detected	Detected	NDW07SB10-R01	NDW07SB11-R01	NDW07SB12-R01	NDW07SB13-R01	NDW07SB14-R01	NDW07SB15-R01	NDW07SB16-R01	NDW07SB17-R01	NDA126	NDA129	NDA130FD1	NDA132
Sample Date	soil at the PI 7 Site	Concentration	Concentration	08/27/03	08/27/03	08/27/03	08/27/03	08/26/03	08/27/03	08/25/03	08/25/03	04/04/00	04/04/00	04/04/00	04/04/00
Chemical Name															
Pesticide (UG_KG)															
4,4'-DDD	ND	0.19 J	24	3.7 UJ	4 U	3.8 U	3.7 U	3.7 U	3.5 U	3.8 U	4.1 UJ	3.6 U	3.7 U	3.6 U	4.1 U
4,4'-DDE	130	0.1 J	764	3.7 UJ	4 U	3.8 U	3.7 U	3.7 U	3.5 U	3.8 U	4.1 UJ	21	3.7 U	3.6 U	4.1 U
4,4'-DDT	2.2 J	0.25 J	928	3.7 UJ	4 U	3.8 U	3.7 U	3.7 U	3.5 U	3.8 UJ	4.1 UJ	11	3.7 U	3.6 U	4.1 U
Aldrin	ND	0.550 J	1.1 J	1.9 UJ	2 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	2.1 R	1.9 U	1.9 U	1.8 U	2.1 U
Dieldrin	ND	0.26 J	1.3 J	3.7 UJ	4 U	3.8 U	3.7 U	3.7 U	3.5 U	3.8 U	4.1 R	3.6 U	3.7 U	3.6 U	4.1 U
Endosulfan I	ND	0.29 J	0.67 J	1.9 UJ	2 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	2.1 UJ	1.9 U	1.9 U	1.8 U	2.1 U
Endosulfan sulfate	ND	0.26 J	0.29 J	3.7 UJ	4 U	3.8 U	3.7 U	3.7 U	3.5 U	3.8 U	4.1 UJ	3.6 U	3.7 U	3.6 U	4.1 U
Endrin	ND	0.26 J	0.26 J	3.7 UJ	4 U	3.8 U	3.7 U	3.7 U	3.5 U	3.8 U	4.1 UJ	3.6 U	3.7 U	3.6 U	4.1 U
Endrin aldehyde	ND	0.2 J	13	3.7 UJ	4 U	3.8 U	3.7 U	3.7 U	3.5 U	3.8 U	4.1 UJ	3.6 U	3.7 U	3.6 U	4.1 U
Endrin ketone	ND	1.4 J	1.4 J	3.7 UJ	4 U	3.8 U	3.7 U	3.7 UJ	3.5 U	3.8 U	4.1 UJ	3.6 U	3.7 U	3.6 U	4.1 U
Heptachlor	ND	0.2 J	0.66 J	1.9 UJ	2 U	2 U	1.9 U	0.66 J	1.8 U	1.9 U	0.54 J	1.9 U	1.9 U	1.8 U	2.1 U
Heptachlor epoxide	ND	0.31 J	0.31 J	1.9 UJ	2 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	2.1 UJ	1.9 U	1.9 U	1.8 U	2.1 U
alpha-BHC	ND	4.1 J	5.3 JN	1.9 UJ	2 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	2.1 UJ	1.9 UJ	1.9 UJ	1.8 UJ	2.1 UJ
alpha-Chlordane	ND	0.22 J	3	1.9 UJ	2 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	0.24 J	1.9 U	1.9 U	1.8 U	2.1 U
beta-BHC	ND	0.76 J	0.76 J	1.9 UJ	2 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	2.1 UJ	1.9 U	1.9 U	1.8 U	2.1 U
delta-BHC	ND	0.22 J	0.22 J	1.9 UJ	2 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	2.1 UJ	1.9 U	1.9 U	1.8 U	2.1 U
gamma-Chlordane	ND	0.20 J	8.3	1.9 UJ	2 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	2.1 UJ	1.9 U	1.9 U	1.8 U	2.1 U

Notes:

