DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)
Migration of Contaminated Groundwater Under Control

Facility Name: Caribe General Electric (GE) Distribution Transformers, Inc.

Facility Address: Intersection of Rd 200 and Rd 201, Vieques, Puerto Rico

Facility EPA ID #: PRD000692582

DEFINITIONS

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (1) (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

FACILITY INFORMATION

GE Vieques LLC Caribe General Electric Distribution Transformer Inc. (Caribe GE) is an approximately 4-acre facility involved in the manufacture of power fuses, auxiliary relays, and switch gear accessories. The facility is located near the north coast of Vieques at the intersection of Road 200 and Road 201 in the Barrio Martino section of the Isabel Segunda Ward. GE started manufacturing in 1969. The property is owned by the Puerto Rico Industrial Development Corporation and leased by Caribe GE. GE is currently performing a corrective study investigation to determine what corrective action to implement at the facility. The investigation and subsequent actions are performed under a voluntary program.

AVAILABLE, RELEVANT AND SIGNIFICANT INFORMATION

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

   ☒ If yes - check here and continue with #2 below.

   ☐ If no - re-evaluate existing data, or

   ☐ If data are not available, skip to #8 and enter "IN" (more information needed) status code.

GROUND WATER KNOWN OR REASONABLY SUSPECTED TO BE CONTAMINATED

2. Is groundwater known or reasonably suspected to be "contaminated"[1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

   ☒ If yes – continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

☐ If no – skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

☐ If unknown – skip to #8 and enter "IN" status code.

Rationale

During the investigation performed for the closure of several solid waste management units (SWMU), Caribe GE found chlorinated volatile organic compounds (cVOC) in the groundwater to the south of the leach field (2). These cVOC were trichloroethene (TCE), 1,1-dichloroethene (1-1 DCE) and cis 1,2-dichloroethene (cis 1-2 DCE). As part of the closure certification, EPA asked Caribe GE to install additional wells and continue with groundwater monitoring. During the fall of 2005, Caribe GE installed four (4) additional wells and collected groundwater samples. By the end of 2005, Caribe GE had installed ten (10) wells, identified C-1 to C-10 (2). In 2012, GE installed an additional well C-11 (3). Caribe GE conducts a semiannual groundwater monitoring (3).

Since 2005, cVOC have been consistently detected in wells C-4, C-6, C-7, C-8 and C-11. The concentrations of the cVOC detected in these wells have been above the maximum contaminant limit (MCL). Table 1 presents the concentrations of cVOC at the eleven wells since 2005.

MIGRATION STABILIZED

3. Has the migration of contaminated groundwater stabilized (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination)?

   ☒ If yes – continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"[2]).

   ☐ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination") – skip to #8 and enter "NO" status code, after providing an explanation.

   ☐ If unknown – skip to #8 and enter "IN" status code.

[2] "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

Rationale

The migration of contaminated groundwater is stabilized within the existing area of contamination. The groundwater contamination (cVOCs) were detected above MCL at wells C-4, C-6, C-7, C-8 and C-11. Those wells (C-4, C-6, C-7, C-8 and C-11) are located at the southeast end of the Facility. The samples collected in the remaining wells C-1, C-2, C-3, C-5, C-9 and C-10 did not indicate any exceedance of the MCLs. These remaining wells are located at the north and northwest end of the Facility. Bedrock under the GE Caribe site is composed of fractured igneous granodiorite. Common vertical and horizontal fracture sets have been identified in rock cores. Bedrock coring and drilling notes indicate that the degree of fracturing decreases with depth and that the top and bottom elevation of the uppermost water bearing zone is variable (4). Additionally, the migration rate of these compounds is relatively low due to the low hydraulic conductivity of the granodiorite bedrock layer in which the monitoring wells are screened (4). Groundwater flow is from the southeast to northwest of the Facility (3). The results and location of the wells show that the cVOCs have remained within their area of contamination and have not moved beyond the Facility. Figure 1 shows the location of the facility on an aerial photograph. Figure 2 shows a layout of the Facility including the location of the wells. Figure 3 shows the groundwater flow direction. Chart 1 shows the concentrations of trichloroethene over time.

