

# **ENVIRONMENTAL MONITORING MATRIX FOR CALENDAR YEAR 2010**

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The Environmental Monitoring Matrix for calendar year 2012 provides a combined list of measured parameters by media. The corresponding data quality objective can be found in Chapters 5 through 13.

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# ENVIRONMENTAL MONITORING PLAN MATRIX FOR CALENDAR YEAR 2012

Sampling Location	Reporting to Regulators	Reporting to Departments	Lead Organization	Sample Type	Analysis/Frequency
<b><i>Air Monitoring: Surveillance - Charcoal (See Chapter 5)</i></b>					
Bldg. 801 Non-acid	SER	SER	EPD	Weekly Composite	Gamma - sampled and analyzed weekly
BLIP	SER	SER	EPD	Weekly Composite	Gamma - sampled and analyzed weekly when BLIP is running
<b><i>Air Monitoring: Surveillance - Particulate Filter (See Chapters 5 and 6)</i></b>					
S6, P7, P7-2, S5, P4, P2, P9, NYSDOH	SER	SER	EPD	Weekly Composite	Gross alpha/beta - sampled and analyzed weekly; contract analytical laboratory composites filters for monthly gamma analysis
BLIP and Bldg. 801 Non-acid	SER	SER	EPD	Weekly Composite	Gross alpha/beta, gamma - sampled and analyzed weekly
<b><i>Air Emissions: Compliance, Non-Radiological (See Chapter 5)</i></b>					
CSF - Boiler #6 Stack	SER/QES	Yes (cc)	EU	Continuous	Opacity - continuous emissions monitoring
CSF - Boiler #7 Stack	SER/QES	Yes (cc)	EU	Continuous	NO <sub>x</sub> , CO <sub>2</sub> , CO - continuous emissions monitoring
CSF - Boiler #7 Stack	SER/QES	Yes (cc)	EU	Continuous	Opacity - continuous emissions monitoring
CSF - Tank Nos. 4, 9, and 10	SER/QES	Yes (cc)	EU	Quarterly	Sulfur and nitrogen fuel content - quarterly analysis
Satellite Boiler Fuel Storage Tanks	SER/QES	Yes (cc)	EU	Quarterly	Sulfur content - quarterly analysis if fuel is delivered
CSF - Boiler #1A Stack	SER/STR	Yes (cc)	EU	Performance Test	NO <sub>x</sub> TSP - every 5 years
CSF- Boiler #5 Stack	SER/STR	Yes (cc)	EU	Performance Test	NO <sub>x</sub> TSP - every 5 years
CSF - Boiler #6 Stack	SER/STR	Yes (cc)	EU	Performance Test	TSP - every 5 years
CSF - Boiler #7 Stack	SER/STR	Yes (cc)	EU	Performance Test	TSP - every 5 years
Fleet Station and Upton Station Gasoline Fueling Stage II Vapor Recovery Systems	SER/CR	Yes (cc)	EU and SS	Performance Test	Back pressure, liquid blockage, and leak tests - every 5 years (due March 2013)
Used AC Shop Compressor Oil and Collider Accelerator Waste Separator Oil	SER/QES	Yes (cc)	EU	3-4 times per year	Cadmium, arsenic, lead, chromium, sulfur, PCBs, total halogens, flashpoint, and gross heat content - sampled and analyzed as needed
CSF - Boiler #7 Stack	SER/QES	Yes (cc)	EU	Continuous	Opacity - continuous emissions monitoring
CSF - Tank Nos. 4, 9, and 10	SER/QES	Yes (cc)	EU	Quarterly	Sulfur and nitrogen fuel content - quarterly analysis
Satellite Boiler Fuel Storage Tanks	SER/QES	Yes (cc)	EU	Quarterly	Sulfur content - quarterly analysis if fuel is delivered

