BUILDING A BETTER WORLD

SUPPLEMENTAL RCRA FACILITY INVESTIGATION REPORT ADDENDUM

OF

ROAD #3, KILOMETER 122.9
PATILLAS, PUERTO RICO 00723
UNITED STATES

Prepared For:

GE Energy Management

Prepared By:

MWH Americas, Inc.
35055 W. Twelve Mile Road, Suite 140
Farmington Hills, Michigan

Project No. 10502022

July 2013

SUPPLEMENTAL RCRA FACILITY INVESTIGATION REPORT ADDENDUM

OF

ROAD #3, KILOMETER 122.9
PATILLAS, PUERTO RICO 00723

FOR

GE ENERGY MANAGEMENT

Prepared by: Andrew Ferenc — July 26, 2013
Andrew Ferenc — Date
Environmental Engineer
MWH Americas, Inc.

Reviewed by: Bradly R. Toth — July 26, 2013
Bradly R. Toth — Date
Lead Scientist
MWH Americas, Inc.

Reviewed by: Kim Kesler Arnold — July 26, 2013
Kimberly Kesler-Arnold — Date
Principal Hydrogeologist
MWH Americas, Inc.

EXECUTIVE SUMMARY

MWH Americas, Inc. (MWH) was retained by General Electric Energy (GE) to prepare a Supplemental Resource Conservation and Recovery Act (RCRA) Facility Investigation (SRFI) Report Addendum for the former GE facility located in Patillas, Puerto Rico (Site). This report is being prepared in accordance with the Administrative Order on Consent (AO, March 1988) issued by the United States Environmental Protection Agency (USEPA) for this site and correspondence between GE and the USEPA dated December 21, 2012.

The Site is located along the southeastern coast of Puerto Rico at Road #3, Km. 122.9, Patillas, Puerto Rico as depicted in ***Figure 1***. The Site is currently leased by GE from the Puerto Rico Industrial Development Company (PRIDCO), and has historically been used by GE for warehousing and manufacturing of electro-mechanical products. These operations were discontinued in June 2010.

The initial RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS) for the site were completed in 1991 and 1993, respectively, by Sirrine Environmental Consultants (SEC) and SEC Donohue, respectively. Following submission of these reports to the USEPA, GE began quarterly groundwater monitoring as a self-implementation of the published preferred corrective measure: Monitored Natural Attenuation (MNA) with Groundwater Monitoring. A Supplemental RFI was completed in 2005 to address the USEPA's concerns that the extent of downgradient contamination had not been adequately characterized, the presence of recoverable dense non-aqueous phase liquid (DNAPL) had not been discounted, and information to implement a natural attenuation corrective measure was insufficient. The SRFI concluded that the MNA alternative selected in 1993 was justified and should be continued. In their letter response to the SRFI Report (*Review of Supplemental RFI Report*, September 2005), the USEPA stated that the information was not sufficient to determine the extent of impacted groundwater, and therefore the CA-750 determination could not be completed. The letter also stated that sufficient information was not included to make a determination on the processes governing natural attenuation, and comments requesting further clarification with respect to MNA were provided.

This SRFI Report is an addendum to the SRFI Report (Earth Tech, 2005) which intends to address the USEPA's comments and summarize investigative activities performed at the Site since 2005. Activities completed since 2005 included groundwater monitoring, surface water sampling, groundwater modeling, and additional well installation.

The three principal contaminants historically encountered in groundwater at the Site are 1,1,1-trichloroethane (TCA), 1,1-dichloroethane (1,1-DCA), and 1,1-dichloroethene (1,1-DCE). The RFI and SFRI document the decline of groundwater concentrations of these principal contaminants (TCA, DCA, and DCE) to near non-detect levels from 1989 through 2004.

Present data indicate that 1,1-DCE is the only compound currently exceeding an MCL. 1,1-DCA does not have an MCL. The highest VOC concentrations (primarily 1,1-DCA and 1,1-DCE) were detected in the sample collected from well P-8, which is located onsite and downgradient of the former French Sump. The 1,1-DCE concentration for the farthest downgradient monitoring well sampled (P-20D, located approximately 1,300 feet southwest of the former French Sump) was 7 µg/L. The approximate extent of 1,1-DCE in the shallow groundwater zone extends from the Site towards P-19S; for the deep zone, 1,1-DCE has been detected at low levels in P-20D. In general, the 1,1-DCE groundwater impact appears to be limited to a narrow pathway southwest of the former sump. Additionally, the decreasing 1,1-DCE concentration trends appear to indicate some natural attenuation of this compound. Analytical results from the surface water and pore-water sampling do not indicate the presence of COCs in the Rio Grande de Patillas.

Based on the recent groundwater monitoring results and historical results, the migration of impacted groundwater appears to have stabilized. While the non-detect results of samples from monitoring well P-11 may indicate the plume is shrinking from the upgradient end, the concentrations of COCs in the downgradient wells sampled during the most recent groundwater monitoring event have decreased in many wells but are mostly consistent with historical concentrations.

Evidence of abiotic oxidation does not appear to exist at the Site; breakdown products of 1,1-DCA and 1,1-DCE have not been detected in the groundwater. Based on this information, recent monitoring data, and the offsite migration of the contaminant plume, GE is planning to perform interim corrective measures to address offsite groundwater. Prior to performing the interim corrective measures, an Interim Corrective Measures Study (ICMS) will be conducted.

During the ICMS, an updated CSM will be developed to systematically evaluate constituent migration pathways, exposure routes and potential receptors. Based on information developed to date, the interim corrective measures objectives for the offsite groundwater can be summarized as follows:

- **Corrective Measures Objective 1** – Reduce the potential for offsite groundwater containing VOCs from impacting human health or the environment.

- **Corrective Measures Objective 2** – Assure that the area can be used for commercial or agricultural uses with no unacceptable risk to potential receptors.

To meet the objectives listed above, interim clean-up goals will be developed.

The overall purpose of the ICMS will be to evaluate various remedial technologies based on various factors, and to retain the technologies that would likely be feasible and effective at meeting the interim corrective measures objectives (i.e., controlling groundwater migration and/or reducing constituent concentrations in offsite groundwater to levels that are considered to be protective of human health and the environment). Remedies to be evaluated during the ICMS could potentially include: no action, extraction and ex-situ treatment, or in-situ treatment.

In addition to the ICMS, GE is planning to perform a Corrective Measure Study (CMS) to evaluate and select a corrective measure (CM) for the entire contaminant plume. The results from the ICMS could potentially be incorporated into the CMS and expanded as full-scale CM. Remedies to be evaluated during the CMS could potentially include: no action, land use controls or restrictions, extraction and ex-situ treatment, or in-situ treatment.

TABLE OF CONTENTS

SECTION **PAGE**

TABLE OF CONTENTS (Contiuned)

SECTION PAGE

LIST OF FIGURES

LIST OF TABLES

APPENDICES

1.0 INTRODUCTION

MWH Americas, Inc. (MWH) was retained by General Electric Energy (GE) to prepare a Supplemental Resource Conservation and Recovery Act (RCRA) Facility Investigation (SRFI) Report Addendum for the former GE facility located in Patillas, Puerto Rico (Site). This report is an addendum to the SRFI Report (Earth Tech, 2005) and summarizes investigative activities performed at the Site since 2005. This report is being prepared in accordance with the Administrative Consent Order (October 1989) issued by the United States Environmental Protection Agency (USEPA) for this site and correspondence between GE and the USEPA dated December 21, 2012.

1.1 SITE LOCATION AND DESCRIPTION

The Site is located along the southeastern coast of Puerto Rico at Road #3, Km. 122.9, Patillas, Puerto Rico as depicted in ***Figure 1***. The Site is currently leased by GE Energy from the Puerto Rico Industrial Development Company (PRIDCO), and has historically been used for warehousing and assembly operations for electro-mechanical products. These operations were discontinued in June 2010.

The Site consists of a building constructed on a concrete slab with concrete walls and a concrete/tar roof. The building is approximately 100,000 square feet which includes former office, production, storage, shipping, and receiving areas. An asphalt paved parking area is located southeast of the Site building. A manned guard house along Road #3 provides controlled access to the Site property. A chain-link fence surrounds the Site and an adjacent asphalt paved parking lot formerly used for additional employee parking. Entrance into the Site building is gained by one of several doors along the south-eastern wall of the building.

The Site is bordered on the west by an unnamed road, to the north by residential and undeveloped properties, to the east by an undeveloped property, and to the south by Road #3. South of Road #3 is a wastewater treatment plant (owned by the Puerto Rican Aqueduct and Sewer Authority [PRASA]), a pharmacy, bank, and gas station. The general topography in the area slopes from the northwest towards the southeast. Current land use in the area is a mixture of residential and commercial property. Groundwater in the area is not used for drinking water. Site features are indicated on ***Figure 2***.

1.2 SITE HISTORY

The following sections briefly describe the history of the Site. Additional details regarding historical operations are included in the RFI report (SEC, 1991).

1.2.1 HISTORIC FACILITY OPERATIONS

The Site was initially developed between 1960 and 1974. From 1970 to 1974, Kaiser Roth Corporation conducted a sewing and packaging operation for women's hosiery.

From November 1974 to March 1987, GE, operating as Caribe General Electric Products (CGE), manufactured and assembled electro-mechanical products. GE operated in the building and production areas formerly used by Kaiser Roth Corporation. Metal plating, stamping, and cutting operations took place during that time. An on-site wastewater treatment plant (WWTP) was located on the east side of the building and began operating in 1974.

A French Sump was constructed at the CGE Facility in 1977 and was operated for waste disposal until 1980. Wastes discharged to the sump included plating tank wastewater, treated wastewater sludge, spent oils, and spent solvents. Soils containing elevated levels of metals and organics in and adjacent to the former French Sump were excavated, stabilized, and shipped to a RCRA-approved landfill in October 1990. USEPA accepted the closure of the sump as complete.

The Site was idle from 1987 to 1993, during which time no manufacturing operations were conducted. During this period of time, GE continued to lease the Site.

From 1993 to June 2010, GE operated the facility to manufacture electro-mechanical devices under the name of GE Puerto Rico Investment, Inc. Electric vehicle controls were the predominant product produced at the facility, consisting of printed circuit boards, DC control devices, and DC/DC converters. Printed circuit boards were purchased by the Site and populated on-site with electronic components (e.g., resistors and capacitors). Other products produced at the facility included wiring devices (e.g., electrical outlets and switches), plate rheostats, ceramic resistors and grid resistors. The facility is currently idle, with no manufacturing operations being conducted.

1.2.2 TIMELINE OF REMEDIAL AND INVESTIGATIVE ACTIVITIES

The following sections briefly describe the remedial and investigative activities that have been conducted at the Site, including previous investigations and remedial actions. Additional details regarding historic remedial operations are included in the RFI report (SEC, 1991).

1.2.2.1 RCRA Facility Investigation Report

Remedial activities began at the Site with the original RFI. The original RFI was conducted to determine the nature and extent of any historical releases of hazardous constituents from the potential sources identified in the RFI Administrative Order. The efforts were directed at assessing the nature and extent of on-Site contamination and potential relationship to the off-Site groundwater supply, including the Puerto Rico Aqueduct and Sewer Authority (PRASA) water supply wells.

Investigation of the groundwater impacts in the area of the French Sump began in 1989. A total of eleven monitoring wells were installed on-site adjacent to and down-gradient from the former French Sump and five monitoring wells were installed off-site to assess groundwater quality.

In October 1990, soils in and adjacent to the former French Sump were excavated, stabilized and shipped to a Resource Conservation and Recovery Act (RCRA)-approved landfill. The USEPA accepted the closure of the sump as complete in March 1991.

In summary, the 1991 RFI presented the following conclusions:

- The only source of VOCs to the local groundwater (the French Sump) was eliminated with the removal of the sump in 1990.
- Two contaminant plumes were identified: 1,1,1-trichloroethane (1,1,1-TCA) and 1,1-dichloroethene (1,1-DCE).
- No potential receptors (human or ecological) were identified between the Site and the Rio Grande de Patillas.

USEPA issued conditional approval (Clappin, letter dated 10/2/91 to J. Sommer) for the RFI report. The final RFI, submitted in October 1991 (SEC, October 1991), addressed the conditions in the approval letter, and work commenced on the CMS.

1.2.2.2 Corrective Measures Study Report

A Draft CMS Report for the Site was submitted to USEPA (SEC Donohue, January 1993), and GE began quarterly groundwater monitoring as a self-implementation of the published preferred corrective measure: Natural Attenuation with Groundwater Monitoring.

1.2.2.3 Supplemental RFI Report

At meetings in 2000 and 2003, USEPA expressed concern that the extent of down-gradient contamination had not been adequately characterized, the presence of recoverable dense non-aqueous phase liquid (DNAPL) had not been discounted, and information to implement a natural attenuation corrective measure was insufficient. In response to these concerns, GE installed six additional monitoring wells off-site to determine the extent of the 1,1-DCE plume. In summary, the SRFI presented the following conclusions:

- The extent of off-Site contamination in the groundwater has been delineated and has been found to be much smaller than at earlier times.
- An assessment of five lines of evidence indicates that DNAPL is no longer present at the Site.
- Sufficient data were collected in 2004 to describe the natural attenuation mechanisms operating to destroy the contaminants in the local aquifer, and these new data are consistent with the groundwater quality data that have been collected over the past 15 years.
- The MNA alternative selected in 1993 was justified and should be continued.

The results of this investigation were provided to the USEPA in the SRFI Report (Earth Tech, 2005). In their letter response to the SRFI Report (*Review of Supplemental RFI Report*, September 2005), the USEPA stated that the information was not sufficient to determine the extent of impacted groundwater, and therefore the CA-750 determination could not be completed. The letter also stated that sufficient information was not included to make a determination on the processes governing natural attenuation, and comments requesting further clarification with respect to MNA were provided.

1.2.2.4 Post SRFI Work

In response to the USEPA's comments on the SRFI Report, GE continued to perform monitoring and investigative activities at the Site, in coordination with the USEPA. From 2005 through 2012, the following reports were prepared and provided for review by the USEPA:

- December 2006 Letter from GE to USEPA RE: Progress Update (MWH, December 2006)
- August 2009 Groundwater Modeling Report (MWH, August 2009)
- September 2009 Groundwater Monitoring Report (MWH, September 2009)
- December 2009 Groundwater Monitoring Report (MWH, December 2009)
- March 2010 Groundwater Monitoring Report (MWH, March 2010)
- August 2010 Groundwater Monitoring Report (MWH, August 2010)
- December 2010 Groundwater Monitoring Report (MWH, December 2010)
- August 2012 Groundwater Monitoring Report (and Surface Water Sampling Results) (MWH, August 2012)

The results from these monitoring and investigative events are summarized in the following paragraphs.

In 2006, GE installed an additional monitoring well cluster (P-20S and P-20D) to further delineate the extent of 1,1-DCE in groundwater. Based on the results of this investigation, the USEPA requested that GE pursue access to additional down-gradient properties to install monitoring wells to further define the extent of the 1,1-DCE in groundwater. GE intended to install these proposed wells down-gradient of P-20S/D and up-gradient of P-13S/D and P-14S/S. At the time of the SRFI, the farthest downgradient wells (P-13S/D and P-14S/D) had not been sampled for nine years, and access to these wells had been rescinded. From 1991 through 1996, these wells were sampled eight times and VOCs were not detected. Although numerous attempts were made by GE, access was not granted to the properties, and the wells could not be installed. As a result, GE and USEPA agreed that the project should move forward to estimate the extent of 1,1-DCE in groundwater without the use of these wells.

In July 2009, GE performed fate and transport modeling to estimate the extent of 1,1-DCE in groundwater. Subsequent to the fate and transport modeling and at the request of the USEPA, GE performed additional groundwater monitoring events (September 2009, December 2009, March 2010, August 2010, and December 2010). During the events, groundwater elevations and groundwater samples were collected from existing on-site and accessible off-site monitoring wells. The results were submitted to the USEPA and EQB. EQB has reviewed these documents.

A meeting between the USEPA and GE was held on April 22, 2010, to discuss the extent of impacted groundwater and the need for further down-gradient characterization. During this meeting, GE agreed to the USEPA's request to continue groundwater monitoring on a quarterly basis for one additional year.

In June of 2010, GE ceased manufacturing operations at the Site, and in September of 2010, GE completed a Phase II Environmental Site Assessment (ESA) to document Site conditions prior to exiting the lease for the Site. The Phase II ESA included installation of 25 soil borings to an average depth of 15 feet below ground surface, and soil sampling at several intervals within each of those 25 boring locations. The Phase II ESA also included installation of six temporary groundwater monitoring wells and four permanent monitoring wells at the Site, and their subsequent development and sampling. Groundwater samples were also collected from existing on-site monitoring wells. This work was performed for lease exit purposes, and was not directly associated with the consent agreement between GE and USEPA. Even so, the Phase II ESA information was shared with USEPA. The information generated during the Phase II ESA is not included as part of this RCRA closure.

GE performed site closure and cleaning activities in March 2011, during which a 7-ft by 7-ft concrete vault was discovered northeast of the main building near the loading dock. In August 2012, GE cleaned and closed the vault. The sediment inside the vault was removed for disposal at a licensed disposal facility, and the piping was plugged. The vault was backfilled with clean backfill and topped with a concrete cover. Additionally, GE installed one monitoring well (P-23) during vault closure activities. The monitoring well was installed adjacent to the vault and was intended to be included in future routine groundwater monitoring events.

A groundwater monitoring event was conducted in August 2012 which included surface water and pore-water sampling along the Rio Grande de Patillas. The results of the event were submitted to the USEPA and EQB.

2.0 ENVIRONMENTAL SETTING

This section of the report provides information on the environmental setting of the Site. The SRFI Report (Earth Tech, 2005) thoroughly documented the environmental setting of the Site, and will be referenced as a source of additional information. The following sections describe the atmospheric, demographic, hydrologic, geologic, and hydrogeologic features of the Site and surrounding areas.

2.1 CLIMATE

The regional climate is heavily influenced by easterly trade winds, which bring abundant moisture to the region that falls as precipitation. Patillas receives approximately 70 inches of rainfall annually, with the heaviest rainfall occurring in late spring through fall. Temperatures are greatly moderated by the surrounding Atlantic Ocean, and generally range from an average minimum of 73.3 degrees Fahrenheit (ºF) to an average maximum of 85.8ºF. Refer to the SRFI Report (Earth Tech, 2005) for more detailed climate information.

2.2 LAND USE

The Site is situated within an area that is used for residential, recreational, commercial, agricultural, and industrial purposes. The following nearby land-uses have been identified:

- North: A two-lane paved road is located immediately along the northern property boundary. The area on the opposite side of this road is used for light industrial and commercial purposes. Beyond this area, the land use consists of residential and commercial properties that are associated with the central region of Patillas.
- Northeast: A light industrial facility and wooded area are located northeast of the Site. An athletic field is located beyond the wooded area.
- East: A densely wooded area is located east of the Site. This area extends approximately three-quarters of mile towards residential developments.
- South: A small residential neighborhood (approximately 220,000 square feet) is located immediately south of the site. Approximately 60 residential structures are located within this neighborhood.
- Southwest: Interstate PR-3 (also known as Highway #3 or Road #3) is located immediately along the southwestern property boundary. The property southwest of this road is used as a waste water treatment plant. This plant is owned and operated by Puerto Rico Aqueduct and Sewer Authority (PRASA).
- West: A commercial area is located west of the Site on the opposite side of Interstate PR-3. Commercial facilities include a gas station and a pharmacy. Farther west beyond these properties, the land use is agricultural (e.g., open grazing land) for approximately three-quarters of a mile.

The nearest residential properties are located approximately 1/8 mile north (upgradient) and within 1/4 mile south (side-gradient) of the Site. Land use down-gradient of the Site is primarily agricultural with a limited number of structures between the Site and the Rio Grande de Patillas. The agricultural use is primarily for local populations (as opposed to commercial farming), and based on observations made during groundwater monitoring and investigative activities at the Site, workers access the Site on an intermittent basis. There are no residences or water supply wells used for human consumption (including irrigation) between the Site and the Rio Grande de Patillas.

2.3 SURFACE WATER

The Rio Grande de Patillas is approximately 2,370 feet southwest of the Site, and is a perennial river which receives groundwater from the local aquifer. The Rio Chico is an intermittent stream located approximately 645 feet southwest of the Site, and may provide water to the local aquifer rather than receive water from the aquifer. Both the Rio Grande de Patillas and the Rio Chico are down-gradient of the Site. Additional information regarding local surface water features is available in the SRFI Report (Earth Tech, 2005).

2.4 REGIONAL GEOLOGY

The Site is located on the southern coastal plain of Puerto Rico consisting of alluvial and colluvial deposits from the Cordillera Central to the north. The sediments in the Rio Grande de Patillas river valley generally consist of sand, silt, clay and gravel. These Quaternary (recent) deposits are underlain by deeply weathered volcanic materials and plutonic rocks. The SRFI Report (Earth Tech, 2005) provides additional information related to regional geology.

2.5 REGIONAL HYDROGEOLOGY

The Site is located within the Patillas-Ponce hydrogeologic system, spanning from the south-central to southeast coastal plain region. Groundwater flow in the region is generally to the south-southwest from the Cordillera Central to the Caribbean Sea. The alluvial fans produce the largest yields of groundwater, with thick gravel beds generating significant volumes. The regional hydrogeology is described further in the SRFI Report (Earth Tech, 2005).

2.6 LOCAL GEOLOGY

The location of the Site is on the edge of the coastal plain south of the Cordillera Central, approximately one-half mile northeast of the Rio Grande de Patillas. Beneath the Site lie 25 to 40 feet of sedimentary deposits consisting of sand, silt, clay, and gravel. Highly weathered bedrock (saprolite) is found below the sedimentary deposits extending to 90 feet or more below the ground surface. Underlying the saprolite is crystalline bedrock. The local geologic characteristics have been previously described in both the RFI Report (SEC, 1991) and SRFI Report (Earth Tech, 2005).

Detailed descriptions of the alluvial/colluvial deposits, saprolite, bedrock, and geologic cross sections are provided in the SRFI Report (Earth Tech, 2005). The descriptions in the Report are based on boring logs of wells and subsurface investigations performed at the Site. An updated geologic cross section is provided in ***Figure 3***. The cross section location is provided on ***Figure 2***.

2.7 LOCAL HYDROGEOLOGY

As described above, the geology beneath the Site consists of alluvial/colluvial deposits, saprolite, and bedrock. The alluvial/colluvial deposits and saprolite are largely permeable and generally extend continuously throughout the local subsurface. These layers represent an aquifer of about 90 feet in thickness. The two layers are hydraulically linked, however some geologic and hydrologic properties differ. The SRFI Report (Earth Tech, 2005) provides more detailed information regarding the local hydrogeologic units including the alluvium/colluvium and saprolite.

The local groundwater flow is generally to the south-southwest towards the Rio Grande de Patillas. The groundwater path from the Site first crosses the Quebrada Mamey Rio Chico before crossing the Rio Grande, though it is unlikely that groundwater discharges into the Rio Chico since it is an intermittent stream that generally flows above the water table. When the Rio Chico is flowing, it likely recharges the groundwater aquifer.

The path of groundwater flow from the Site does not change appreciably between periods of high and low groundwater levels in the deep (saprolite) portion of the aquifer. In the shallow (alluvial/colluvial) portion of the aquifer, the flow path shifts about 200 to 250 feet to the west during high water table periods. Additional detailed information regarding groundwater flow paths and velocity and other local hydrogeologic characteristics can be found in the SRFI Report (Earth Tech, 2005). The depth to groundwater measurements and groundwater elevations for August 2012 are presented in ***Table 1***. Groundwater is generally encountered 6 to 17 feet below ground surface, or 27 to 58 feet above mean sea level (amsl). Groundwater elevation contours for the shallow and deep aquifers based on the most recently available data (August 2012) are presented in ***Figure 4a*** and ***Figure 4b***, respectively. Historical groundwater elevation contour maps from monitoring events conducted from 2006 through 2010 have been included in ***Appendix A***.

2.8 LOCAL GROUNDWATER USE

Drinking water is obtained locally from PRASA wells which provide water for the town of Patillas, including industrial uses. The PRASA well nearest the Site was found to contain VOCs after sampling by the United States Geological Survey (USGS) and USEPA. This well was subsequently removed and no longer supplies water. Three other PRASA wells in the vicinity of the Site are located up-gradient and therefore are not influenced by former activities at the Site. Sampling of these three wells was conducted in 1989 and confirmed that no VOCs were present.

No groundwater wells or new buildings have been observed on the adjacent property since the SRFI was completed in 2004. The surrounding area has been visited and inspected at least once per year from 2005 through 2012 during groundwater monitoring and site investigation activities.

For additional information regarding local groundwater use, refer to the SRFI Report (Earth Tech, 2005).

3.0 NATURE AND EXTENT OF CONTAMINATION

This section presents existing data on extent, origin, direction and rate of movement of contaminant plumes. For discussions of historical trends, data from the previous RFI report, the CMS sampling, and the SRFI were referenced. For the discussion of the current nature and extent of the chemicals in the environmental media for this SRFI Addendum, the data set consists of the analytical results from the most recent groundwater sampling events conducted from 2005 through 2012.

3.1 DATA SCREENING PROCESS

A step-wise screening process was used during the SRFI to identify chemicals of potential concern (COPCs) and eventual chemicals of concern (COCs). The process included screening VOC concentrations against background levels, USEPA MCLs, and USEPA Region IX Preliminary Remediation Goals (PRGs). A total of 11 parameters were identified as COPCs in groundwater, including nine VOCs (chloroform, 1,1,1-TCA, 1,1,2-TCA, PCE, TCE, 1,2-DCA, 1,1-DCA, 1,1-DCE, and vinyl chloride) and two metals (iron and manganese). The nature and distribution of each of the COPCs was presented and discussed in Section 4.5 of the SRFI. Based on the discussion contained in Section 4.5 of the SRFI a total of six COPCs were retained as final COCs for the Site (1,1,1-TCA, PCE, TCE, 1,2-DCA, 1,1-DCE, and vinyl chloride). In addition to these six COCs, chloroform has been added to the list as requested in the USEPA’s letter to GE dated December 21, 2012.

3.2 EVALUATION OF HISTORICAL SAMPLING RESULTS

The three principal contaminants historically encountered in groundwater at the Site are 1,1,1-trichloroethane (TCA), 1,1-dichloroethane (1,1-DCA), and 1,1-DCE. The RFI and SFRI document the decline of groundwater concentrations of these principal contaminants (TCA, DCA, and DCE) to near non-detect levels from 1989 through 2004.

<u>1989 to 1991</u>

Analytical results for soil, groundwater, sediment, and surface water from 1989 through 1991 are contained in the original RFI Report (SEC, 1991). According to the SRFI Report, summary tables of these results are included in Appendix I of the original RFI Report. The following information was obtained during a review of the SRFI Report. Soil and groundwater sampling during the RFI indicated two plumes onsite (1,1,1-TCA in the vicinity of the former French Sump and 1,1-DCE extending from the former French Sump to the offsite wells). Groundwater sampling results indicated the presence of 1,1,1-TCA, 1,1-DCA, and 1,1-DCE at concentrations of up to 1,180 µg/l, 13 µg/l, and 1,740 µg/l, respectively. Results of the sediment and surface water sampling conducted during the RFI indicated no Site-related compounds were detected in the surface or sediment samples collected from the Rio Grande de Patillas or the Quebrada Mamey Rio Chico.

1992 to 2001
Groundwater samples were collected from select wells for analysis from 1992 through 2001. The laboratory analytical results from 1992 through 2001 have been submitted to USEPA as part of the annual reporting process of the selected CMS remedy. Sample results from this time frame indicated the presence of 1,1,1-TCA, 1,1-DCA, and 1,1-DCE at concentrations of up to 9,120 µg/l, 198 µg/l, and 2,260 µg/l, respectively.

2002 to 2005
No sampling was conducted in 2002 or 2003. The SRFI document presents and evaluates the results of the groundwater sampling event conducted in June 2004. Summary tables of these results are included in Table 4-2 of the same report. Sample results from the 2004 event indicated the presence of 1,1,1-TCA, 1,1-DCA, and 1,1-DCE at concentrations of up to 586 µg/l, 23 µg/l, and 1,230 µg/l, respectively. No sampling was conducted in 2005.

3.3 EVALUATION OF THE CURRENT DATA SET

A total of 11 groundwater monitoring events have taken place subsequent to the 2004 SRFI sampling. The data collected during these events has been submitted to the USEPA and is summarized in the following sections.

3.3.1 Post-SRFI Progress Update Sampling (2005-2006)

Three rounds of groundwater sampling were conducted at the seven offsite wells (December 2005, May 2006, and August 2006). The results from this round of sampling were submitted to the USEPA in a letter from MWH dated December 5, 2006. TCA and DCA were detected at trace concentrations in the samples collected during these monitoring events; 1,1-DCE was detected at concentrations ranging from non-detect to 130 micrograms per liter (µg/l). In May 2006, GE installed an additional monitoring well cluster (P-20S and P-20D) to further delineate the extent of 1,1-DCE in groundwater. Analytical results from the shallow well (P-20S) did not show the presence of 1,1-DCE. However, groundwater samples from the deeper well (P-20D) indicated 1,1-DCE down-gradient and off-site at a concentration of 37 to 44 µg/l, which is greater than its Maximum Contaminant Level (MCL) of 7 µg/l.

Based on these results, the USEPA requested that GE pursue access to additional down-gradient properties to install monitoring wells to further define the extent of the 1,1-DCE in groundwater. GE intended to install these proposed wells down-gradient of P-20S/D and up-gradient of P-13S/D and P-14S/S. Although numerous attempts were made by GE, access was not granted by the owners of the properties, and the wells could not be installed. As a result, GE and USEPA agreed that the project should move forward to estimate the extent of 1,1-DCE in groundwater without the use of these wells.

3.3.2 Groundwater Fate and Transport Modeling (2009)

In June 2009, GE performed fate and transport modeling to estimate the extent of 1,1-DCE in groundwater. The output of the model, which contained the necessary information to make the CA-750 determination, was provided to EPA in September 2009. The model estimated that 1,1-DCE may have reached the Rio Grande de Patillas at a concentration of 23 µg/L. This concentration is less than 10 times the MCL for 1,1-DCE (7 µg/L) and is considered an insignificant discharge to a surface water by the USEPA (*Documentation of Environmental Indicator Determination, RCRA Corrective Action, Environmental Indicator [EI] RCRIS code [CA750], Migration of Contaminated Groundwater Under Control,* Interim Final 2/5/99).

3.3.3 Groundwater Monitoring (2009-2012)

Subsequent to the fate and transport modeling and at the request of the USEPA, GE performed additional groundwater monitoring events (September 2009, December 2009, March 2010, August 2010, September 2010, December 2010, and August 2012). Additional groundwater monitoring wells were added to the monitoring network during two separate investigations at the Site. Four permanent groundwater monitoring wells were installed in September 2010 following the cessation of operations at the Site in June 2010 as part of a Phase II Environmental Site Assessment (ESA) to document Site conditions prior to exiting the lease for the Site. Additionally, GE installed one monitoring well (P-23) during vault closure activities in August 2012. During the events, groundwater elevations and groundwater samples were collected from existing on-site and accessible off-site monitoring wells. The results were submitted to the USEPA and EQB. EQB has reviewed these documents.

The analytical results from these monitoring events indicated concentrations of TCA and DCA had decreased to trace or non-detect levels with the exception of samples collected from three monitoring wells (P-8, P-8D, and P-10A). TCA concentrations were detected in samples from P-8 (52 µg/l) and P-8D (1.4 to 24 µg/l) at concentrations below the MCL of 200 µg/l. DCA concentrations were detected in samples from P-8 (11 µg/l), P-8D (17 to 27 µg/l), and P-10A (5 µg/l) at concentrations above the Regional Screening Level (RSL) of 2.4 µg/l. There is no MCL for DCA; therefore, detected concentrations are screened against the USEPA Tapwater RSL. 1,1-DCE concentrations decreased to trace or non-detect levels with the exception of the samples collected from seven monitoring wells (P-8, P-8D, P-10A, P-15DD, P-18S, P-18D, and P-20D). Concentrations of 1,1-DCE are highest immediately downgradient of the former French Sump in the area of the P-8/8D monitoring well cluster. The concentrations range from 170 µg/l at P-8 to 14 µg/l at P-18S in the shallow aquifer and from 290 µg/l at P-8D to 7 µg/l at P-20D in the deep aquifer. The results from these monitoring events were submitted to the USEPA in separate Groundwater Monitoring Reports (MWH, 2009-2012).

3.3.4 Pore-Water and Surface Water Monitoring (2012)

In August 2012 surface water and pore-water samples were collected from the Rio Grande de Patillas in three co-located locations (SW-01, SW-02, SW-03, PW-01, PW-02, PW-03) southwest of the Site. Chloroform was the only detected compound from the surface and pore-water sampling activities. The only detection was from pore-water sample PW-01 with an estimated chloroform concentration of 3.0 µg/L, which is below the MCL of 80 µg/L for chloroform.

3.3.5 Data Validation

The data used for this SRFI Addendum were collected during various groundwater sampling events at the Site from 2006 through 2012. These activities were performed in accordance with the Quality Assurance Project Plan (QAPP, MWH, 2012). Analytical data were certified by a Puerto Rico licensed chemist and validated in accordance with the USEPA Region II Standard Operating Procedure (SOP) HW-6 – CLP Organics Data Review and Preliminary Review. The data were found to be acceptable for use without significant qualification. The complete analytical data packages have been provided to the USEPA.

3.3.6 Data Usability

The procedures, methods, and activities used to determine whether data are of the right type, quality, and quantity to support environmental decision making for the project are described in detail in the QAPP. The QAPP includes descriptions of measurement performance criteria and the accuracy, precision, representativeness, comparability, completeness/usability, sensitivity, and reconciliation of the data. The current data set was found to be acceptable for use without significant qualification.