DISCHARGE INTO SURFACE WATER BODIES

4. Does "contaminated" groundwater discharge into surface water bodies?

   ☐ If yes – continue after identifying potentially affected surface water bodies.

   ☒ If no – skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

   ☐ If unknown – skip to #8 and enter "IN" status code.

Rationale

There are no surface water bodies present at the facility. The closest water body is the Atlantic Ocean to the north, approximately 762 meters to the north. The facility wells located northern of the facility (C-1, C-2, C-3, C-9 and C-10) did not have any cVOCs detections or cVOCs detections above MCLs since at least 2005. The facility wells with cVOCs detections above MCLs (C-4, C-6, C-7, C-8 and C-11) are located southeast of the facility. Therefore, no contaminated groundwater discharges into surface water bodies are identified in this case.

DISCHARGE LIKELY INSIGNIFICANT

5. Is the discharge of "contaminated" groundwater into surface water likely to be "insignificant" (i.e., the maximum concentration[3] of each contaminant discharging into surface water is less than

[3] As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

☐ If yes – skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgment/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

☐ If no – (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

☐ If unknown – enter "IN" status code in #8.

Rationale

Not applicable.

DISCHARGE CURRENTLY ACCEPTABLE

6. Can the discharge of "contaminated" groundwater into surface water be shown to be "currently acceptable" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

☐ If yes – continue after either:

1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems),

[4] Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater;

OR

2) providing or referencing an interim-assessment[5], appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

☐ If no – (the discharge of "contaminated" groundwater can not be shown to be "currently acceptable") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

☐ If unknown – skip to 8 and enter "IN" status code.

Rationale

Not applicable.

FUTURE MONITORING

7. Will groundwater monitoring / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

☒ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

[5] The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

☐ If no - enter "NO" status code in #8.

☐ If unknown - enter "IN" status code in #8.

Rationale

Groundwater monitoring and measurement data are anticipated to be collected in the future to verify that contaminated groundwater has remained within the area defined by the Site boundary as indicated in Figure 3. The anticipated schedule and sampling plan for future activities will be documented in the forthcoming Corrective Measures Study Summary.

DETERMINATION

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

☒ YE – Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the facility, EPA ID # PRD000692582, located at intersection of Rd 200 and Rd 201, Vieques, Puerto Rico. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

☐ NO – Unacceptable migration of contaminated groundwater is observed or expected.

☐ IN – More information is needed to make a determination.

Completed by (signature) _____ Date 2015-08-18

(print) Jesse Avilés

(title) Physical Scientist

Supervisor (signature) _____ Date 8/18/15

(print) Ramón Torres

(title) Chief

EPA region or state 2

Contact telephone and e-mail numbers

Name: Jesse Avilés

Telephone: 787-977-5882

Email: aviles.jesse@epa.gov

REFERENCES

1. **U. S. Environmental Protection Agency.** Environmental Indicators. [Online] September 4, 2012. http://www.epa.gov/osw/hazard/correctiveaction/eis/index.htm.

2. **U .S. Environmental Protection Agency.** Determination of Environmental Indicator Determination: Current Human Exposures Under Control (CA725). Guaynabo, PR : s.n., September 23, 2014.

3. **MWH Americas, Inc.** Groundwater Monitoring Report October 2014. Vieques, PR : s.n., December 31, 2014.

4. **Tetra Tech GEO, Inc.** Focused Corrective Measures Study Work Plan. Sterling, VA : s.n., August 17, 2012.