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Sampling Location	Reporting to Regulators	Reporting to Departments	Lead Organization	Sample Type	Analysis/Frequency
CSF- Boiler #1A Stack	SER/STR	Yes (cc)	EU	Performance Test	NO <sub>x</sub> TSP - every 5 years
CSF - Boiler #5 Stack	SER/STR	Yes (cc)	EU	Performance Test	NO <sub>x</sub> TSP - every 5 years
CSF - Boiler #6 Stack	SER/STR	Yes (cc)	EU	Performance Test	TSP - every 5 years
CSF- Boiler #7 Stack	SER/STR	Yes (cc)	EU	Performance Test	TSP – every 5 years
Fleet Station and Upton Station Gasoline Fueling Stage II Vapor Recovery Systems	SER/CR	Yes (cc)	EU and SS	Performance Test	Back pressure, liquid blockage, and leak tests – every 5 years (due March 2013)
Used AC Shop compressor oil and Collider Accelerator waste separator oil	SER/QES	Yes (cc)	EU	3-4 times per year	Cadmium, arsenic, lead, chromium, sulfur, PCBs, total halogens, flashpoint, and gross heat content - sampled and analyzed as needed
<b><i>Air Emissions: Surveillance - Radiological, Silica Gel (See Chapters 5 and 6)</i></b>					
049-DC, 053-DC, 122-DC, S6, P7, P2, P4, P9, and a rotating duplicate	SER	SER	EPD	Particulate and Silica Gel	Gross alpha/beta, gamma, and tritium - sampling continuously for 2 weeks (26 samples/year/location)
BLIP	SER	SER	EPD	Particulate and Silica Gel	Gross alpha/beta and tritium - sampled weekly
HFBR T-Tube	SER	Quarterly	EPD	Silica gel	Tritium - sampled and analyzed once per month
<b><i>Ambient Air: Surveillance - Radiological, Off-Site TLD Exchange - BNL Personnel (See Chapter 7)</i></b>					
000-TLD4, 000-TLD5, 000-TLD7, 200-TLD2, 300-TLD2, 300-TLD3, 400-TLD1, 500-TLD1, 500-TLD2, 500-TLD4, 600-TLD3, 700-TLD2, 700-TLD3, 700-TLD4, 800-TLD1, 800-TLD2, 800-TLD3, 900-TLD2, and 999-TLD1	SER	SER	EPD	External Dose	Beta/gamma - exchanged quarterly

# ENVIRONMENTAL MONITORING PLAN MATRIX FOR CALENDAR YEAR 2012

Sampling Location	Reporting to Regulators	Reporting to Departments	Lead Organization	Sample Type	Analysis/Frequency
P4, S6, P7, P2, S5, 011-TLD1, 013-TLD1, 025-TLD1, 025-TLD4, 027-TLD1, 027-TLD2, 030-TLD1, 034-TLD1, 034-TLD2, 036-TLD1, 036-TLD2, 037-TLD1, 043-TLD1, 043-TLD2, 044-TLD1, 044-TLD2, 044-TLD3, 044-TLD4, 044-TLD5, 045-TLD1, 045-TLD2, 045-TLD3, 045-TLD4, 045-TLD5, 049-TLD1, 053-TLD1, 054-TLD1, 054-TLD 2, 054-TLD3, 063-TLD1, 066-TLD1, 073-TLD1, 074-TLD1, 074-TLD2, 075-TLD3, 075-TLD4, 075-TLD5, 080-TLD1, 081-TLD1, 081-TLD2, 082-TLD1, 084-TLD1, 085-TLD1, 085-TLD2, 086-TLD1, 088-TLD1, 088-TLD2, 088-TLD3, 088-TLD4, 105-TLD1, 108-TLD1, 111-TLD1, 122-TLD1, 126-TLD1, 25-TLD-N1, 025-TLD-N2, 034-TLD-N1, 034-TLD-N2, 044-TLD-N1, 054-TLD-N1, 054-TLD-N2, 064-TLD-N1, 045-TLD-N1, 043-TLD-N1, 052-TLD-N1, 043-TLD-N1	SER	SER	EPD	Quarterly	Beta/gamma - exchanged and analyzed quarterly; neutron chip TLD - exchanged quarterly
<b><i>Ambient Air: Surveillance - Radiological, TLD Exchange - Off Site Facilities (See Chapter 7)</i></b>					
000-TLD-5, 000-TLD7, 400-TLD1, 600-TLD3, 800-TLD3	SER	SER	EPD	Quarterly Composite	Beta/gamma exchanged and analyzed quarterly
<b><i>Precipitation: Surveillance (See Chapter 8)</i></b>					
P4, S5	SER	SER	EPD	Monthly Composite	Gross alpha/beta, gamma, tritium, low level mercury, and water quality - sampled and analyzed once per quarter
<b><i>Flora and Fauna: Surveillance - On-Site Terrestrial Sampling (See Chapter 8)</i></b>					
Soil	SER/IAG	SER	EPD	Grab	Gamma - concurrent sampling with vegetation
Vegetation	SER/IAG	SER	EPD	Grab	Gamma - 10 random locations, 19 others associated with landscape soils, former HWMF
Deer - onsite	SER	SER	EPD	Grab Sample	Gamma and Sr-90 analysis - 25 samples, as available
Garden Vegetables	SER	SER	EPD	Grab Sample	Gamma analysis - 5-7 samples annually
Soil from Vegetable Garden	SER	SER	EPD	Grab Sample	Gamma analysis - 1 sample annually
Soil/Sediment - Recharge Basins	SER	SER	EPD	Grab Sample	Gamma, S-VOCs, TAL - Metals, PCBs - 10 samples for CY 2012