3.4 CURRENT DISTRIBUTION OF CONTAMINANTS IN EXPOSURE MEDIA

The historical occurrence and distribution of the COPCs in groundwater is discussed in the SRFI (Earth Tech, 2005). Groundwater sample results for the most recent sampling event conducted in August 2012 are presented in ***Table 2*** with the detected sample results posted in ***Figure 5***. The results posted in ***Figure 5*** are for the compounds that are associated with historical operations and/or that are routinely detected during groundwater monitoring. The following table summarizes the results for the compounds that were detected during the August 2012 sampling event (17 investigative samples were collected).

Compound	Number of Detections	Lowest Detected Result (µg/L)	Highest Detected Result (µg/L)	MCL (µg/L)	# Detections Above MCL
1,1,1-TCA	2	1.0 (estimated)	52	200	0
1,1-DCA	3	2.0 (estimated)	11	2.4*	2

Compound	Number of Detections	Lowest Detected Result (µg/L)	Highest Detected Result (µg/L)	MCL (µg/L)	# Detections Above MCL
1,1-DCE	10	1.0 (estimated)	170	7	5
1,2-DCA	0	NA	NA	5	NA
Chloroform	4	2.0 (estimated)	3.0 (estimated)	80	0
PCE	0	NA	NA	5	NA
TCE	0	NA	NA	5	NA
Vinyl Chloride	0	NA	NA	2	NA

* There is no MCL for 1,1-DCA; therefore, detected concentrations are screened against the USEPA Tapwater RSL.

As shown on the summary table, 1,1-DCA and 1,1-DCE were the only compounds exceeding their respective comparison criteria (MCL or RSL). The highest VOC concentrations (primarily 1,1-DCA and 1,1-DCE) were detected in the sample collected from well P-8, which is located onsite and downgradient of the former French Sump.

1,1-DCA appears to be limited to groundwater in the onsite area between P-8D and P-15DD. The concentration of 1,1-DCA detected in the farthest monitoring well downgradient from the former French Sump (P-15DD, located near the property boundary) was 2.0 µg/L (estimated; below the method detection limit). This estimated concentration was below the USEPA Tapwater RSL for 1,1-DCA of 2.4 ug/L (there is no MCL for this compound). The concentrations of 1,1-DCA in onsite wells have consistently decreased to near non-detectable levels over time. 1,1-DCA has not historically been detected above the USEPA Tapwater RSL in offsite monitoring wells with the exception of low-level or estimated concentrations detected in MW-16S (3.0 µg/L to 5.31 µg/L from 2004 to 2006) and MW-20S (5.0 µg/L to 8.0 µg/L from 2009 to 2010). The data and figures discussed below regarding 1,1-DCE in groundwater represent the extent of the VOC-impacted groundwater associated with the Site. The relatively small extent of the 1,1-DCA impacted groundwater is contained within this larger area characterized by 1,1-DCE.

The 1,1-DCE concentration for the farthest downgradient monitoring well sampled (P-20D, located approximately 1,300 feet southwest of the former French Sump) was 7 µg/L. The approximate extent of 1,1-DCE in groundwater (based on the recent sample results) is presented in ***Figures 6a and 6b***. As shown in these figures, 1,1-DCE in the shallow zone extends from the Site towards P-19S; for the deep zone, 1,1-DCE has been detected at low levels in P-20D. As noted previously, wells located farther downgradient (P-13S/D and P-14S/D, as shown on ***Figure 2***) could not be sampled because the property owner denied access to the wells. From 1991 through 1996, these wells did not contain VOCs at detectable levels.

The historical sample results for constituents of concern in groundwater within the alluvial/colluvial aquifer are presented in ***Table 3***. In general, the results obtained during the August 2012 monitoring event are consistent with the historical results. However, 1,1-DCE concentrations in the following wells appear to be decreasing over time: P-7A, P-9, P-10A, P-16S, P-17D, P-18S, P-18D, P-19D, and P-20D. Trend graphs for 1,1-DCE concentrations in selected monitoring wells are provided in ***Appendix B***.

Surface water and pore-water results are presented in ***Table 4*** with the detected sample results posted in ***Figure 7.*** Chloroform was the only detected compound from the surface and pore-water sampling activities. The only detection was from pore-water sample PW-01 with an estimated chloroform concentration of 3.0 µg/L, which is below the MCL of 80 µg/L for chloroform.

4.0 FATE AND TRANSPORT OF CONTAMINATION

An overview of fate and transport of selected COCs detected in the environmental media at the GE Site was presented in the SRFI and included a discussion of the physical and chemical properties of the constituents, the transport and degradation processes potentially active in the media at the Site, and the properties of the media through which the constituents migrate. The purpose of this section is to summarize the information presented in the SRFI and provide updated information on the fate and transport of contamination at the Site using information obtained during groundwater fate and transport modeling and presented in the *Groundwater Modeling Report* (MWH, 2009).

4.1 CHEMICAL AND PHYSICAL PROPERTIES OF CONTAMINANTS

A summary of the chemical and physical properties of COCs is provided on Table 5-1 of the SRFI (Earth Tech, 2005). Included on that table are specific gravity, water solubility, Kow (octanol-water partitioning coefficient), Koc (organic carbon distribution coefficient), vapor pressure, Henry's Law constant, and half-lives.

4.2 PHYSICAL, CHEMICAL, AND BIOLOGICAL TRANSFORMATIONS

A discussion of the natural processes that have the potential to attenuate the concentrations of COCs at the Site is provided in Section 5.2 of the SRFI (Earth Tech, 2005). This includes descriptions of nondestructive attenuation mechanisms (advection, dispersion, dissolution, sorption, volatilization, and recharge) as well as destructive attenuation mechanisms (abiotic degradation, biotic degradation, biodegradation, and cometabolism).

4.3 GROUNDWATER FATE AND TRANSPORT MODELING

In June 2009, GE performed fate and transport modeling to estimate the extent of 1,1-DCE in groundwater. The groundwater fate and transport model BIOCHLOR Version 2.2 (USEPA, 2002) was used to estimate the downgradient extent of 1,1-DCE in the deep groundwater zone. BIOCHLOR is a screening model developed by USEPA that simulates natural attenuation of dissolved VOCs.

4.3.1 Model Development

The model was developed using available site-specific information gathered from previous and recent investigations conducted at the Site. Where site-specific data were not available, applicable literature values were used for soil types representative of the geologic materials at the Site. Site-specific data used in the modeling is detailed in Section 6.1 of the *Draft Groundwater Modeling Report* (MWH, 2009).

4.3.2 Model Results

The input data and results of each modeling scenario are summarized in the table below and are presented in *Appendix D* of the *Draft Groundwater Modeling Report* (MWH, 2009). The modeled 1,1-DCE concentrations presented in the following table represent the estimated concentration at the Rio Grande de Patillas, which is considered the downgradient hydraulic boundary.

Model Run	Model Description	Input Parameters			Modeled 1,1-DCE Concentration at Hydraulic Boundary (µg/L)
		Longitudinal Dispersivity (ft)	Retardation Factor	Source Width (ft)	
#1	Best-fit estimation of 1,1-DCE travel distance; the input data that resulted in the best model calibration were used.	200	2.95	30	23
#2	Minimum 1,1-DCE travel distance; increased dispersivity and decreased source width.	400	2.95	15	8
#3	Maximum 1,1-DCE travel distance; decreased dispersivity and decreased retardation.	33	1.65	60	134

The results of this model indicate that the 1,1-DCE concentration in groundwater is estimated to be 23 µg/L at the downgradient hydraulic boundary (Rio Grande de Patillas), which is approximately 2,800 feet southwest of P-10A. This conclusion is based on ***Model Run #1****,* which is the best-fit estimation of 1,1-DCE in groundwater***.*** The modeled 1,1-DCE concentration of 23 µg/L is less than 10 times the MCL for 1,1-DCE (7 µg/L) and is considered by USEPA to be an “insignificant” discharge to a surface water (*RCRA Corrective Action, Environmental Indicator (EI) RCRIS code (CA750), Migration of Contaminated Groundwater Under Control*, USEPA).

Based on the results of the minimum and maximum migration scenarios models (***Model Run #2*** and ***Model Run #3***, respectively), the modeled concentration of 1,1-DCE in groundwater ranges from approximately 8 to 134 µg/L at the Rio Grande de Patillas. Although these modeled concentrations provide a concentration range based on the potential variability associated the most sensitive input data, these modeled concentrations do not correlate with empirical data.

The results of the fate and transport modeling suggest that VOC-impacted groundwater extends south-southwest from the area immediately downgradient of the former French sump. Within the shallow zone of the alluvium/colluvium, VOCs in groundwater are observed as far as the Quebrada Mamey Rio Chico. In the deep zone of the alluvium/colluvium aquifer, VOC impacts appear to extend as far as the Rio Grande de Patillas, based on the modeling results. Historical groundwater monitoring of P-13D and P-14D (the wells closest to the Rio Grande de Patillas which are currently not accessible) indicated no detectable VOCs in these wells for the period July 1991 through July 1996. The best-fit modeled concentration of 1,1-DCE that discharges to the Rio Grande de Patillas is 23 µg/L. This concentration is less than 10 times the MCL for 1,1-DCE (7 µg/L) and is considered an insignificant discharge to a surface water by USEPA.

5.0 RESULTS AND DISCUSSION

The following sections provide descriptions of the nature and extent of the contamination at the Site, the updated conceptual site model (CSM), recommendations, and include a brief summary of this SRFI Report Addendum.

5.1 NATURE AND EXTENT OF CONTAMINATION

As discussed above, 1,1-DCA and 1,1-DCE are the only compounds currently exceeding their respective RSL and MCL. The highest VOC concentrations (primarily 1,1-DCA and 1,1-DCE) were detected in the sample collected from well P-8, which is located onsite and downgradient of the former French Sump. The 1,1-DCE concentration for the farthest downgradient monitoring well sampled (P-20D, located approximately 1,300 feet southwest of the former French Sump) was 7 µg/L. The approximate extent of 1,1-DCE in the shallow groundwater zone extends from the Site towards P-19S; for the deep zone, 1,1-DCE has been detected at levels at or near the MCL in P-20D. In general, the 1,1-DCE groundwater impact appears to be limited to a narrow pathway southwest of the former sump. The approximate extent of 1,1-DCE in groundwater (based on the recent sample results) is presented in ***Figures 6a and 6b***. Additionally, the decreasing 1,1-DCE concentration trends appear to indicate some natural attenuation of this compound. Analytical results from the surface water and pore-water sampling do not indicate the presence of COCs in the Rio Grande de Patillas.

5.2 UPDATED CONCEPTUAL SITE MODEL

This update of the CSM presents the current understanding of the nature of the sources, release mechanisms, transport pathways, and exposure media at the Site.

5.2.1 Source Media

Deep soils and groundwater at the Site were impacted by waste handling operations at the French Sump. In October 1990, soils in and adjacent to the former French Sump were excavated, stabilized and shipped to a RCRA-approved landfill. Confirmatory soil samples were analyzed and indicated the successful remediation of this area; the USEPA accepted the closure of the sump as complete in March 1991. The potential for contaminant contribution to the plume from the upgradient end is minimal. Based on the analytical data, which indicates COC concentrations have reached non-detect levels at monitoring well P-11, it appears that residual contamination in the vadose zone and saturated soils around the former sump location are no longer significantly contributing to the contaminant plume.

5.2.2 Contaminant Transport

Groundwater contaminated with VOCs remains on-site and has traveled downgradient beneath properties adjacent to the GE operations. Based on the most recent data collected (August 2012), the horizontal hydraulic gradient for the shallow aquifer onsite is 0.022 vertical feet per horizontal foot (ft/ft). The horizontal hydraulic gradient for the deep aquifer offsite is 0.019 ft/ft. The vertical hydraulic gradient between these two aquifers is approximately 0.108 ft/ft downward onsite. The hydraulic gradients observed in August 2012 are generally consistent with those observed during previous monitoring events.

The groundwater at the Site has been impacted to a depth of at least 90 feet. This contamination has spread laterally to beneath the agricultural fields to the southwest of the Site. The horizontal extent of 1,1-DCE in the shallow zone is between P-9 and P-19S. For the deep zone, the horizontal extent is not defined by the downgradient monitoring wells, but based on groundwater modeling and recent surface water and pore-water sampling is between the Rio Grande and P-20D. A cross section of the 1,1-DCE plume in groundwater is depicted on ***Figure 8***.

Based on the recent groundwater monitoring results and historical results, the migration of impacted groundwater appears to have stabilized. While the non-detect results of samples from monitoring well P-11 may indicate the plume is shrinking from the upgradient end, the concentrations of COCs in the downgradient wells sampled during the most recent groundwater monitoring event have decreased in many wells but are mostly consistent with historical concentrations.

5.2.3 Exposure Media

The following paragraphs describe the potential exposure media and potential exposure pathways for contaminants at the Site.

Soil

The method by which wastes were disposed of at the Site (into the French Sump) did not result in an impact to surface soils. Subsurface soils that were impacted were removed along with the French Sump in 1990, and COC concentrations in groundwater at monitoring well P-11 have been non-detect or trace since 1999, indicating minimal residual soil contamination remains in the former source area. Based on the fact that initial impacts were to subsurface soils that have since been removed, an exposure pathway for soil direct contact does not exist.

Groundwater

Drinking water is obtained locally from PRASA wells which provide water for the town of Patillas, including industrial uses. The PRASA wells in the vicinity of the Site are located up-gradient and therefore are not impacted by former activities at the Site. Sampling of those three wells was conducted in 1989 and confirmed that no VOCs were present. No wells are known to exist in the footprint of the VOC plume, and no groundwater wells or new buildings have been observed on the adjacent property since the SRFI was completed in 2004. The surrounding area has been visited and inspected at least once per year from 2005 through 2012 during groundwater monitoring and site investigation activities. However, because this area is not owned by GE and groundwater use restrictions are not known to be in place for this area, the use of groundwater within this area is possible. An exposure pathway for groundwater direct contact or ingestion could potentially exist in the area downgradient of the Site.

Surface Water

Surface water in the downgradient vicinity of the Site includes the Quebrada Mamey Rio Chico and the Rio Grande de Patillas. The Rio Chico is located approximately 400 feet southwest of the Site. It is unlikely that groundwater discharges into the Rio Chico since it is an intermittent stream that generally flows above the water table. When the Rio Chico is flowing, it likely recharges the groundwater aquifer.

The Rio Grande is located approximately 2,700 feet south-southwest of the French Sump at the Site and is considered a hydraulic barrier for groundwater flowing from the Site. While groundwater modeling indicated a potential for 1,1-DCE to reach the Rio Grande at a concentration of 23 µg/L, groundwater samples from the monitoring well pairs at P-13 and P-14 were sampled 8 times from 1991 through 1996 and results indicated no detections of COCs. Additionally, in August 2012 surface water and pore-water samples were collected from the Rio Grande de Patillas in three co-located locations southwest of the Site. Chloroform was the only detected compound from the surface and pore-water sampling activities. The only detection was from pore-water sample PW-01 with an estimated chloroform concentration of 3.0 µg/L, which is below the MCL of 80 µg/L for chloroform. Based on historical sample results, groundwater modeling, and recent surface water and pore-water sampling, the COC plume edge is between the Rio Grande and monitoring well P-20D; therefore, a completed exposure pathway for surface water direct contact or ingestion does not exist.

Vapor Intrusion

The PRASA WWTP located south-southwest of the Site is the only structure above the footprint of the plume. The building is constructed of walls with open metal louvers, which provide continuous ventilation to indoor air. As a result, this structure does not trap soil vapors indoors. Analytical results from soil gas sampling conducted in 2003 and published in the SRFI indicated concentrations of COCs in the vapor phase were either non-detect or detected at trace levels. Based on the sporadic and trace detections of VOCs in the soil gas, COCs are not present in the indoor air. The exposure pathway for inhalation of indoor air does not exist.

5.3 RECOMMENDATIONS

The following sections include a review of the recommendations provided in the 2004 SRFI along with an updated recommendation for further action at the Site.

5.3.1 2004 SRFI Recommendation

The 2004 SRFI concluded that contaminants at the Site would continue to attenuate through natural biotic and abiotic processes. The conclusion was based on the belief that 1,1,1-TCA had degraded by abiotic elimination/hydrolysis reactions in the aquifer and that the further breakdown of 1,1-DCE would continue through abiotic oxidation reactions. The 2004 SRFI recommended that MNA continue to be implemented at the Site.

5.3.2 Recommendation for Further Action

Based on the recent groundwater monitoring results and historical results, the migration of impacted groundwater appears to have stabilized. While the non-detect results of samples from monitoring well P-11 may indicate the plume is shrinking from the upgradient end, the concentrations of COCs in the downgradient wells sampled during the most recent groundwater monitoring event have decreased in many wells but are mostly consistent with historical concentrations.

Evidence of abiotic oxidation does not appear to exist at the Site; breakdown products of 1,1-DCA and 1,1-DCE have not been detected in the groundwater. Based on this information, recent monitoring data, and the offsite migration of the contaminant plume, GE is planning to perform interim corrective measures to address offsite groundwater. Prior to performing the interim corrective measures, an Interim Corrective Measures Study (ICMS) would be conducted.

During the ICMS, an updated CSM will be developed to systematically evaluate constituent migration pathways, exposure routes and potential receptors. Based on information developed to date, the interim corrective measures objectives for the offsite groundwater can be summarized as follows:

- **Corrective Measures Objective 1** – Reduce the potential for offsite groundwater containing VOCs from impacting human health or the environment.

- **Corrective Measures Objective 2** – Assure that the area can be used for commercial or agricultural uses with no unacceptable risk to potential receptors.

To meet the objectives listed above, interim clean-up goals will be developed.

The overall purpose of the ICMS would be to evaluate various remedial technologies based on various factors, and to retain the technologies that would likely be feasible and effective at meeting the interim corrective measures objectives (i.e., controlling groundwater migration and/or reducing constituent concentrations in offsite groundwater to levels that are considered to be protective of human health and the environment). Remedies to be evaluated during the ICMS could potentially include:

- <u>No Action:</u> The no-action response is predicated upon the scenario that current groundwater concentrations are below the proposed clean-up goals, signifying the protection of human health and the environment.

- <u>Extraction and Ex-situ Treatment Actions:</u> This response action includes treatment technologies to extract groundwater for ex-situ treatment. Possible treatment actions include installation of a pump and treat system with an air stripper and/or activated carbon system.

- In-situ Treatment Actions: This response action includes in-situ treatment actions to achieve site cleanup. In-situ treatment actions include physical, chemical, and biological treatment technologies that can be implemented underground to meet cleanup requirements for site closure. Potential in-situ treatment actions include enhanced bioremediation, chemical oxidant injection, or a permeable reactive barrier.

In addition to the ICMS, GE is planning to perform a Corrective Measure Study (CMS) to evaluate and select a corrective measure (CM) for the entire contaminant plume. The results from the ICMS could potentially be incorporated into the CMS and expanded as full-scale CM. Remedies to be evaluated during the CMS could potentially include:

- No Action: The no-action response is predicated upon the scenario that current groundwater concentrations are below the proposed clean-up goals, signifying the protection of human health and the environment.

- Land Use Controls or Restrictions: This response action includes seeking a deed restriction on groundwater and future land use in the area of the groundwater plume.

- Extraction and Ex-situ Treatment Actions: This response action includes treatment technologies to extract groundwater for ex-situ treatment. Possible treatment actions include installation of a pump and treat system with an air stripper and/or activated carbon system.

- In-situ Treatment Actions: This response action includes in-situ treatment actions to achieve site cleanup. In-situ treatment actions include physical, chemical, and biological treatment technologies that can be implemented underground to meet cleanup requirements for site closure. Potential in-situ treatment actions include enhanced bioremediation, chemical oxidant injection, or a permeable reactive barrier.

5.4 SUMMARY

The three principal contaminants historically encountered in groundwater at the Site are 1,1,1-trichloroethane (TCA), 1,1-dichloroethane (1,1-DCA), and 1,1-dichloroethene (1,1-DCE). The RFI and SFRI document the decline of groundwater concentrations of these principal contaminants (TCA, DCA, and DCE) to near non-detect levels from 1989 through 2004. The SRFI concluded that the MNA alternative selected in 1993 was justified and should be continued. In their letter response to the SRFI Report (*Review of Supplemental RFI Report*, September 2005), the USEPA stated that the information was not sufficient to determine the extent of impacted groundwater, and therefore the

CA-750 determination could not be completed. The letter also stated that sufficient information was not included to make a determination on the processes governing natural attenuation, and comments requesting further clarification with respect to MNA were provided.

Present data indicate that 1,1-DCE is the only compound currently exceeding an MCL. 1,1-DCA does not have an MCL. The highest VOC concentrations (primarily 1,1-DCA and 1,1-DCE) were detected in the sample collected from well P-8, which is located onsite and downgradient of the former French Sump. The approximate extent of 1,1-DCE in the shallow groundwater zone extends from the Site towards P-19S; for the deep zone, 1,1-DCE has been detected at levels at or near the MCL in P-20D. In general, the 1,1-DCE groundwater impact appears to be limited to a narrow pathway southwest of the former sump. Additionally, the decreasing 1,1-DCE concentration trends appear to indicate some natural attenuation of this compound. Analytical results from the surface water and pore-water sampling do not indicate the presence of COCs in the Rio Grande de Patillas.

Based on the recent groundwater monitoring results and historical results, the migration of impacted groundwater appears to have stabilized. While the non-detect results of samples from monitoring well P-11 may indicate the plume is shrinking from the upgradient end, the concentrations of COCs in the downgradient wells sampled during the most recent groundwater monitoring event have decreased in many wells but are mostly consistent with historical concentrations.

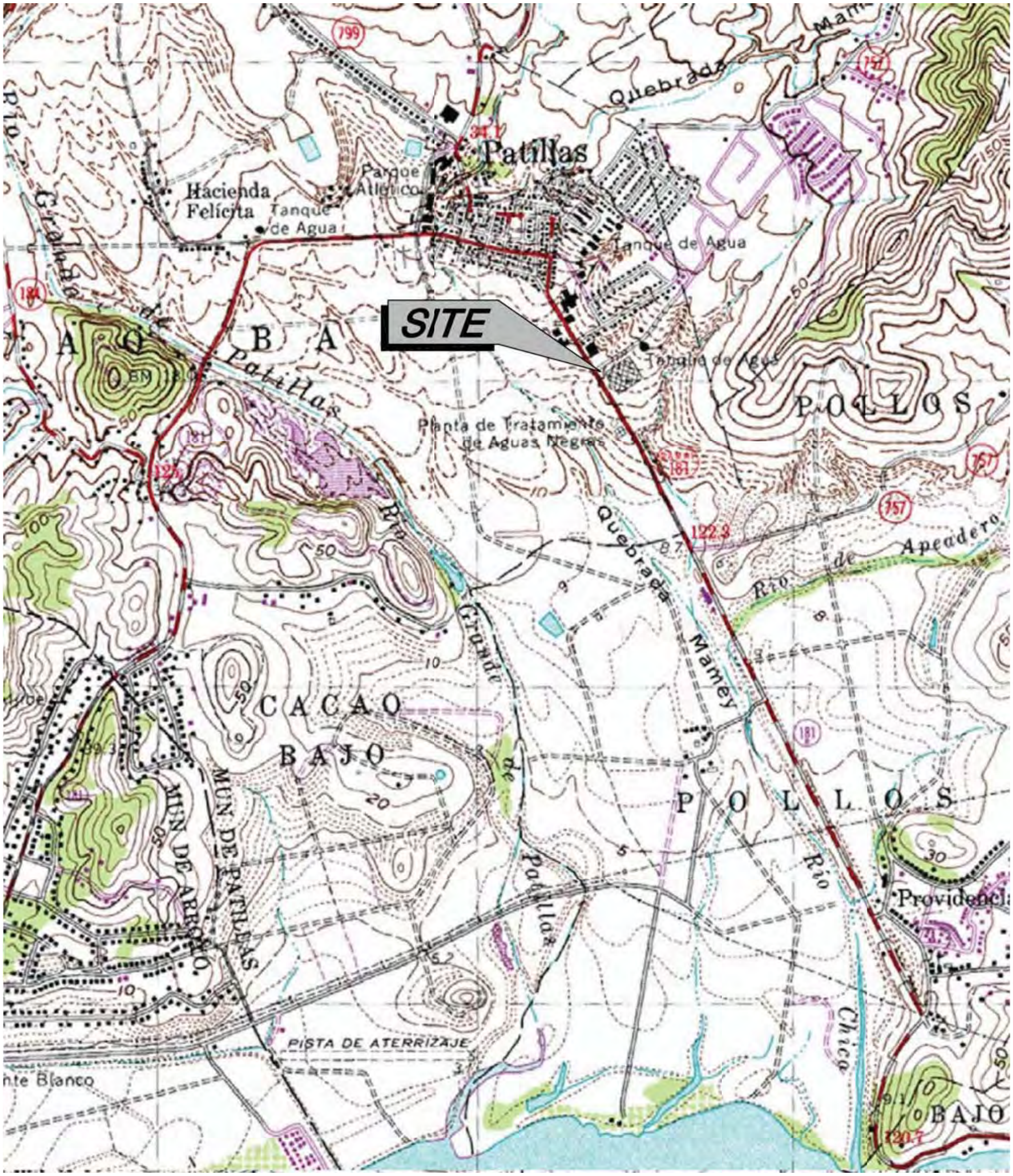
Evidence of abiotic oxidation does not appear to exist at the Site; breakdown products of 1,1-DCA and 1,1-DCE have not been detected in the groundwater. Based on this information, recent monitoring data, and the offsite migration of the contaminant plume, GE is planning to perform interim corrective measures to address offsite groundwater. Prior to performing the interim corrective measures, an Interim Corrective Measures Study (ICMS) would be conducted.

During the ICMS, an updated CSM will be developed to systematically evaluate constituent migration pathways, exposure routes and potential receptors. Interim corrective measures objectives and interim clean-up goals will be developed.

The overall purpose of the ICMS would be to evaluate various remedial technologies based on various factors, and to retain the technologies that would likely be feasible and effective at meeting the interim corrective measures objectives (i.e., controlling groundwater migration and/or reducing constituent concentrations in offsite groundwater to levels that are considered to be protective of human health and the environment). Remedies to be evaluated during the ICMS could potentially include: no action, extraction and ex-situ treatment, or in-situ treatment.

In addition to the ICMS, GE is planning to perform a Corrective Measure Study (CMS) to evaluate and select a corrective measure (CM) for the entire contaminant plume. The results from the ICMS could potentially be incorporated into the CMS and expanded as full-scale CM. Remedies to be evaluated during the CMS could potentially include: no action, land use controls or restrictions, extraction and ex-situ treatment, or in-situ treatment.

FIGURES



Source:
U.S.G.S. 7.5 minute quadrangle of Patillas, Puerto Rico, Dated 1977, photorevised 1982.

PUERTO RICO
USGS QUAD LOCATION

north

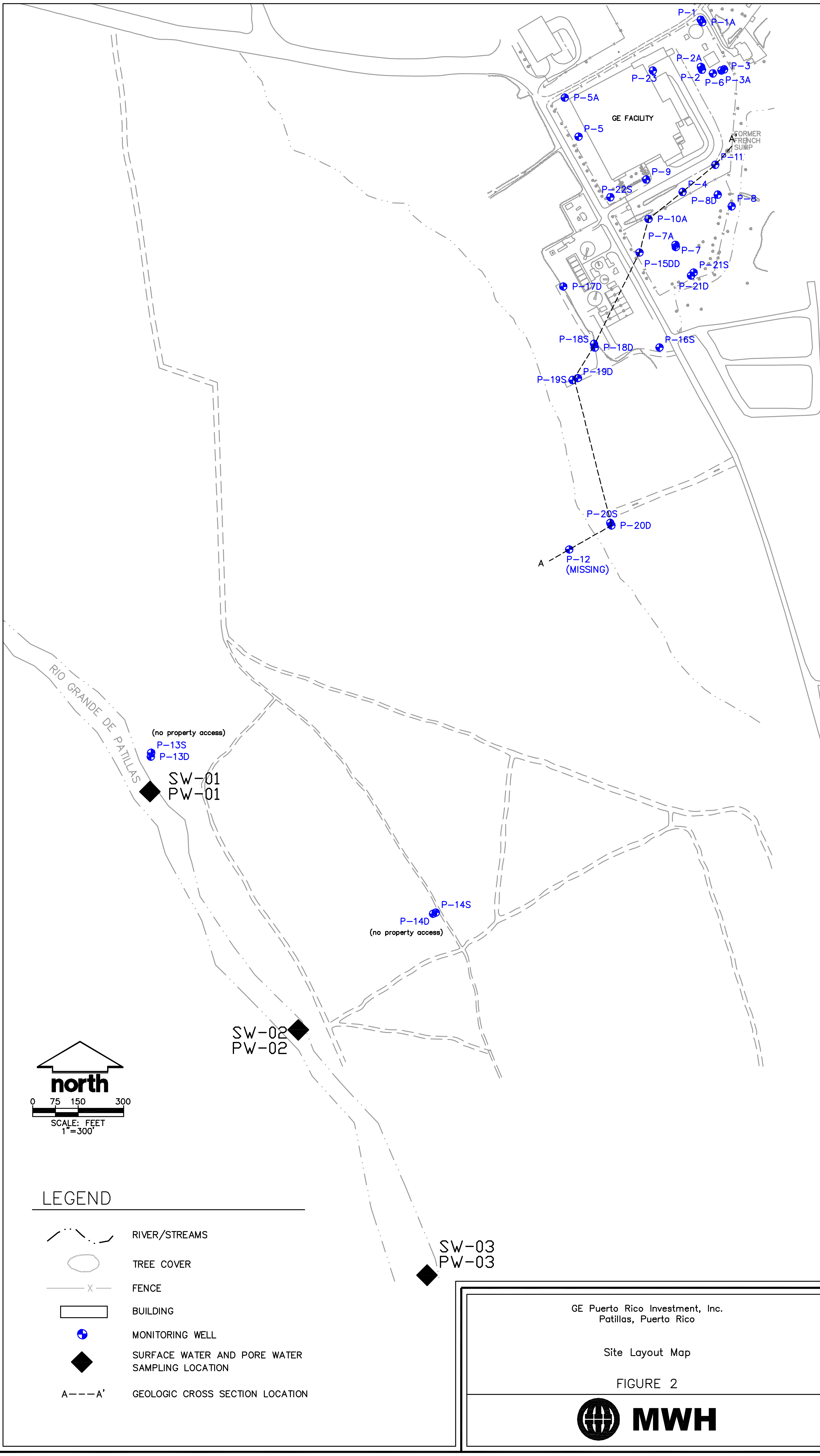
GE Puerto Rico Investment Inc.
Patillas, Puerto Rico

Site Location Map

Figure 1

MWH

Drawn By & Date: BRT, 6/5/09 | Approved By & Date: BRT | Revised By & Date: TLP 09/26/12 | Approved By & Date:



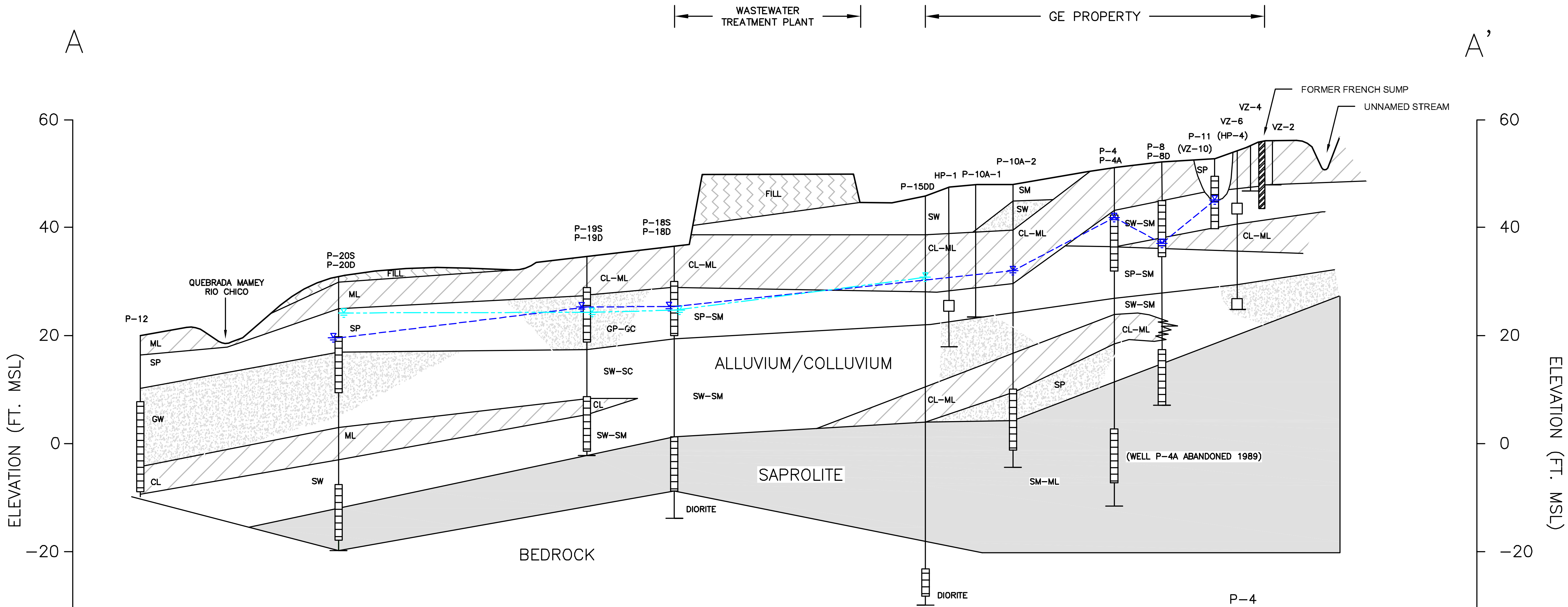
GE Puerto Rico Investment, Inc.
Patillas, Puerto Rico