NA - Not analyzed
J - Reported value is estimated
JN - Analyte present at approximate quantity
R - Unreliable result
U - Analyte not detected
UJ - Analyte not detected; quantitation limit may be imprecise
Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-SMMU-10 (continued)							W-SWMU-14					
Station ID	**Concentration**	**Lowest**	**Highest**	W10-SB04	W10-SB05	W10-SB06	W10-SB07	W10-SB08	W10-SB09	W10-SB10	W14-SB01	W14-SB02		W14-SB03	W14-SB04	W14-SB05
Sample ID	**Detected in subsurface**	**Detected**	**Detected**	NDA134	NDA136	NDA138	NDA140	NDA142	NDA144	NDA146	NDA148	NDA151	NDA152FD1	NDA154	NDA156	NDA158
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/04/00	04/04/00	04/04/00	04/04/00	04/04/00	04/04/00	04/04/00	04/05/00	04/05/00	04/05/00	04/05/00	04/05/00	04/05/00
Chemical Name																
Pesticide (UG_KG)																
4,4'-DDD	ND	0.19 J	24	4.1 U	3.9 U	3.6 U	3.7 U	3.9 U	0.67 J	3.6 U	4.1 U	3.8 U	4.7 U	3.7 U	3.6 U	1.2 J
4,4'-DDE	130	0.1 J	764	4.1 U	3.9 U	1.2 J	3.7 U	0.8 J	15	1.3 J	4.1 U	3.8 U	4.7 U	3.7 U	3.6 U	3.6 U
4,4'-DDT	2.2 J	0.25 J	928	4.1 U	3.9 U	1 J	3.7 U	3.9 U	7.6 J	1 J	4.1 U	3.8 U	4.7 U	3.7 U	3.6 U	38
Aldrin	ND	0.550 J	1.1 J	2.1 U	2 U	1.9 U	1.9 U	2 U	1.9 U	1.8 U	2.1 U	1.9 U	2.4 U	1.9 U	1.8 U	1.8 U
Dieldrin	ND	0.26 J	1.3 J	4.1 U	3.9 U	3.6 U	3.7 U	3.9 U	3.7 U	3.6 U	4.1 U	3.8 U	4.7 U	3.7 U	3.6 U	3.6 U
Endosulfan I	ND	0.29 J	0.67 J	2.1 U	2 U	1.9 U	1.9 U	2 U	1.9 U	1.8 U	2.1 U	1.9 U	2.4 U	1.9 U	1.8 U	1.8 U
Endosulfan sulfate	ND	0.26 J	0.29 J	4.1 U	3.9 U	3.6 U	3.7 U	3.9 U	3.7 U	3.6 U	4.1 U	3.8 U	4.7 U	3.7 U	3.6 U	3.6 U
Endrin	ND	0.26 J	0.26 J	4.1 U	3.9 U	3.6 U	3.7 U	3.9 U	3.7 U	3.6 U	4.1 UJ	3.8 UJ	4.7 UJ	3.7 UJ	3.6 UJ	3.6 UJ
Endrin aldehyde	ND	0.2 J	13	4.1 U	3.9 U	3.6 U	3.7 U	3.9 U	3.7 U	3.6 U	4.1 U	3.8 U	4.7 U	3.7 U	3.6 U	3.6 U
Endrin ketone	ND	1.4 J	1.4 J	4.1 U	3.9 U	3.6 U	3.7 U	3.9 U	3.7 U	3.6 U	4.1 U	3.8 U	4.7 U	3.7 U	3.6 U	3.6 U
Heptachlor	ND	0.2 J	0.66 J	2.1 U	2 U	1.9 U	1.9 U	2 U	1.9 U	1.8 U	2.1 U	1.9 U	2.4 U	1.9 U	1.8 U	1.8 U
Heptachlor epoxide	ND	0.31 J	0.31 J	2.1 U	2 U	1.9 U	1.9 U	2 U	1.9 U	1.8 U	2.1 U	1.9 U	2.4 U	1.9 U	1.8 U	1.8 U
alpha-BHC	ND	4.1 J	5.3 JN	2.1 UJ	2 UJ	1.9 UJ	1.9 UJ	2 UJ	1.9 UJ	1.8 UJ	2.1 UJ	1.9 UJ	2.4 UJ	1.9 UJ	1.8 UJ	1.8 UJ
alpha-Chlordane	ND	0.22 J	3	2.1 U	2 U	1.9 U	1.9 U	2 U	1.9 U	1.8 U	2.1 U	1.9 U	2.4 U	1.9 U	1.8 U	1.8 U
beta-BHC	ND	0.76 J	0.76 J	2.1 U	2 U	1.9 U	1.9 U	2 U	1.9 U	1.8 U	2.1 U	1.9 U	2.4 U	1.9 U	1.8 U	1.8 U
delta-BHC	ND	0.22 J	0.22 J	2.1 U	2 U	1.9 U	1.9 U	2 U	1.9 U	1.8 U	2.1 U	1.9 U	2.4 U	1.9 U	1.8 U	1.8 U
gamma-Chlordane	ND	0.20 J	8.3	2.1 U	2 U	1.9 U	1.9 U	2 U	1.9 U	1.8 U	2.1 U	1.9 U	2.4 U	1.9 U	1.8 U	1.8 U