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Sampling Location	Reporting to Regulators	Reporting to Departments	Lead Organization	Sample Type	Analysis/Frequency
Deer - off site	SER	SER	EPD	Grab Sample	Gamma and Sr-90 analysis - 40 samples, as available
<b>Flora and Fauna: Surveillance - Off-Site Terrestrial Sampling (See Chapter 8)</b>					
Vegetation	-	-	EPD	None	Monitoring discontinued in 2003
<b>Flora and Fauna: Surveillance - Aquatic Sampling (See Chapter 8)</b>					
Fish	SER	SER	EPD	Grab Sample - fillets	Gamma, metals, and pesticides/PCBs analysis (on site only) - 50 samples annually - 5 locations
Vegetation	SER	SER	EPD	Grab Sample	Gamma, metals, analysis - 4 samples annually
Sediment	SER	SER	EPD	Grab Sample	Gamma, Sr-90, metals (mercury and methyl mercury added), and pesticides/PCBs analysis - 3 samples annually
Surface Water	SER/IAG	SER/IAG	EPD	None	Mercury, methyl mercury, TSS - 16 samples taken in June and August annually
Surface Water	SER	SER	EPD	Grab	TAL metals, nutrients, water quality parameters - Meadow Marsh
<b>Peconic River Sediment: Environmental Restoration, Long-Term Response Actions (See Chapter 8)</b>					
PR-WC-06, Sediment Trap Area, PR-SS-15	Peconic River Monitoring Report	COCs Field Notes	LTRA	Core	Mercury, PCBs, Cs-137 – sampled and analyzed annually in June
<b>Peconic River Surface Water: Environmental Restoration, Long-Term Response Actions (See Chapter 8)</b>					
PR-WC-15, PR-WC-14, PR-WC-13, PR-WC-12, PR-WC-11, PR-WC-10, PR-WC-09, PR-WC-08, PR-WC-07, PR-WC-06, PR-WC-05, PR-WC-04, PR-WC-03, PR-WC-02, PR-WC-01, PR-WCS-01, PR-WCS-02, PR-WCS-03	Peconic River Monitoring Report	COCs Field Notes	LTRA	Grab	Total mercury, methyl mercury, total suspended solids (TSS), chlorophyll-a, total phosphorus, total nitrogen, nitrate/nitrite, total Kjeldahl nitrogen (TKN), total organic carbon (TOC)
					Field Measurements: Turbidity, dissolved oxygen (DO), pH, depth, width
					Collect twice annually in June and between last week of July and first week of August. At Connetquot River, only total mercury, methyl mercury, and TSS are analyzed
<b>Peconic River Fish: Environmental Restoration, Long-Term Response Actions (See Chapter 8)</b>					
On BNL property:	PRMR	COCs Field Notes	LTRA	Grab	Mercury, PCBs, Cs-137 - collected once annually between late April and September, as fish population and flow conditions permit; no collection in 2012
Area A (HmN), North St. (Area D)					
Outside BNL property:	PRMR	COCs	LTRA	Grab	Mercury, Cs-137, and other gamma-emitting radionuclides, as fish