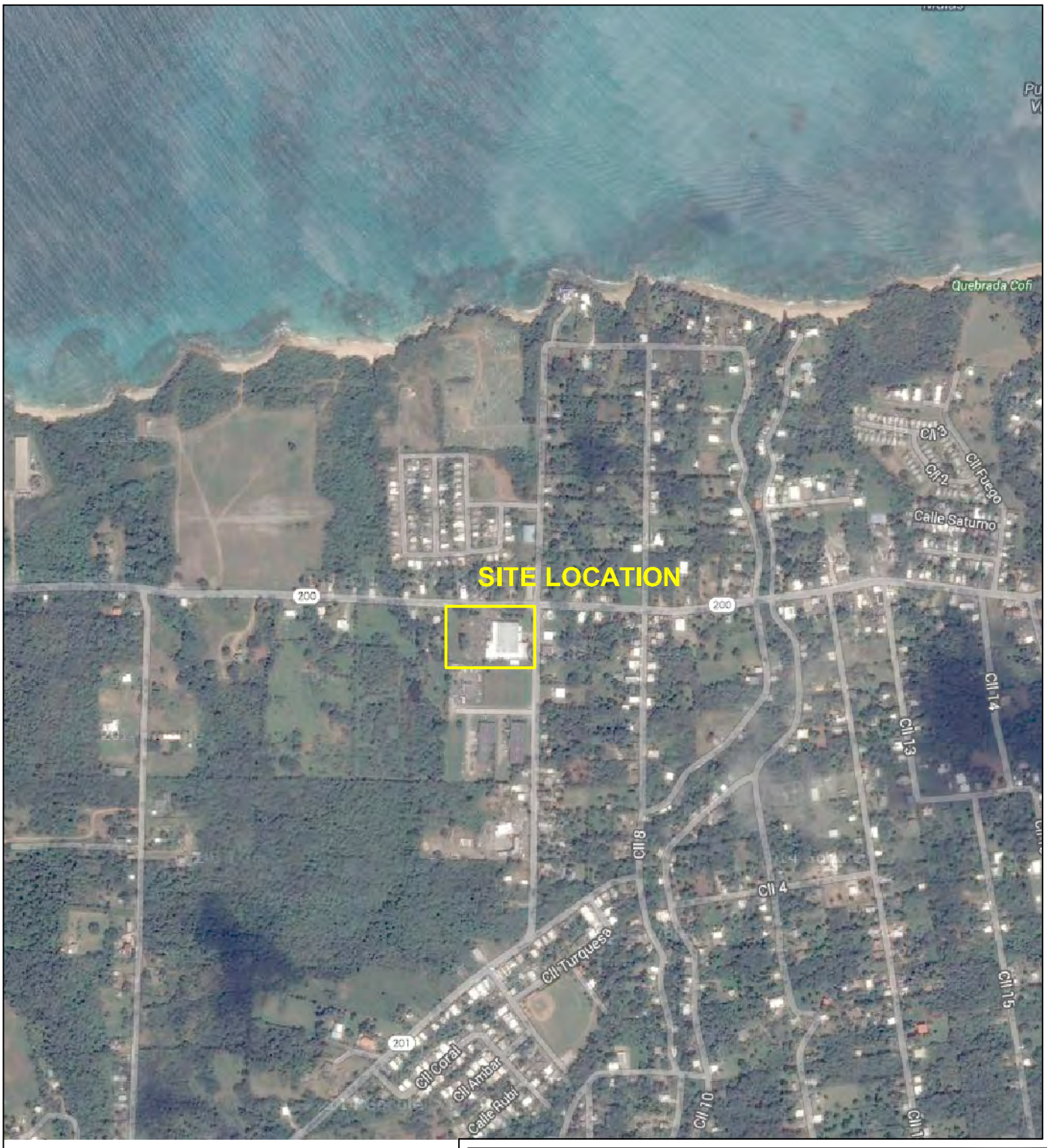
Table 1 - Summary of Chlorinated Volatile Organic Compounds Concentrations Since 2005