Notes:

NA - Not analyzed
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Shading Indicates Detection

Table 4
West Vieques Subsurface Soil Pesticide Detections
Vieques, Puerto Rico

Site ID	**Maximum**			W-SWMU-14 (continued)									
Station ID	**Concentration**	**Lowest**	**Highest**	W14-SB06	W14-SB07		W14-SB08	W14-SB09	W14-SB10	W14-SB11	W14-SB12	W14-SB13	W14-SB14
Sample ID	**Detected in subsurface**	**Detected**	**Detected**	NDA160	NDA162	NDA163FD1	NDA165	NDA167	NDA169	NDA171	NDA173	NDA175	NDA177
Sample Date	**soil at the PI 7 Site**	**Concentration**	**Concentration**	04/05/00	04/05/00	04/05/00	04/06/00	04/06/00	04/06/00	04/06/00	04/06/00	04/06/00	04/06/00
Chemical Name													
Pesticide (UG_KG)													
4,4'-DDD	ND	0.19 J	24	4 U	3.8 U	3.9 U	3.8 UJ	4.1 UJ	4 UJ	3.6 UJ	4.2 UJ	3.7 UJ	3.9 UJ
4,4'-DDE	130	0.1 J	764	4 U	3.8 U	3.9 U	3.8 UJ	4.1 UJ	4 UJ	3.6 UJ	4.2 UJ	3.7 UJ	3.9 UJ
4,4'-DDT	2.2 J	0.25 J	928	4 U	3.8 U	3.9 U	3.8 UJ	4.1 UJ	4 UJ	3.6 UJ	4.2 UJ	3.7 UJ	3.9 UJ
Aldrin	ND	0.550 J	1.1 J	2 U	1.9 U	2 U	1.9 UJ	2.1 UJ	2 UJ	1.8 UJ	2.2 UJ	1.9 UJ	2 UJ
Dieldrin	ND	0.26 J	1.3 J	4 U	3.8 U	3.9 U	3.8 UJ	4.1 UJ	4 UJ	3.6 UJ	4.2 UJ	3.7 UJ	3.9 UJ
Endosulfan I	ND	0.29 J	0.67 J	2 U	1.9 U	2 U	1.9 UJ	2.1 UJ	2 UJ	1.8 UJ	2.2 UJ	1.9 UJ	2 UJ
Endosulfan sulfate	ND	0.26 J	0.29 J	4 U	3.8 U	3.9 U	3.8 UJ	4.1 UJ	4 UJ	3.6 UJ	4.2 UJ	3.7 UJ	3.9 UJ
Endrin	ND	0.26 J	0.26 J	4 UJ	3.8 UJ	3.9 UJ	3.8 UJ	4.1 UJ	4 UJ	3.6 UJ	4.2 UJ	3.7 UJ	3.9 UJ
Endrin aldehyde	ND	0.2 J	13	4 U	3.8 U	3.9 U	3.8 UJ	4.1 UJ	4 UJ	3.6 UJ	4.2 UJ	3.7 UJ	3.9 UJ
Endrin ketone	ND	1.4 J	1.4 J	4 U	3.8 U	3.9 U	3.8 UJ	4.1 UJ	4 UJ	3.6 UJ	4.2 UJ	3.7 UJ	3.9 UJ
Heptachlor	ND	0.2 J	0.66 J	2 U	1.9 U	2 U	1.9 UJ	2.1 UJ	2 UJ	1.8 UJ	2.2 UJ	1.9 UJ	2 UJ
Heptachlor epoxide	ND	0.31 J	0.31 J	2 U	1.9 U	2 U	1.9 UJ	2.1 UJ	2 UJ	1.8 UJ	2.2 UJ	1.9 UJ	2 UJ
alpha-BHC	ND	4.1 J	5.3 JN	2 UJ	1.9 UJ	2 UJ	1.9 UJ	2.1 UJ	2 UJ	1.8 UJ	2.2 UJ	1.9 UJ	2 UJ
alpha-Chlordane	ND	0.22 J	3	2 U	1.9 U	2 U	1.9 UJ	2.1 UJ	2 UJ	1.8 UJ	2.2 UJ	1.9 UJ	2 UJ
beta-BHC	ND	0.76 J	0.76 J	2 U	1.9 U	2 U	1.9 UJ	2.1 UJ	2 UJ	1.8 UJ	2.2 UJ	1.9 UJ	2 UJ
delta-BHC	ND	0.22 J	0.22 J	2 U	1.9 U	2 U	1.9 UJ	2.1 UJ	2 UJ	1.8 UJ	2.2 UJ	1.9 UJ	2 UJ
gamma-Chlordane	ND	0.20 J	8.3	2 U	1.9 U	2 U	1.9 UJ	2.1 UJ	2 UJ	1.8 UJ	2.2 UJ	1.9 UJ	2 UJ

