Global Operations, Environment, Health & Safety

159 Plastics Avenue
Pittsfield, MA 01201

Transmitted Electronically

October 6, 2016

Mr. John Ziegler
Bureau of Waste Site Cleanup
Department of Environmental Protection
436 Dwight Street
Springfield, MA 01103

Mr. Dean Tagliaferro
U.S. Environmental Protection Agency
EPA New England
10 Lyman Street, Suite 2
Pittsfield, MA 01201

Re: GE-Pittsfield/Housatonic River Site
Unkamet Brook Area – West
Pre-Excavation Notification – Retaining Wall Repairs

Dear Mr. Ziegler and Mr. Tagliaferro:

In accordance with the General Electric Company's (GE's) *Protocols for the Management of Excavation Activities* (November 1996), this letter provides pre-excavation notice and a proposed soil management plan for an upcoming project involving an excavation at GE's Pittsfield, Massachusetts facility (Site). The excavation will be conducted by General Dynamics within the Unkamet Brook Area-West Removal Action Area (RAA), and will involve the repair of a leaning retaining wall located east of the main parking lot adjacent to Building OP-2. This retaining wall was installed in early 2011 during the construction of the new West Reception/Security building located in the General Dynamics parking lot. The repair will involve excavating soil from behind the wall, removing the concrete block retaining system, installing a proper footing, and replacing the concrete blocks. In anticipation of the work, GE has reviewed the available soil data to determine potential disposition options for the excavated materials. This letter summarizes the anticipated excavation, summarizes GE's review of the available data set, and proposed approach for handling and disposition of excavated soils.

A. DESCRIPTION OF EXCAVATIONS RELATED TO FACILITY REPAIRS

The location of the excavation to be conducted is shown on Figure 1. The dimensions of the excavations will be approximately 84 feet long by 6 feet wide by 8 feet deep, resulting in the disturbance of approximately 150 cubic yards of soil.

B. REVIEW OF AVAILABLE SOIL DATA SET

The available soil data from prior sample locations in the vicinity of the planned excavations includes polychlorinated biphenyls (PCBs) and other constituents listed in Appendix IX of 40 CFR Part 264, plus three additional constituents (benzidine, 2-chloroethyl vinyl ether, and 1,2-diphenylhydrazine) (Appendix IX+3). The PCB and Appendix IX+3 analytical data used in the soil data review provided below are summarized in Tables 1 and 2, respectively. Figure 1 presents the proposed location of the excavation and the corresponding soil sample locations.

Soils were sampled at various depths up to 15 feet from six locations (RAA10-W-J10, RAA10-W-J11, RAA-10-W-K8, RAA10-W-K11, RAA10-W-L11, and RAA10-W-J12) and analyzed for PCBs; and sampled at various depths up to 15 feet from four locations (RAA-10-W-J10, RAA10-W-K8, RAA10-W-K11, and RAA10-W-L11) and analyzed for Appendix IX+3 constituents.

Review of the available soil data for this excavation identify PCB concentrations ranging from non-detect to 0.060 parts per million (ppm), which are all below any applicable PCB Performance Standard established in the Statement of Work for Removal Actions Outside the River.

In addition, the discrete Appendix IX+3 sample results are less than their corresponding Method 1 S-1 Soil Standards (GW-2/GW-3) established in the Massachusetts Contingency Plan.

C. PROPOSED HANDLING AND DISPOSITION OF EXCAVATED SOIL

Based on the above data review, soils removed from the ground during the above-referenced retaining wall repairs are considered suitable for re-use as backfill in the same general locations and depths from which they were removed.