	2005-Oct	2006-Jun	2006-Sep	2006-Dec	2007-Mar	2007-Jun	2007-Sep	2007-Dec	2008-Jul	2008-Dec	2009-Jul	2009-Dec	2010-Jul	2010-Dec	2011-Aug	2011-Dec	2012-Dec	2013-Jul	2013-Dec	2014-Oct
C-1																				
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	0.31 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	0.93 J	ND	ND	ND	0.39 J	ND	ND	ND	ND	ND	ND	ND	ND	0.28 J	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)																				ND
cis-1,2-Dichloroethene	ND	0.31 J	0.24 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	0.31 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.60 J	ND	ND	ND	ND	ND
Ethene						ND	ND	ND	ND	ND	ND	ND	ND	ND	29.00	ND	ND	ND	ND	ND
C-2																				
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	0.77 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	3.50	2.00	3.00	0.43 J	**5.00**	3.20	4.00	3.70	2.20	2.80	2.40	2.60	0.84 J	1.50	2.90	1.90	2.10	2.00	1.50	0.80 J
1,1-Dichloroethene	ND	0.61 J	0.87 J	0.63 J	3.00	0.83 J	2.20	1.30	0.77 J	0.70 J	0.64 J	0.85 J	ND	0.33 J	0.68 J	0.52 J	0.76 J	0.95 J	0.72 J	0.36 J
1,2-Dichloroethene (total)																				0.47 J
cis-1,2-Dichloroethene	ND	0.79 J	0.70 J	0.66 J	3.60	0.83 J	16.00	1.50	0.88 J	0.53 J	0.51 J	0.75 J	ND	0.32 J	0.55 J	0.48 J	0.55 J	0.90 J	0.64 J	0.47 J
1,1-Dichloroethane	ND	0.70 J	0.97 J	0.83 J	1.60	1.10	1.30	0.74	0.54 J	0.56 J	0.63 J	0.59 J	ND	0.28 J	0.57 J	0.42 J	0.44 J	0.49 J	0.39 J	0.27 J
Vinyl Chloride		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethene						ND	ND	ND	ND	ND	0.43 J	ND	ND	ND	0.60 J	ND	ND	ND	ND	ND
C-3																				
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	0.43 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	0.27 J	0.23 J	0.43 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)																				ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	0.30 J	0.44 J	ND	ND	ND	0.27 J	ND	0.30 J	0.21 J	ND	ND	0.25 J	ND	0.25 J	ND	ND	ND	ND
Vinyl Chloride		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethene						ND	ND	ND	1.10	ND	ND	ND	ND	ND	0.29 J	ND	ND	0.72 J	ND	ND
C-4																				
Tetrachloroethene	2.40	1.70	4.40	4.40	1.10	0.93 J	1.00	1.20	1.20	1.10	0.73 J	1.70	4.10	0.22 J	0.51 J	0.33 J	1.20	0.59 J	1.80	**6.40**
Trichloroethene	**140.00**	**97.00**	**140.00**	**100.00**	**69.00**	**64.00**	**85.00**	**79.00**	**69.00**	**70.00**	**45.00**	**81.00**	**110.00**	**15.00**	**32.00**	**14.00**	**63.00**	**35.00**	**44.00**	**160.00**
1,1-Dichloroethene	**18.00**	**13.00**	**28.00**	**13.00**	**9.40**	**9.60**	**8.60**	**10.00**	**10.00**	**8.90**	6.70	**15.00**	**17.00**	0.64 J	2.40	0.97 J	**8.40**	5.00	5.00	**15.00**
1,2-Dichloroethene (total)																				23.00
cis-1,2-Dichloroethene	40.00	12.00	43.00	20.00	9.40	14.00	16.00	16.00	8.30	12.00	7.50	9.30	19.00	1.40	2.60	1.10	5.50	3.10	6.30	23.00
1,1-Dichloroethane	**87.00**	**25.00**	**81.00**	**40.00**	**13.00**	**18.00**	**20.00**	**22.00**	**15.00**	**20.00**	**18.00**	**21.00**	**61.00**	2.40	**5.60**	2.50	**13.00**	**5.30**	**24.00**	**74.00**
Vinyl Chloride		ND	ND	ND	ND	0.43 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethene						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.34 J	ND	ND
C-5																				