Notes:

NA - Not analyzed
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Appendix B
Final Responses to EPA and EQB Comments

Final Responses to EPA Comments on the

Draft No Action / No Further Action Decision Document
PI 7, PAOC Q, and PAOC R
Former Vieques Naval Training Range
Vieques, Puerto Rico
March 2011

1. **Figure ES-2 and Figure 1-2:** These figures imply that areas such as Isabel Segunda are within the Former Vieques Naval Training Range. Please correct.

   Navy Response:

   The above mentioned figures have been revised as requested.

2. **Section 2.2, PI 7 Release Assessment Decision Analysis, Step 1: Is the site potentially CERCLA-eligible?, page 2-8:** It is noted that the SVOC data for PI7-3 have been replaced with SVOC data for SS/SB42. Please note whether these replacement data represent post-excavation samples that were collected following drum removal.

   Navy Response:

   The replacement data collected at SS/SB42 were not located in an area that was excavated. The reason for the new data collection and their use is described in Step 7 on page 2-23.

3. **Section 2.2, PI 7 Release Assessment Decision Analysis, Step 4: Are there any inorganic constituents above background or non-inorganic constituents that are potentially attributable to historic CERCLA-related releases at the site?, page 2-12:** Please include a table comparing pesticide concentrations (DDE, Endrin, etc.) identified at PI 7 to background concentrations, similar to the information provided in Appendix O of the Final SI/ERI Report (CH2MHILL, 2010).

   Navy Response:

   Tables showing the range of pesticide concentrations across east and west Vieques have been added as Appendix A. A column has been inserted into each table adjacent to the range columns that shows the maximum concentration of each pesticide detected at PI 7. Further, the first sentence of the second paragraph under Section 2.2, Step 4 has been revised to read: ". . . . same pesticides and of similar concentrations detected at other sites across east and west Vieques (Appendix A)."

4. **Section 2.2, PI 7 Release Assessment Decision Analysis, Step 6: Can more realistic evaluations of the data be performed, and if so, do they suggest contaminant levels warrant no further investigation or action?, pages 2-17, 2-19, 2-22:** Under the **Ecological Evaluation** sections it is noted that food web exposures for upper trophic level receptors (birds and mammals) are not evaluated due to the small size of the sites and the fact that

the areas are heavily vegetated. The Vieques Master SOP does not indicate that risk to upper trophic level receptors will be calculated based upon the size of the sites being investigated. This change in protocol needs to be further discussed among the Navy and the regulatory agencies. Further, without an understanding of the diversity of the vegetative community, it is unclear whether plants may have been impacted by potentially elevated concentrations of inorganics. Presence of vegetation does not necessarily mean that the vegetation has not been impacted by the presence of inorganics. However, as the level of inorganic exceedances is relatively low, there is agreement that no further action is warranted for these areas.