Any materials (e.g., asphalt, concrete, surplus soils, and personal protective equipment), excavated, collected, placed, used and/or stored within the Unkamet Brook Area-West RAA or at GE's Building 78 hazardous waste storage facility, in connection with the above-referenced excavation, will be properly disposed of, or shipped or removed from the Site for proper disposal, within 90 days from the date of such initial storage or within such longer time as is permitted under any applicable state or federal law or regulation. All excavated, collected, used and/or stored materials will be placed on and covered by polyethylene sheeting while temporarily stored on-site prior to re-use or disposal. In addition, for the soils (if any) that are removed and cannot be re-used as described above, GE will conduct waste characterization, management, and off-site disposal activities consistent with the methods that it has used for the response actions conducted under the Consent Decree.

Should there be any questions or comments, or if additional information is needed, please contact me at 413-448-5909.

Sincerely,

Richard W. Gates /JMN

Richard W. Gates
Senior Project Manager – Environmental Remediation

Enclosure

cc: David Dickerson, EPA (electronic)
Eva Tor, MADEP (electronic)
Chris Ferry, ASRC Primus (electronic)
Matt Calacone, GE (electronic)
James Nuss, Arcadis (electronic)
GE Environmental Library (electronic)

TABLE 1
SOIL SAMPLING RESULTS FOR PCBs

PRE-EXCAVATION NOTIFICATION FOR UNKAMET BROOK AREA - WEST
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in dry weight parts per million, ppm)

Sample ID	Depth (feet)	Date Collected	Aroclor-1016, -1221, -1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Total PCBs
RAA10-W-J10	0-1	3/8/2004	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)
	1-6	3/8/2004	ND(0.038)	ND(0.038)	ND(0.038)	ND(0.038)	ND(0.038)	ND(0.038)
	6-15	3/8/2004	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.037)
RAA10-W-J11	0-1	8/19/2003	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)
	1-6	8/19/2003	ND(0.033)	ND(0.033)	ND(0.033)	ND(0.033)	ND(0.033)	ND(0.033)
	6-15	8/19/2003	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)
RAA10-W-K8	0-1	3/9/2004	ND(0.035) [ND(0.035)]	ND(0.035) [ND(0.035)]	ND(0.035) [ND(0.035)]	ND(0.035) [ND(0.035)]	ND(0.035) [ND(0.035)]	ND(0.035) [ND(0.035)]
	1-6	3/9/2004	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)
	6-15	3/9/2004	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)
RAA10-W-K11	0-1	8/19/2003	ND(0.066)	ND(0.066)	ND(0.066)	ND(0.066)	0.060 JP	0.060 J
	1-6	8/19/2003	ND(0.035) [ND(0.037)]	ND(0.035) [ND(0.037)]	ND(0.035) [ND(0.037)]	ND(0.035) [ND(0.037)]	ND(0.035) [ND(0.037)]	ND(0.035) [ND(0.037)]
	6-11	8/19/2003	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)
RAA10-W-L11	0-1	3/8/2004	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.037)
	1-6	3/8/2004	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.037)	ND(0.037)
	6-15	3/8/2004	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)
RAA10-W-L12	0-1	8/18/2003	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)	ND(0.034)
	1-6	8/18/2003	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)

Notes:

1. Samples were collected by ARCADIS and submitted to CompuChem Environmental Corporation and SGSEnvironmental Services, Inc. for analysis of PCBs.
2. Samples have been validated as per GE's EPA-approved FSP/QAPP, General Electric Company, Pittsfield, Massachusetts.
3. ND - Analyte was not detected. The number in parentheses is the associated detection limit.
4. Field duplicate sample results are presented in brackets.

Data Qualifiers:

J - Indicates that the associated numerical value is an estimated concentration.
P - Greater than 25% difference between primary and confirmation collumn.