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Sampling Location	Reporting to Regulators	Reporting to Departments	Lead Organization	Sample Type	Analysis/Frequency
Schultz Rd. (Area P), Donahue's Pd.		Field Notes			population and flow conditions permit; no collection in 2012
<b><i>Water - SPDES: Compliance (See Chapter 9)</i></b>					
STP Influent (8 months/year)	Monthly	Yes (cc)	EPD	24 hr. Composite	TAL metals, BOD5, TSS - sampled and analyzed twice per month
STP Influent (4 months/year)	Monthly	Yes (cc)	EPD	24 hr. Composite	TAL metals, BOD5, TSS - sampled and analyzed 3 times per month
STP Effluent (8 months/year)	Monthly	Yes (cc)	EPD	Grab Sample	VOCs (EPA 624) and ketones, low-level mercury (EPA 1631), cyanide, fecal coliform - sampled and analyzed twice per month
STP Effluent (4 months/year)	Monthly	Yes (cc)	EPD	Grab Sample	VOCs (EPA 624) ketones, low-level mercury (EPA 1631), cyanide, fecal coliform, PCBs (EPA 608) - sampled and analyzed 3 times per month
STP Effluent (12 months/year)	Monthly	Yes (cc)	EPD	Grab Sample	HEDP and TTA
STP Effluent (Daily)	Monthly	Yes (cc)	EU	Grab Sample	Temperature, pH, settleable solids, flow - sampled and analyzed daily
HN, HT-W, HS, CSF, HT-E, HW, Bldg. 1004/1002-Outfall 002B (monthly)	Monthly	Yes (cc)	EPD	Grab Sample	Oil, grease, and pH (VOCs EPA 624, HW only) - sampled and analyzed monthly
HX (monthly)	Monthly	Yes (cc)	EPD/EU	Grab Sample	Flow (EP totalizer) and pH - sampled and analyzed monthly
HN, HT-W, HT-E, HW, CSF, HS, Bldg. 1004/1002-Outfall 002B (quarterly)	Quarterly	Yes (cc)	EPD	Grab Sample	HEDP, TTA, Copper at HS, VOCs (EPA 624) at HN, TAL Metals at HN, CSF, and HW (filtered) - sampled and analyzed quarterly
Bldg. 535 Printed Circuit Board Lab	Quarterly	Yes (cc)	EPD/IO	Grab Sample	pH, Semi-VOCs (EPA 625), flow (IO), TAL metals (surveillance) - sampled and analyzed quarterly
Bldg. 498 Central Cleaning Facility	Quarterly	Yes (cc)	EPD/EU	Grab Sample	pH, Semi-VOCs (EPA 625), TAL metals, flow - sampled and analyzed quarterly
Bldg. 902 Cooling Tower (quarterly)	Quarterly	Yes (cc)	EPD/CA	Grab Sample	pH, flow (CA), PPGMBE - sampled and analyzed quarterly
HS, HO, HN, HT-W, HT-E, HM-N, HM-S, HQ, HE, HZ, Outfall 002B (Flow circular chart/strip chart exchange)	Monthly	Yes (cc)	EPD	Grab Sample	Flow readings collected weekly - HO, HZ, HE, HM-S, HM-N, and HQ surveillance only; not reported to regulators
<b><i>Recharge Basins: Surveillance (See Chapter 9)</i></b>					
HT-E, HT-W, HS, HN	SER	SER	EPD	24 Hr. Composite	Metals (unfiltered), anions, gross alpha/beta, tritium, and gamma - sampled and analyzed quarterly; filtered metals - samples collected semiannually