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	0.26 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	0.58 J	ND	ND	ND	ND	ND	2.00	ND	1.30	0.43 J	1.40	0.75 J	0.48 J	0.38 J	0.53 J	1.20	0.80 J	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)																				ND
cis-1,2-Dichloroethene	ND	ND	ND	0.38 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.36 J	0.66 J	0.24 J
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22 J	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethene						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.39 J	ND
C-6																				
Tetrachloroethene	ND	1.80	1.30	0.88 J	1.90	1.70	0.67 J	1.40	1.20	2.40	0.34 J	0.87 J	ND	0.87 J	0.64 J	1.20	0.24 J	ND	ND	0.54 J
Trichloroethene	**5.30**	**26.00**	**23.00**	**17.00**	**32.00**	**29.00**	**18.00**	**20.00**	**20.00**	**69.00**	**27.00**	**26.00**	**5.50**	**16.00**	**12.00**	**18.00**	**5.20**	4.80	4.00	**14.00**
1,1-Dichloroethene	1.00	6.00	6.20	4.20	6.90	**9.10**	5.10	5.30	4.80	**12.00**	**7.20**	4.90	1.10	2.90	2.60	3.30	1.50	1.10	0.98 J	2.00
1,2-Dichloroethene (total)																				1.20
cis-1,2-Dichloroethene	ND	3.60	3.60	2.70	7.80	6.80	3.40	4.30	3.80	7.90	6.50	3.00	0.48 J	2.40	1.70	2.90	0.59 J	0.29 J	1.10	1.20
1,1-Dichloroethane	ND	**13.00**	**11.00**	**11.00**	**25.00**	**20.00**	**11.00**	**13.00**	**16.00**	**23.00**	**25.00**	**10.00**	1.30 J	**8.00**	**5.30**	**11.00**	1.40	0.62	1.20	**2.70**
Vinyl Chloride		ND	ND	ND	ND	0.45 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethene						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
C-7																				
Tetrachloroethene	ND	ND	ND	ND	ND	0.74 J	1.00	1.70	1.90	0.91 J	1.10 J	1.00	1.30	1.60	1.60	ND	ND	ND	ND	ND
Trichloroethene	**620.00**	ND	**9.00**	**60.00**	**190.00**	**160.00**	**320.00**	**440.00**	**560.00**	**490.00**	**410.00**	**520.00**	**630.00**	**720.00**	**620.00**	**610.00**	**180.00**	**270.00**	1.70	2.40 J
1,1-Dichloroethene	**54.00**	**34.00**	**27.00**	**34.00**	**62.00**	**48.00**	**54.00**	**73.00**	**84.00**	**84.00**	**62.00**	**74.00**	**66.00**	**81.00**	**71.00**	**59.00**	**31.00**	**51.00**	**43.00**	**9.60**
1,2-Dichloroethene (total)																				**300.00**
cis-1,2-Dichloroethene	29.00	**570.00**	**440.00**	**560.00**	**470.00**	**260.00**	**370.00**	**360.00**	**340.00**	**380.00**	**260.00**	**270.00**	**230.00**	**200.00**	**140.00**	**120.00**	**200.00**	**300.00**	**520.00**	**280.00**
1,1-Dichloroethane	**20.00**	ND	**4.00** J	**7.80**	**13.00**	**12.00**	**16.00**	**20.00**	**23.00**	**21.00**	**25.00**	**25.00**	**24.00**	**28.00**	**28.00**	**25.00**	**14.00**	**26.00**	**21.00**	**15.00**
Vinyl Chloride		**3.50** J	**4.90** J	**2.60**	ND	**2.50**	**2.00** J	1.80 J	**2.00**	1.80 J	1.40 J	1.70 J	1.40 J	1.10 J	0.76 J	0.57 J	**3.80**	1.60 J	**3.00**	**4.90** J
Ethene						ND	ND	ND	ND	12.00	13.00	12.00	ND	13.00	14.00	11.00	12.00	14.00	17.00	ND
C-8																				
Tetrachloroethene	1.70	0.33 J	0.97 J	1.10	1.10	0.50 J	0.45 J	0.92 J	0.92 J	1.00	0.51 J	1.10	2.70	0.36 J	0.30 J	ND	0.29 J	0.76 J	1.10	0.34 J
Trichloroethene	**83.00**	**6.70**	**45.00**	**68.00**	**12.00**	**27.00**	**23.00**	**45.00**	**7.80**	**62.00**	**25.00**	**46.00**	**77.00**	**39.00**	**27.00**	**15.00**	**14.00**	**29.00**	**37.00**	**13.00**