Navy Response:

The decision on whether or not to conduct food web modeling at a site is related to problem formulation (conceptual model) and is thus not specifically addressed in the ERA protocol since it is a site-specific decision. The conceptual model determines what pathways are significant and thus need to be evaluated. Upper trophic level receptor exposures are not generally significant for sites that are small relative to the home range size of the receptors potentially present because potential exposures would only occur for, at most, a few individuals of the population. Thus, the decision to not conduct food web modeling at PI-7 does not constitute a change in, or deviation from, the ERA protocol but is a site-specific decision based upon the site-specific conceptual model. Further, this is the same process that was used in the SI/ESI Report Addendum for PI 7 and used in previous PA/SI and SI/ESI Reports for multiple sites on Vieques.

The comment related to the vegetative community has been addressed by replacing the text "with no signs of stress" with "and there are no apparent impacts to the terrestrial plant community based upon qualitative visual observations (no quantitative evaluation of the plant community has been conducted at the site)" in each of the three referenced pages in the comment.

5. Table 2-4, HHRA COPC Summary Table, Site PI-7:

a. Please explain why hazard quotients and ECLRs are not calculated for all chemicals for which toxicity values are available. For example, cancer risks were not calculated for Benzo(a)pyrene in PI-7 Central Subsurface Area, and non-cancer hazards were not estimated for chromium, cobalt, iron, and manganese at PI-7 Northern Surface Soil, and HI is presented for aluminum in the Northern Surface Soil but not in the Central Surface Soil.

Navy Response:

When a chemical was detected in both surface soil and subsurface soil, the hazard quotient and ELCR were calculated based on the higher concentration of the two exposure points (surface soil and subsurface soil) to obtain the more conservative risk estimates. For example, cancer risk for benzo(a)pyrene in PI-7 Central Area was calculated based on the maximum detected concentration in surface soil (0.18 mg/kg) rather than the lower maximum detected concentration in subsurface soil (0.018 mg/kg). Similarly, non-cancer hazards were estimated for chromium, cobalt, iron, and

manganese at PI-7 Central Area using the higher concentrations detected in surface soil rather than those detected in subsurface soil.

A footnote has been added to the table to indicate that "When a chemical was detected in both surface and subsurface soil exposure points, the hazard quotient and ELCR were calculated based on the higher maximum detected concentration of the two exposure points to obtain a more conservative risk estimate." This footnote has also been added to the HHRA tables for PAOC Q (Table 3-3) and PAOC R (Table 4-3).

b. Please explain why HI values are not calculated for dissolved chromium in groundwater in the Central area and the Southern Area.

Navy Response:

When a metal was detected in both "total" and "dissolved samples," the hazard quotient and ELCR were calculated based on the higher concentration (between the "total" and "dissolved" results) to obtain the more conservative risk estimates.

A footnote has been added to the table to indicate that "When a chemical was detected in both "total" and "dissolved forms," the hazard quotient and ELCR were calculated based on the higher maximum detected concentration of the two results to obtain the more conservative risk estimates. "

c. Please explain how the HI values were summed. The values for total risk at the bottom of the table are unclear.

Navy Response:

The maximum HIs presented in the right bottom corner are the highest target-organ-specific HIs. For example, the maximum HI value at PI-7 Central is a summation of aluminum and manganese HQs based on CNS effects.

The basis of HIs (e.g., CNS) has been added to the table. The same revision has also been made to the HHRA tables for PAOC Q (Table 3-3) and PAOC R (Table 4-3).

d. Please explain why the three areas are not summed together. The text does not state that exposure to an individual is not anticipated in all three areas.

Navy Response:

A residential exposure scenario (i.e., an assumption of site soil exposure for 350 days/year) was evaluated for each area separately. The three areas were not summed together since doing so would result in unrealistic triple-counting of a potential residential exposure scenario (i.e., would result in soil exposure of 1,050 days/year).