TABLE 2
SOIL SAMPLING RESULTS FOR APPENDIX IX+3 DATA

PRE-EXCAVATION NOTIFICATION FOR UNKAMET BROOK AREA - WEST
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in dry weight parts per million, ppm)

Parameter / Sample ID: / Depth (feet): / Date Collected:	MCP Method 1 S-1 Soil Standard (GW-2/GW-3)	RAA10-W-J10 6-15 03/08/04	RAA10-W-K8 0-1 03/09/04	RAA10-W-K8 6-15 03/09/04
Volatile Organics				
None Detected	--	--	--	--
Semivolatile Organics				
Benzyl Alcohol	--	ND(0.74)	ND(0.71) [ND(0.71)]	ND(0.73)
Hexachlorophene	--	ND(0.74)	ND(0.71) [ND(0.71)]	ND(0.73)
Furans				
2,3,7,8-TCDF	--	ND(0.00000023)	ND(0.00000086) [ND(0.00000018)]	ND(0.00000020)
TCDFs (total)	--	ND(0.00000023)	ND(0.00000086) I [ND(0.00000018)]	0.0000027 I
1,2,3,7,8-PeCDF	--	ND(0.00000022)	ND(0.00000086) [ND(0.00000023)]	ND(0.00000022)
2,3,4,7,8-PeCDF	--	ND(0.00000026)	ND(0.00000089) [ND(0.00000024)]	ND(0.00000025)
PeCDFs (total)	--	0.0000045 I	ND(0.00000089) I [ND(0.00000024)]	ND(0.00000025)
1,2,3,4,7,8-HxCDF	--	ND(0.00000014)	ND(0.00000080) [ND(0.00000010)]	ND(0.00000014)
1,2,3,6,7,8-HxCDF	--	ND(0.00000013)	ND(0.00000086) [ND(0.000000097)]	ND(0.00000015)
1,2,3,7,8,9-HxCDF	--	ND(0.00000014)	ND(0.00000070) [ND(0.00000011)]	ND(0.00000013)
2,3,4,6,7,8-HxCDF	--	ND(0.00000015)	ND(0.00000066) [ND(0.000000092)]	ND(0.00000013)
HxCDFs (total)	--	0.0000027	ND(0.00000086) [ND(0.00000011)]	ND(0.00000015)
1,2,3,4,6,7,8-HpCDF	--	ND(0.00000013)	ND(0.00000064) [ND(0.00000011)]	ND(0.000000090)
1,2,3,4,7,8,9-HpCDF	--	ND(0.00000015)	ND(0.00000082) [ND(0.00000017)]	ND(0.00000011)
HpCDFs (total)	--	ND(0.00000015)	ND(0.00000082) [ND(0.00000017)]	ND(0.00000011)
OCDF	--	ND(0.00000056)	ND(0.0000034) [ND(0.00000042)]	ND(0.00000024)
Dioxins				
2,3,7,8-TCDD	0.00002	ND(0.00000020)	ND(0.00000083) [ND(0.00000017)]	ND(0.00000022)
TCDDs (total)	--	ND(0.00000020)	ND(0.00000083) [ND(0.00000017)]	ND(0.00000022)
1,2,3,7,8-PeCDD	--	ND(0.00000058)	ND(0.0000018) [ND(0.00000032)]	ND(0.00000048)
PeCDDs (total)	--	ND(0.00000058)	ND(0.0000018) [ND(0.00000032)]	ND(0.00000048)
1,2,3,4,7,8-HxCDD	--	ND(0.00000020)	ND(0.0000010) [ND(0.00000012)]	ND(0.00000018)
1,2,3,6,7,8-HxCDD	--	ND(0.00000020)	ND(0.0000011) [ND(0.00000012)]	ND(0.00000018)
1,2,3,7,8,9-HxCDD	--	ND(0.00000018)	ND(0.0000010) [ND(0.00000014)]	ND(0.00000016)
HxCDDs (total)	--	ND(0.00000020)	ND(0.0000011) [ND(0.00000014)]	ND(0.00000018)
1,2,3,4,6,7,8-HpCDD	--	ND(0.00000029)	ND(0.0000014) [ND(0.00000014)]	ND(0.00000016)
HpCDDs (total)	--	ND(0.00000029)	ND(0.0000014) [ND(0.00000014)]	ND(0.00000016)
OCDD	--	ND(0.00000047)	ND(0.0000026) [0.0000038]	0.0000021
Total TEQs (WHO TEFs)	--	0.00000053	0.0000019 [0.00000036]	0.00000048
Inorganics				
Arsenic	20	1.90	3.20 [3.90]	3.80
Barium	1,000	13.0 B	26.0 [ND(19)]	23.0
Beryllium	90	0.150 B	0.160 B [0.180 B]	0.180 B
Cadmium	70	0.140 B	0.240 B [0.250 B]	0.200 B
Chromium	100	3.70	4.30 [5.20]	5.40
Cobalt	--	3.70 B	9.60 [5.80]	5.70
Copper	--	7.70	12.0 [12.0]	11.0
Lead	30	3.00	9.50 [6.20]	5.10
Nickel	600	7.10	9.70 [11.0]	11.0
Selenium	400	0.550 J	0.780 J [0.970 J]	0.770 J
Silver	100	ND(1.00)	ND(0.5) [ND(1.00)]	ND(1.00)
Thallium	8	ND(1.10)	ND(1.00) J [ND(1.00) J]	ND(1.10) J
Tin	--	ND(10)	ND(10) J [ND(10) J]	ND(10) J
Vanadium	400	3.70 B	6.10 [8.90]	5.20
Zinc	1,000	22.0	31.0 [31.0]	30.0
Cyanide	30	ND(0.220)	ND(0.100) [0.0190 B]	ND(0.540)
Sulfide	--	ND(5.60)	6.80 [6.80]	ND(5.40)