Site Layout Map

FIGURE 2

MWH

J:\01a_400 General Electric Energy\72 - PATILLAS Puerto Rico\05 - CADD\Supplemental RFI\Figures 2 and 7.dwg Apr/10/13



SOIL TYPES

CL	CLAY, LOW PLASTICITY	SC	CLAYEY SAND
ML	SILT, LOW PLASTICITY	GP-GC	GRAVEL, POORLY GRADED
SM	SILTY SAND	GW	GRAVEL, WELL GRADED
SP	SAND, POORLY GRADED	SW	SAND, WELL GRADED

LEGEND

- ALLUVIUM/COLLUVIUM (LOW PERMEABILITY CLAYS AND SILTS)
- ALLUVIUM/COLLUVIUM (HIGH PERMEABILITY SANDS AND SILTY SANDS)
- SAPROLITE (INTERMEDIATE PERMEABILITY SILTY SANDS AND SILT)

NOTES:

MONITORING WELLS P-8 AND P-8D ARE PROJECTED.

north

0 150 300

APPROXIMATE SCALE IN FEET

General Electric Puerto Rico Investment
Patillas, Puerto Rico

Geologic Cross Section B-B'
August 2012

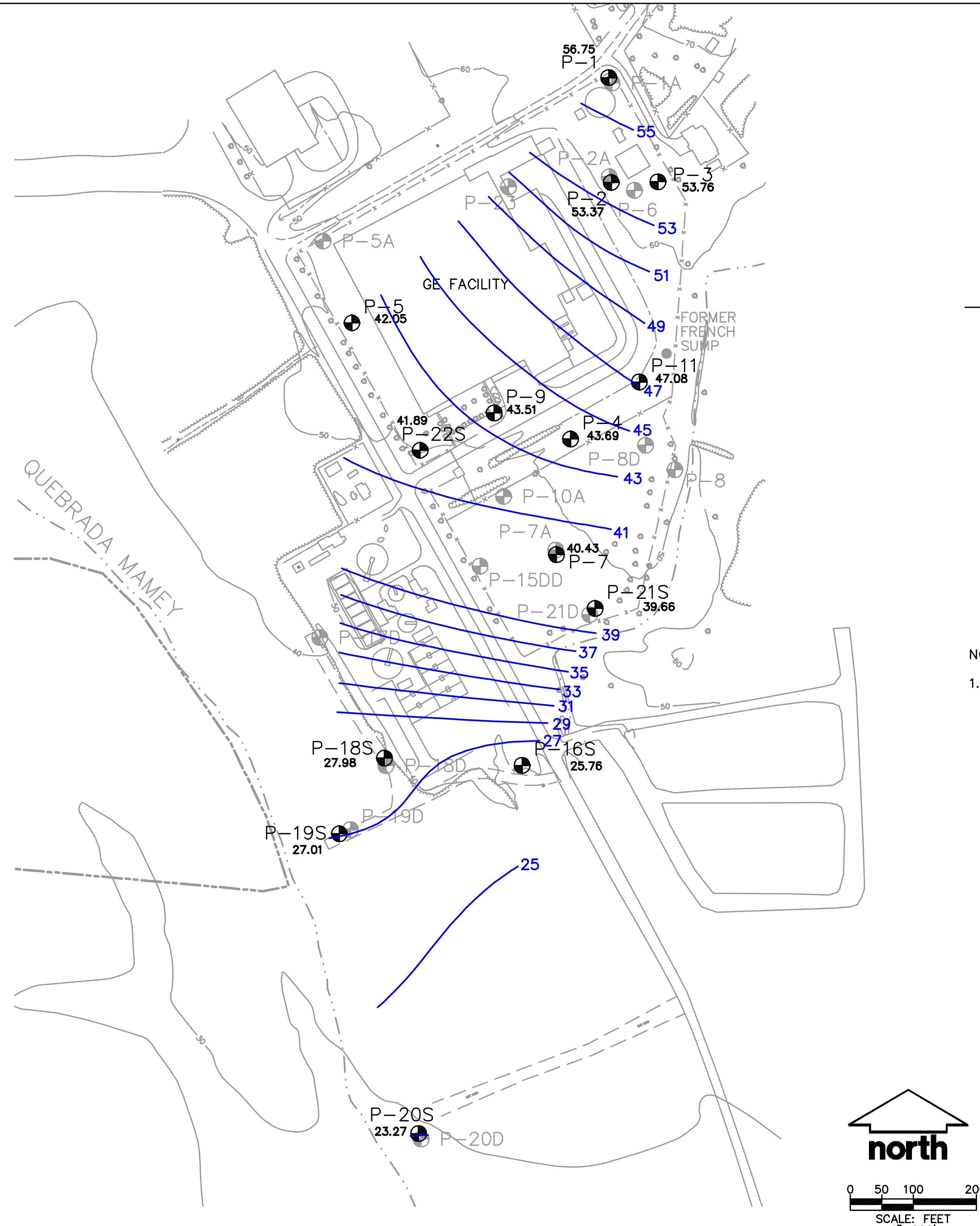
FIGURE 3

MWH

Drawn By & Date: TLP 02/08/13 | Approved By & Date: BRT | Revised By & Date: ATF 02/14/13 | Approved By & Date:

J:\01a 400 General Electric Energy\172 - PATILLAS Puerto Rico\05 - CADD\Supplemental RFI\Patillas - VOC X Section - Aug 2012.dwg Mar/07/13

Drawn By & Date: DM 7/15/09 | Approved By & Date: | Revised By & Date: TLP 09/27/12 | Approved By & Date:



LEGEND

RIVER/STREAMS

TREE COVER

FENCE

BUILDING

MONITORING WELL (NOT USED FOR CONTOURING)

MONITORING WELL

41 EQUIPOTENTIAL CONTOUR, DASHED WHERE INFERRED

39.66 WATER TABLE ELEVATION (FEET ABOVE SEA LEVEL)

NOTES:

1. CONTOUR INTERVAL = 2 FEET

General Electric Puerto Rico Investment
Patillas, Puerto Rico

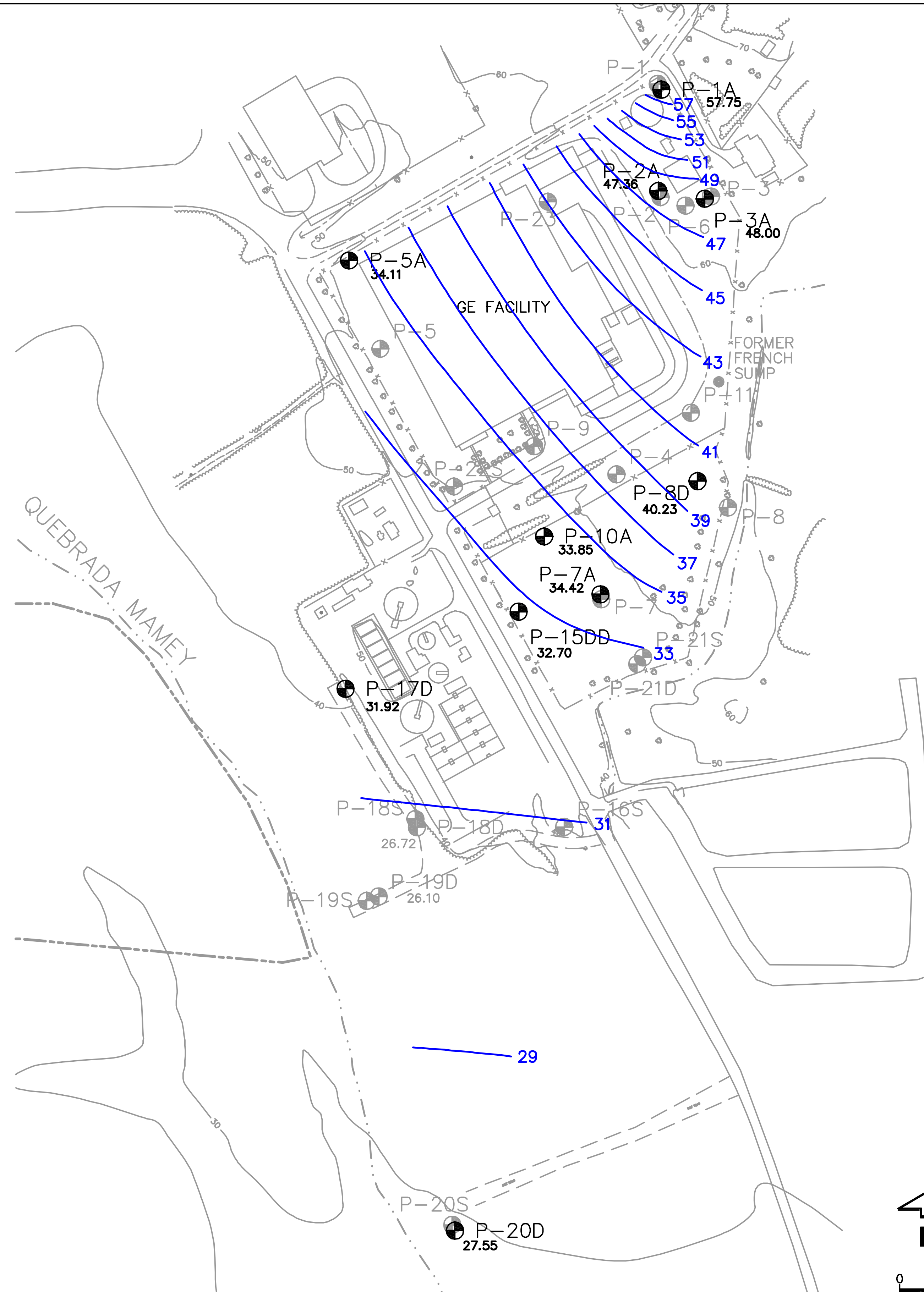
Shallow Groundwater Surface Map
August 2012

FIGURE 4a

MWH

J:\01a_400 General Electric Energy\72 - PATILLAS Puerto Rico\05 - CADD\Supplemental RFI\Patillas GW - Shallow - Aug 2012.dwg Mar/07/13

Drawn By & Date: DTM 7/15/09 | Approved By & Date: | Revised By & Date: TLP 09/26/12 | Approved By & Date:



LEGEND

- RIVER/STREAMS
- TREE COVER
- FENCE
- BUILDING
- MONITORING WELL (NOT USED FOR CONTOURING)
- MONITORING WELL
- 33 EQUIPOTENTIAL CONTOUR, DASHED WHERE INFERRED
- 32.70 WATER TABLE ELEVATION (FEET ABOVE SEA LEVEL)

NOTES:

1. CONTOUR INTERVAL = 2 FEET

north

0 50 100 200
SCALE: FEET
1"=200'

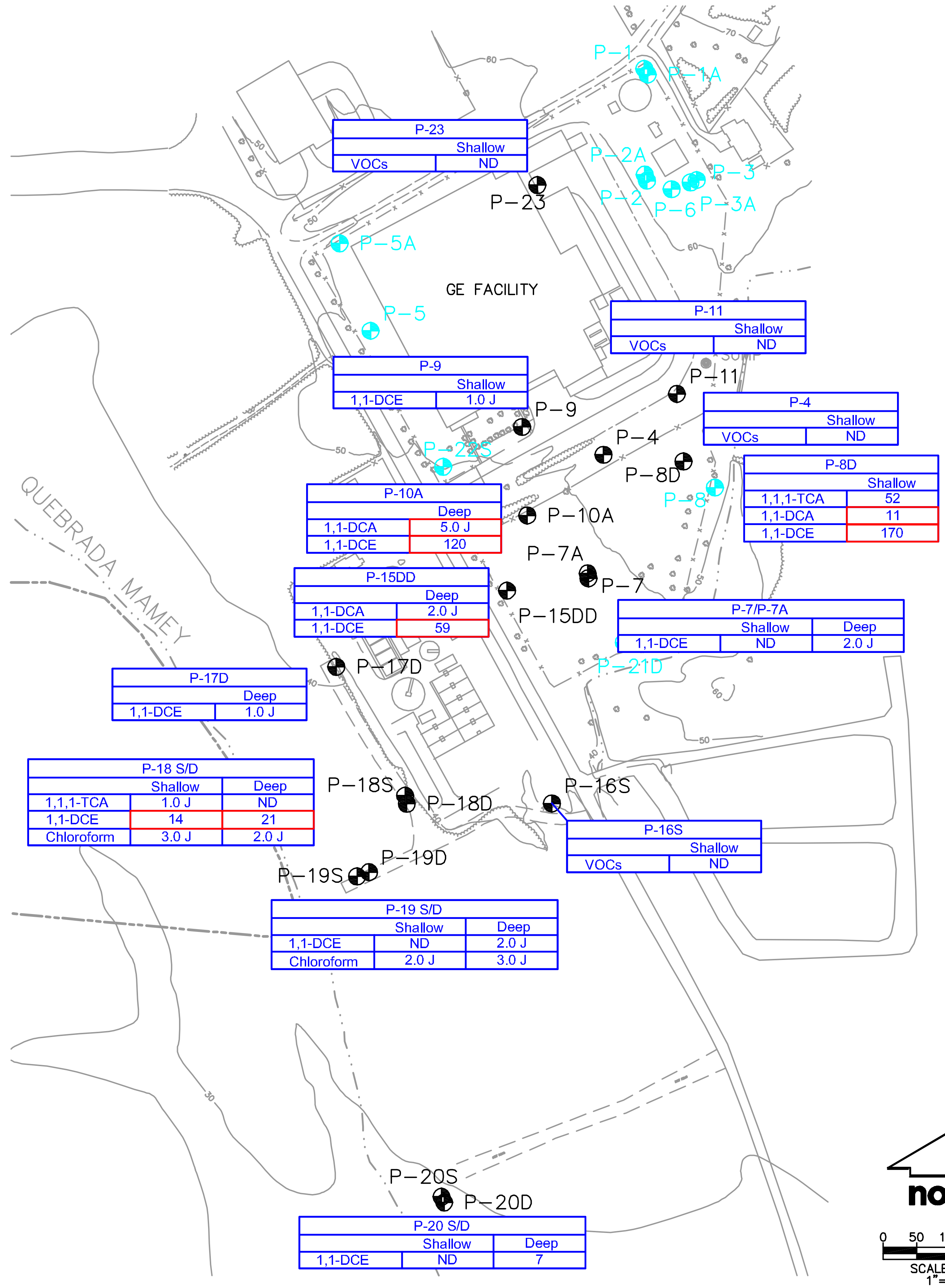
General Electric Puerto Rico Investment
Patillas, Puerto Rico

Deep Groundwater Surface Map
August 2012

FIGURE 4b

MWH

J:\01a_400 General Electric Energy\72 - PATILLAS Puerto Rico\05 - CADD\Supplemental RFI\Patillas GW - Deep - Aug 2012.dwg Mar/07/13



LEGEND

RIVER/STREAMS

TREE COVER

FENCE

BUILDING

MONITORING WELL (NOT SAMPLED)

MONITORING WELL (SAMPLED)

NOTES:

Results are reported in micrograms per liter (ug/L).

Shallow – The well is screened in the upper portion of the alluvium/colluvium aquifer.
Deep – The well is screened in the lower portion of the alluvium/colluvium aquifer.

	Compound	MCL
1,1,1–TCA	1,1,1–Trichloroethane	200
1,1,2–TCA	1,1,2–Trichloroethane	5
1,1–DCA	1,1–Dichloroethane	2.4*
1,1–DCE	1,1–Dichloroethene	7
1,2–DCA	1,2–Dichloroethane	5
	Chloroform	80
TCFM	Trichlorofluoromethane	NA

Sample Results that exceed MCLs are boxed in RED.

* There is no MCL for 1,1–DCA; therefore, detected concentrations are screened against USEPA Tapwater RSLs.

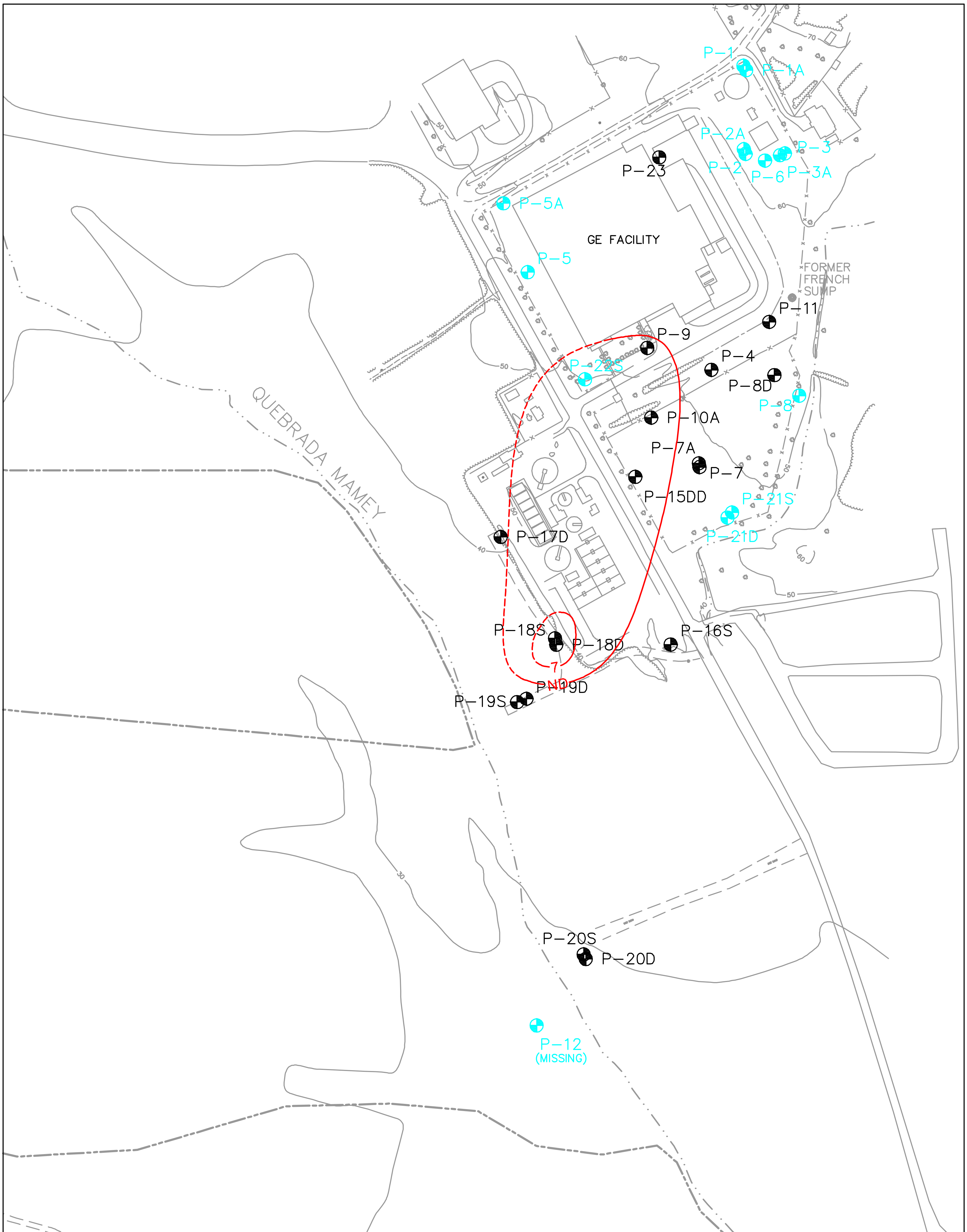
General Electric Puerto Rico Investment
Patillas, Puerto Rico

Groundwater Sample Results
August 2012

FIGURE 5

MWH

Drawn By & Date: BRT 12/28/09 | Approved By & Date: BRT | Revised By & Date: ATF 03/01/13 | Approved By & Date: BRT



LEGEND

RIVER/STREAMS

TREE COVER

FENCE

BUILDING

MONITORING WELL (NOT SAMPLED)

MONITORING WELL (SAMPLED)

ISOCONTOUR 1,1-DCE IN SHALLOW GROUNDWATER

north

0 50 100 200

SCALE: FEET
1"=200'

NOTES:

Concentrations are reported in micrograms per liter (ug/L).
Dashed where inferred.

Shallow – The well is screened in the upper portion of the alluvium/colluvium aquifer.

Deep – The well is screened in the lower portion of the alluvium/colluvium aquifer.

General Electric Puerto Rico Investment
Patillas, Puerto Rico

Extent of 1,1-DCE in Shallow Groundwater
August 2012

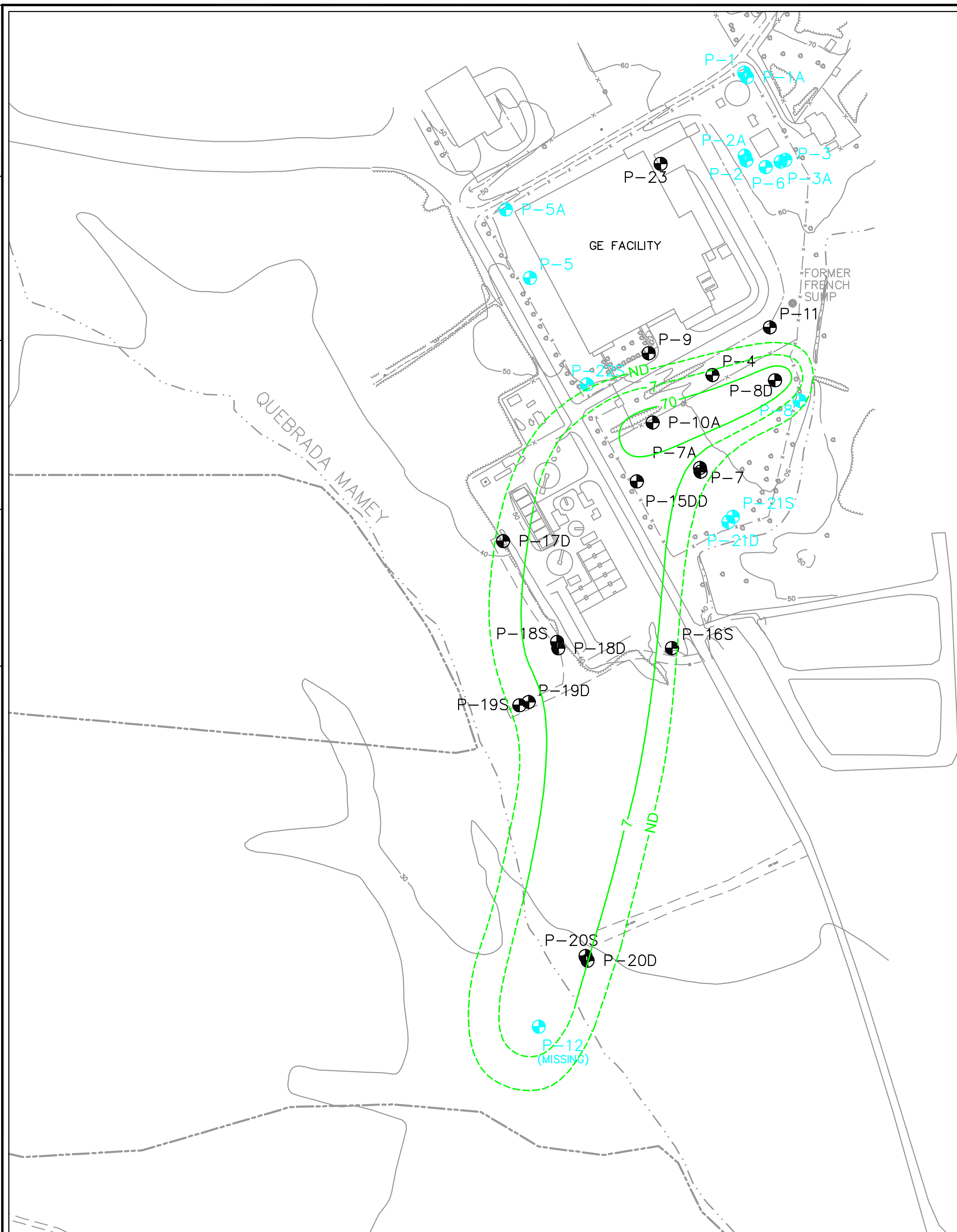
FIGURE 6a

MWH

Drawn By & Date: TLP 09/26/12 | Approved By & Date: | Revised By & Date: ATF 03/01/13 | Approved By & Date:

J:\01a_400 General Electric Energy\72 – PATILLAS Puerto Rico\05 – CADD\Supplemental RFI\Figures 5 6a 6b.dwg Mar/07/13

Drawn By & Date: TLP 09/26/12 | Approved By & Date: | Revised By & Date: ATF 03/01/13 | Approved By & Date:



LEGEND

RIVER/STREAMS

TREE COVER

FENCE

BUILDING

MONITORING WELL (NOT SAMPLED)

MONITORING WELL (SAMPLED)

ISOCONTOUR 1,1–DCE IN DEEP GROUNDWATER

NOTES:

Concentrations are reported in micrograms per liter (ug/L).
Dashed where inferred.

Shallow – The well is screened in the upper portion of the alluvium/colluvium aquifer.
Deep – The well is screened in the lower portion of the alluvium/colluvium aquifer.

north

0 50 100 200
SCALE: FEET
1"=200'

General Electric Puerto Rico Investment
Patillas, Puerto Rico

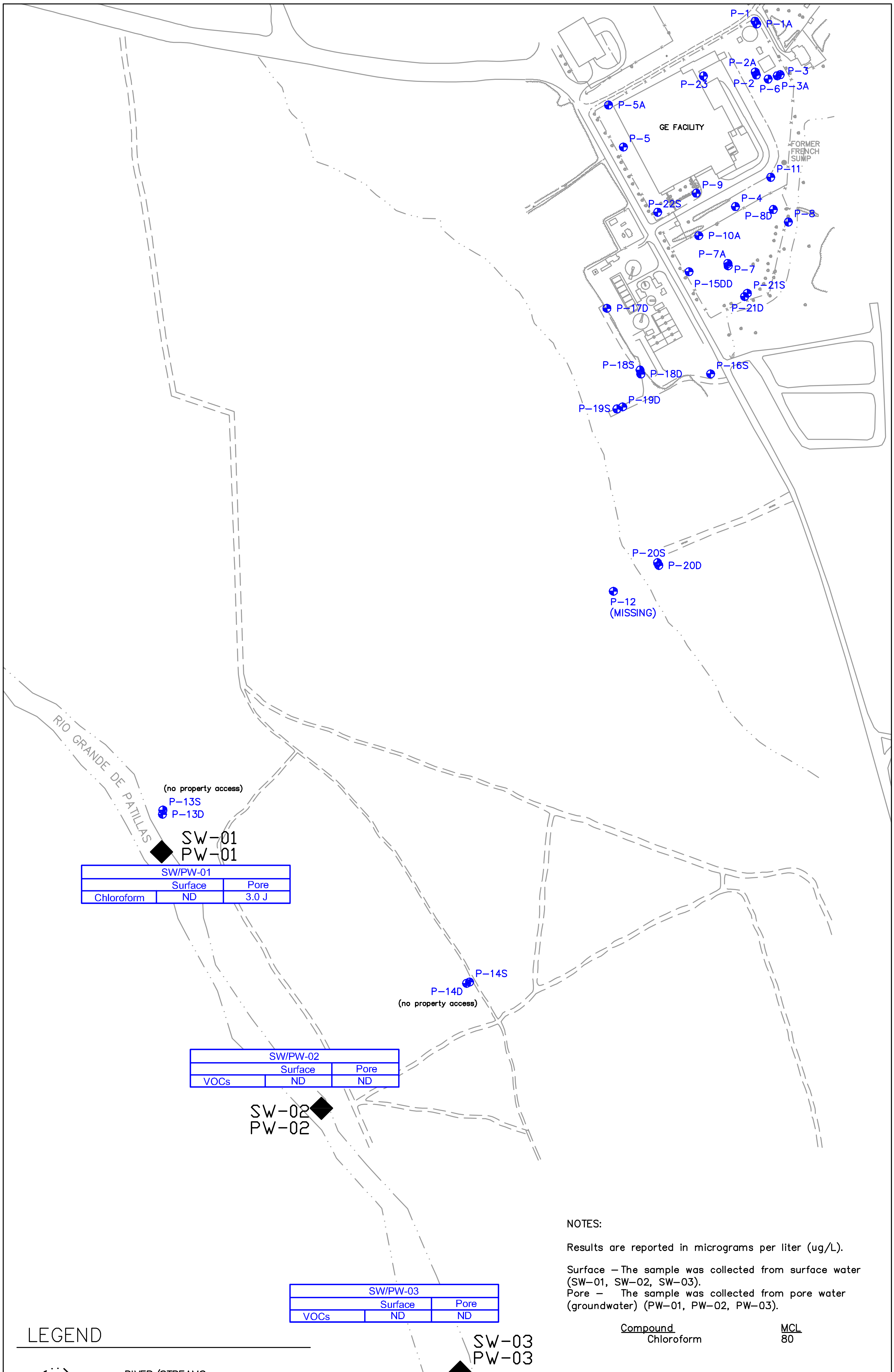
Extent of 1,1–DCE in Deep Groundwater
August 2012

FIGURE 6b

MWH

J:\01a_400 General Electric Energy\72 – PATILLAS Puerto Rico\05 – CADD\Supplemental RFI\Figures 5 6a 6b.dwg Mar/07/13

Drawn By & Date: BRT, 6/5/09 | Approved By & Date: BRT | Revised By & Date: ATF 10/11/12 | Approved By & Date:



SW/PW-01		
	Surface	Pore
Chloroform	ND	3.0 J

SW/PW-02		
	Surface	Pore
VOCs	ND	ND

SW/PW-03		
	Surface	Pore
VOCs	ND	ND

NOTES:

Results are reported in micrograms per liter (ug/L).

Surface – The sample was collected from surface water (SW-01, SW-02, SW-03).
Pore – The sample was collected from pore water (groundwater) (PW-01, PW-02, PW-03).