	2005-Oct	2006-Jun	2006-Sep	2006-Dec	2007-Mar	2007-Jun	2007-Sep	2007-Dec	2008-Jul	2008-Dec	2009-Jul	2009-Dec	2010-Jul	2010-Dec	2011-Aug	2011-Dec	2012-Dec	2013-Jul	2013-Dec	2014-Oct
1,1-Dichloroethene	**12.00**	1.20	6.70	**9.90**	1.60	4.10	3.40	6.60	1.20	**9.00**	4.80	**9.00**	**12.00**	2.70	1.60	0.80 J	1.90	5.20	4.50	1.70
1,2-Dichloroethene (total)																				2.40
cis-1,2-Dichloroethene	15.00	1.40	9.80	16.00	3.00	6.00	3.90	8.80	1.70	10.00	4.30	6.30	11.00	5.60	4.10	2.20	1.50	3.00	3.90	2.40
1,1-Dichloroethane	**34.00**	1.80	**14.00**	**30.00**	**2.90**	**7.10**	**5.30**	**13.00**	1.60	**16.00**	**9.90**	**16.00**	**32.00**	**8.10**	**4.00**	1.30	**3.60**	**7.50**	**11.00**	**4.80**
Vinyl Chloride		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethene						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
C-9																				
Tetrachloroethene	ND	0.58 J	ND	ND	ND	ND	ND	0.69 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.20	0.40 J	ND	0.48 J	0.48 J	ND	ND	2.00	ND	1.00	1.00	1.20	0.59 J	2.20	0.49 J	0.50 J	ND	0.30 J	0.80 J	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)																				ND
cis-1,2-Dichloroethene	ND	0.57 J	ND	ND	ND	ND	ND	1.30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride		ND	ND	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethene						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.30 J	ND	0.32 J	ND	ND
C-10																				
Tetrachloroethene	ND	0.52 J	ND	ND	ND	ND	ND	1.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.30	0.36 J	0.88 J	0.57 J	ND	0.43 J	0.78 J	2.80	1.10	0.69 J	0.38 J	0.58 J	0.36 J	0.48 J	0.33 J	0.55 J	0.29 J	0.77 J	ND	ND
1,1-Dichloroethene	ND	ND	0.45 J	ND	ND	ND	ND	0.83 J	ND	0.27 J	ND	ND	ND	ND	0.24 J	ND	ND	ND	0.27 J	ND
1,2-Dichloroethene (total)																				ND
cis-1,2-Dichloroethene	ND	0.50 J	1.00	ND	ND	0.79 J	0.77 J	2.40	0.71 J	0.47 J	0.39 J	0.33 J	0.48 J	ND	0.48 J	ND	ND	0.60 J	0.98 J	0.24 J
1,1-Dichloroethane	ND	ND	0.49 J	ND	ND	ND	0.38 J	0.18 J	ND	0.23 J	0.14 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride		0.35 J	1.30 J	0.72 J	ND	ND	ND	0.78 J	1.00 J	1.20 J	1.60 J	1.30 J	1.30 J	0.90 J	1.40 J	0.76 J	0.95 J	0.71 J	0.69 J	ND
Ethene						12.00	18.00 J	7.70 J	34.00	45.00	29.00	17.00	14.00	46.00	13.00	7.80	9.30	7.60	5.30	3.70
C-11																				
Tetrachloroethene																	0.27 J	0.38 J	0.27 J	ND
Trichloroethene																	**310.00**	**110.00**	**63.00**	**53.00**
1,1-Dichloroethene																	**88.00**	**18.00**	**12.00**	**9.70**
1,2-Dichloroethene (total)																				ND
cis-1,2-Dichloroethene																	1.60	1.50	0.72 J	0.32 J
1,1-Dichloroethane																	1.20	ND	ND	ND
Vinyl Chloride																	ND	ND	ND	ND
Ethene																	2.60	0.33 J	0.39	ND