6. **Section 3.2, PAOC Q Release Assessment Decision Analysis, Step 6: Can more realistic evaluations of the data be performed, and if so, do they suggest contaminant levels warrant no further investigation or action? , Human Health Evaluation, page 3-5:**

   a. The text indicates that the maximum target organ-specific HI value is 0.9. However, Table 4-3 shows an HI value of 1.8 for CNS effects, associated with exposure to aluminum and manganese. Please revise the text to clarify why this HI value is not of concern.

   Navy Response:

   The corresponding HHRA table for PAOC Q is Table 3-3 rather than Table 4-3 indicated in the comment. The HI value of 0.9 presented in the text is presented in Table 3-3.

   b. Please explain why hazard quotients and ECLRs are not calculated for all chemicals for which toxicity values are available.

   Navy Response:

   Please see the response to comment 5a.

7. **Section 3.2, PAOC Q Release Assessment Decision Analysis, Step 6: Can more realistic evaluations of the data be performed, and if so, do they suggest contaminant levels warrant no further investigation or action?, Ecological Evaluation, page 3-5:** Please add the following language to the end of the first sentence: "and therefore is not representative of a terrestrial pathway to ecological receptors."

   Navy Response:

   The requested change has been made to the document.

8. **Section 4.2, PAOC R Release Assessment Decision Analysis, Step 6: Can more realistic evaluations of the data be performed, and if so, do they suggest contaminant levels warrant no further investigation or action? , Human Health Evaluation, page 4-5:** The last paragraph discusses the HI value associated with manganese. There were 2 results for manganese, one which is associated with an HQ of 0.6 and a higher concentration which is associated with a higher HQ that is not presented in this report. Since these results are from duplicates, both are valid, assuming that QA/QC requirements were met. The report focuses on the HQ associated with the lower concentration, which results in a cumulative HI of 1.1, as opposed to an HI of 1.8. It is inappropriate to base the HI value on the lower manganese result. Both results are valid and should be presented, in context with the background concentrations. Please revise the text and Table 4-4.

   Navy Response:

   The risk estimates associated with the normal sample result for manganese are presented in the last bullet on page 4-5 and Table 4-3, and the risk estimates associated with the duplicate sample result for manganese are presented in the last paragraph on page 4-5 and Table 4-4. The background UTL for manganese is also

presented in the last bullet on page 4-5 and Tables 4-3 and 4-4. Footnote 4 of Table 4-4 indicates "A pair of normal and duplicate samples was collected at the location of the maximum detected concentration. The manganese concentration in the duplicate sample was used in this table for comparison purposes. The manganese data associated with the normal sample is presented in Table 4-3". Therefore, the requested information is already presented in the text and tables.

Final Responses to PREQB's Technical Review of the

Draft No Action/No Further Action Decision Document
PI 7, PAOC Q and PAOC R,
Former Vieques Naval Training Range,
Vieques, Puerto Rico,
Dated March 2011

General Comments

1. For discussions of constituents detected in groundwater, it would be helpful for this document to discuss trends observed (i.e., increasing or decreasing concentrations or whether constituents were detected in the latest round of samples).

Navy Response:

There is no trend information for groundwater associated with these sites. The groundwater data used were collected in a single event.

PREQB Evaluation of Response:

As only one groundwater sampling event occurred, please revise the following italicized text, taken from Page 2-22:

PCE was detected above its RSL (0.55 µg/L) in one of two samples. *Based on the maximum detected concentration* (0.2 µg/L), the ELCR is 4 x 10-7 and the HQ is 0.0006, which are within EPA's acceptable levels. Therefore, PCE would not be identified as a risk driver. In addition, detected concentrations are less than the MCL (5 µg/L).

Identifying a maximum detected concentration implies more than one detection. Also, please add text that PCE was not detected in soil, indicating no source for continued PCE impacts to groundwater, and discuss groundwater flow direction and whether the fact that PCE was not detected in MW01 further supports the lack of a PCE plume in groundwater (groundwater flow direction for this area is not discussed in the document). In other words, discuss the lines of evidence that no groundwater plume exists in this area.