Compound	MCL
Chloroform	80

LEGEND

- RIVER/STREAMS
- TREE COVER
- FENCE
- BUILDING
- MONITORING WELL
- SURFACE WATER AND PORE WATER SAMPLING LOCATION

north

0 75 150 300

SCALE: FEET
1"=300'

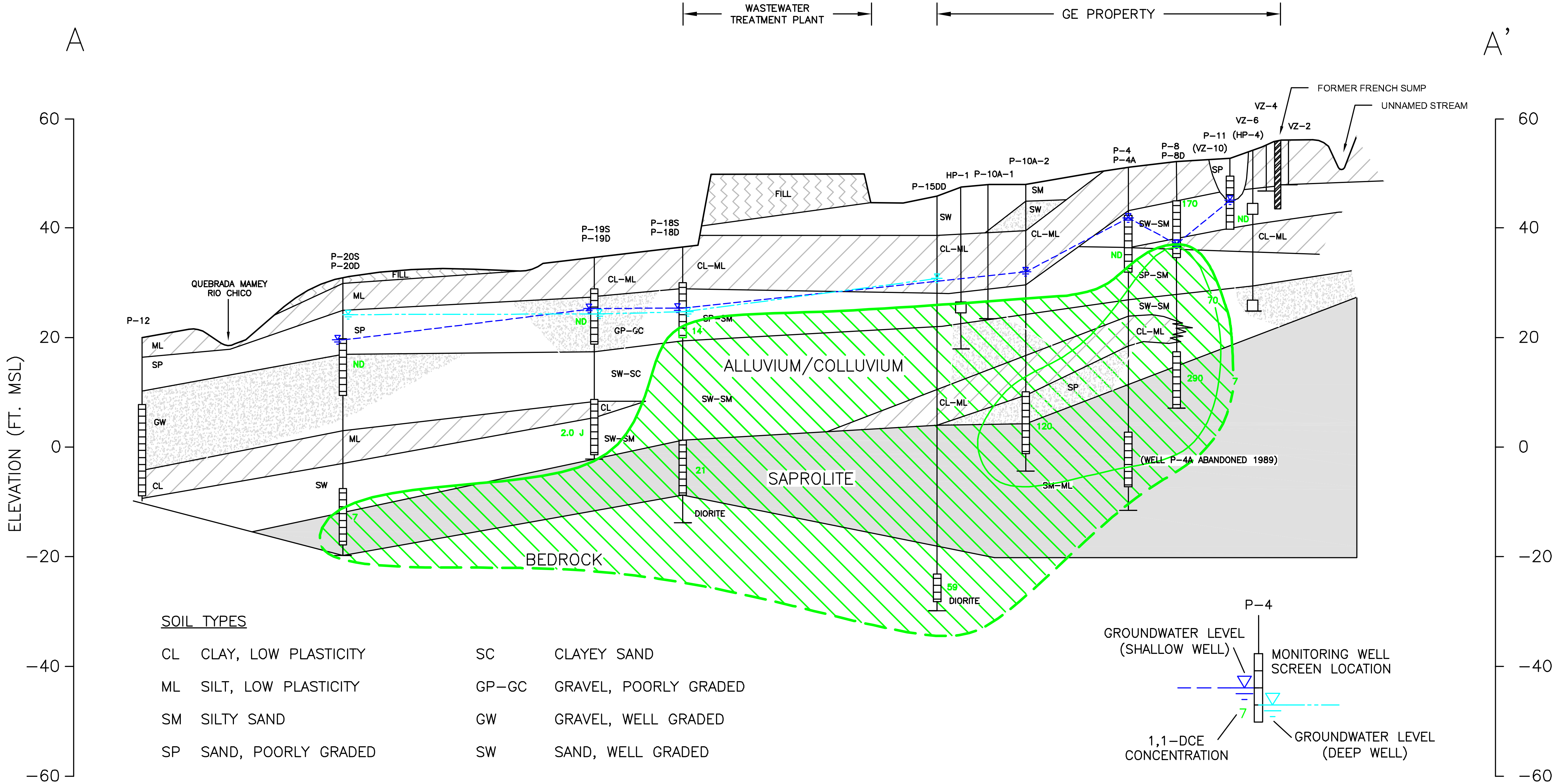
GE Puerto Rico Investment, Inc.
Patillas, Puerto Rico

Surface and Pore Water Sample Results
August 2012

FIGURE 7

MWH

J:\01a_400 General Electric Energy\72 – PATILLAS Puerto Rico\05 – CADD\Supplemental RFI\Figures 2 and 7.dwg Apr/10/13



LEGEND

- ALLUVIUM/COLLUVIUM (LOW PERMEABILITY CLAYS AND SILTS)
- ALLUVIUM/COLLUVIUM (HIGH PERMEABILITY SANDS AND SILTY SANDS)
- SAPROLITE (INTERMEDIATE PERMEABILITY SILTY SANDS AND SILT)
- EXTENT OF 1,1-DCE IMPACT IN GROUNDWATER (DASHED WHERE INFERRED)

NOTES:

ND – NON-DETECT

J – ESTIMATED RESULT

north

0 150 300

APPROXIMATE SCALE IN FEET

General Electric Puerto Rico Investment
Patillas, Puerto Rico

Plume Section A–A' for 1,1–DCE
August 2012

FIGURE 8

MWH

Drawn By & Date: TLP 02/08/13 | Approved By & Date: BRT | Revised By & Date: ATF 02/14/13 | Approved By & Date:

J:\01a 400 General Electric Energy\72 – PATILLAS Puerto Rico\05 – CADD\Supplemental RFI\Patillas – VOC X Section – Aug 2012.dwg Mar/07/13

TABLES

Table 1
Groundwater Elevation Data - August 2012
GE Puerto Rico Investment, Inc.
Patillas, Puerto Rico

Well No.	Aquifer Zone	Well Install Date	Boring Depth (ft bgs)	Land Surface Elevation (ft amsl)	Top Of Casing Elevation (ft amsl)	Depth to Water (ft btoc)	Groundwater Elevation (ft amsl)
P-1	Shallow	8/1/86	25.50	67.54	68.71	11.96	56.75
P-1A	Deep Saprolite	8/7/86	70.00	67.47	68.71	10.96	57.75
P-2	Shallow	8/1/86	20.50	61.85	63.60	10.23	53.37
P-2A	Deep	8/20/86	69.00	62.23	63.46	16.10	47.36
P-3	Shallow	8/4/86	25.50	63.54	64.58	10.82	53.76
P-3A	Deep	8/15/86	70.00	63.23	64.68	16.68	48.00
P-4	Shallow	7/29/86	19.11	51.25	52.92	9.23	43.69
P-4A	*Abandoned*	7/31/86	63.00	51.66	52.88	NG	NG
P-5	Shallow	8/4/86	20.50	52.29	53.90	11.85	42.05
P-5A	Deep Saprolite	9/15/86	70.00	51.14	52.51	18.40	34.11
P-6	Shallow	8/30/88	26.00	63.05	63.70	NG	NG
P-7	Shallow	2/3/89	18.15	47.64	49.73	9.30	40.43
P-7A	Deep Saprolite	2/2/89	58.20	47.80	49.67	15.25	34.42
P-8	Shallow	2/3/89	17.70	52.19	54.87	NG	NG
P-8D	Deep	9/17/10	45.60	53.27	55.34	15.11	40.23
P-9	Shallow	2/6/89	17.40	50.35	52.32	8.81	43.51
P-10A	Deep Alluvium/Sap	2/9/89	51.50	47.92	49.86	16.01	33.85
P-11	Shallow	2/8/89	13.20	52.95	54.68	7.60	47.08
P-12	Shallow	11/20/89	29.50	19.70	21.82	NG	NG
P-13D	Deep	6/28/91	62.74	20.40	22.10	NG	NG
P-13S	Shallow	7/5/91	28.70	19.59	23.25	NG	NG
P-14D	Deep	7/10/91	67.80	16.28	19.38	NG	NG
P-14S	Shallow	7/13/91	30.50	15.64	18.07	NG	NG
P-15DD	Bedrock	5/26/04	73.60	45.48	47.68	14.98	32.70
P-16S	Shallow	5/27/04	26.30	40.39	42.61	16.85	25.76
P-17D	Deep	6/1/04	61.00	38.26	41.02	9.10	31.92
P-18S	Shallow	5/28/04	16.60	36.55	39.08	11.10	27.98
P-18D	Deep	5/31/04	50.00	36.26	38.52	11.80	26.72
P-19S	Shallow	5/28/04	15.80	33.89	36.37	9.36	27.01
P-19D	Deep	6/30/04	36.50	34.32	36.45	10.35	26.10
P-20S	Shallow	5/4/06	26.00	31.70	34.67	11.40	23.27
P-20D	Deep	5/4/06	52.00	31.50	34.31	6.76	27.55
P-21S	Shallow	9/9/10	17.28	47.02	49.61	9.95	39.66
P-21D	Deep	9/14/10	45.80	46.34	48.38	NG	NG
P-22S	Shallow	9/10/10	17.26	49.64	52.24	10.35	41.89
P-23	Shallow	8/20/12	20.30	NS	NS	4.00	NS

Horizontal coordinates in Puerto Rico State Plane (feet, ft), Zone 1, NAD 27
bgs - Below Ground Surface
amsl - Above Mean Sea Level
btoc - Below Top of Casing
NG - Not Gauged (access to wells was denied by the property owner)
NS - Not Surveyed. New monitoring well.

Table 2
Groundwater Sample Results - August 2012
GE Puerto Rico Investment, Inc.
Patillas, Puerto Rico

	USEPA Tapwater RSL	USEPA MCL	P-4	P-7	P-7A	P-8D	P-9	P-10A	P-11	P-15DD	P-16S	P-17D	P-18S	P-18D	P-19S	P-19D	P-20S	P-20D	P-23
Volatile Organic Compound (ug/L)																			
1,1,1,2-Tetrachloroethane	0.50	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	7,500	200	0.80 U	0.80 U	0.80 U	**52**	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	**1.0 J**	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
1,1,2,2-Tetrachloroethane	0.067	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	0.24	5	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
1,1-Dichloroethane	2.4	NS	1.0 U	1.0 U	1.0 U	**11**	1.0 U	**5.0 J**	1.0 U	**2.0 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	260	7	0.80 U	0.80 U	**2.0 J**	**170**	**1.0 J**	**120**	0.80 U	**59**	0.80 U	**1.0 J**	**14**	**21**	0.80 U	**2.0 J**	0.80 U	**7**	0.80 U
1,1-Dichloropropene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	5.2	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	0.00065	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	0.99	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	15	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	0.00032	0.2	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dibromoethane	0.0065	0.05	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	280	600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.15	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	0.38	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	87	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	290	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	0.42	75	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	4,900	NS	**8.0 J**	**6.0 J**	**7.0 J**	3.0 U	3.0 U	**8.0 J**	**6.0 J**	**7.0 J**	**7.0 J**	**6.0 J**	**8.0 J**	**9.0 J**	**9.0 J**	**9.0 J**	**9.0 J**	**6.0 J**	**13**
2-Chlorotoluene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	1,000	NS	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Acetone	12,000	NS	**10 J**	**11 J**	**7.0 J**	6.0 U	6.0 U	**10 J**	**9.0 J**	**12 J**	**9.0 J**	**6.0 J**	**12 J**	**11 J**	**14 J**	**12 J**	**14 J**	**6.0 J**	**28**
Benzene	0.39	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	54	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	83	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	0.12	80	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	7.9	80	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	7	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	0.39	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	72	100	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
Chloroethane	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	0.19	80	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	**3.0 J**	**2.0 J**	**2.0 J**	**3.0 J**	0.80 U	0.80 U	0.80 U
Chloromethane	190	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	28	70	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
cis-1,3-Dichloropropene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	0.15	80	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	7.9	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	190	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	1.3	700	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
Hexachlorobutadiene	0.26	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Isopropylbenzene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m+p-Xylene	190	NS	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
Methyl Tertiary Butyl Ether	12	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	9.9	5	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Naphthalene	0.14	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	780	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
n-Propylbenzene	530	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	190	NS	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
p-Isopropyltoluene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	1,100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	9.7	5	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
Toluene	860	1,000	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
trans-1,2-Dichloroethene	86	100	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
trans-1,3-Dichloropropene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	0.44	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	1,100	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Chloride	0.015	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Concentrations are reported in micrograms per liter (ug/L)
USEPA Tapwater RSL = United States Environmental Protection Agency Tapwater Regional Screening Level - May 2012
MCL - Maximum Contaminant Level
Detections are bolded; results that exceed one or more comparison criteria are boxed.
U - The analyte was not detected above the indicated reporting limit.
J - Estimated.
NS - No standard screening level set

Table 3
Historical Groundwater Sample Results
GE Puerto Rico Investment, Inc.
Patillas, Puerto Rico

Shallow Zone Monitoring Wells

Well	Date	Chloroform	1,2-DCA	PCE	TCE	VC	1,1,1-TCA	1,1-DCA	1,1-DCE
	RSL or MCL*	80*	5*	5*	5*	2*	200*	2.4	7.0*
P-4	Feb-89	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Jul-91	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Aug-92	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Nov-92	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Feb-93	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	May-93	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	May-94	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Jun-95	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Jul-96	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Oct-97	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Nov-98	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Dec-99	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Jun-04	**0.258** JBK	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Jun-09	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Sep-10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Aug-12	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	0.8 U	1.0 U	0.8 U
P-5	Feb-89	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Aug-92	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Nov-92	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Feb-93	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	May-93	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	May-94	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Jun-95	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Jul-96	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Oct-97	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Nov-98	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Dec-99	-	-	-	-	-	1.0 U	1.0 U	1.0 U
P-7	Feb-89	-	-	-	-	-	**20**	1.0 U	**31**
	Jul-91	-	-	-	-	-	**25**	**3.0**	**30**
	Aug-92	-	-	-	-	-	**4.0**	1.0 U	1.0 U
	Nov-92	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Feb-93	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	May-93	-	-	-	-	-	1.0 U	1.0 U	**5.0**
	Aug-93	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Nov-93	-	-	-	-	-	**5.0**	1.0 U	**8.0**
	Feb-94	-	-	-	-	-	**14**	1.0 U	**19**
	May-94	-	-	-	-	-	**13**	1.0 U	**21**
	Sep-94	-	-	-	-	-	**6.0**	1.0 U	**16**
	Nov-94	-	-	-	-	-	1.0 U	1.0 U	**5.0**
	Mar-95	-	-	-	-	-	1.0 U	1.0 U	**3.0**
	Jun-95	-	-	-	-	-	1.0 U	1.0 U	**8.0**
	Oct-95	-	-	-	-	-	1.0 U	1.0 U	**3.0**
	Jan-96	-	-	-	-	-	1.0 U	1.0 U	**2.0**
	Apr-96	-	-	-	-	-	1.0 U	1.0 U	**2.0**
	Jul-96	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Oct-96	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Feb-97	-	-	-	-	-	**18**	1.0 U	**14**
	Jun-97	-	-	-	-	-	**13**	1.0 U	**17**
	Oct-97	-	-	-	-	-	1.0 U	1.0 U	**23**
	Feb-98	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Jun-98	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Nov-98	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	May-99	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Aug-99	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Dec-99	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Dec-00	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Dec-01	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Jun-04	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Jun-09	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	1.0 U	**8.0**	**26**
	Sep-09	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	**11**	**13.0**	**51**
	Dec-09	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	**5.0**	**9.0**	**31**
	Mar-10	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	**7.0**	**7.0**	**22**
	Aug-10	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	**2.0** J	**2.0** J	**7.0**
	Dec-10	**0.21** J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.32** J	**1.0**
	Aug-12	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	0.8 U	1.00 U	0.8 U

Deep Zone Monitoring Wells

No associated deep well (P-4)

Well	Date	Chloroform	1,2-DCA	PCE	TCE	VC	1,1,1-TCA	1,1-DCA	1,1-DCE
	RSL or MCL*	80*	5*	5*	5*	2*	200*	2.4	7.0*
P-5A	Feb-89	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Aug-92	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Nov-92	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Feb-93	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	May-93	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	May-94	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Jun-95	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Jul-96	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Oct-97	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Nov-98	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Dec-99	-	-	-	-	-	1.0 U	1.0 U	1.0 U
P-7A	Feb-89	-	-	-	-	-	1.0 U	-	**17**
	Jul-91	-	-	-	-	-	**10**	**2.0**	**21**
	Aug-92	-	-	-	-	-	-	-	-
	Nov-92	-	-	-	-	-	**12**	**5.0**	**37**
	Feb-93	-	-	-	-	-	**23**	**6.0**	**60**
	May-93	-	-	-	-	-	**17**	**5.0**	**40**
	Aug-93	-	-	-	-	-	**11**	1.0 U	**29**
	Nov-93	-	-	-	-	-	**11**	**4.0**	**50**
	Feb-94	-	-	-	-	-	**4.0**	**3.0**	**40**
	May-94	-	-	-	-	-	1.0 U	**3.0**	**30**
	Sep-94	-	-	-	-	-	1.0 U	1.0 U	**24**
	Nov-94	-	-	-	-	-	1.0 U	1.0 U	**25**
	Mar-95	-	-	-	-	-	**4.0**	1.0 U	**21**
	Jun-95	-	-	-	-	-	**5.0**	**3.0**	**22**
	Oct-95	-	-	-	-	-	**3.0**	1.0 U	**17**
	Jan-96	-	-	-	-	-	**7.0**	**3.0**	**34**
	Apr-96	-	-	-	-	-	**6.0**	**3.0**	**24**
	Jul-96	-	-	-	-	-	**8.0**	**3.0**	**27**
	Oct-96	-	-	-	-	-	**5.0**	**3.0**	**22**
	Feb-97	-	-	-	-	-	**6.0**	1.0 U	**30**
	Jun-97	-	-	-	-	-	**3.0**	**3.0**	**23**
	Oct-97	-	-	-	-	-	**4.0**	1.0 U	**11**
	Feb-98	-	-	-	-	-	1.0 U	1.0 U	**19**
	Jun-98	-	-	-	-	-	1.0 U	1.0 U	**11**
	Nov-98	-	-	-	-	-	1.0 U	1.0 U	**12**
	May-99	-	-	-	-	-	1.0 U	1.0 U	**19**
	Aug-99	-	-	-	-	-	1.0 U	1.0 U	**18**
	Dec-99	-	-	-	-	-	1.0 U	1.0 U	**19**
	Dec-00	-	-	-	-	-	1.0 U	1.0 U	**16**
	Dec-01	-	-	-	-	-	1.0 U	1.0 U	**18**
	Jun-04	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.35** J	**1.18**	**14.1**
	Jun-09	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	1.0 U	1.0 U	**3.0** J
	Sep-09	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	0.8 U	1.0 U	**3.0** J
	Dec-09	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	0.8 U	1.0 U	**3.0** J
	Mar-10	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	0.8 U	1.0 U	**1.0** J
	Aug-10	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	0.8 U	1.0 U	**1.0** J
	Dec-10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.81** J
	Aug-12	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	0.8 U	1.0 U	**2.0** J

Table 3
Historical Groundwater Sample Results
GE Puerto Rico Investment, Inc.
Patillas, Puerto Rico

Shallow Zone Monitoring Wells

	RSL or MCL*	Chloroform		1,2-DCA		PCE		TCE		VC		1,1,1-TCA		1,1-DCA		1,1-DCE	
		80*		5*		5*		5*		2*		200*		2.4		7.0*	
P-8	Feb-89	-		-		-		-		-		**9.0**		1.0	U	1.0	U
	Jul-91	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Aug-92	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Nov-92	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Feb-93	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	May-93	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	May-94	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Jun-95	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Jul-96	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Oct-97	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Nov-98	-		-		-		-		-		**2410**		**128**		**1120**	
	May-99	-		-		-		-		-		**9.0**		1.0	U	**7.0**	
	Aug-99	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Dec-99	-		-		-		-		-		**2040**		**198**		**2020**	
	Dec-00	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Dec-01	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Jun-04	1.0	U	1.0	U	**5.94**		**3.53**		**2.14**	B/K	**586**		**60.8**		**360**	
P-9	Feb-89	-		-		-		-		-		1.0	U	1.0	U	**22**	
	Jul-91	-		-		-		-		-		1.0	U	**2.0**		**13**	
	Aug-92	-		-		-		-		-		1.0	U	1.0	U	**18**	
	Nov-92	-		-		-		-		-		1.0	U	**3.0**		**19**	
	Feb-93	-		-		-		-		-		1.0	U	1.0	U	**16**	
	May-93	-		-		-		-		-		1.0	U	1.0	U	**9**	
	Aug-93	-		-		-		-		-		1.0	U	1.0	U	**15**	
	Nov-93	-		-		-		-		-		**2.0**		**2.0**		**13**	
	Feb-94	-		-		-		-		-		1.0	U	1.0	U	**12**	
	May-94	-		-		-		-		-		1.0	U	1.0	U	**10**	
	Sep-94	-		-		-		-		-		1.0	U	1.0	U	**11**	
	Nov-94	-		-		-		-		-		1.0	U	1.0	U	**10**	
	Mar-95	-		-		-		-		-		1.0	U	1.0	U	**8.0**	
	Jun-95	-		-		-		-		-		1.0	U	1.0	U	**8.0**	
	Oct-95	-		-		-		-		-		1.0	U	1.0	U	**6.0**	
	Jan-96	-		-		-		-		-		1.0	U	1.0	U	**10**	
	Apr-96	-		-		-		-		-		1.0	U	1.0	U	**9.0**	
	Jul-96	-		-		-		-		-		1.0	U	1.0	U	**8.0**	
	Oct-96	-		-		-		-		-		1.0	U	1.0	U	**7.0**	
	Feb-97	-		-		-		-		-		1.0	U	1.0	U	**9.0**	
	Jun-97	-		-		-		-		-		1.0	U	1.0	U	**8.0**	
	Oct-97	-		-		-		-		-		1.0	U	1.0	U	**6.0**	
	Feb-98	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Jun-98	-		-		-		-		-		1.0	U	1.0	U	**5.0**	
	Nov-98	-		-		-		-		-		1.0	U	1.0	U	**6.0**	
	May-99	-		-		-		-		-		1.0	U	1.0	U	**13**	
	Aug-99	-		-		-		-		-		1.0	U	1.0	U	**13**	
	Dec-99	-		-		-		-		-		1.0	U	1.0	U	**11**	
	Dec-00	-		-		-		-		-		1.0	U	1.0	U	**7.0**	
	Dec-01	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Jun-04	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.816**	J	**6.32**	
	Jun-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	1.0	U	1.0	U	**2.0**	J
	Sep-10	**0.52**	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.32**	J	**1.9**	
	Aug-12	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.00	U	**1.0**	J

Deep Zone Monitoring Wells

	RSL or MCL*	Chloroform		1,2-DCA		PCE		TCE		VC		1,1,1-TCA	1,1-DCA	1,1-DCE
		80*		5*		5*		5*		2*		200*	2.4	7.0*
P-8D	Sep-10	**0.26**	J	1.0	U	1.0	U	1.0	U	1.0	U	**1.4**	**27**	**99**
	Dec-10	**0.45**	J	1.0	U	1.0	U	1.0	U	1.0	U	**24**	**17**	**290**
	Aug-12	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	**52**	**11**	**170**

No associated deep well (P-9)

Table 3
Historical Groundwater Sample Results
GE Puerto Rico Investment, Inc.
Patillas, Puerto Rico

P-10A

No associated shallow well

Deep Zone Monitoring Wells

Well	Date	Chloroform	1,2-DCA	PCE	TCE	VC	1,1,1-TCA	1,1-DCA	1,1-DCE
	RSL or MCL*	80*	5*	5*	5*	2*	200*	2.4	7.0*
P-10A	Feb-89	-	-	-	-	-	26	13	851
	Jul-91	-	-	-	-	-	1.0 U	12	1740
	Aug-92	-	-	-	-	-	15	17	1310
	Nov-92	-	-	-	-	-	7.0	12	1310
	Feb-93	-	-	-	-	-	1.0 U	1.0 U	1320
	May-93	-	-	-	-	-	1.0 U	1.0 U	937
	Aug-93	-	-	-	-	-	1.0 U	1.0 U	1180
	Nov-93	-	-	-	-	-	1.0 U	17	1270
	Feb-94	-	-	-	-	-	9.0	18	1900
	May-94	-	-	-	-	-	7.0	16	1500
	Sep-94	-	-	-	-	-	1.0 U	1.0 U	1260
	Nov-94	-	-	-	-	-	1.0 U	13	1200
	Mar-95	-	-	-	-	-	1.0 U	1.0 U	960
	Jun-95	-	-	-	-	-	1.0 U	16	961
	Oct-95	-	-	-	-	-	1.0 U	17	1110
	Jan-96	-	-	-	-	-	4.0	13	1260
	Apr-96	-	-	-	-	-	3.0	10	770
	Jul-96	-	-	-	-	-	4.0	14	1100
	Oct-96	-	-	-	-	-	3.0	18	924
	Feb-97	-	-	-	-	-	1.0 U	11	707
	Jun-97	-	-	-	-	-	1.0 U	10	601
	Oct-97	-	-	-	-	-	1.0 U	12	800
	Feb-98	-	-	-	-	-	1.0 U	11	702
	Jun-98	-	-	-	-	-	1.0 U	11	667
	Nov-98	-	-	-	-	-	1.0 U	11	580
	May-99	-	-	-	-	-	1.0 U	17	857
	Aug-99	-	-	-	-	-	1.0 U	23	742
	Dec-99	-	-	-	-	-	1.0 U	23	1350
	Dec-00	-	-	-	-	-	6.0	18	992
	Dec-01	-	-	-	-	-	6.1	21	974
	Jun-04	1.69	2.03	0.404 J	0.424 J	1.0 U	1.28	22.5	1230
	Jun-09	2.0 J	2.0 J	0.8 U	1.0 U	1.0 U	1.0 U	21	770
	Sep-09	1.0 J	2.0 J	0.8 U	1.0 U	1.0 U	0.8 U	18	760
	Dec-09	1.0 J	2.0 J	0.8 U	1.0 U	1.0 U	0.8 U	21	900
	Mar-10	1.0 J	2.0 J	0.8 U	1.0 U	1.0 U	0.8 U	17	630
	Aug-10	1.0 J	2.0 J	0.8 U	1.0 U	1.0 U	0.8 U	17	660
	Sep-10	1.4	1.8	0.24 J	0.36 J	1.0 U	1.0 U	19	910
	Dec-10	0.42 J	1.3 J	1.0 U	1.0 U	1.0 U	2.0 U	8	200
	Aug-12	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	0.8 U	5 J	120

Shallow Zone Monitoring Wells

Well	Date	Chloroform	1,2-DCA	PCE	TCE	VC	1,1,1-TCA	1,1-DCA	1,1-DCE
	RSL or MCL*	80*	5*	5*	5*	2*	200*	2.4	7.0*
P-11	Feb-89	-	-	-	-	-	911	1.0 U	62
	Jul-91	-	-	-	-	-	1180	20	409
	Aug-92	-	-	-	-	-	139	11	26
	Nov-92	-	-	-	-	-	20	1.0 U	1.0 U
	Feb-93	-	-	-	-	-	80	8.0	19
	May-93	-	-	-	-	-	115	6.0	25
	Aug-93	-	-	-	-	-	148	17	29
	Nov-93	-	-	-	-	-	736	49	103
	Feb-94	-	-	-	-	-	520	21	204
	May-94	-	-	-	-	-	649	1.0 U	259
	Sep-94	-	-	-	-	-	665	25	271
	Nov-94	-	-	-	-	-	390	37	176
	Mar-95	-	-	-	-	-	394	13	118
	Jun-95	-	-	-	-	-	875	46	295
	Oct-95	-	-	-	-	-	420	44	172
	Jan-96	-	-	-	-	-	878	83	392
	Apr-96	-	-	-	-	-	185	8.0	62
	Jul-96	-	-	-	-	-	712	49	160
	Oct-96	-	-	-	-	-	9120	173	2260
	Feb-97	-	-	-	-	-	5850	65	1630
	Jun-97	-	-	-	-	-	1220	26	611
	Oct-97	-	-	-	-	-	1050	50	431
	Feb-98	-	-	-	-	-	118	5.0	53
	Jun-98	-	-	-	-	-	113	1.0 U	47
	Nov-98	-	-	-	-	-	10	1.0 U	1.0 U
	May-99	-	-	-	-	-	17	1.0 U	1.0 U
	Aug-99	-	-	-	-	-	27	5.0	6.0
	Dec-99	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Dec-00	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Dec-01	-	-	-	-	-	1.0 U	1.0 U	1.0 U
	Jun-04	1.0 U	1.0 U	1.0 U	0.435 J	1.0 U	1.0 U	0.176 J	1.0 U
	Jun-09	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	1.0 U	1.0 J	2.0 J
	Sep-10	0.35 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	Aug-12	0.8 U	1.0 U	0.8 U	1.0 U	1.0 U	0.8 U	1.0 U	0.8 U

No associated deep well

Table 3
Historical Groundwater Sample Results
GE Puerto Rico Investment, Inc.
Patillas, Puerto Rico

Shallow Zone Monitoring Wells

Well	RSL or MCL*	Chloroform		1,2-DCA		PCE		TCE		VC		1,1,1-TCA		1,1-DCA		1,1-DCE	
		80*		5*		5*		5*		2*		200*		2.4		7.0*	
P-12	Nov-89	-		-		-		-		-		**2.0**		1.0	U	**30**	
	Jul-91	-		-		-		-		-		**3.0**		1.0	U	**25**	
	Aug-92	-		-		-		-		-		1.0	U	1.0	U	**8.0**	
	Nov-92	-		-		-		-		-		1.0	U	1.0	U	**5.0**	
	Feb-93	-		-		-		-		-		1.0	U	1.0	U	**5.0**	
	May-93	-		-		-		-		-		1.0	U	1.0	U	**20**	
	Aug-93	-		-		-		-		-		1.0	U	1.0	U	**17**	
	Nov-93	-		-		-		-		-		**3.0**		1.0	U	**27**	
	Feb-94	-		-		-		-		-		**2.0**		1.0	U	**30**	
	May-94	-		-		-		-		-		1.0	U	1.0	U	**20**	
	Sep-94	-		-		-		-		-		1.0	U	1.0	U	**18**	
	Nov-94	-		-		-		-		-		1.0	U	1.0	U	**6.0**	
	Mar-95	-		-		-		-		-		1.0	U	1.0	U	**12**	
	Jun-95	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Oct-95	-		-		-		-		-		1.0	U	1.0	U	**4.0**	
	Jan-96	-		-		-		-		-		1.0	U	1.0	U	**6.0**	
	Apr-96	-		-		-		-		-		1.0	U	1.0	U	**5.0**	
	Jul-96	-		-		-		-		-		1.0	U	1.0	U	1.0	U
P-13S	Jul-91	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Aug-92	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Nov-92	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Feb-93	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	May-93	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	May-94	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Jun-95	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Jul-96	-		-		-		-		-		1.0	U	1.0	U	1.0	U
P-14S	Jul-91	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Aug-92	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Nov-92	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Feb-93	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	May-93	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	May-94	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Jun-95	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Jul-96	-		-		-		-		-		1.0	U	1.0	U	1.0	U
P-15DD *No associated shallow well*																	
P-16S	Jun-04	**0.21**	J	1.0	U	1.0	U	1.0	U	1.0	U	**0.423**	J	**5.31**		**13.2**	
	Dec-05	0.8	U	5	U	5	U	5	U	5	U	0.8	U	**4.0**	J	**17**	
	May-06	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**3.0**	J	**11**	
	Aug-06	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**9.0**	
	Jun-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**4.0**	J
	Sep-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	1.0	U
	Dec-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	1.0	U
	Mar-10	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	1.0	U
	Aug-10	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	0.8	U
	Dec-10	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
	Aug-12	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	0.8	U
P-17D *No associated shallow well*																	

Deep Zone Monitoring Wells

Well	RSL or MCL*	Chloroform		1,2-DCA		PCE		TCE		VC		1,1,1-TCA		1,1-DCA		1,1-DCE	
		80*		5*		5*		5*		2*		200*		2.4		7.0*	
No associated deep well (P-12)																	
P-13D	Jul-91	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Aug-92	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Nov-92	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Feb-93	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	May-93	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	May-94	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Jun-95	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Jul-96	-		-		-		-		-		1.0	U	1.0	U	1.0	U
P-14D	Jul-91	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Aug-92	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Nov-92	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Feb-93	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	May-93	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	May-94	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Jun-95	-		-		-		-		-		1.0	U	1.0	U	1.0	U
	Jul-96	-		-		-		-		-		1.0	U	1.0	U	1.0	U
P-15DD	Jun-04	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.513**	J	**2.07**		**104**	
	Dec-05	0.8	U	5	U	5	U	5	U	5	U	0.8	U	**2.0**	J	**96**	
	May-06	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**99**	
	Aug-06	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**86**	
	Jun-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**61**	
	Sep-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**68**	
	Dec-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**65**	
	Mar-10	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**52**	
	Aug-10	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**51**	
	Sep-10	**0.19**	J	1.0	U	1.0	U	1.0	U	1.0	U	**0.27**	J	**2.0**		**62**	
	Dec-10	**0.21**	J	1.0	U	1.0	U	1.0	U	1.0	U	**0.31**	J	**2.2**		**55**	
	Aug-12	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.80	U	**2.0**	J	**59**	
No associated deep well (P-16S)																	
P-17D	Jun-04	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**2.14**		**163**	
	Dec-05	0.8	U	5	U	5	U	5	U	5	U	0.8	U	**2.0**	J	**120**	
	May-06	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**130**	
	Aug-06	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**110**	
	Jun-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**75**	
	Sep-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**100**	
	Dec-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**91**	
	Mar-10	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**72**	
	Aug-10	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	**72**	
	Dec-10	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**1.9**		**64**	
	Aug-12	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**1.0**	J

Table 3
Historical Groundwater Sample Results
GE Puerto Rico Investment, Inc.
Patillas, Puerto Rico

Shallow Zone Monitoring Wells

		Chloroform		1,2-DCA		PCE		TCE		VC		1,1,1-TCA		1,1-DCA		1,1-DCE	
	RSL or MCL*	**80***		**5***		**5***		**5***		**2***		**200***		**2.4**		**7.0***	
P-18S	Jun-04	**1.06**		1.0	U	1.0	U	1.0	U	1.0	U	**1.63**		**2.29**		$\boxed{63.8}$	
	Dec-05	**2.0**	J	5	U	5	U	5	U	5	U	**1.0**	J	**1.0**	J	$\boxed{26}$	
	May-06	**1.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	**1.0**	J	**2.0**	J	$\boxed{39}$	
	Aug-06	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	**0.9**	J	1.0	U	$\boxed{20}$	
	Jun-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	**0.8**	J	**1.0**		$\boxed{17}$	
	Sep-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	**1.0**	J	**1.0**	J	$\boxed{20}$	
	Dec-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	**1.0**	J	**2.0**	J	$\boxed{30}$	
	Mar-10	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	**1.0**	J	**2.0**	J	$\boxed{27}$	
	Aug-10	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**1.0**	J	$\boxed{13}$	
	Sep-10	**0.48**	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.57**	J	**5.8**	
	Dec-10	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.51**	J
	Aug-12	**3.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	**1.0**	J	1.0	U	$\boxed{14}$	
P-19S	Jun-04	**0.934**	J	1.0	U	1.0	U	1.0	U	1.0	U	**0.44**	J	**0.323**	J	**5.4**	
	Dec-05	0.8	U	5	U	5	U	5	U	5	U	0.8	U	1.0	U	**2.0**	J
	May-06	**2.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**1.0**	J
	Aug-06	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	0.8	U
	Jun-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	0.8	U
	Sep-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**2.0**	J
	Dec-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**3.0**	J
	Mar-10	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**3.0**	J
	Aug-10	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	0.8	U
	Dec-10	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
	Aug-12	**2.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	0.8	U
P-20S	May-06	**1.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	0.8	U
	Aug-06	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	0.8	U
	Jun-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	0.8	U
	Sep-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**7.0**	
	Dec-09	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**5.0**	J
	Mar-10	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	$\boxed{8.0}$	J
	Aug-10	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	0.8	U
	Sep-10	**0.41**	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
	Dec-10	**0.48**	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.67**	J
	Aug-12	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	0.80	U
P-21S	Sep-10	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.57**	J	**2.0**	
	Dec-10	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.39**	J	**0.80**	J
P-22S	Sep-10	**0.59**	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.35**	J	**2.4**	
	Dec-10	**0.61**	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.26**	J	**1.5**	
P-23	Aug-12	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	0.8	U

Deep Zone Monitoring Wells

		Chloroform		1,2-DCA		PCE		TCE		VC		1,1,1-TCA		1,1-DCA		1,1-DCE	
	RSL or MCL*	**80***		**5***		**5***		**5***		**2***		**200***		**2.4**		**7.0***	
P-18D	Jun-04	**0.871**	J	1.0	U	1.0	U	1.0	U	1.0	U	**1.17**		**2.11**		$\boxed{64.6}$	
	Dec-05	**4.0**	J	5	U	5	U	5	U	5	U	**1.0**	J	**1.0**	J	$\boxed{38}$	
	May-06	**3.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	$\boxed{53}$	
	Aug-06	**2.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	**1.0**	J	**2.0**	J	$\boxed{53}$	
	Jun-09	**0.9**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**1.0**	J	$\boxed{31}$	
	Sep-09	**0.9**	J	1.0	U	0.8	U	1.0	U	1.0	U	**0.8**	J	**1.0**		$\boxed{37}$	
	Dec-09	**0.9**	J	1.0	U	0.8	U	1.0	U	1.0	U	**1.0**	J	**2.0**	J	$\boxed{38}$	
	Mar-10	**0.9**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	$\boxed{33}$	
	Aug-10	**0.8**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**2.0**	J	$\boxed{24}$	
	Sep-10	**1.0**		1.0	U	1.0	U	1.0	U	1.0	U	**0.39**	J	**1.3**		$\boxed{23}$	
	Dec-10	**1.0**		1.0	U	1.0	U	1.0	U	1.0	U	**0.34**	J	**1.3**		$\boxed{20}$	
	Aug-12	**2.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.80	U	1.0	U	$\boxed{21}$	
P-19D	Jun-04	**2.16**		1.0	U	1.0	U	1.0	U	1.0	U	**1.12**		**0.658**	J	$\boxed{14.5}$	
	Dec-05	**2.0**	J	5	U	5	U	5	U	5	U	0.8	U	1.0	U	**5.0**	
	May-06	**2.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**7.0**	
	Aug-06	**1.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	**1.0**	J	1.0	U	$\boxed{8.0}$	
	Jun-09	**0.8**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**2.0**	J
	Sep-09	**1.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**4.0**	J
	Dec-09	**1.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**6.0**	J
	Mar-10	**1.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**6.0**	J
	Aug-10	**1.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**3.0**	J
	Dec-10	**1.6**		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**1.2**	
	Aug-12	**3.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**2.0**	J
P-20D	May-06	**1.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**1.0**	J	$\boxed{37}$	
	Aug-06	**1.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	**1.0**	J	$\boxed{44}$	
	Jun-09	**0.9**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	$\boxed{24}$	
	Sep-09	**1.0**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	$\boxed{28}$	
	Dec-09	**0.9**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	$\boxed{22}$	
	Mar-10	**0.9**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	$\boxed{22}$	
	Aug-10	**0.8**	J	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	$\boxed{20}$	
	Sep-10	**0.78**	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.74**	J	$\boxed{23}$	
	Dec-10	**0.79**	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**0.58**	J	$\boxed{14}$	
	Aug-12	0.8	U	1.0	U	0.8	U	1.0	U	1.0	U	0.8	U	1.0	U	**7**	
P-21D	Sep-10	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
	Dec-10	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U

P-22S: ***No associated deep well***

P-23: ***No associated deep well***

Concentrations are reported in micrograms per liter (ug/L).