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Sampling Location	Reporting to Regulators	Reporting to Departments	Lead Organization	Sample Type	Analysis/Frequency
HT-E, HT-W, HS, HN	SER	SER	EPD	Grab Sample	VOCs (EPA 524.2) - sampled and analyzed quarterly
HW, HO, HZ	SER	SER	EPD	Grab Sample	Metals (unfiltered), anions, VOCs (EPA 524.2) at HO and HZ, gross alpha/beta, tritium, and gamma - sampled and analyzed quarterly; filtered metals - samples collected semiannually; oil and grease - sampled and analyzed quarterly at HZ only
CSF	SER	SER	EPD	Grab Sample	Metals (unfiltered), anions, VOCs (EPA 524.2) - sampled and analyzed quarterly; filtered metals - samples collected semiannually
<b><i>Sewage Treatment Plant: Surveillance (See Chapter 9)</i></b>					
EA	SER	SER	EPD	Composite	Metals, anions - sampled and analyzed monthly
	SER	SER	EPD	Grab Sample	VOCs (EPA 524.2) - sampled and analyzed monthly
	SER	SER	EPD	Composite	Sr-90 and gamma - sampled 3 times per week and composited by contract analytical laboratory for monthly analysis
	SER	SER	EPD	Composite	Gross alpha/beta, tritium - sampled and analyzed 3 times per week
DA	SER	SER	EPD	Composite	Metals, anions - sampled and analyzed monthly
	SER	SER	EPD	Composite	Sr-90 and gamma - sampled 3 times per week and composited by contract analytical laboratory for monthly analysis
	SER	SER	EPD	Composite	Gross alpha/beta, tritium - sampled and analyzed 3 times per week
HFBR – MH #232	SER	SER	EPD	Weekly Composite	Tritium - sampled and analyzed once per week (during operations)
HFBR – MH #232	SER	SER	EPD	Weekly Composite	Gross alpha/beta, gamma - sampled once per month
<b><i>Miscellaneous Monitoring (See Chapter 9)</i></b>					
MH #192, STP influent and effluent to the primary clarifier	-	-	EPD	Daily Performance Check	Sewer line radiological monitors daily performance checked with Cs-137 button source
<b><i>Surface Water - Peconic River: Surveillance (See Chapter 10)</i></b>					
HY (outside RHIC Ring)	SER	SER	EPD	Grab Sample	Gross alpha/beta, gamma, tritium, Sr-90, metals (unfiltered), anions, VOCs (EPA 524.2) - sampled and analyzed quarterly; filtered metals - samples collected semiannually
HV (inside RHIC Ring)	SER	SER	EPD	Grab Sample	Gross alpha/beta, gamma, tritium - sampled and analyzed quarterly
HE	SER	SER	EPD	24 hr. Composite	Metals (unfiltered), anions, Sr-90, gamma, gross alpha/beta, tritium - sampled and analyzed quarterly; filtered metals - samples collected semiannually
	SER	SER	EPD	Grab Sample	VOCs (EPA 524.2) - sampled and analyzed quarterly

# ENVIRONMENTAL MONITORING PLAN MATRIX FOR CALENDAR YEAR 2012

Sampling Location	Reporting to Regulators	Reporting to Departments	Lead Organization	Sample Type	Analysis/Frequency
HM-N	SER	SER	EPD	24 hr. Composite	Metals (unfiltered), anions - sampled and analyzed monthly; filtered metals - collected every other month
	SER	SER	EPD	24 hr. Composite	Sr-90, gamma - sampled and analyzed quarterly
	SER	SER	EPD	24 hr. Composite	Gross alpha/beta, tritium - sampled and analyzed once per month
	SER	SER	EPD	Grab Sample	VOCs (EPA 524.2) - sampled and analyzed once per month
HM-S	SER	SER	EPD	Grab Sample	Metals (unfiltered), anions, VOCs (EPA 524.2), Sr-90, gross alpha/beta, gamma, and tritium - sampled and analyzed quarterly; filtered metals - samples collected semiannually
HQ	SER	SER	EPD	24 Hr. Composite	Metals (unfiltered), anions - sampled and analyzed monthly; filtered metals - samples collected every other month
HQ	SER	SER	EPD	24 Hr. Composite	Sr-90, gamma- sampled and analyzed quarterly
	SER	SER	EPD	24 Hr. Composite	Gross alpha/beta, tritium - sampled and analyzed once per month
	SER	SER	EPD	Grab Sample	VOCs (EPA 524.2) - sampled and analyzed once per month
HA, HH	SER	SER	EPD	Grab Sample	Metals (unfiltered), anions, VOCs (EPA 524.2), gross alpha/beta, gamma, and tritium - sampled and analyzed quarterly; filtered metals - samples collected semiannually
Swan Pond, Donahue's Pond, Forge Pond	SER	SER	EPD	Grab Sample	Metals (unfiltered), anions, VOCs (EPA 524.2), gross alpha/beta, gamma, and tritium - sampled and analyzed quarterly; filtered metals - samples collected semiannually
<b><i>Potable Water: Compliance (See Chapter 11)</i></b>					
Potable Wells 4, 6, 7, 10, and 11	Quarterly	Yes (cc)	EPD	Grab Sample	Gross alpha/beta, gamma, tritium, Sr-90 - sampled and analyzed quarterly; inorganic chemicals (IOC Groups 1, 2, 3, 4) - sampled and analyzed annually; water quality (alkalinity/calcium) - sampled and analyzed biannually
Potable Wells 4, 6, 7, 10, and 11	Quarterly	Yes (cc)	EU	Grab Sample	Principle Organic Contaminants (EPA 502.2) - sampled and analyzed quarterly
Potable Wells 4, 6, 7, 10, 11, and Water Treatment Facility	Quarterly	Yes (cc)	EU	Grab Sample	Bacteriology - sampled and analyzed quarterly
Potable Water Distribution System	Monthly	Yes (cc)	EU	Grab Sample	Bacteriology - sampled and analyzed at seven locations monthly
	Quarterly	Yes (cc)	EU	Grab Sample	Water Quality - sampled and analyzed quarterly at three locations