Concentrations are presented in µg/L Blank cells = the analyte was not sampled. ND = the analyte was not detected above the reporting limit J = estimated. The analyte was detected below the reporting limit.

	RSL	MCL
Tetrachloroethene		5
Trichloroethene		5
1,1-Dichloroethene		7
1,2-Dichloroethene (total)		170
cis-1,2-Dichloroethene		70
1,1-Dichloroethane	2.7	
Vinyl Chloride		2
Ethene		



north

0 FEET 800

SOURCE: https://maps.google.com

CARIBE GE PRODUCTS, INC.
VIEQUES, PUERTO RICO

SITE LOCATION MAP

FIGURE 1

MWH

Drawn By & Date: TLP 09/29/14 | Approved By & Date: | Revised By & Date: | 09/29/14 | Approved By & Date:

J:\01a_670 GE Corporate Environmental Programs\02_Vieques\5-CADD\Draft\Vieques Figure 1 - 2.dwg Sep/29/14

Drawn By & Date: TLP 09/29/14 | Approved By & Date: | Revised By & Date: | Approved By & Date:

PR 200

GATE

C-10

PARKING AREA

C-3

GRASSY AREA

C-2

GATE

GUARD HOUSE

CHAINLINK FENCE

C-9

C-1

FORMER LEACH FIELD

GRASSY AREA

PARKING AREA

CHAINLINK FENCE

MAIN PLANT BUILDING

GATE

PR 201

C-11

CONCRETE ALLEY

GATE

SHACK

C-4

C-7 C-8

CHAINLINK FENCE

CHEM-STORAGE BUILDING

GRASSY AREA

C-6

C-5

north

0 60 120

APPROXIMATE SCALE IN FEET

LEGEND

C-6 MONITORING WELL LOCATION AND DESIGNATION

APPROXIMATE SITE BOUNDARY

CARIBE GE PRODUCTS, INC.
VIEQUES, PUERTO RICO

SITE FEATURES

FIGURE 2

MWH

J:\01s_670 GE Corporate Environmental Programs\02_Vieques\5-CADD\Draft\Vieques Groundwater Report Figures 2-4.dwg Dec/04/14

Drawn By & Date: TLP 11/13/14 | Approved By & Date: | Revised By & Date: | Approved By & Date:

PR 200

GATE

C-10
41.04

PARKING AREA

C-3
42.05

41.96
C-2

GRASSY AREA

GATE

GUARD HOUSE

38.49 C-9

C-1
46.05

CHAINLINK FENCE

GRASSY AREA

FORMER LEACH FIELD

39

40

41

42

43

44

C-11
44.35

45

46

PARKING AREA

MAIN PLANT BUILDING

GATE

PR 201

CONCRETE ALLEY

GATE

SHACK

C-4
47.05

C-7
47.59

C-8
47.11

CHAINLINK FENCE

CHEM-STORAGE BUILDING

GRASSY AREA

C-6
47.00

47

C-5
47.16

north

0 60 120

APPROXIMATE SCALE IN FEET

LEGEND

C-6 MONITORING WELL LOCATION AND DESIGNATION

46 GROUNDWATER ELEVATION CONTOUR (FT AMSL) (1 FT CONTOUR INTERVAL)

GROUNDWATER FLOW DIRECTION

CARIBE GE PRODUCTS, INC.
VIEQUES, PUERTO RICO

GROUNDWATER ELEVATIONS
OCTOBER 2014

FIGURE 3

MWH

J:\01a_670 GE Corporate Environmental Programs\02_Vieques\5-CADD\Draft\Vieques Groundwater Report Figures 2-4.dwg Nov/13/14