RSL - USEPA Regional Screening Level
*MCL - Maximum contaminant level
NA - Not available
1,1,1-TCA - 1,1,1-Trichoroethane   PCE - Tetracholorethene
1,1-DCA - 1,1-Dichloroethane   TCE - Trichloroethene
1,1-DCE - 1,1-Dichloroethene   VC - Vinyl Chloride
1,2-DCA - 1,2-Dichloroethane
U - Non-Detect. The analyte was not detected above the indicated reporting limit.
J - Estimated. The analyte was detected below the reporting limit.
B - Analyte detected in associated method blank.
K - Analyte detected in the sample at a concentration less than or equal to five times the concentration detected in the method blank.
Results that exceed the RSL or MCLs are boxed.
September 2010 results obtained the during execution of the Phase II ESA.
"-" - Indicates historical analytical results previously submitted to the USEPA.

Table 4
Surface Water and Pore-Water Sample Results - August 2012
GE Puerto Rico Investment, Inc.
Patillas, Puerto Rico

	USEPA Tapwater RSL	USEPA MCL	SW-01	PW-01	SW-02	PW-02	SW-03	PW-03
Volatile Organic Compound (ug/L)								
1,1,1,2-Tetrachloroethane	0.50	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	7,500	200	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
1,1,2,2-Tetrachloroethane	0.067	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	0.24	5	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
1,1-Dichloroethane	2.4	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	260	7	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
1,1-Dichloropropene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	5.2	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	0.00065	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	0.99	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	15	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	0.00032	0.2	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,2-Dibromoethane	0.0065	0.05	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	280	600	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.15	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	0.38	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	87	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	290	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	0.42	75	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	4,900	NS	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
2-Chlorotoluene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone (MIBK)	1,000	NS	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Acetone	12,000	NS	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
Benzene	0.39	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromobenzene	54	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	83	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	0.12	80	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	7.9	80	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	7	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	0.39	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	72	100	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
Chloroethane	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	0.19	80	0.80 U	**3.0 J**	0.80 U	0.80 U	0.80 U	0.80 U
Chloromethane	190	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	28	70	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
cis-1,3-Dichloropropene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	0.15	80	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	7.9	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	190	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	1.3	700	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
Hexachlorobutadiene	0.26	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Isopropylbenzene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m+p-Xylene	190	NS	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
Methyl Tertiary Butyl Ether	12	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	9.9	5	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Naphthalene	0.14	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	780	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
n-Propylbenzene	530	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	190	NS	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
p-Isopropyltoluene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	1,100	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	9.7	5	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
Toluene	860	1,000	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
trans-1,2-Dichloroethene	86	100	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U	0.80 U
trans-1,3-Dichloropropene	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	0.44	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	1,100	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Chloride	0.015	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

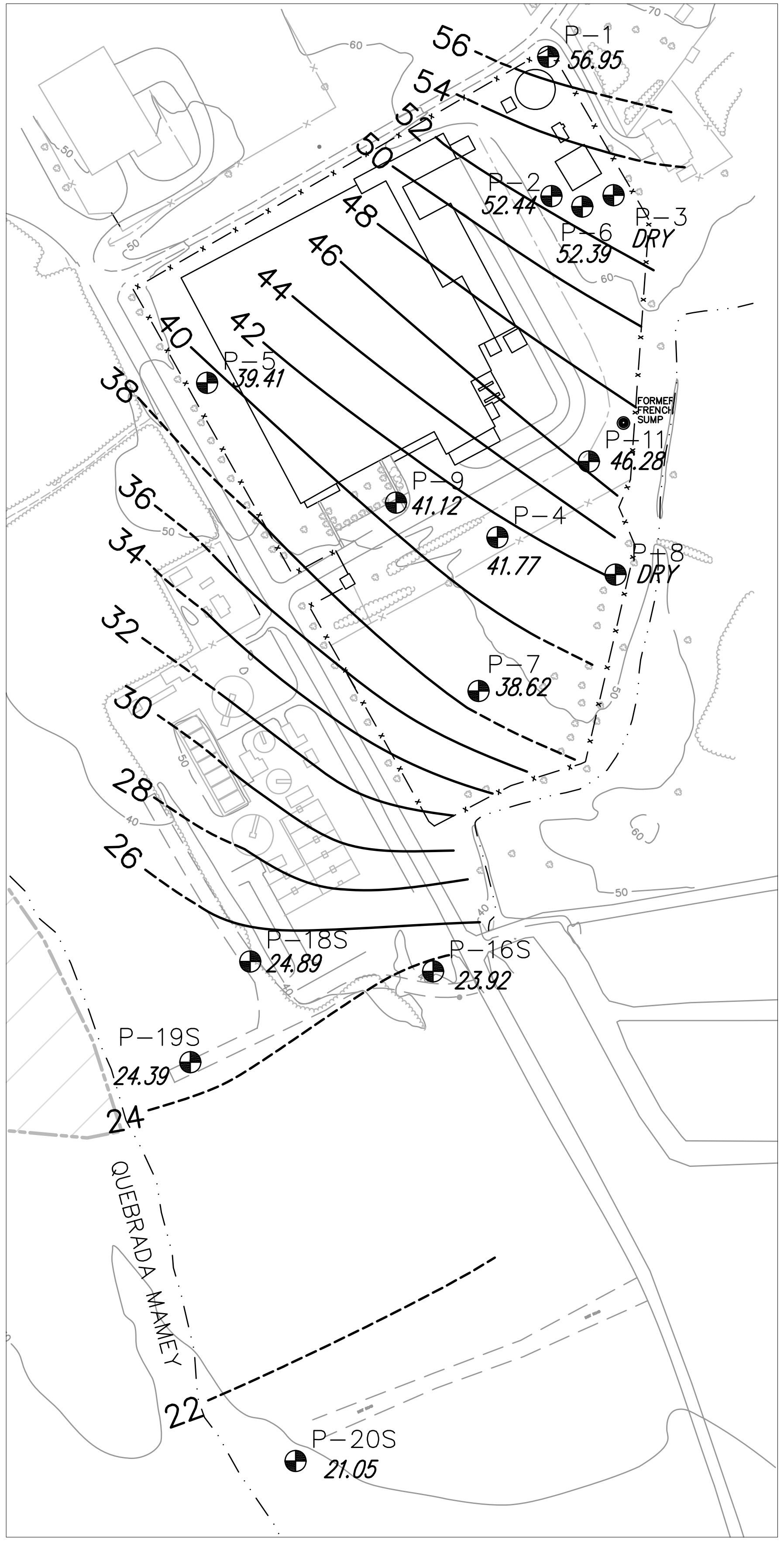
Concentrations are reported in micrograms per liter (ug/L)
USEPA Tapwater RSL = United States Environmental Protection Agency Tapwater Regional Screening Level - May 2012
MCL - Maximum Contaminant Level
Detections are bolded; results that exceed one or more comparison criteria are boxed.
U - The analyte was not detected above the indicated reporting limit.
J - Estimated.
NS - No standard screening level set

APPENDIX A

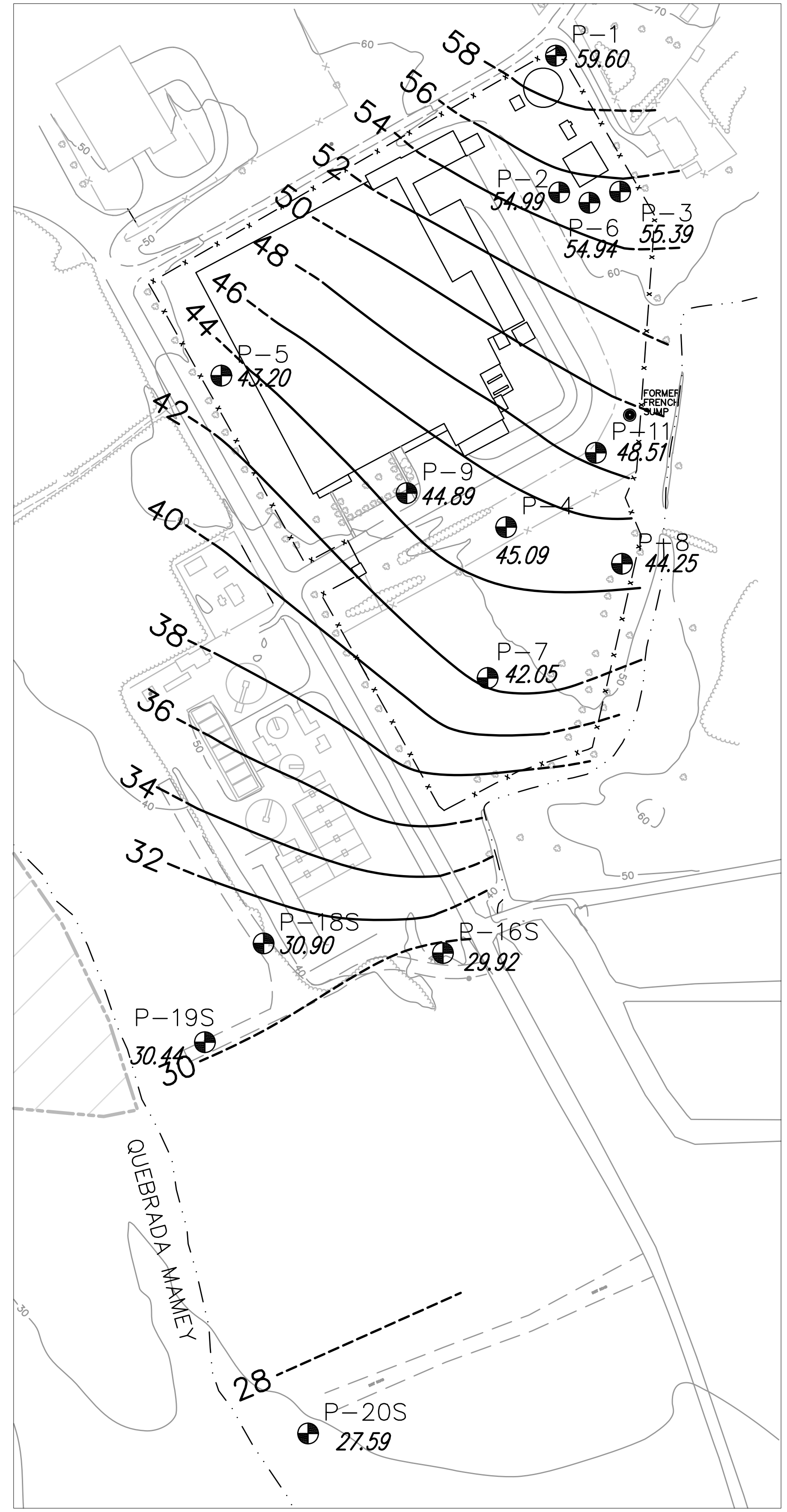
HISTORICAL GROUNDWATER CONTOUR MAPS

APPENDIX A1

GROUNDWATER CONTOUR MAPS – MAY AND AUGUST 2006



MAY 2006



AUGUST 2006

LEGEND

RIVER/STREAMS

TREE COVER

FENCE

BUILDING

WELL

POTENTIOMETRIC SURFACE CONTOUR (FT. MSL) (DASHED WHERE INFERRED)

23.92 GROUNDWATER CONTOUR (FT. MSL)

north

0 50 100 200

SCALE: FEET 1"=200'

DRAFT

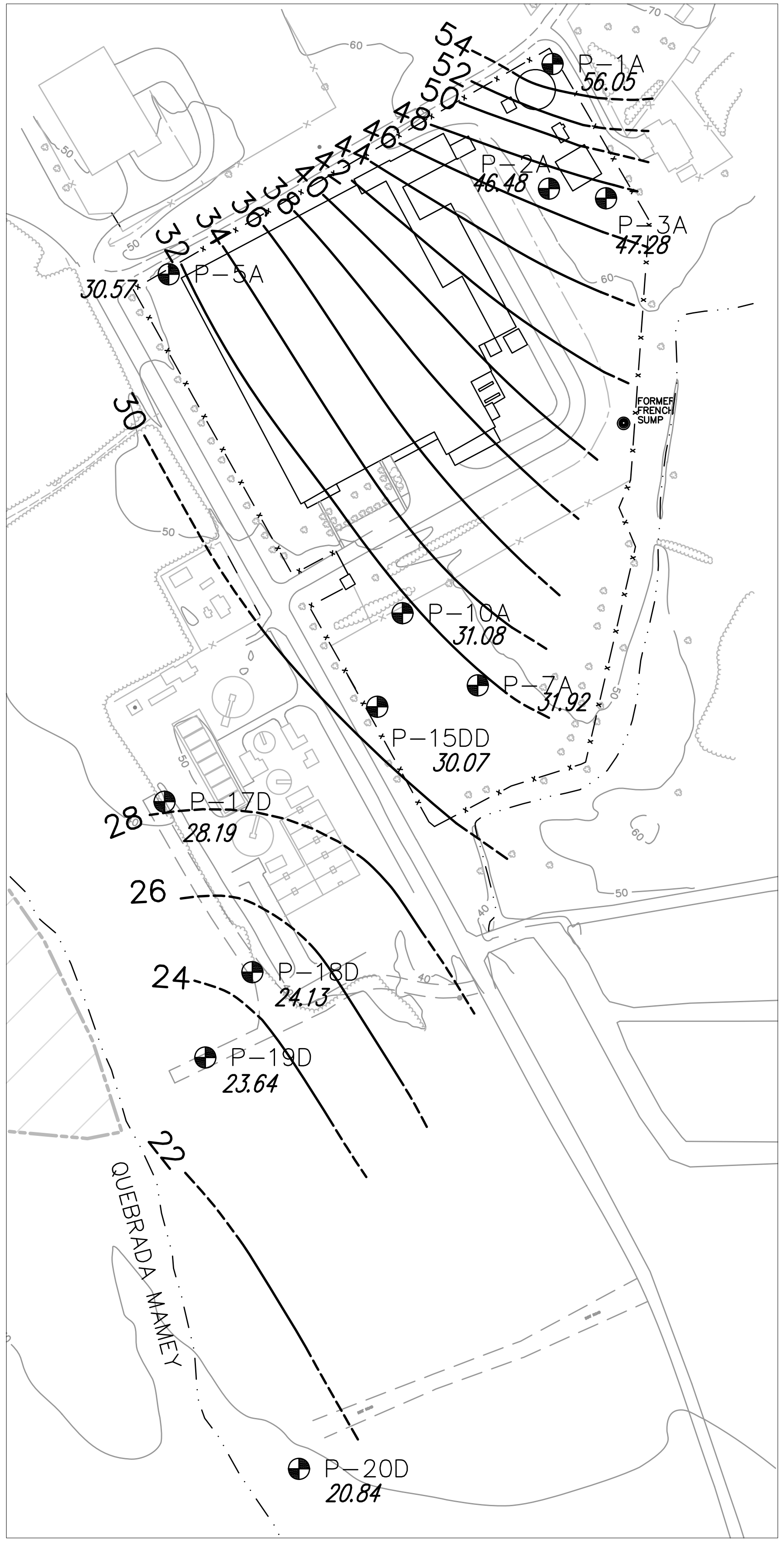
CARIBE GENERAL ELECTRIC
PATILLAS, PUERTO RICO

POTENTIOMETRIC SURFACE CONTOUR MAP SHALLOW WELLS

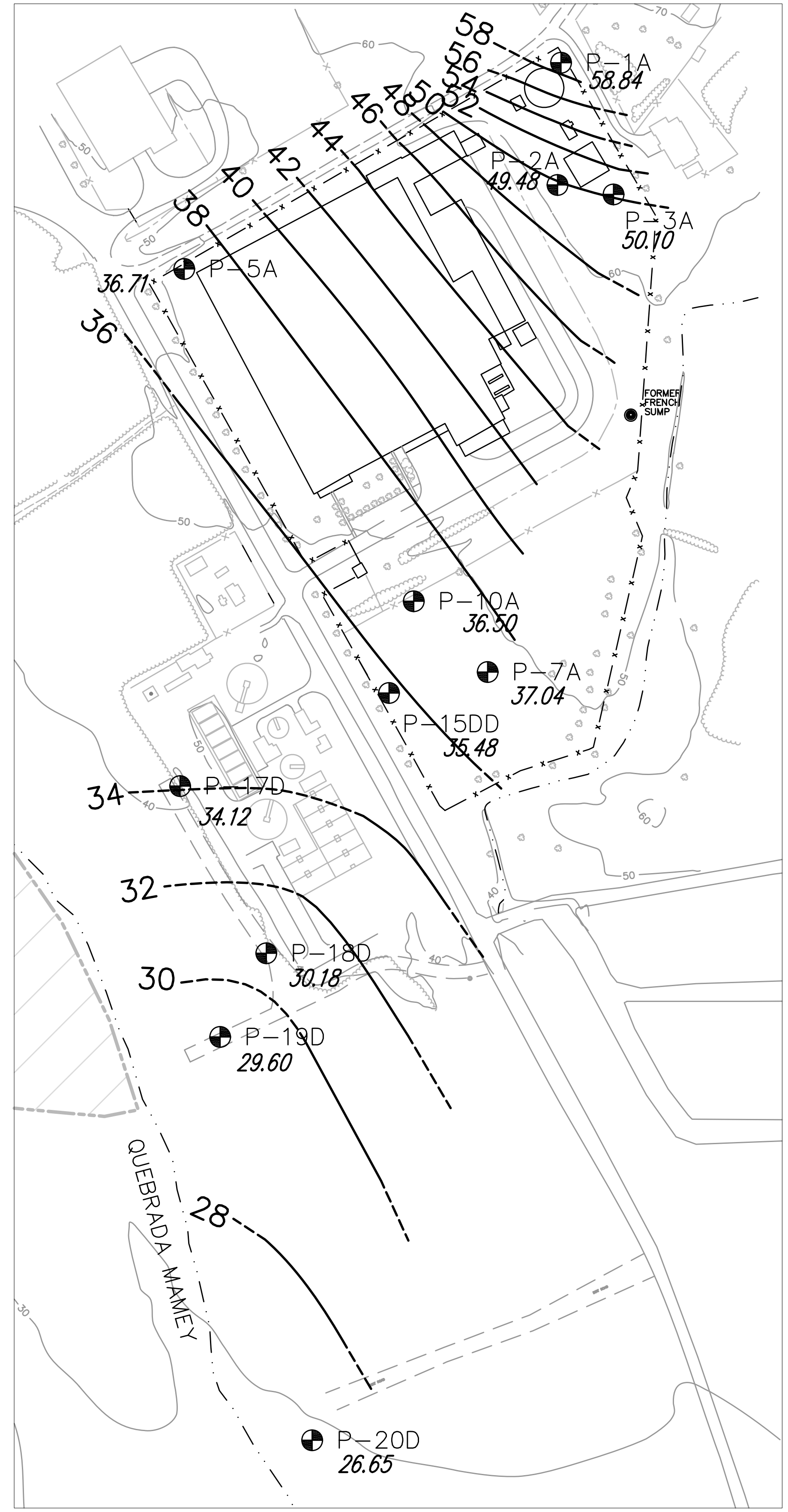
MWH

FIGURE 1

S:\IND PROJECTS\GE Master\GE Patillas\2111204_Patillas_2006\16.0 Figures\2111204-07.dwg



MAY 2006



AUGUST 2006

LEGEND

- RIVER/STREAMS
- TREE COVER
- FENCE
- BUILDING
- WELL
- POTENTIOMETRIC SURFACE CONTOUR (FT. MSL) (DASHED WHERE INFERRED)
- 23.92 GROUNDWATER CONTOUR (FT. MSL)

north

DRAFT

0 50 100 200
SCALE: FEET
1"=200'

CARIBE GENERAL ELECTRIC
PATILLAS, PUERTO RICO

POTENTIOMETRIC SURFACE CONTOUR MAP
DEEP WELLS

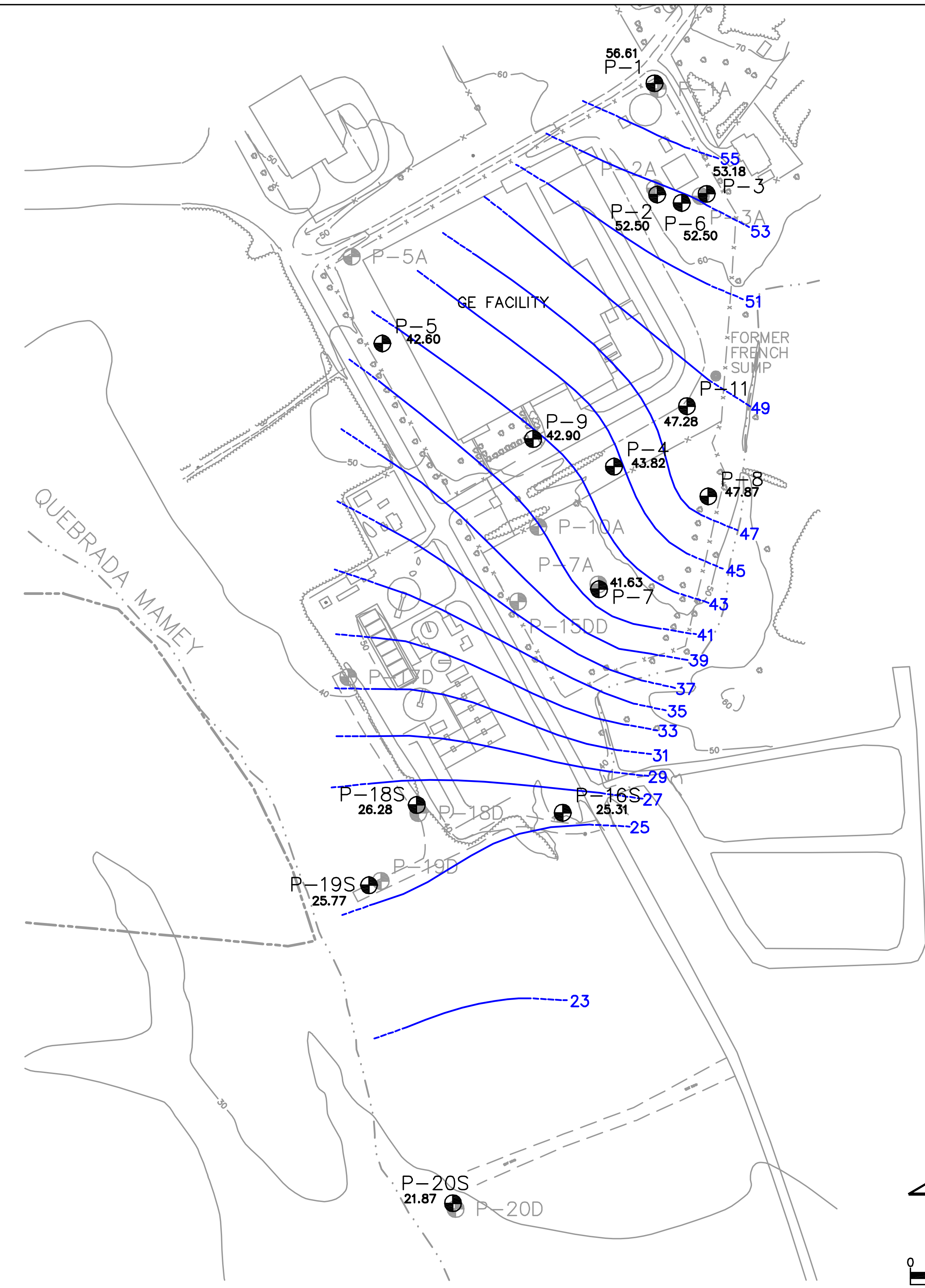
MWH

FIGURE 2

S:\IND PROJECTS\GE Master\GE Patillas\2111204_Patillas_2006\16.0 Figures\2111204-07.dwg

APPENDIX A2

GROUNDWATER CONTOUR MAPS – SEPTEMBER 2009



north

0 50 100 200

SCALE: FEET
1"=200'

LEGEND

	RIVER/STREAMS
	TREE COVER
	FENCE
	BUILDING
	MONITORING WELL (NOT USED FOR CONTOURING)
	MONITORING WELL
23	EQUIPOTENTIAL CONTOUR, DASHED WHERE INFERRED
21.87	WATER TABLE ELEVATION (FEET ABOVE SEA LEVEL)

NOTES:

1. CONTOUR INTERVAL = 2 FEET

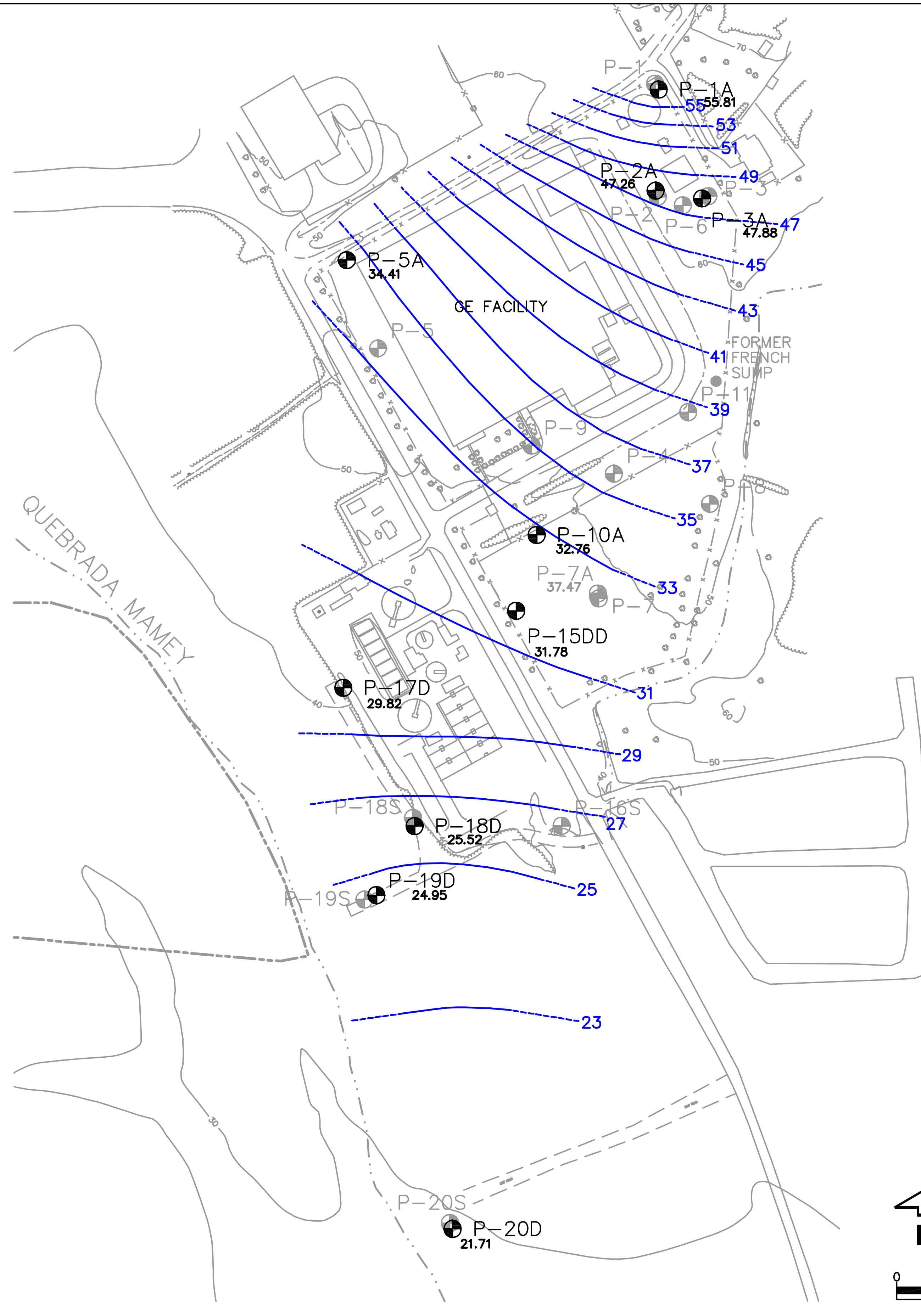
General Electric Puerto Rico Investment
Patillas, Puerto Rico

Shallow Groundwater Surface Map
September 2009

FIGURE 3a

MWH

Drawn By & Date: DM 7/15/09 | Approved By & Date: | Revised By & Date: DTM 10/21/09 | Approved By & Date:



LEGEND

RIVER/STREAMS

TREE COVER

FENCE

BUILDING

MONITORING WELL (NOT USED FOR CONTOURING)

MONITORING WELL

23 EQUIPOTENTIAL CONTOUR, DASHED WHERE INFERRED

21.71 WATER TABLE ELEVATION (FEET ABOVE SEA LEVEL)

NOTES:

1. CONTOUR INTERVAL = 2 FEET
2. WATER LEVEL AT P-7A WAS ANOMALOUS, AND THEREFORE NOT USED

General Electric Puerto Rico Investment
Patillas, Puerto Rico

Deep Groundwater Surface Map
September 2009

FIGURE 3b

MWH

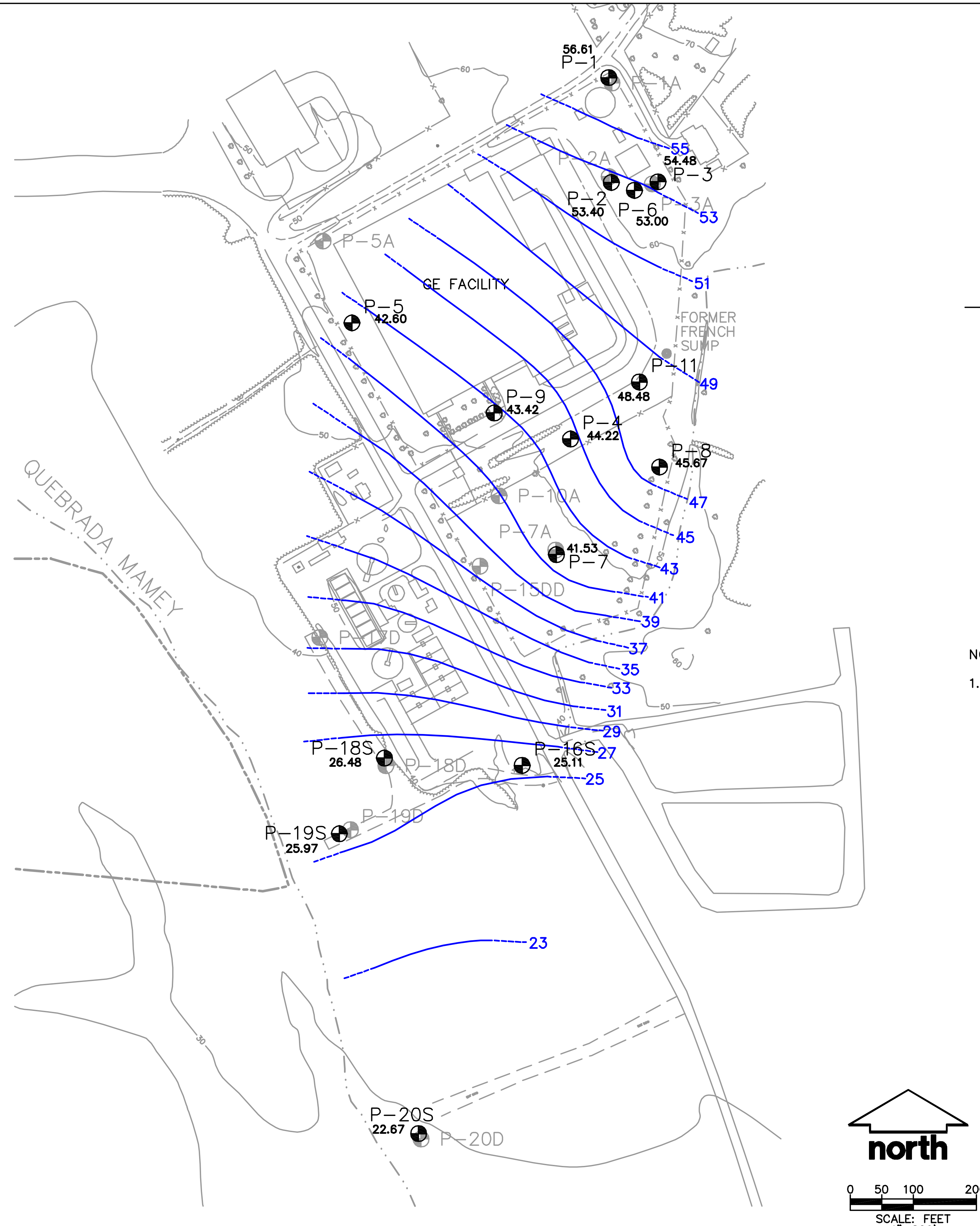
Drawn By & Date: DM 7/15/09 | Approved By & Date: | Revised By & Date: ATF 10/26/09 | Approved By & Date:

J:\01a_400 General Electric Energy\72 - PATILLAS Puerto Rico\05 - CADD\Quarterly GW Mon\Sept 09\Patillas GW - Deep - Sept 2009.dwg Oct/26/09

APPENDIX A3

GROUNDWATER CONTOUR MAPS – DECEMBER 2009

Drawn By & Date: DM 7/15/09	Approved By & Date:	Revised By & Date: DTM 10/21/09	Approved By & Date:



LEGEND

RIVER/STREAMS

TREE COVER

FENCE

BUILDING

MONITORING WELL (NOT USED FOR CONTOURING)

MONITORING WELL

23 EQUIPOTENTIAL CONTOUR, DASHED WHERE INFERRED

21.87 WATER TABLE ELEVATION (FEET ABOVE SEA LEVEL)

NOTES:

1. CONTOUR INTERVAL = 2 FEET

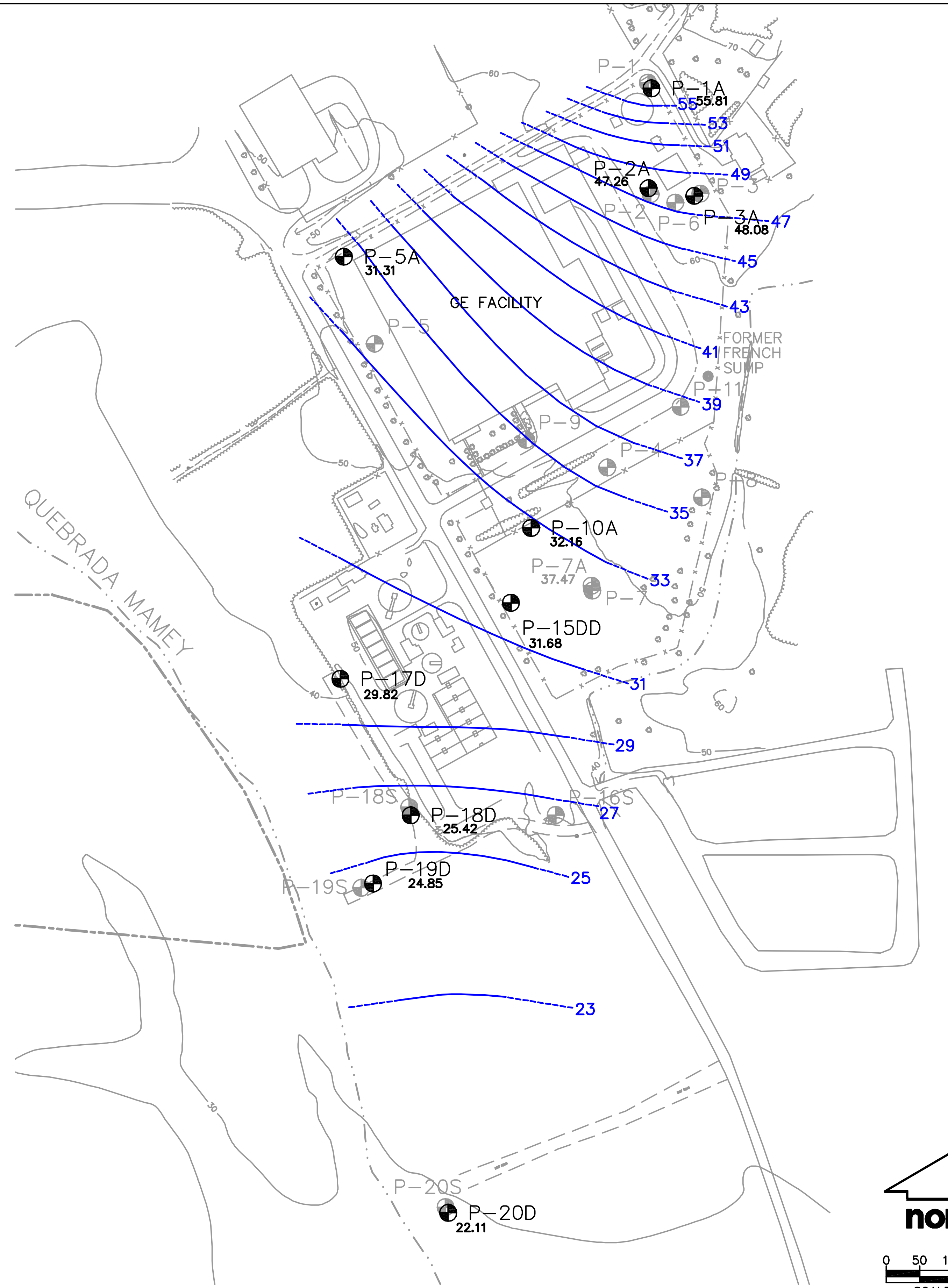
General Electric Puerto Rico Investment
Patillas, Puerto Rico

Shallow Groundwater Surface Map
December 2009

FIGURE 3a

MWH

J:\01a_400 General Electric Energy\72 – PATILLAS Puerto Rico\05 – CADD\Quarterly GW Mon\3 – Dec 09\Patillas GW – Shallow – Dec 2009.dwg Jan/21/10



LEGEND

	RIVER/STREAMS
	TREE COVER
	FENCE
	BUILDING
	MONITORING WELL (NOT USED FOR CONTOURING)
	MONITORING WELL
23	EQUIPOTENTIAL CONTOUR, DASHED WHERE INFERRED
21.71	WATER TABLE ELEVATION (FEET ABOVE SEA LEVEL)

NOTES:

1. CONTOUR INTERVAL = 2 FEET
2. WATER LEVEL AT P-7A WAS ANOMALOUS, AND THEREFORE NOT USED

General Electric Puerto Rico Investment
Patillas, Puerto Rico

Deep Groundwater Surface Map
December 2009

FIGURE 3b

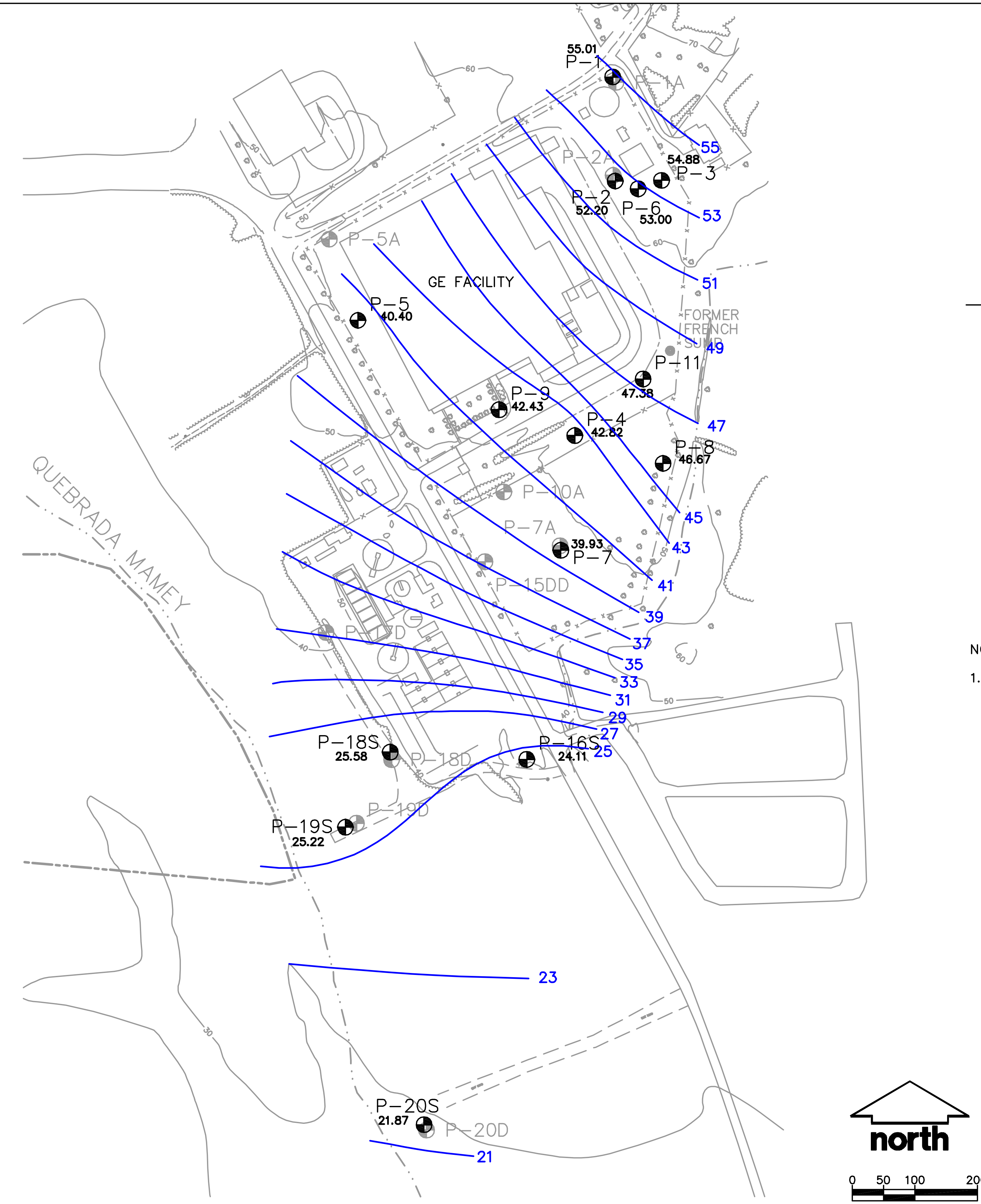
MWH

Drawn By & Date: DM 7/15/09 | Approved By & Date: | Revised By & Date: ATF 10/26/09 | Approved By & Date:

J:\01a_400 General Electric Energy\72 - PATILLAS Puerto Rico\05 - CADD\Quarterly GW Mon\3 - Dec 09\Patillas GW - Deep - Dec 2009.dwg Jan/21/10

APPENDIX A4

GROUNDWATER CONTOUR MAPS – MARCH 2010



LEGEND

RIVER/STREAMS

TREE COVER

FENCE

BUILDING

MONITORING WELL (NOT USED FOR CONTOURING)

MONITORING WELL

23 EQUIPOTENTIAL CONTOUR, DASHED WHERE INFERRED

21.87 WATER TABLE ELEVATION (FEET ABOVE SEA LEVEL)

NOTES:

1. CONTOUR INTERVAL = 2 FEET

north

0 50 100 200

SCALE: FEET
1"=200'

General Electric Puerto Rico Investment
Patillas, Puerto Rico

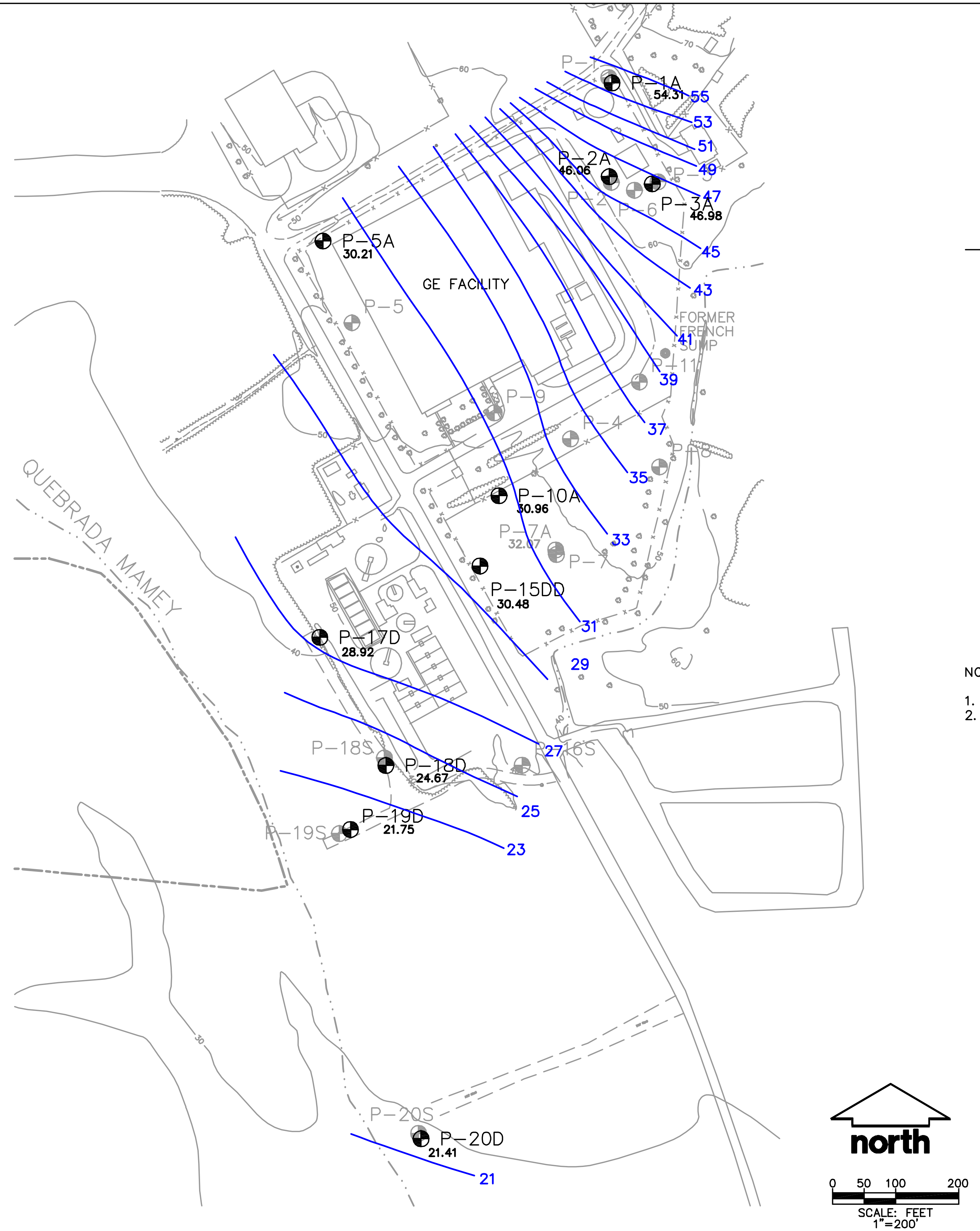
Shallow Groundwater Surface Map
March 2010

FIGURE 3a

MWH

Drawn By & Date: DM 7/15/09 | Approved By & Date: | Revised By & Date: DTM 10/21/09 | Approved By & Date:

J:\01a_400 General Electric Energy\72 - PATILLAS Puerto Rico\05 - CADD\Quarterly GW Mon\4 - Mar 10\Patillas GW - Shallow - Mar 2010.dwg Apr/06/10



LEGEND

RIVER/STREAMS

TREE COVER

FENCE

BUILDING

MONITORING WELL (NOT USED FOR CONTOURING)

MONITORING WELL

23 EQUIPOTENTIAL CONTOUR, DASHED WHERE INFERRED

21.71 WATER TABLE ELEVATION (FEET ABOVE SEA LEVEL)

NOTES:

1. CONTOUR INTERVAL = 2 FEET
2. WATER LEVEL AT P-7A WAS ANOMALOUS, AND THEREFORE NOT USED

General Electric Puerto Rico Investment
Patillas, Puerto Rico

Deep Groundwater Surface Map
March 2010

FIGURE 3b

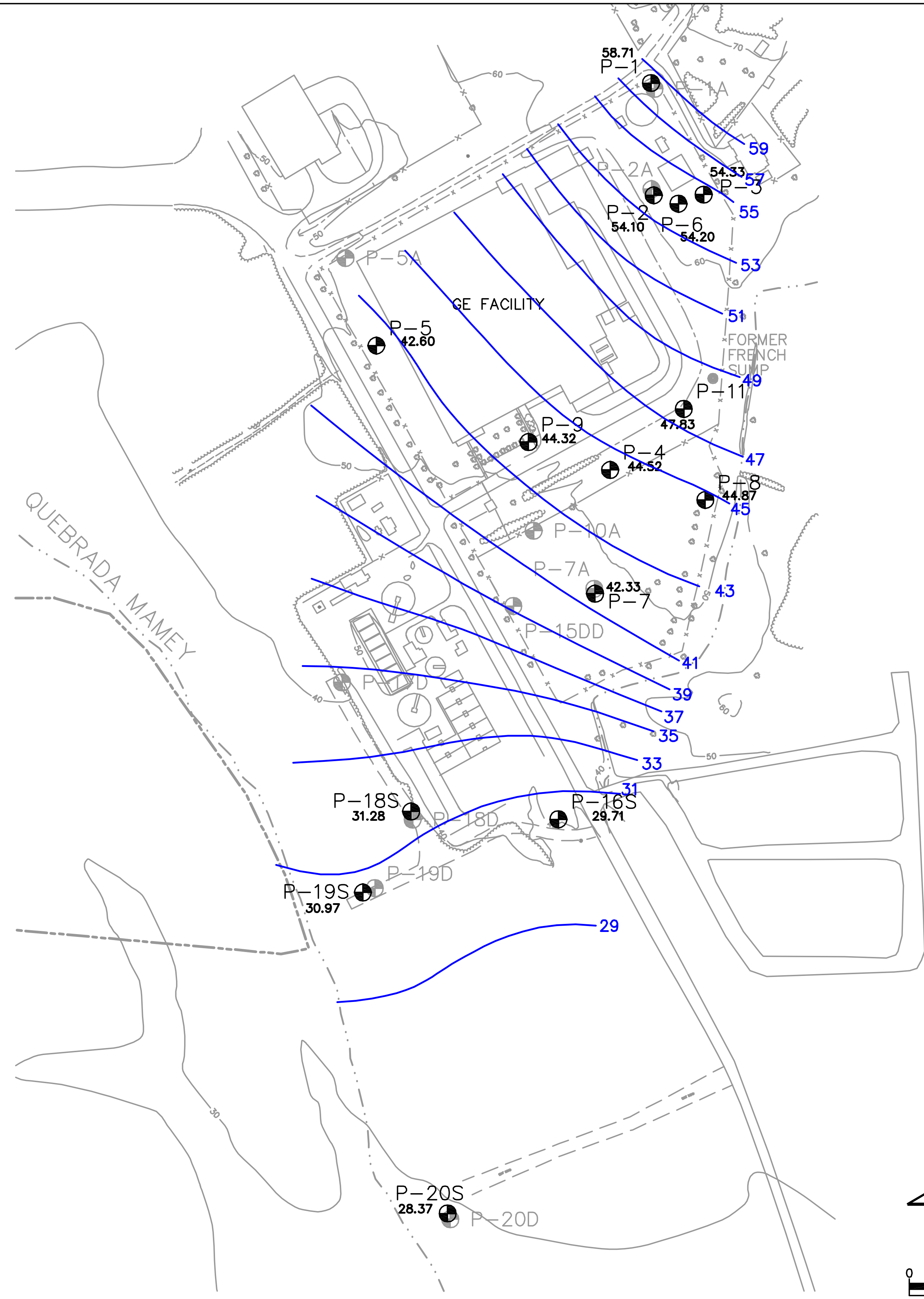
MWH

Drawn By & Date: DM 7/15/09 | Approved By & Date: | Revised By & Date: ATF 10/26/09 | Approved By & Date:

APPENDIX A5

GROUNDWATER CONTOUR MAPS – AUGUST 2010

Drawn By & Date: DM 7/15/09 | Approved By & Date:
Revised By & Date: DTM 10/21/09 | Approved By & Date:



LEGEND

RIVER/STREAMS

TREE COVER

FENCE

BUILDING

MONITORING WELL (NOT USED FOR CONTOURING)

MONITORING WELL

29 EQUIPOTENTIAL CONTOUR, DASHED WHERE INFERRED

28.37 WATER TABLE ELEVATION (FEET ABOVE SEA LEVEL)

NOTES:

1. CONTOUR INTERVAL = 2 FEET

north

0 50 100 200
SCALE: FEET
1"=200'

General Electric Puerto Rico Investment
Patillas, Puerto Rico

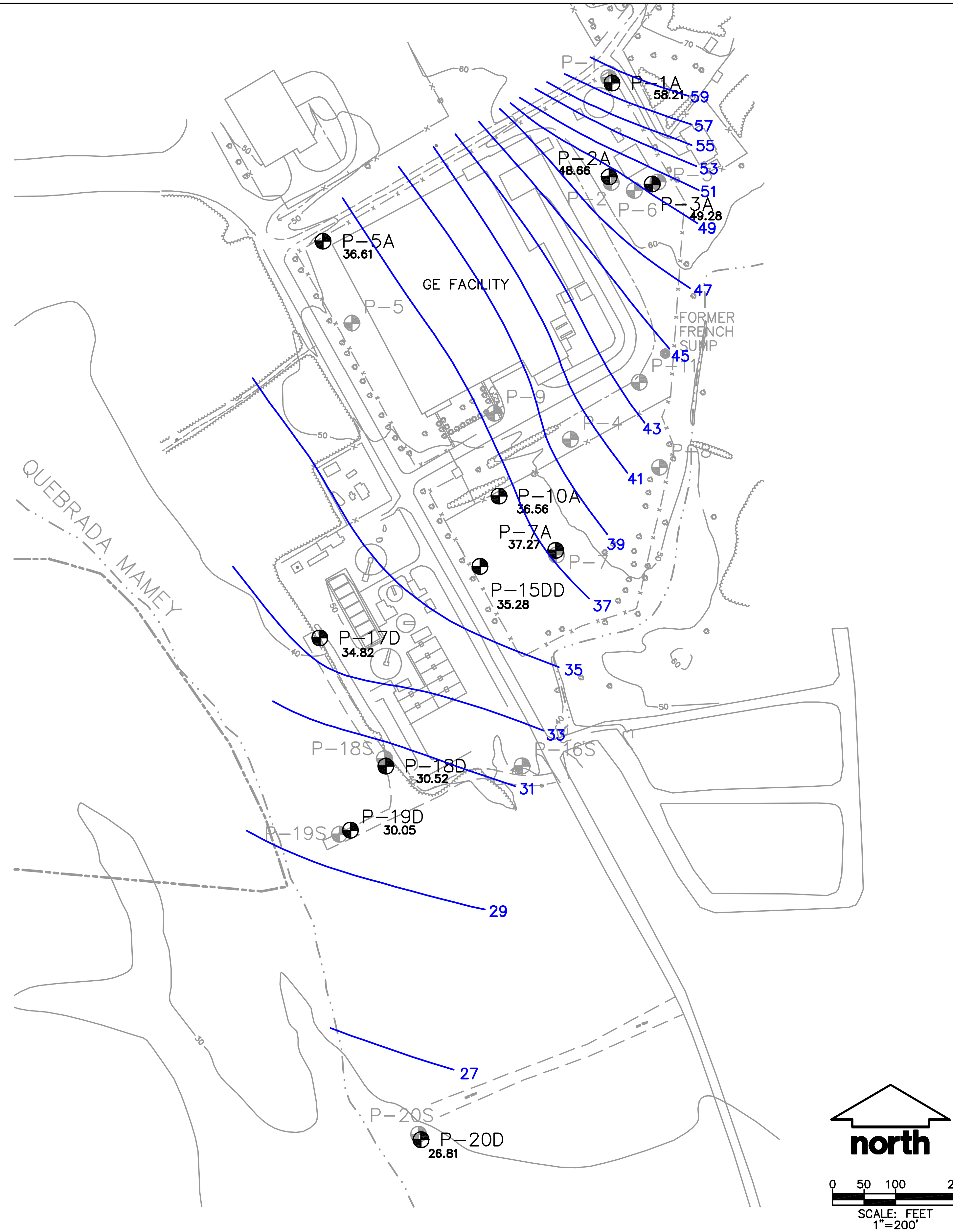
Shallow Groundwater Surface Map
August 2010

FIGURE 3a

MWH

J:\01a_400 General Electric Energy\72 - PATILLAS Puerto Rico\05 - CADD\Quarterly GW Mon\5 - Aug 10\Patillas GW - Shallow - Aug 2010.dwg Sep/23/10

Drawn By & Date: DTM 7/15/09 | Approved By & Date: | Revised By & Date: DTM 08/27/10 | Approved By & Date:



LEGEND

	RIVER/STREAMS
	TREE COVER
	FENCE
	BUILDING
	MONITORING WELL (NOT USED FOR CONTOURING)
	MONITORING WELL
27	EQUIPOTENTIAL CONTOUR, DASHED WHERE INFERRED
26.81	WATER TABLE ELEVATION (FEET ABOVE SEA LEVEL)

NOTES:

1. CONTOUR INTERVAL = 2 FEET

General Electric Puerto Rico Investment
Patillas, Puerto Rico

Deep Groundwater Surface Map
August 2010

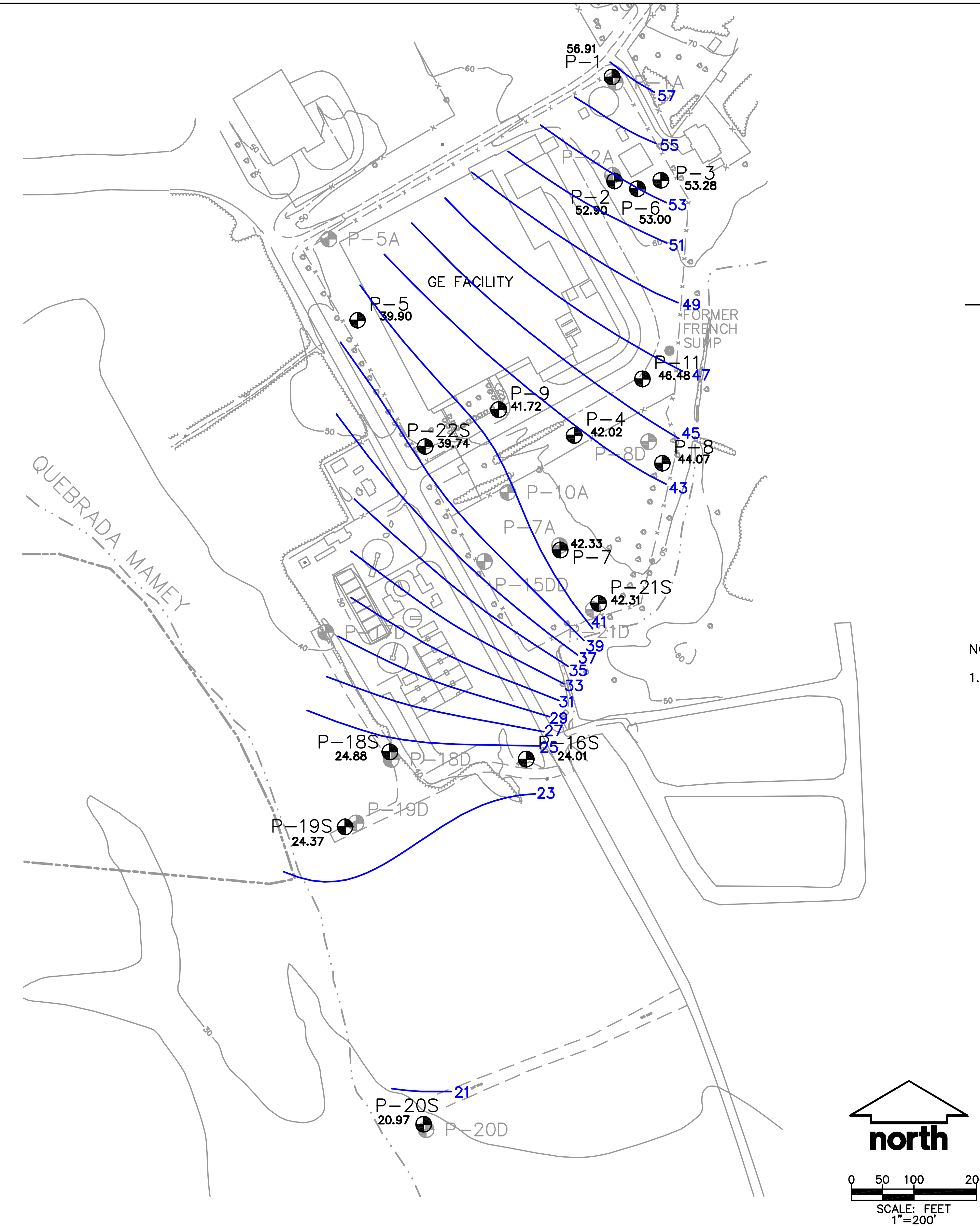
FIGURE 3b

MWH

J:\010_400 General Electric Energy\72 - PATILLAS Puerto Rico\05 - CADD\Quarterly GW Mon\5 - Aug 10\Patillas GW - Deep - Aug 2010.dwg Sep/23/10

APPENDIX A6

GROUNDWATER CONTOUR MAPS – JANUARY 2011



LEGEND

	RIVER/STREAMS
	TREE COVER
	FENCE
	BUILDING
	MONITORING WELL (NOT USED FOR CONTOURING)
	MONITORING WELL
21	EQUIPOTENTIAL CONTOUR, DASHED WHERE INFERRED
20.97	WATER TABLE ELEVATION (FEET ABOVE SEA LEVEL)

NOTES:

1. CONTOUR INTERVAL = 2 FEET

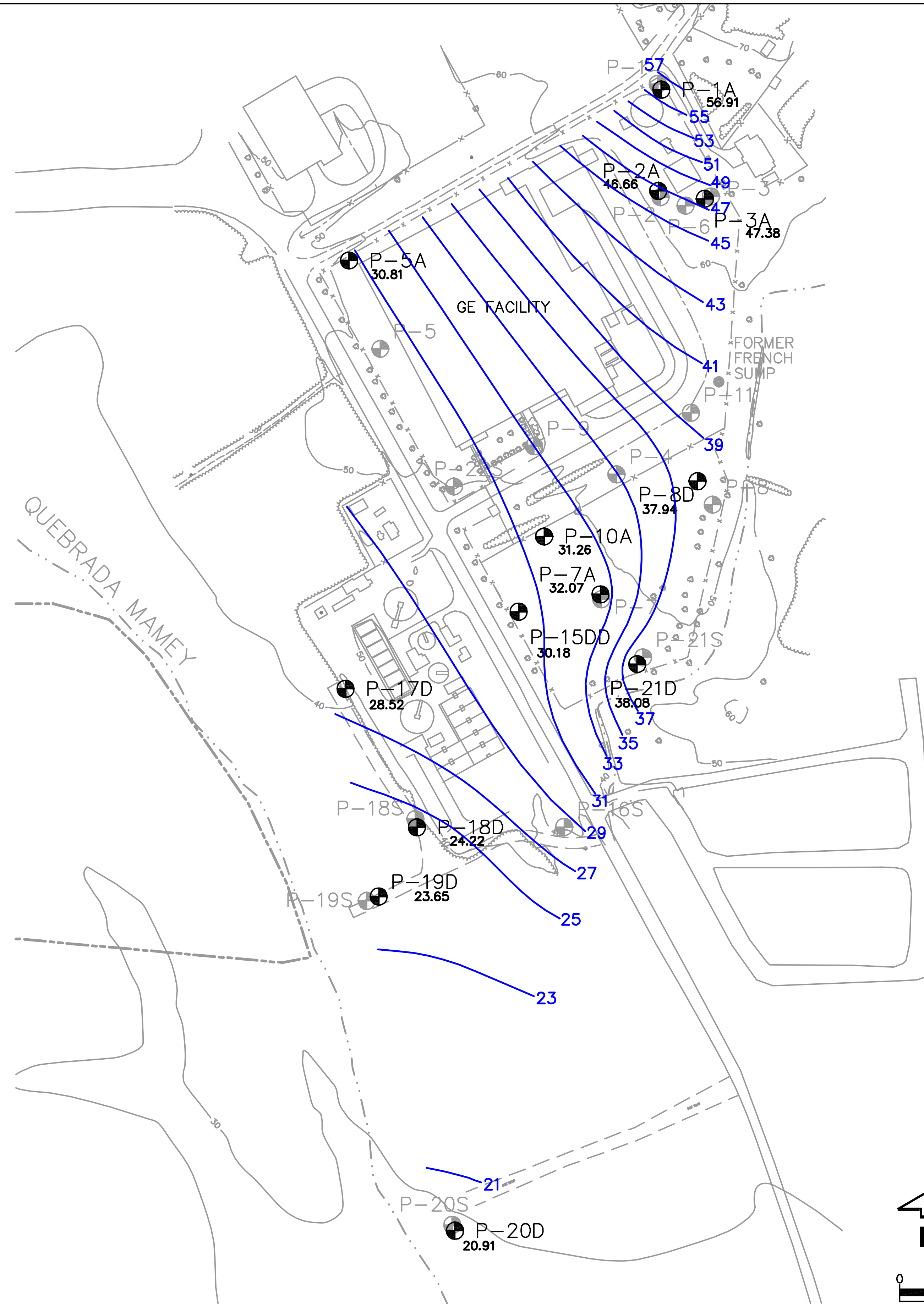
General Electric Puerto Rico Investment
Patillas, Puerto Rico