Navy Response:

The italicized text has been revised as requested by removing the word "maximum." In addition, the following paragraph has been added as the third paragraph under "Additional Comparisons" for the Southern Subsection:

"It is important to note that although a low concentration of PCE (i.e., 0.2 µg/L) was detected in one well (MW-02) in the southern

subsection of PI 7, multiple lines of evidence indicate no groundwater contaminant plume exists in this area. In addition to the drums being removed, PCE was not detected in any of the soil samples, which indicates there is no source for continued PCE impacts to groundwater. In addition, the well in which PCE was detected was installed immediately beneath the area containing the drums, so the low detection in that well coupled with the absence of PCE in a well just downgradient of this area (i.e., MW-01) further supports the absence of a groundwater contaminant plume."

Page-Specific Comments

1. **Table ES-1:** Please consider revising the first sentence in the Rationale for No Action/No Further Action Determination column. Drum and contaminated soil removal eliminates past releases and potential future sources of contamination, rather than eliminating past sources of contamination, as it currently reads.

   Navy Response:

   The sentence has been edited as stated above.

   PREQB Evaluation of Response:

   The response is fine, but the table was not provided with the revised Draft Final document for review.

   Navy Response:

   The table was provided with the revised Draft Final document for review. It is Table ES-1 (the last PDF file in the list of files on the website).

2. **Page 2-6, Section 2.1.2, ESI Soil Sampling:** Please add a brief summary of the analytical results at the end of this section.

   Navy Response:

   Section 2.1.2 is for Investigation History, which describes what and where samples were collected and is not intended to summarize the analytical results. A summary of analytical results is appropriately included in Section 2.2 PI 7 Release Assessment Decision Analysis. Specifically, a summary of the results is included in Step 3 on pages 2-10 through 2-12 under "ESI (2009)…." heading. Additionally, the results are shown in Step 5 on pages 2-13 through 2-16. The results are also summarized in Tables 2-1 through 2-3.

3. **Page 2-17, Section 2.2, Ecological Evaluation:** Please consider rewording the second to the last sentence of the second bullet to read "This suggests that the copper

concentrations detected in this portion of PI 7… are within the range of background." This removes one of the two equivocal terms/phrases in this sentence ("suggests" and "may be"). Note that this sentence appears throughout the report in discussing inorganics results, so please consider revising the text throughout the report.

Navy Response:

This change was made on page 2-17 as requested, as well as pages 2-20 and 2-22.

4. **Page 2-17, Section 2.2, Additional Comparisons:** Please consider adding a sentence to the end of the first paragraph that clarifies why not detecting copper in groundwater is important to this evaluation (i.e., that copper is not leaching to groundwater).

Navy Response:

The following sentence has been added to the end of the first paragraph: "This suggests the SSLs are overly conservative and do not accurately represent copper leaching to groundwater, since the absence of copper in downgradient groundwater suggests it is not leaching (or leaching appreciably) to groundwater."

5. **Page 3-2, Section 3.1.3:** Please include the thickness of the native layer above bedrock. This information is needed to clarify that not all soil material was removed above bedrock prior to sampling. This comment applies to Section 4.1.3 also.

Navy Response:

The last sentence of the third paragraph of Section 3.1.3 Physical Setting has been removed. The third sentence of the third paragraph of Section 3.1.3 Physical Setting has been edited to read: "Approximately 4 ft of soil/gravel was inadvertently placed over the soil sampling locations (prior to sampling) by USFWS at PAOC Q."

The last sentence of the third paragraph of Section 4.1.3 Physical Setting has been removed. The third sentence of the third paragraph of Section 4.1.3 Physical Setting has been edited to read: "Approximately 3 ft of soil/gravel was inadvertently placed over the soil sampling locations (prior to sampling) by USFWS at PAOC R."

6. **Page 3-5, Section 3.2, Ecological Evaluation:** Please clarify in the last sentence that the native surface soil sample poses not ecological risk and clarify why (i.e., no exposure pathway to native soil located at depth, etc.).

Navy Response:

The last sentence has been changed to the following: "As a result, even though there is an ecological screening value exceedance for copper in the historic exposed soil, there is no longer a complete exposure pathway to terrestrial organisms because of the thick cover material; therefore, surface soil does not pose an unacceptable risk to ecological receptors."