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Sampling Location	Reporting to Regulators	Reporting to Departments	Lead Organization	Sample Type	Analysis/Frequency
	Semiannual	Yes (cc)	EU	Grab Sample	Inorganic chemicals (IOC 1, 2, 3, 4), Nitrate/Nitrite, THMs, HAA5 - sampled and analyzed semiannually
	Annual	Yes (cc)	EU	Grab Sample	Asbestos - sampled and analyzed once per year
	Triennially	Yes (cc)	EU	Grab Sample	Lead and Copper - sampled and analyzed once every 3 years at 20 locations
Western Well Field (Wells 4, 6, and 7)	Annually	Yes (cc)	EU	Composite	SOCs - sampled and analyzed once per year; sample composited by contract analytical laboratory
Eastern Well Field (Wells 10 and 11)	Annually	Yes (cc)	EU	Composite	SOCs - sampled and analyzed once per year; sample composited by contract analytical laboratory
Points of Entry	Biweekly	Yes (cc)	EU	Grab	Temperature, conductivity, and pH - sampled and analyzed biweekly by operating personnel
<b>Potable Water: Surveillance (See Chapter 11)</b>					
Wells #4, #6, #7, #10, #11	SER	SER	EPD	Grab Sample	VOCs (EPA 524.2) - sampled and analyzed quarterly
Wells #4, #6, #7, #10, #11	SER	SER	EPD	Grab Sample	Anions, metals - sampled and analyzed annually
<b>Groundwater: Compliance (See Chapter 12)</b>					
Major Petroleum Facility (8 wells)	Semiannual	Yes (cc)	EPD	Grab Sample	VOCs and MTBE (EPA 624), Semi-VOCs (EPA 625) - sampled and analyzed semiannually
	Semiannual	Yes (cc)	EPD	Grab Sample	Floating product check - sampled and analyzed monthly
Waste Management Facility (8 wells)	Annual	Yes (cc)	EPD	Grab Sample	VOCs (EPA 524.2), tritium, gamma, gross alpha/beta - sampled and analyzed semi-annually
	Annual	Yes (cc)	EPD	Grab Sample	Metals and anions - sampled and analyzed annually
<b>Groundwater: Surveillance (See Chapter 12)</b>					
BMRR (4 wells)	SER/GMR	Biennial	EPD	Grab Sample	Tritium, gross alpha/beta, gamma - sampled and analyzed every 2 years; no samples in 2009
BLIP (7 wells)	SER/GMR	Annual	EPD	Grab Sample	Tritium - sampled and analyzed semiannually to annually; gamma - sampled and analyzed annually in select wells
STP (9 wells)	SER/GMR	Annual	EPD	Grab Sample	Metals, tritium, gross alpha/beta, gamma, anions - sampled and analyzed annually
RHIC (13 wells)	SER/GMR	Annual	EPD	Grab Sample	Tritium - sampled and analyzed semiannually