Shallow Groundwater Surface Map
January 2011

FIGURE 3a

MWH

Drawn By & Date: DM 7/15/09 | Approved By & Date: | Revised By & Date: DTM 02/04/11 | Approved By & Date:



north

0 50 100 200
SCALE: FEET
1"=200'

LEGEND

RIVER/STREAMS
TREE COVER
FENCE
BUILDING
MONITORING WELL (NOT USED FOR CONTOURING)
MONITORING WELL
21 EQUIPOTENTIAL CONTOUR, DASHED WHERE INFERRED
20.91 WATER TABLE ELEVATION (FEET ABOVE SEA LEVEL)

NOTES:

1. CONTOUR INTERVAL = 2 FEET

General Electric Puerto Rico Investment
Patillas, Puerto Rico

Deep Groundwater Surface Map
January 2011

FIGURE 3b

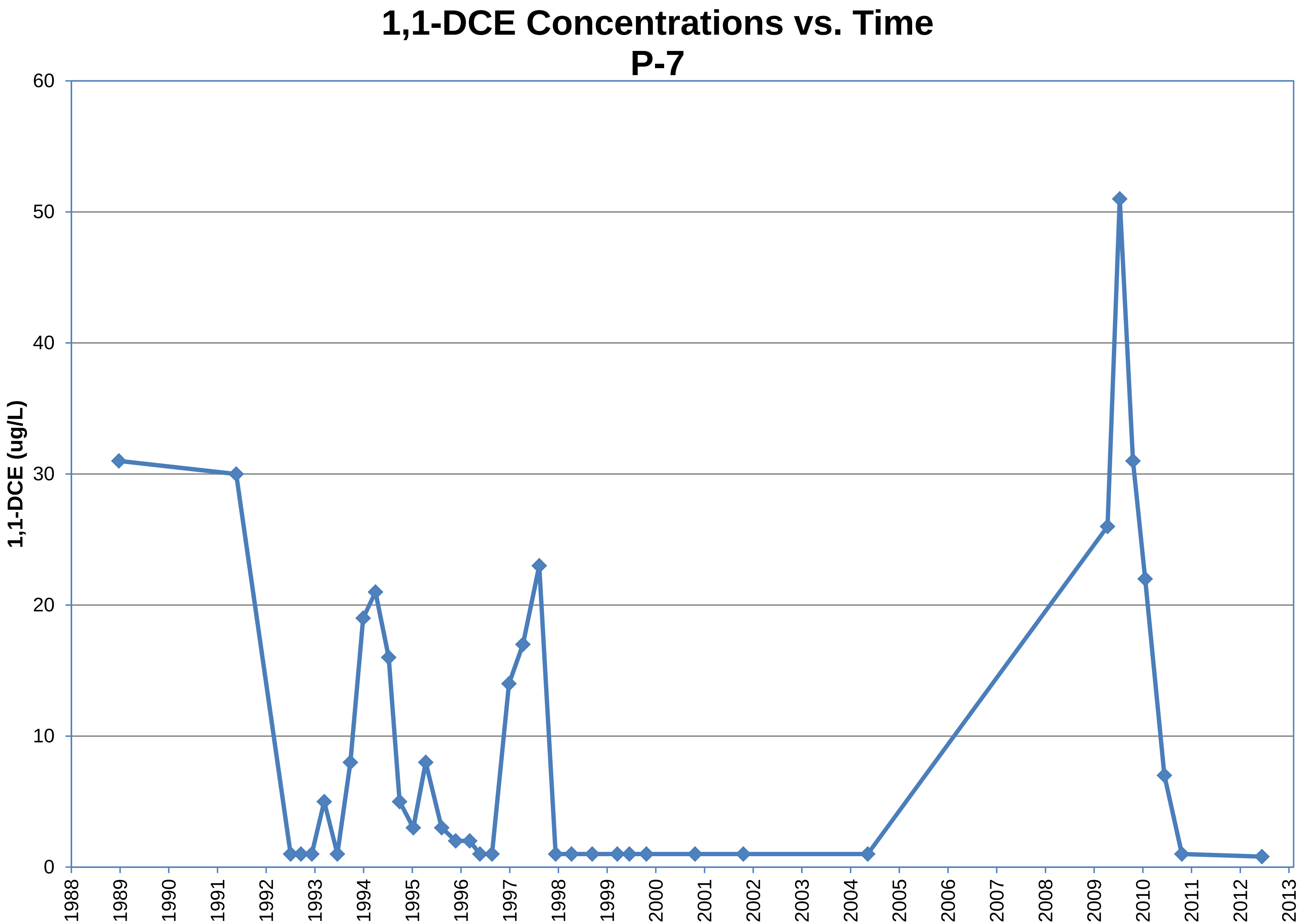
MWH

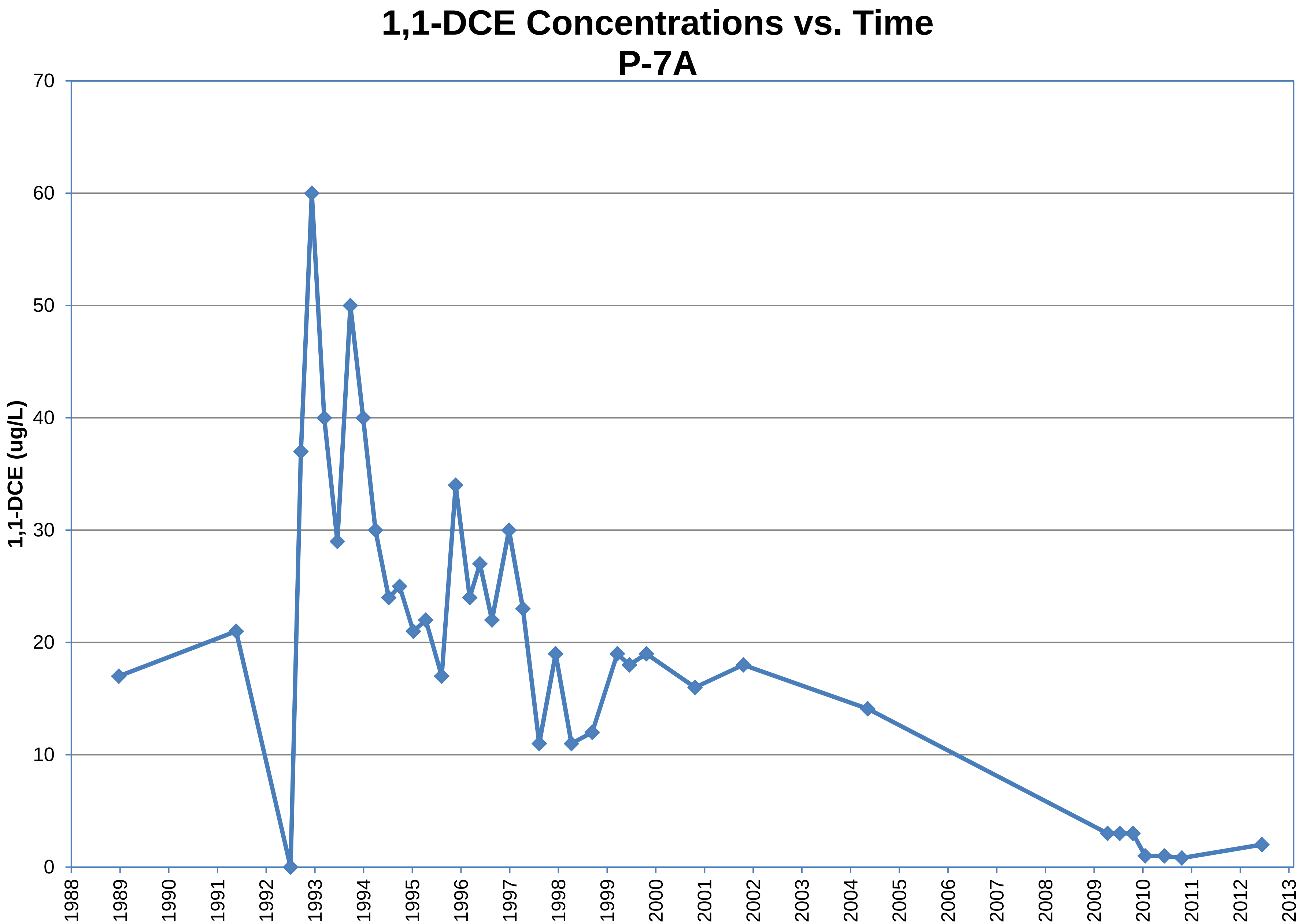
Drawn By & Date: DTM 7/15/09 | Approved By & Date: | Revised By & Date: DTM 02/04/11 | Approved By & Date:

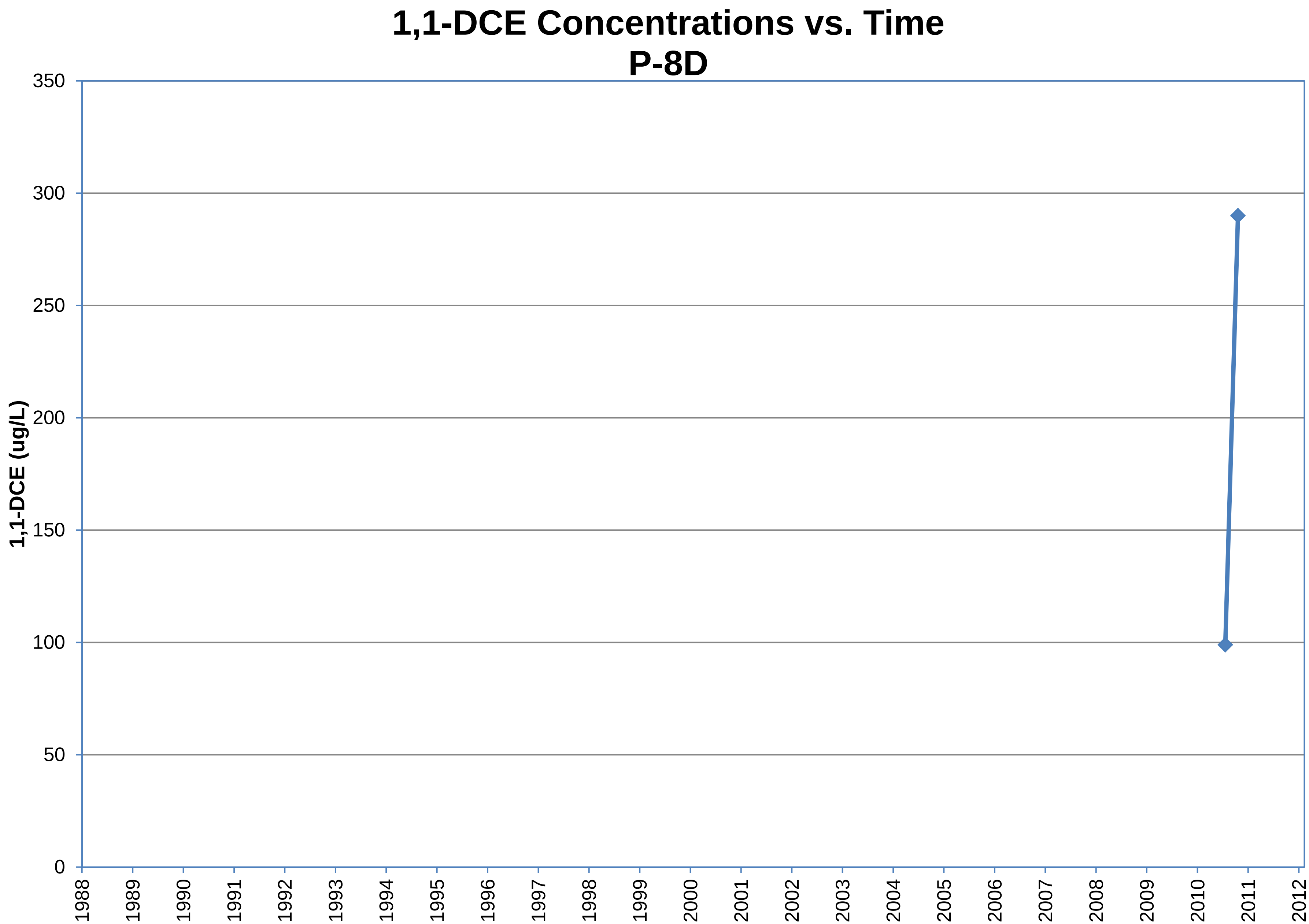
\\Usdet1s02\Jobs\01a_400 General Electric Energy\72 - PATILLAS Puerto Rico\05 - CADD\Quarterly GW Mon\6 - Dec 10\Patillas GW - Deep - Dec 2010.dwg Feb/04/11

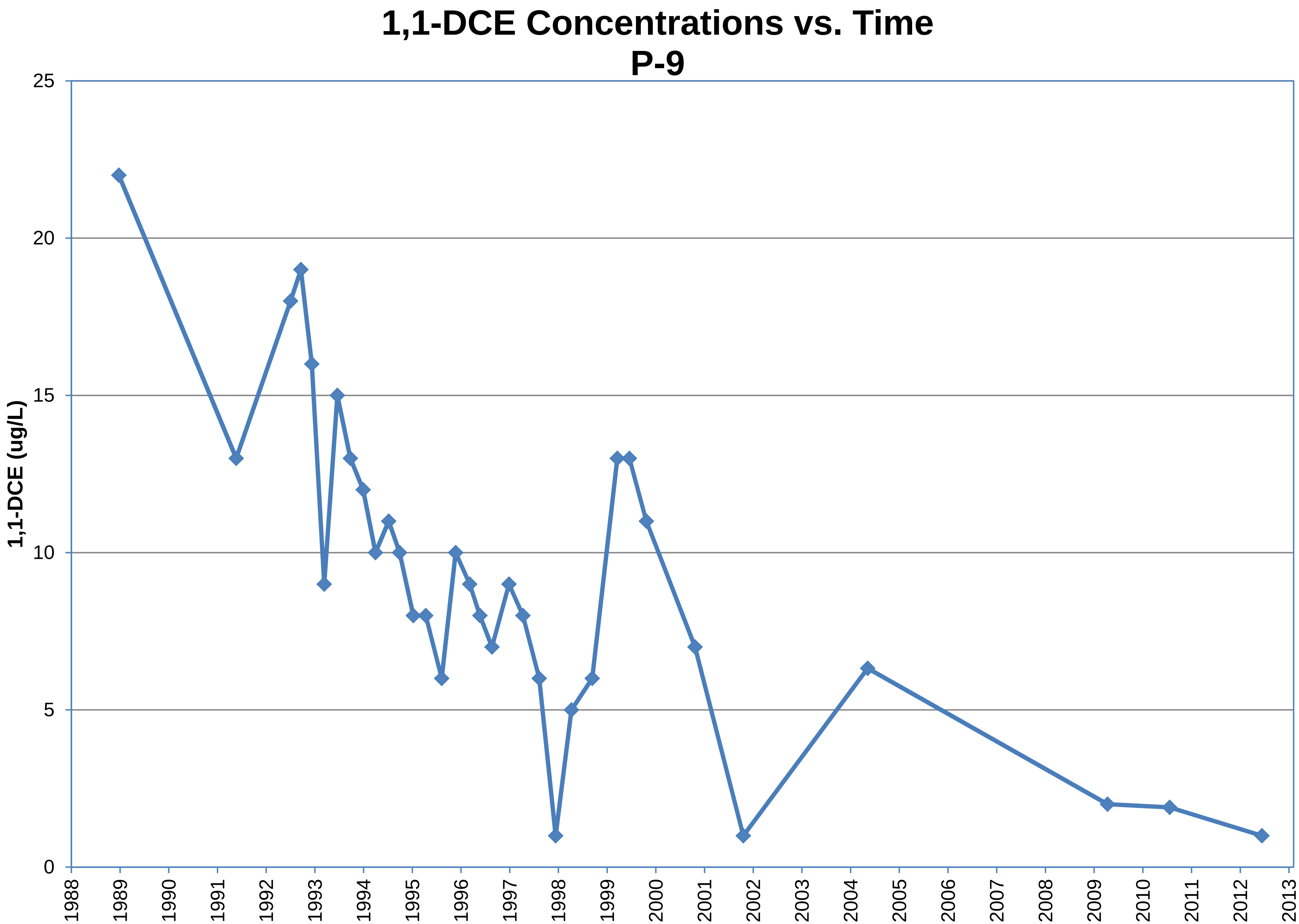
APPENDIX B

1,1-DCE TREND GRAPHS

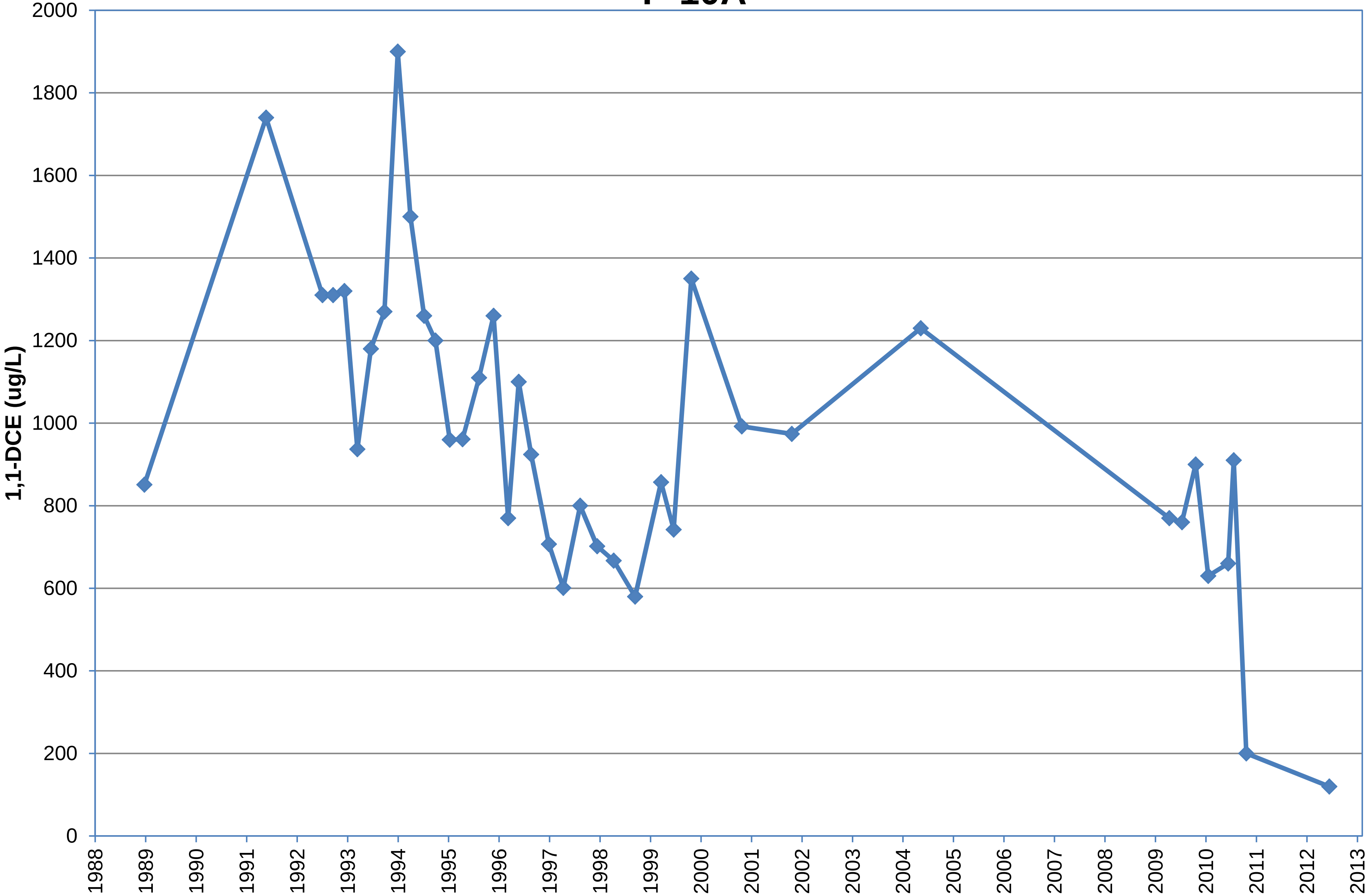

1,1-DCE Concentrations vs. Time
P-7
1,1-DCE (ug/L)
0
10
20
30
40
50
60
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013

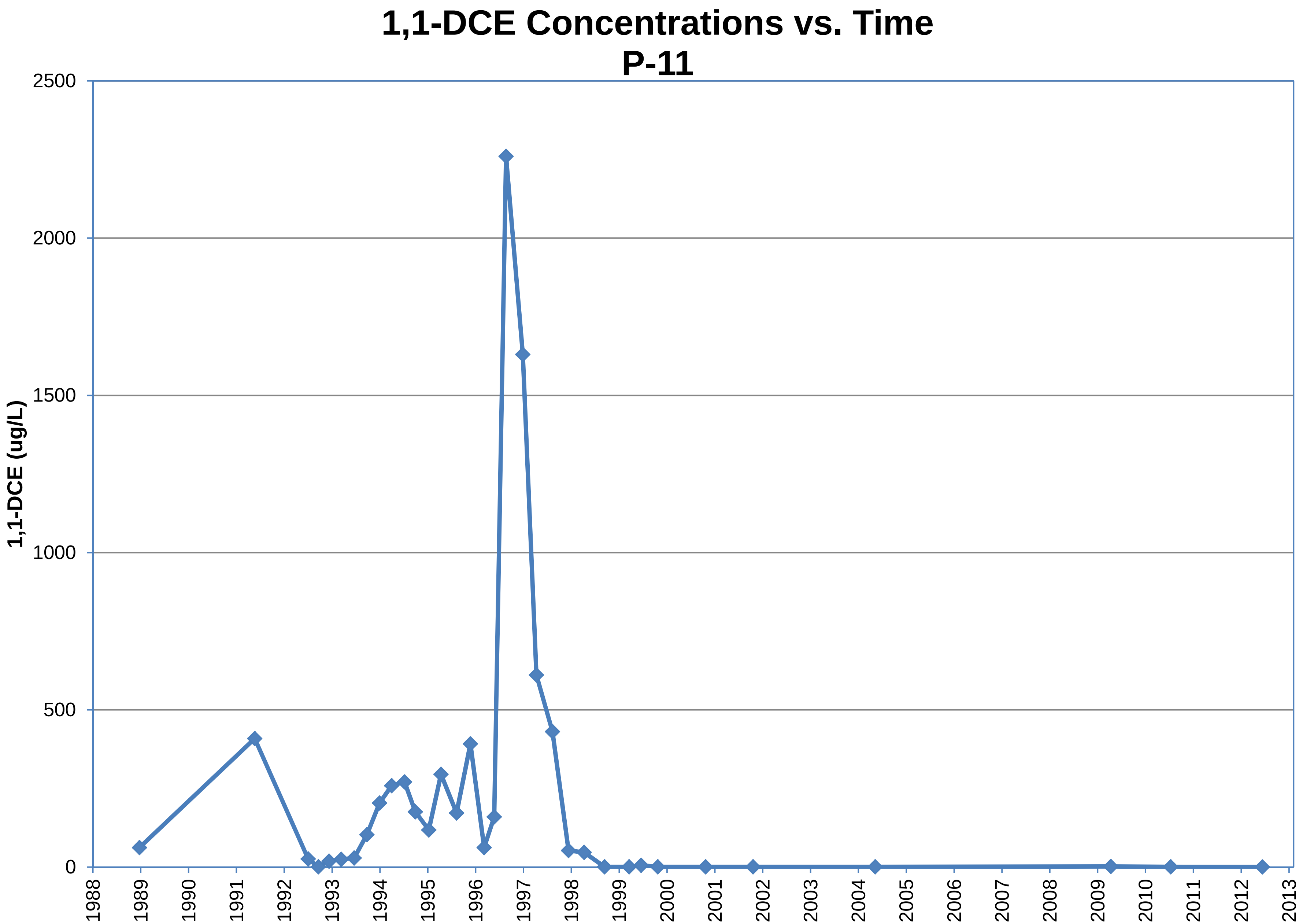

1,1-DCE Concentrations vs. Time
P-7A
1,1-DCE (ug/L)
0
10
20
30
40
50
60
70
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013


1,1-DCE Concentrations vs. Time
P-8D
1,1-DCE (ug/L)
0
50
100
150
200
250
300
350
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012

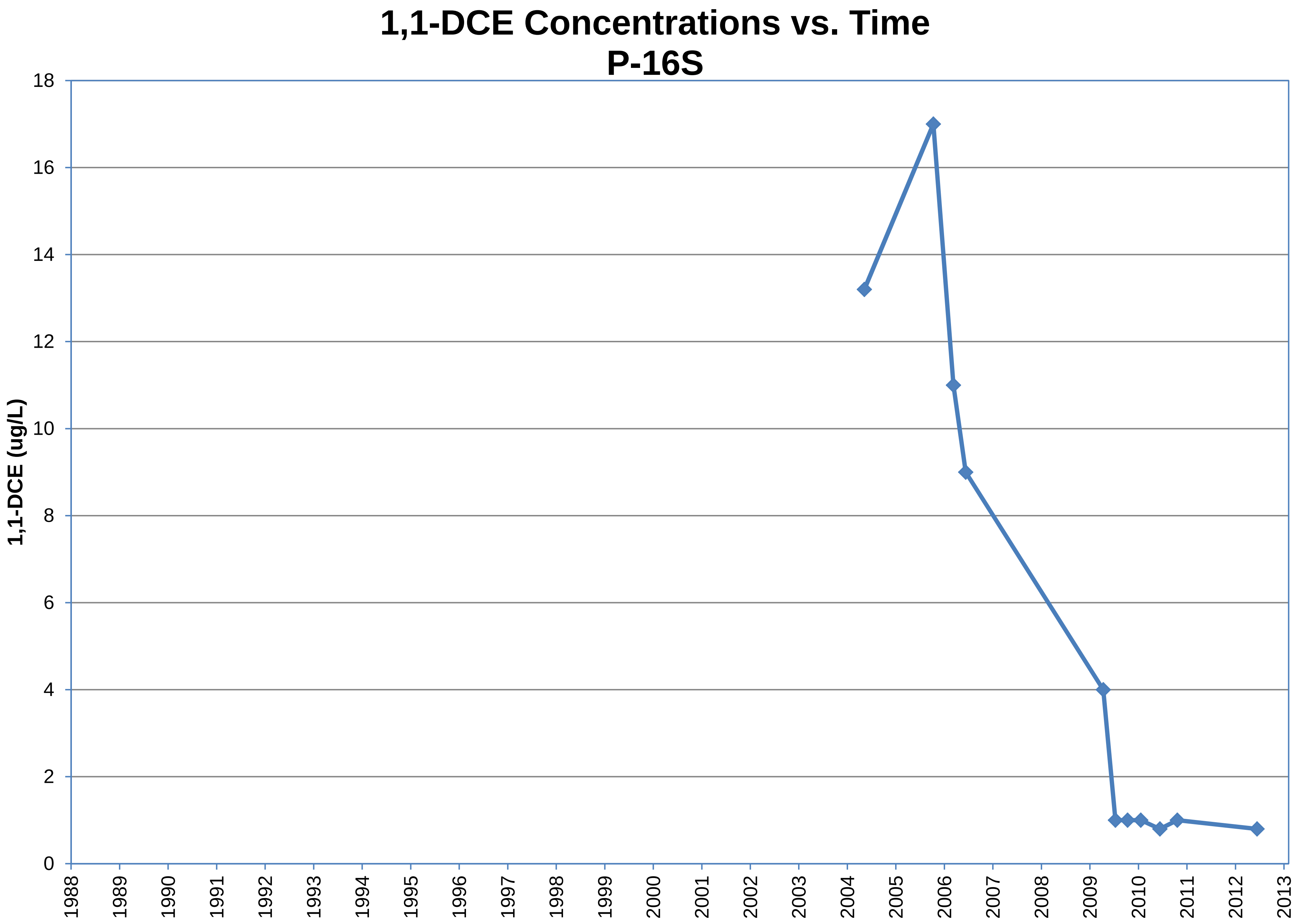

1,1-DCE Concentrations vs. Time
P-9
1,1-DCE (ug/L)
0
5
10
15
20
25
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013

1,1-DCE Concentrations vs. Time
P-10A

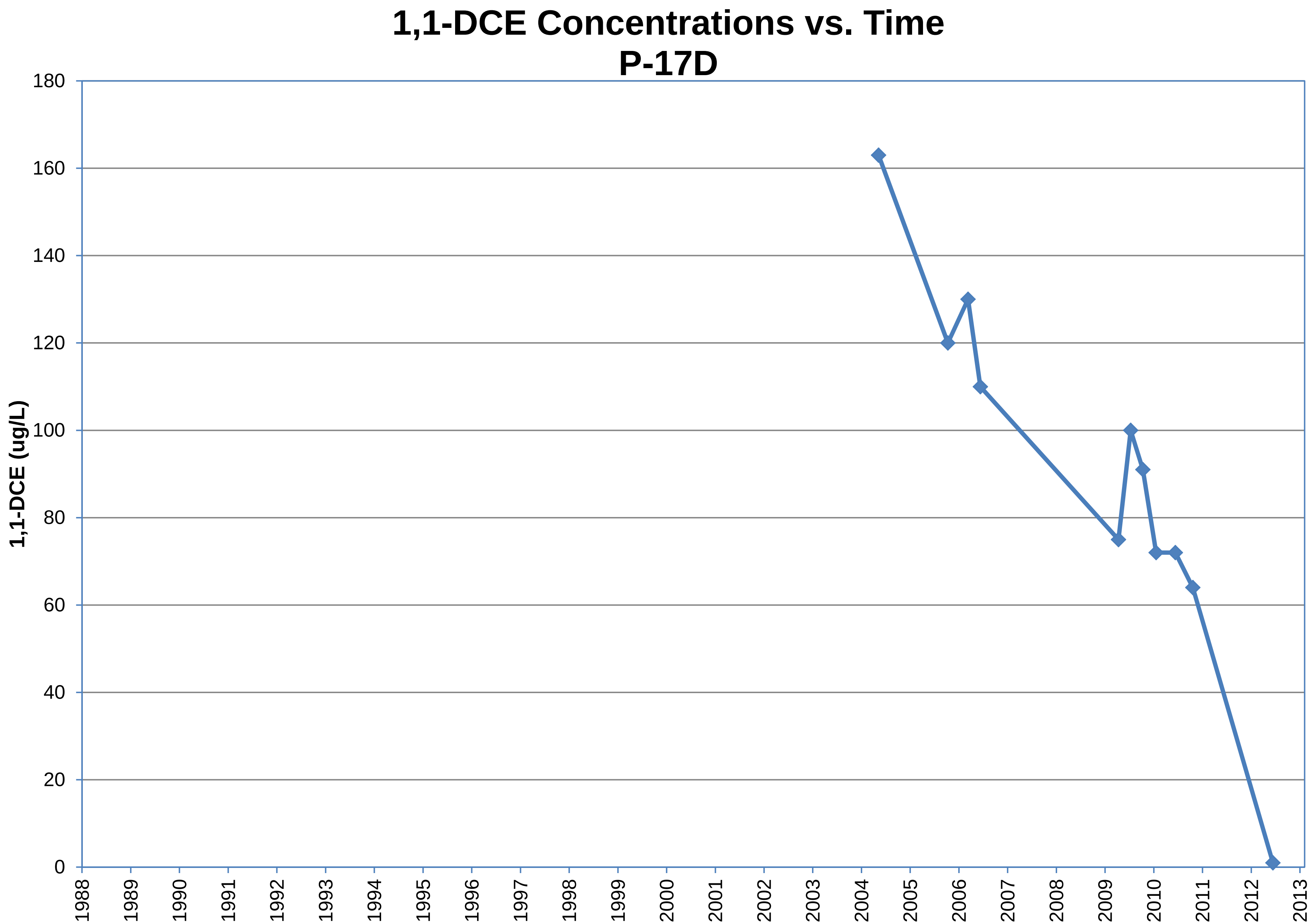


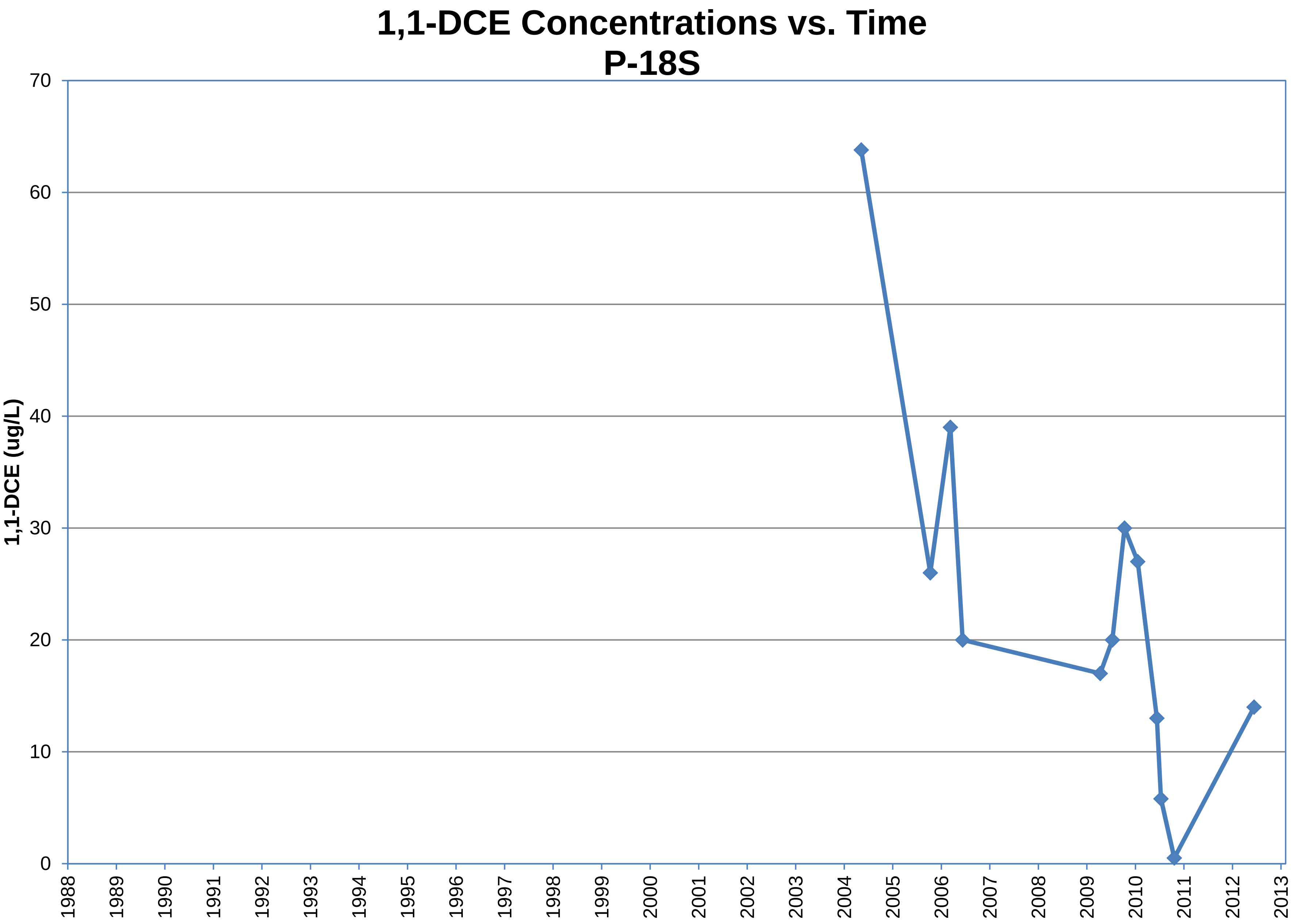


1,1-DCE Concentrations vs. Time
P-11
1,1-DCE (ug/L)
2500
2000
1500
1000
500
0
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013