TABLE 2
SOIL SAMPLING RESULTS FOR APPENDIX IX+3 DATA

PRE-EXCAVATION NOTIFICATION FOR UNKAMET BROOK AREA - WEST
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in dry weight parts per million, ppm)

Parameter / Sample ID: / Depth (feet): / Date Collected:	MCP Method 1 S-1 Soil Standard (GW-2/GW-3)	RAA10-W-K11 1-6 08/19/03	RAA10-W-K11 6-11 08/19/03	RAA10-W-L11 0-1 03/08/04
Volatile Organics				
None Detected	--	--	--	--
Semivolatile Organics				
Benzyl Alcohol	--	ND(0.75) [ND(0.79)]	ND(0.73)	0.83
Hexachlorophene	--	R [R]	R	ND(0.74)
Furans				
2,3,7,8-TCDF	--	0.00000013 J [0.00000015 J]	0.000000081 J	ND(0.00000022)
TCDFs (total)	--	0.00000098 [0.00000078]	0.000000081	ND(0.00000022)
1,2,3,7,8-PeCDF	--	ND(0.000000082) X [ND(0.00000029)]	ND(0.000000049) X	ND(0.00000030)
2,3,4,7,8-PeCDF	--	0.00000015 J [0.00000021 J]	ND(0.000000055) X	ND(0.00000032)
PeCDFs (total)	--	0.0000022 [0.0000029]	ND(0.00000027)	ND(0.00000032)
1,2,3,4,7,8-HxCDF	--	ND(0.00000015) X [0.00000016 J]	ND(0.00000027)	ND(0.00000029)
1,2,3,6,7,8-HxCDF	--	0.000000094 J [0.00000011 J]	ND(0.000000077) X	ND(0.00000027)
1,2,3,7,8,9-HxCDF	--	ND(0.00000029) [ND(0.00000029)]	ND(0.00000027)	ND(0.00000040)
2,3,4,6,7,8-HxCDF	--	0.00000011 J [0.00000016 J]	ND(0.00000027)	ND(0.00000028)
HxCDFs (total)	--	0.0000021 [0.0000029]	ND(0.000000051)	0.000017
1,2,3,4,6,7,8-HpCDF	--	0.00000015 J [0.00000021 J]	ND(0.000000077)	ND(0.00000033)
1,2,3,4,7,8,9-HpCDF	--	ND(0.00000029) [ND(0.00000029)]	ND(0.00000027)	ND(0.00000059)
HpCDFs (total)	--	0.00000034 [0.00000021]	ND(0.000000077)	0.0000032
OCDF	--	ND(0.00000011) X [0.00000017 J]	ND(0.00000053)	ND(0.0000020)
Dioxins				
2,3,7,8-TCDD	0.00002	ND(0.00000011) [ND(0.000000091) X]	ND(0.00000011)	ND(0.00000024)
TCDDs (total)	--	ND(0.00000028) [0.00000019]	ND(0.00000026)	ND(0.00000024)
1,2,3,7,8-PeCDD	--	ND(0.00000029) [ND(0.000000058) X]	ND(0.00000027)	ND(0.00000056)
PeCDDs (total)	--	0.00000018 [0.00000016]	ND(0.00000028)	ND(0.00000056)
1,2,3,4,7,8-HxCDD	--	ND(0.00000029) [ND(0.00000029)]	ND(0.000000096) X	ND(0.00000033)
1,2,3,6,7,8-HxCDD	--	ND(0.00000029) [0.000000065 J]	ND(0.00000027)	ND(0.00000029)