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Sampling Location	Reporting to Regulators	Reporting to Departments	Lead Organization	Sample Type	Analysis/Frequency
Bldg. 801 (1 well)	SER/GMR	Annual	EPD	Grab Sample	Tritium, gamma, gross alpha/beta, and Sr-90 - sampled and analyzed annually
NLSL-II (6 wells)	SER/GMR	Annual	EPD	Grab Sample	Tritium - sampled and analyzed annually
Building 452 Freon-11 (14 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed quarterly
AGS (55 wells)	SER/GMR	Annual	EPD	Grab Sample	Tritium - sampled and analyzed quarterly to annually; select wells sampled and analyzed for gamma annually; temporary wells installed to track downgradient sections of the g-2 tritium plume
Motor Pool Facility (6 wells)	SER/GMR	Annual	EPD	Grab Sample	Floating product check in 3 wells semiannually; VOCs, including MTBE (EPA 624) sampled and analyzed semi-annually
Service Station (5 wells)	SER/GMR	Annual	EPD	Grab Sample	Floating product check in 2 wells semiannually; VOCs, including MTBE (EPA 624) sampled and analyzed semi-annually (some wells sampled under LTRA CC14 Program)
<b>Groundwater: Environmental Restoration - Long Term Response Actions (See Chapter 12)</b>					
Site Background (10 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed annually
Current Landfill (11 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed quarterly to annually; anions, metals, cyanide - sampled and analyzed semiannually; gamma, tritium, Sr-90, Ra-226 - sampled and analyzed annually
Former Landfill (14 wells)	SER/GMR	--	EPD	Grab Sample	VOCs, pesticides/PCBs, gross alpha/beta, gamma, tritium, Sr-90, anions, cyanide, metals - sampled and analyzed annually
OU III - Middle Road (31 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed annually to quarterly
OU VI Ethylene Dibromide (24 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed annually; EDB - sampled and analyzed annually to quarterly
Chemical/Animal Holes (31 wells)	SER/GMR	--	EPD	Grab Sample	Sr-90 - sampled and analyzed annually to semiannually
OU I South Boundary (49 wells)	SER/GMR	--	EPD	Grab Sample	VOCs and gamma - sampled and analyzed annually; tritium and Sr-90 - sampled and analyzed semiannually for core and perimeter and annually for core and perimeter and annually for background wells
OU III North Street (19 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed quarterly for bypass wells, semi-annually for perimeter and core wells, and annually for background wells; tritium sampled and analyzed annually

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OU III – Central (12 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - all wells sampled and analyzed annually except for 109-03 and 109-04, which are sampled and analyzed quarterly
OU III – Building 96 (35 wells)	SER/GMR	--	EPD	Grab Sample	VOCs, chromium, and hexavalent chromium - sampled and analyzed annually to quarterly
OU III – Carbon Tetrachloride (18 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed semi-annually
OU III – South Boundary (41 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed annually to semiannually
OU III – South Boundary Radionuclide (50 wells)	SER/GMR	--	EPD	Grab Sample	Gross strontium-90, gamma, tritium - sampled and analyzed annually
OU III Western South Boundary (17 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed semi-annually to quarterly
OU III Magothy (41 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed annually to quarterly
OU III (BGRR/WCF Sr-90) (91 wells)	SER/GMR	--	EPD	Grab Sample	Sr-90 - sampled and analyzed semi-annually to annually
OU III – Offsite (12 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed annually
OU III – HFBR (103 wells)	SER/GMR	--	EPD	Grab Sample	Tritium - sampled and analyzed annually to quarterly; VOCs in selected wells - sampled and analyzed annually
OU III –Industrial Park (43 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed annually to quarterly
OU IV – AOC 6 (24 wells)	SER/GMR	--	EPD	Grab Sample	Sr-90 - sampled and analyzed annually to semiannually.
OU V (17 wells)	SER/GMR	--	EPD	Grab Sample	VOCs and tritium - sampled analyzed annually
OU III Long Island Power Authority (18 Wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed semi-annually to quarterly
OU III Industrial Park East (12 Wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed quarterly
OU III North Street East (15 Wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed quarterly
OU III Airport (30 wells)	SER/GMR	--	EPD	Grab Sample	VOCs - sampled and analyzed quarterly
<b>Landfill Gas and Surface Leachate Monitoring (See Chapter 13)</b>					
Current Landfill - Wooded Wetland Monitoring (7 locations with samples of both sediment and surface water)	Annual Landfills Monitoring Report (ALMR)	-	ERD	Grab Sample	Metals - sampled and analyzed every 2 years

## ENVIRONMENTAL MONITORING PLAN MATRIX FOR CALENDAR YEAR 2012

Sampling Location	Reporting to Regulators	Reporting to Departments	Lead Organization	Sample Type	Analysis/Frequency
BNL Landfills, Soil Gas Monitoring - Current Landfill (58 sampling points) Former Landfill (24 sampling points)	ALMR	--	ERD	Grab Sample	Methane and hydrogen sulfate - sampled and analyzed quarterly for the Current Landfill and semi-annually for the Former Landfill

# ENVIRONMENTAL MONITORING PLAN MATRIX FOR CALENDAR YEAR 2012

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