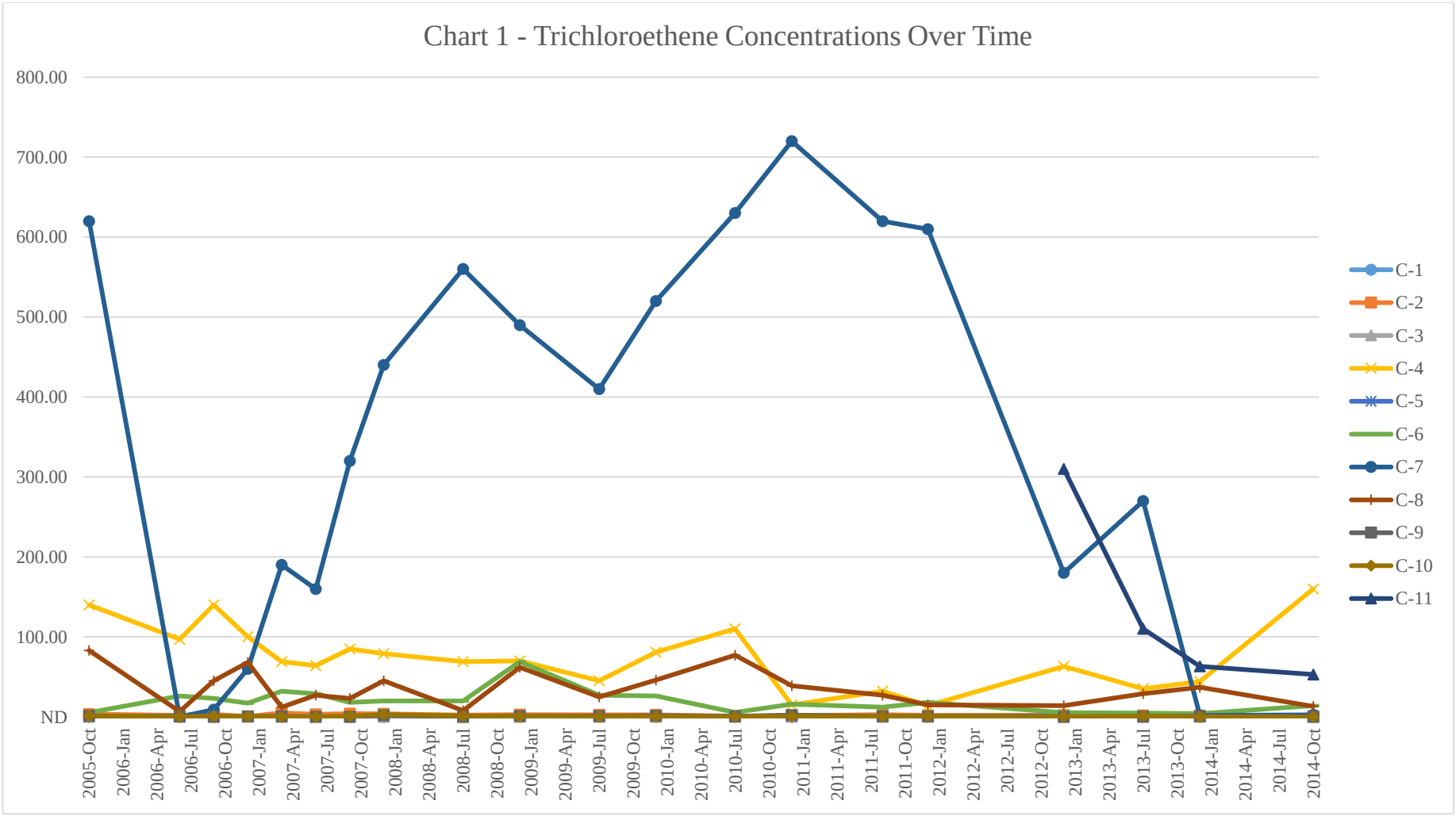


Chart 1 - Trichloroethene Concentrations Over Time
800.00
700.00
600.00
500.00
400.00
300.00
200.00
100.00
ND
2005-Oct
2006-Jan
2006-Apr
2006-Jul
2006-Oct
2007-Jan
2007-Apr
2007-Jul
2007-Oct
2008-Jan
2008-Apr
2008-Jul
2008-Oct
2009-Jan
2009-Apr
2009-Jul
2009-Oct
2010-Jan
2010-Apr
2010-Jul
2010-Oct
2011-Jan
2011-Apr
2011-Jul
2011-Oct
2012-Jan
2012-Apr
2012-Jul
2012-Oct
2013-Jan
2013-Apr
2013-Jul
2013-Oct
2014-Jan
2014-Apr
2014-Jul
2014-Oct
C-1
C-2
C-3
C-4
C-5
C-6
C-7
C-8
C-9
C-10
C-11