1,2,3,7,8,9-HxCDD	--	ND(0.00000029) [ND(0.00000029)]	ND(0.00000027)	ND(0.00000030)
HxCDDs (total)	--	0.00000013 [0.00000019]	ND(0.00000042)	ND(0.00000033)
1,2,3,4,6,7,8-HpCDD	--	0.00000033 J [0.00000031 J]	0.00000021 J	ND(0.00000064)
HpCDDs (total)	--	0.00000062 [0.00000061]	0.00000021	ND(0.00000064)
OCDD	--	0.0000024 J [0.0000025 J]	0.0000016 J	ND(0.000015) X
Total TEQs (WHO TEFs)	--	0.00000038 [0.00000030]	0.00000029	0.00000062
Inorganics				
Arsenic	20	2.70 [2.70]	2.70	3.20
Barium	1,000	21.0 J [23.9 J]	21.5 J	20.0 B
Beryllium	90	0.170 B [0.190 B]	0.170 B	0.200 B
Cadmium	70	ND(0.0500) [ND(0.0600)]	ND(0.0500)	0.350 B
Chromium	100	6.60 [7.00]	6.50	4.50
Cobalt	--	5.50 J [5.80 J]	5.80 J	5.20
Copper	--	10.7 [10.7]	11.2	10.0
Lead	30	4.90 [5.20]	4.70	7.00
Nickel	600	10.8 J [11.3 J]	10.7 J	9.10
Selenium	400	ND(0.350) J [ND(0.360) J]	ND(0.350) J	0.970 J
Silver	100	ND(0.140) [ND(0.150)]	ND(0.140)	0.290 B
Thallium	8	ND(0.370) [ND(0.390)]	0.540 B	ND(1.10) J
Tin	--	1.30 B [1.20 B]	1.60 B	ND(10)
Vanadium	400	6.60 [7.50]	6.30	7.20
Zinc	1,000	33.5 [46.2]	33.6	30.0
Cyanide	30	ND(0.0200) [0.0800 B]	ND(0.0200)	0.0410 B
Sulfide	--	23.4 [27.9]	22.4	10.0

TABLE 2
SOIL SAMPLING RESULTS FOR APPENDIX IX+3 DATA

PRE-EXCAVATION NOTIFICATION FOR UNKAMET BROOK AREA - WEST
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in dry weight parts per million, ppm)

Notes:

1. Samples were collected and analyzed by General Electric Company subcontractors for Appendix IX + 3 constituents.
2. Samples have been validated as per GE's EPA-approved FSP/QAPP, General Electric Company, Pittsfield, Massachusetts.
3. NA - Not Analyzed - Laboratory did not report results for this analyte.
4. ND - Analyte was not detected. The number in parentheses is the associated detection limit.
5. Total 2,3,7,8-TCDD toxicity equivalents (TEQs) were calculated using Toxicity Equivalency Factors (TEFs) derived by the World Health Organization (WHO) and published by Van den Berg et al. in Environmental Health Perspectives 106(2), December 1998.
6. Field duplicate sample results are presented in brackets.
7. With the exception of dioxin/furans, only those constituents detected in one or more samples are summarized.