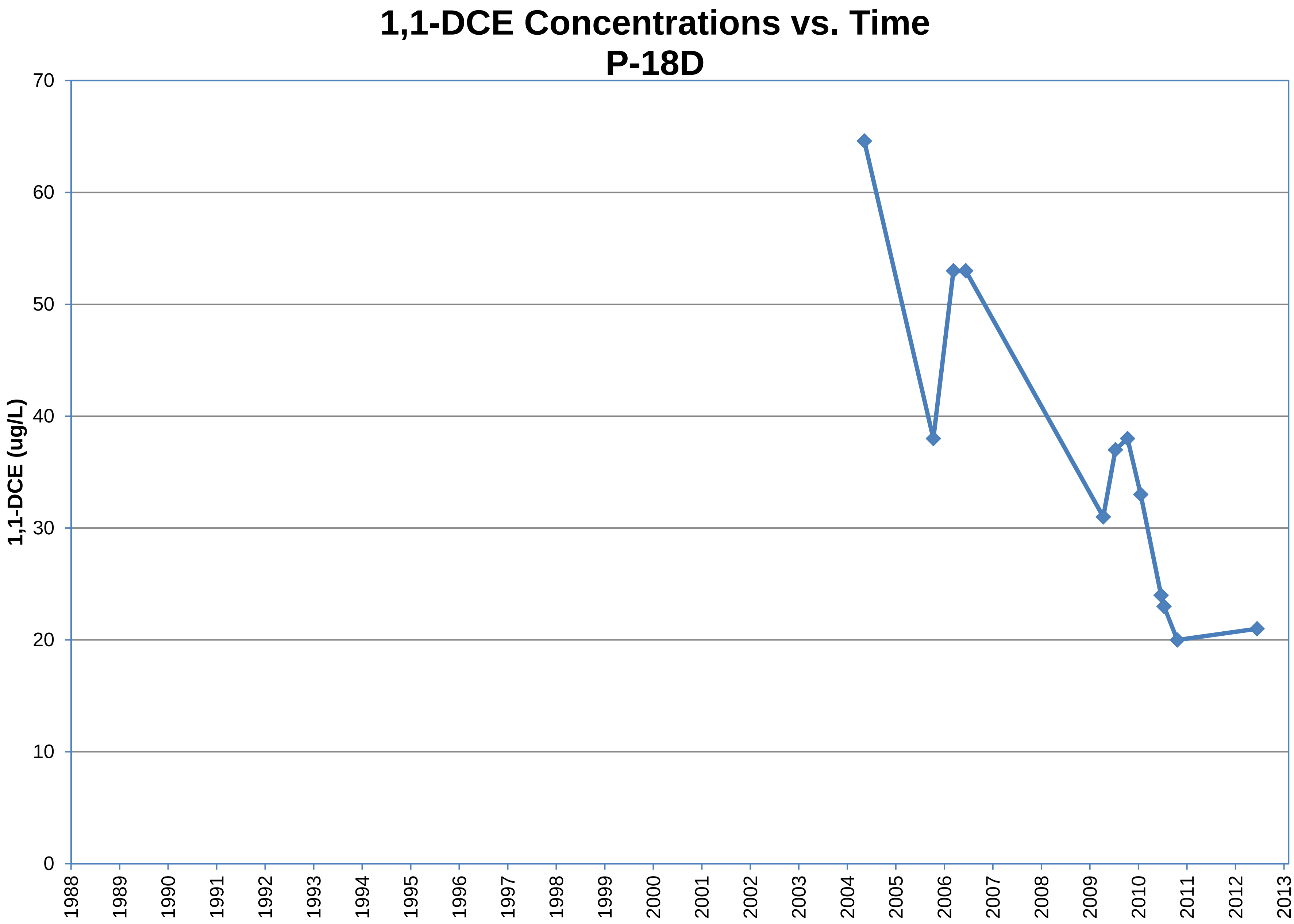


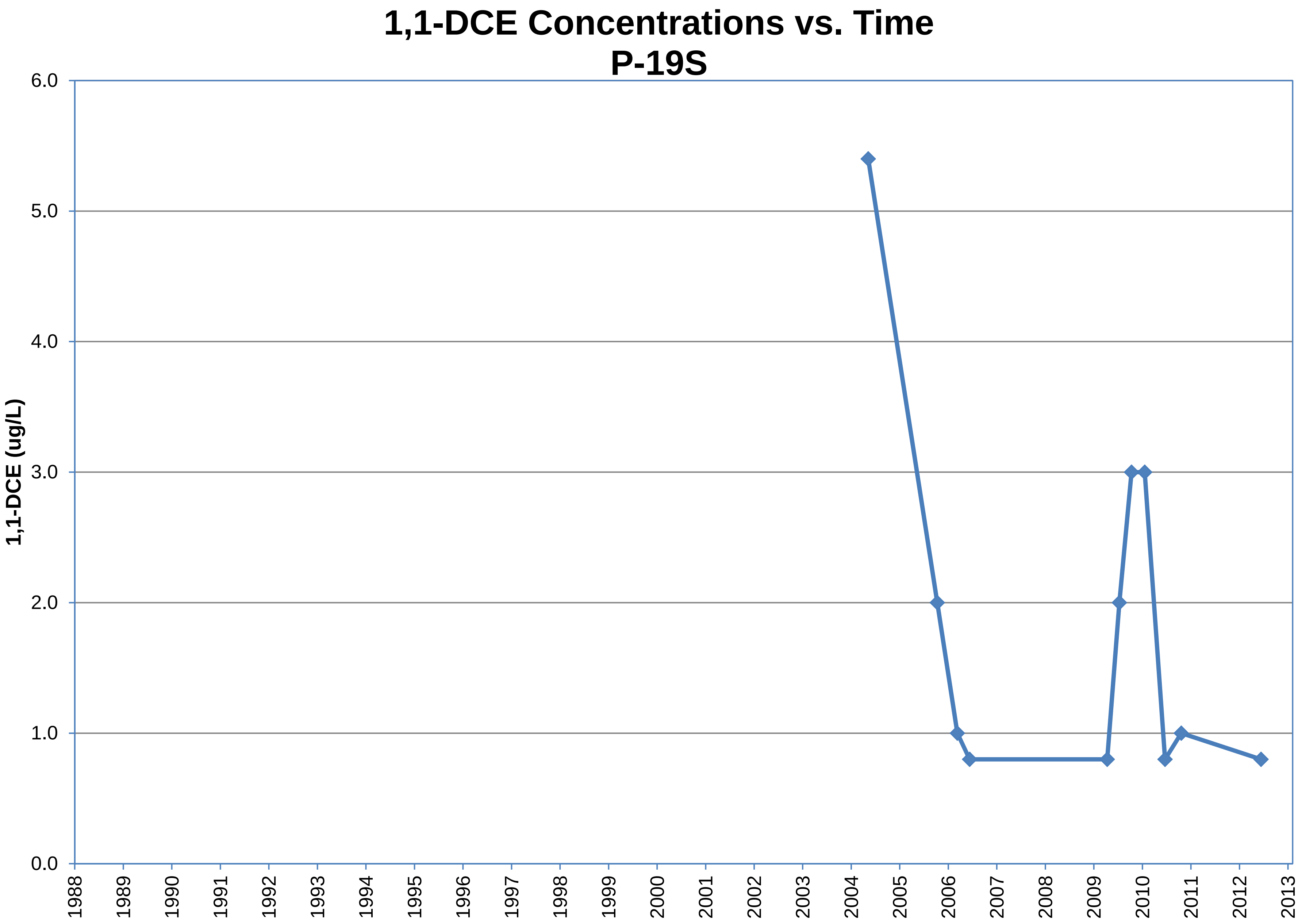
1,1-DCE Concentrations vs. Time
P-16S
1,1-DCE (ug/L)
0
2
4
6
8
10
12
14
16
18
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013

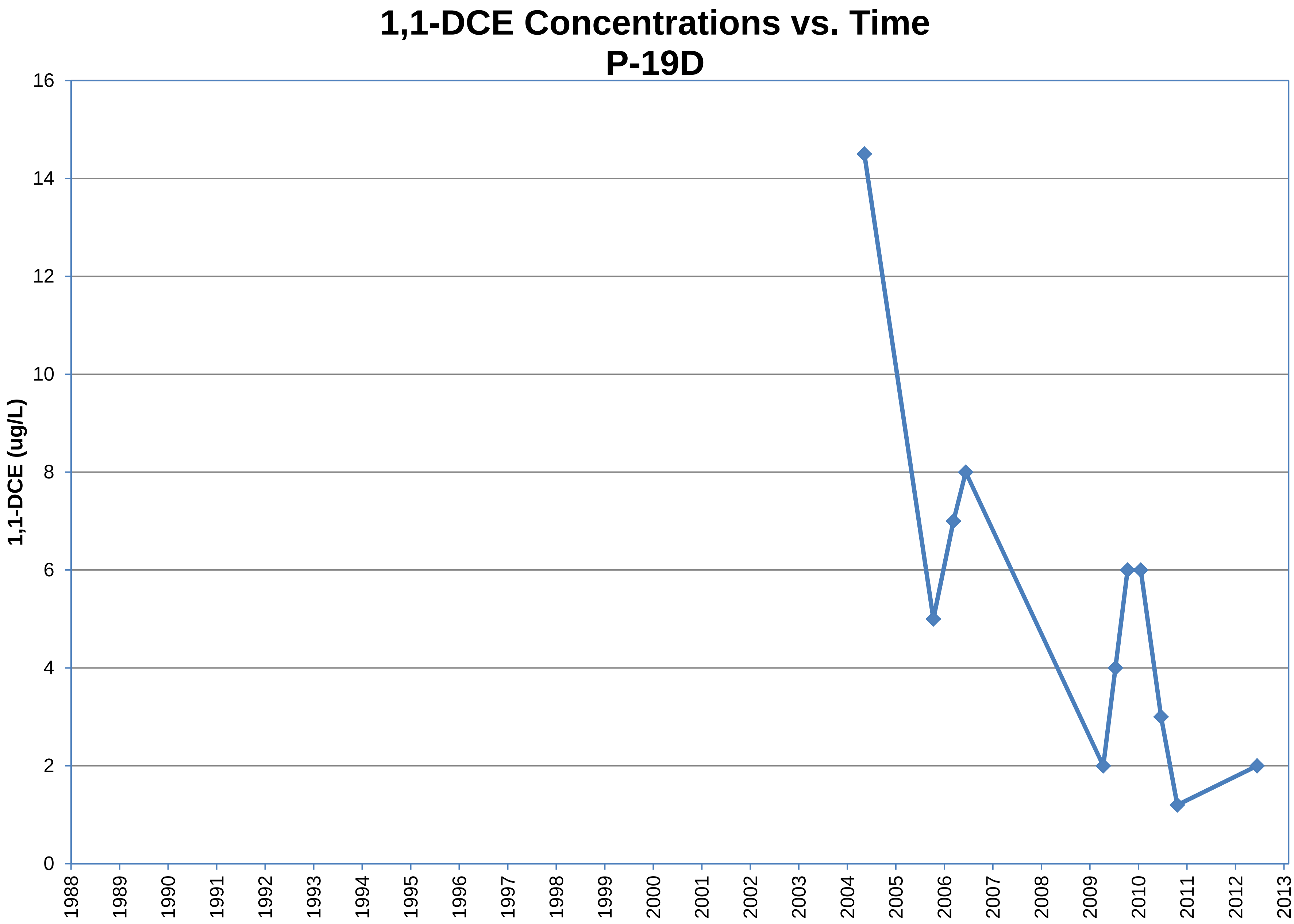

1,1-DCE Concentrations vs. Time
P-17D
1,1-DCE (ug/L)
0
20
40
60
80
100
120
140
160
180
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013



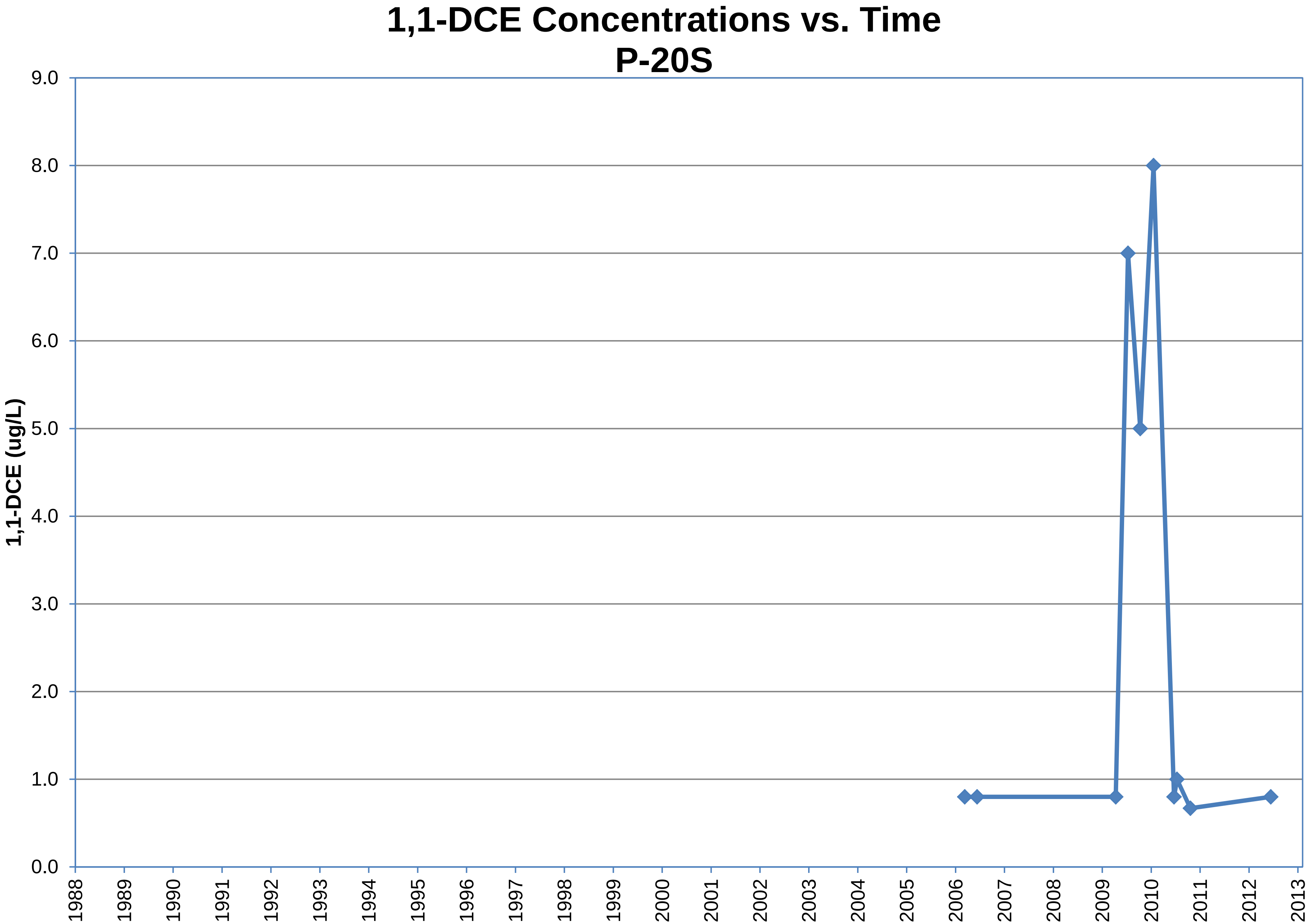
1,1-DCE Concentrations vs. Time
P-18S
1,1-DCE (ug/L)
0
10
20
30
40
50
60
70
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013

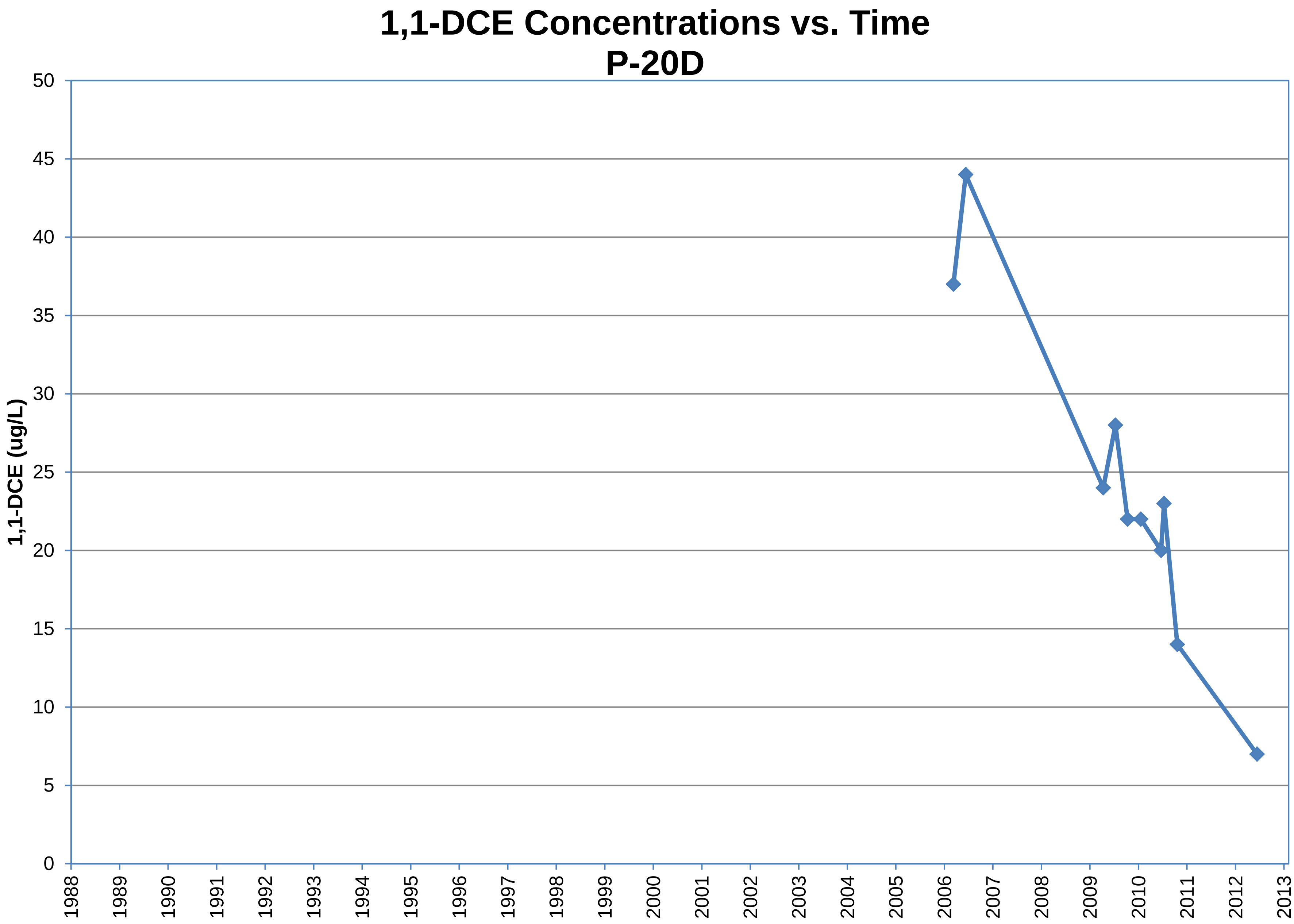

1,1-DCE Concentrations vs. Time
P-18D
1,1-DCE (ug/L)
0
10
20
30
40
50
60
70
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013

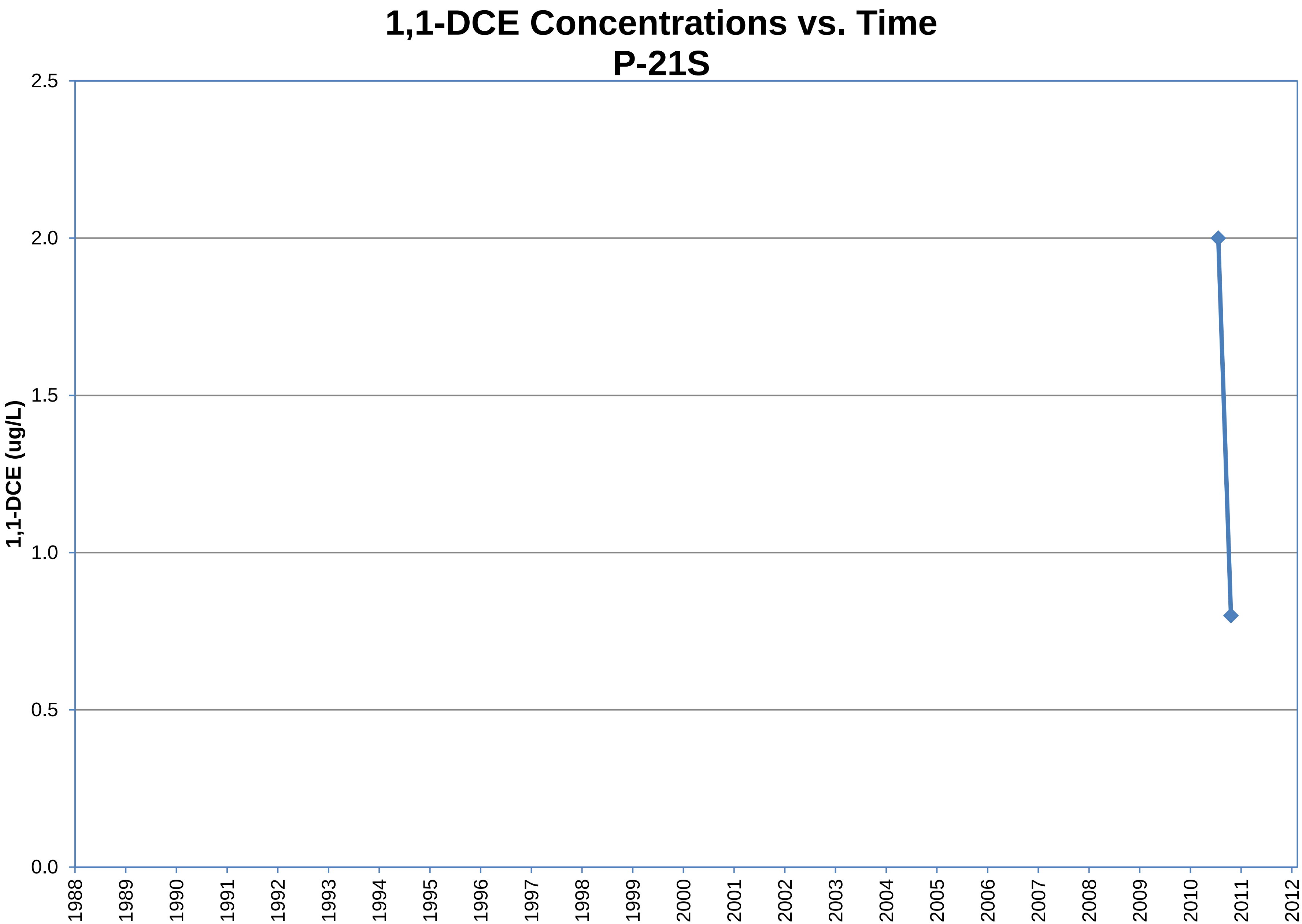

1,1-DCE Concentrations vs. Time
P-19S
1,1-DCE (ug/L)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013

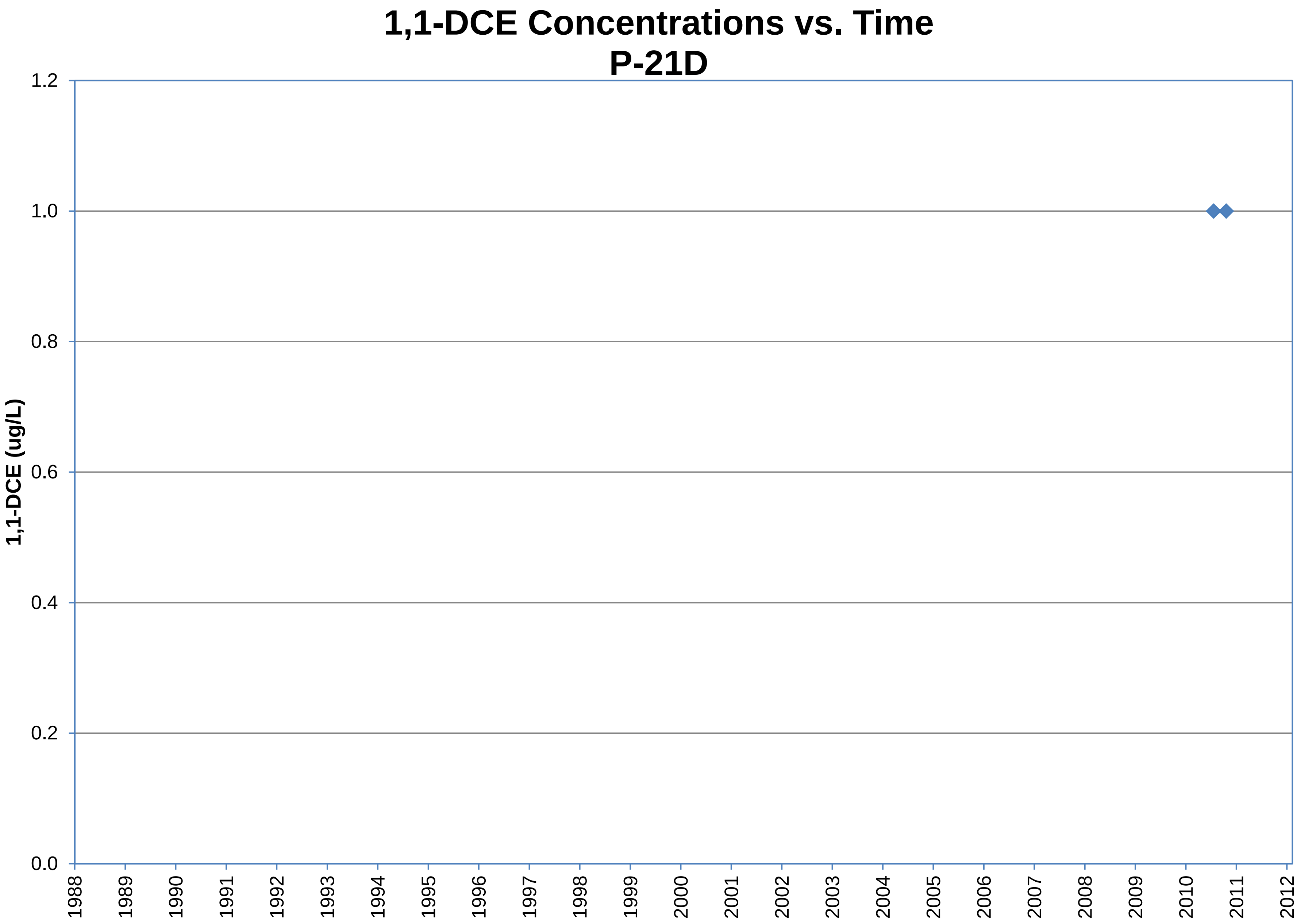


1,1-DCE Concentrations vs. Time
P-19D
1,1-DCE (ug/L)
0
2
4
6
8
10
12
14
16
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013

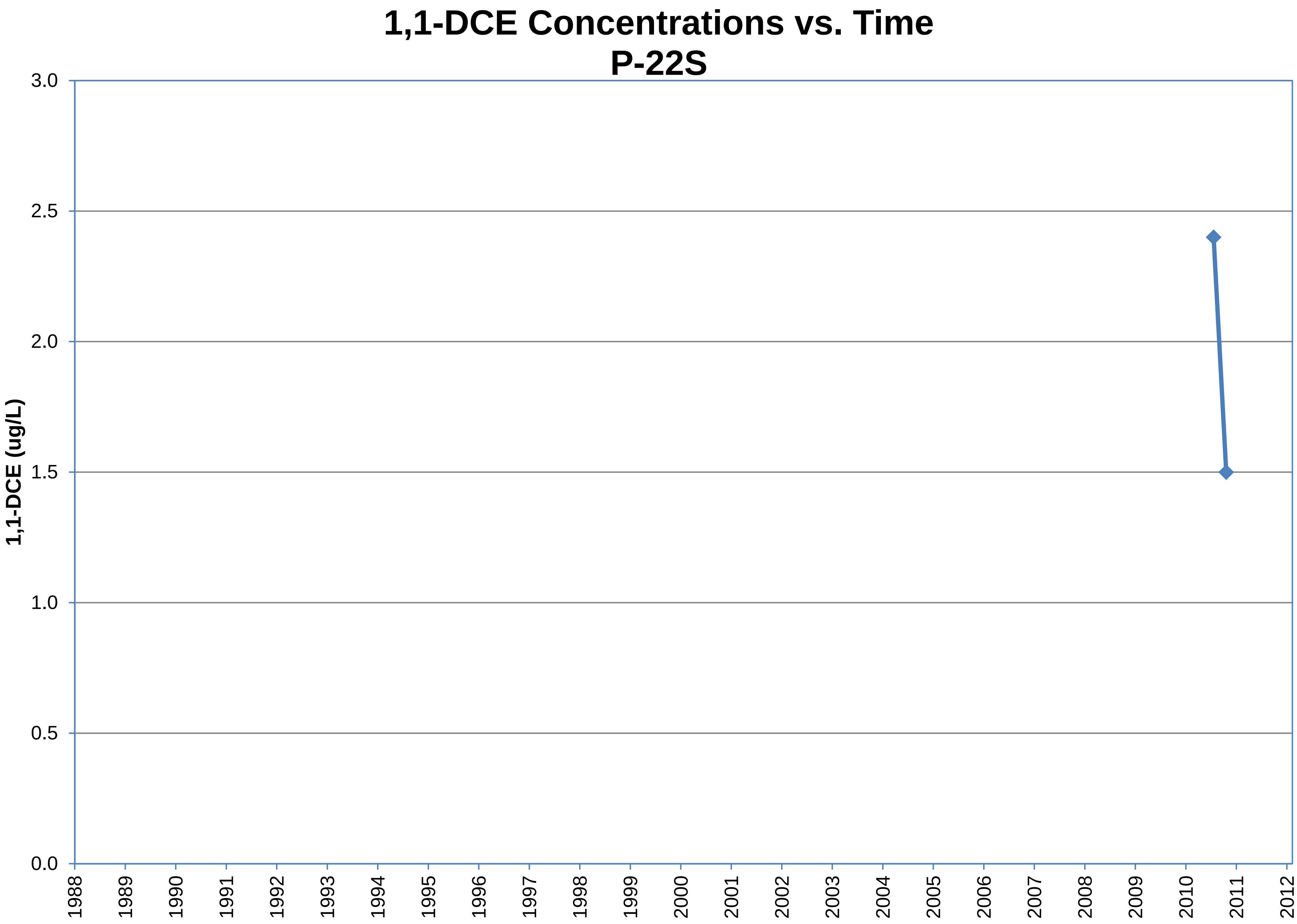

1,1-DCE Concentrations vs. Time
P-20S
1,1-DCE (ug/L)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013


1,1-DCE Concentrations vs. Time
P-20D
1,1-DCE (ug/L)
0
5
10
15
20
25
30
35
40
45
50
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013


1,1-DCE Concentrations vs. Time
P-21S
1,1-DCE (ug/L)
2.5
2.0
1.5
1.0
0.5
0.0
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012



1,1-DCE Concentrations vs. Time
P-21D
1,1-DCE (ug/L)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012



1,1-DCE Concentrations vs. Time
P-22S
1,1-DCE (ug/L)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012