Data Qualifiers:

Organics (volatiles, semivolatiles, pesticides, herbicides, dioxin/furans)

J - Indicates that the associated numerical value is an estimated concentration.
I - Polychlorinated Diphenyl Ether (PCDPE) Interference.
R - Data was rejected due to a deficiency in the data generation process.
X - Estimated maximum possible concentration.

Inorganics

B - Indicates an estimated value between the instrument detection limit (IDL) and practical quantitation limit (PQL).
J - Indicates that the associated numerical value is an estimated concentration.

CITY: SYR DIV/GROUP: 141 DB: DMW LD: DMW PIC:(Opt) PM: A. CORBIN TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*, FRZN*
G:\GE\ENVCAD\SYRACUSE\ACT\C\B0031179\0003\00001\DWG\EXCAVATION PWN\31179G02.DWG LAYOUT: 1 SAVED: 9/27/2016 3:34 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: ----PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 10/5/2016 7:31 AM BY: STOWELL, GARY
XREFS: 31179X01 IMAGES: PROJECTNAME: ----

LEGEND:

- PORTION OF REMOVAL ACTION AREA SHOWN ON THIS FIGURE
- PROPERTY LINE
- EASEMENT
- BOLLARD
- SIGN
- LIGHT POLE
- GROUND LIGHT
- UTILITY POLE
- CATCH BASIN
- CATCH BASIN – ROUND
- DRAIN MANHOLE
- SANITARY MANHOLE
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- MANHOLE (TYPE UNKNOWN)
- WATER SHUT-OFF/GATE
- HYDRANT
- PRESSURE INDICATOR VALVE
- METAL FENCE
- CHAIN LINK FENCE
- GUARDRAIL
- ELECTRIC SERVICE
- GAS SERVICE
- FIRE PROTECTION WATER
- IRRIGATION
- CITY WATER
- SANITARY SEWER
- STORM DRAIN
- TELEPHONE SERVICE
- EXISTING CONTOUR
- EDGE OF BUSHES/HEDGE
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUILDING
- PAVED AREA
- UNPAVED AREA
- N-J10 EXISTING SOIL BORING LOCATION (1-FOOT OR GREATER SAMPLE DEPTH)
- N-L12 EXISTING SOIL BORING LOCATION IN VICINITY OF PROPOSED EXCAVATION LOCATION

NOTES:

1. THE BASE MAP FEATURES PRESENTED ON THIS FIGURE ARE FROM ELECTRONIC COPY OF SURVEY DRAWINGS GE-1110-006-CX101-M(REV 12-2-08) AND GE-1110-009-CX101-M(REV 1-8-09) PROVIDED BY HILL ENGINEERS, ARCHITECTS AND PLANNERS.
2. HORIZONTAL DATUM IS NAD 27 AND VERTICAL DATUM IS NGVD 29 BASED UPON CONTROL POINTS PROVIDED BY ARCADIS AND FORESIGHT LAND SERVICES.
3. UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND ALL UTILITIES MAY NOT BE SHOWN. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG-SAFE" AND HAVE ALL UNDERGROUND UTILITIES MARKED ON THE GROUND.
4. SAMPLE LOCATIONS ARE APPROXIMATE.

0 30' 60'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
UNKAMET BROOK AREA - WEST

RETAINING WALL REPAIR EXCAVATION

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1