Table 1. Environmmental Media Range of Sampling Results and Exceedances of SCGs
OU-3 PRAP, Sunnyside Yard, Queens, New York

SURFACE SOIL	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]	Screening Criteria[b] (ppm)[a]	Frequency Exceeding Screening Criteria
Volatile Organic Compounds				
(VOCs)				
	Acetone	0.024	0.2	0 / 1
	Carbon Disulfide	0.011	2.7	0 / 1
	Methylene Chloride	0.014	0.1	0 / 1
	Toluene	0.011	1.5	0 / 1
Semivolatile Organic Compounds				
(SVOCs)				
(Excludes cPAHs) [C]				
	1,2,4-Trichlorobenzene	ND - 2.1	3.4	0 / 6
	1,2-Dichlorobenzene	ND - 0.17	7.9	0 / 6
	1,3-Dichlorobenzene	ND - 1.4	1.6	0 / 6
	1,4-Dichlorobenzene	ND - 8.5	8.5	0 / 6
	2-Methylnaphthalene	ND - 23	36.4	0 / 6
	Acenaphthene	ND - 2.5	50	0 / 6
	Acenaphthylene	ND - 0.330	50	0 / 6
	Anthracene	ND - 1.4	50	0 / 6
	Benzo[g,h,i]perylene	ND - 0.8	50	0 / 6
	Bis(2-Ethylhexyl) phthalate	ND - 0.66	50	0 / 6
	Butylbenzyl phthalate	ND - 0.036	50	0 / 6
	Carbazole	ND - 0.18	--	NA
	Di-n-butyl phthalate	ND - 0.030	8.1	0 / 6
	Dibenzofuran	ND - 0.57	6.2	0 / 6
	Diethyl phthalate	ND - 0.011	7.1	0 / 6
	Fluoranthene	ND - 3.7	50	0 / 6
	Fluorene	ND - 5.4	50	0 / 6
	Naphthalene	ND - 2.2	13	0 / 6
	Phenanthrene	ND - 9.2	50	0 / 6
	Pyrene	ND - 10	50	0 / 6
Total cPAHs				
	Total cPAHs	ND - 108.2	25	2 / 27

Table 1. Environmmental Media Range of Sampling Results and Exceedances of SCGs
OU-3 PRAP, Sunnyside Yard, Queens, New York

SURFACE SOIL	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]	Screening Criteria[b] (ppm)[a]	Frequency Exceeding Screening Criteria
Inorganic Compounds				
	Aluminum	4,090 - 9,370	33,000	0 / 3
	Arsenic	3 - 16.8	7.5	1 / 3
	Barium	ND - 50.6	300	0 / 3
	Beryllium	ND - 0.22	0.16	1 / 3
	Calcium	751 - 13,900	35000	0 / 3
	Chromium	14 - 38.8	10	3 / 3
	Cobalt	ND - 7.5	30	0 / 3
	Copper	55.8 - 90.7	25	3 / 3
	Iron	10,100 - 21,300	2000	3 / 3
	Lead	ND - 1,180	1000	3 / 23
	Magnesium	1,630 - 2,670	5000	0 / 3
	Manganese	284 - 321	5000	0 / 3
	Mercury	ND - 0.31	0.1	2 / 3
	Nickel	10 - 31	13	2 / 3
	Potassium	ND - 762	43000	0 / 3
	Selenium	ND - 1.8	2	0 / 3
	Sodium	ND - 607	8000	0 / 3
	Vanadium	13 - 30.6	150	0 / 3
	Zinc	56.8 - 66.8	20	3 / 3
Polychlorinated Biphenyls (PCBs)				
	Total Aroclors	ND - 73	25	2 / 102
TCLP Semivolatile Organic Compounds (SVOCs)				
	None	All ND		
TCLP Inorganic Compounds				
	Arsenic	ND - 0.0426	5	0 / 2
	Barium	0.717 - 0.796	100	0 / 2
	Cadmium	0.0094 - 0.012	1	0 / 2
	Lead	0.0242 - 0.0518	5	0 / 2
	Silver	ND - 0.009	5	0 / 2

SUBSURFACE SOIL	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]	Screening Criteria[b] (ppm)[a]	Frequency Exceeding Screening Criteria
Volatile Organic Compounds				
(VOCs)				
	2-Butanone	ND - 4.1	0.3	1 / 30
	Acetone	ND - 0.053	0.2	0 / 30
	Carbon Disulfide	ND - 0.010	2.7	0 / 30
	cis-1,2-Dichloroethene	ND - 0.001	--	NA
	Ethylbenzene	ND - 2.5	5.5	0 / 30
	Methylene Chloride	ND - 0.630	0.1	1 / 30
	Toluene	ND - 0.0076	1.5	0 / 30
	Xylenes (total)	ND - 18	1.2	1 / 30

Table 1. Environmmental Media Range of Sampling Results and Exceedances of SCGs
OU-3 PRAP, Sunnyside Yard, Queens, New York

SUBSURFACE SOIL	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]	Screening Criteria[b] (ppm)[a]	Frequency Exceeding Screening Criteria
Semivolatile Organic Compounds				
(SVOCs)				
(Excludes cPAHs) [C]				
	2-Methylnaphthalene	ND - 150	36.4	9 / 37
	Acenaphthene	ND - 5.90	50	0 / 37
	Acenaphthylene	ND - 0.340	50	0 / 37
	Anthracene	ND - 3.6	50	0 / 37
	Benzo[g,h,i]perylene	ND - 0.440	50	0 / 37
	Benzoic acid	ND - 0.480	--	NA
	Bis(2-Ethylhexyl) phthalate	ND - 0.940	50	0 / 37
	Carbazole	ND - 0.130	--	NA
	Di-n-butyl phthalate	ND - 0.120	8.1	0 / 37
	Dibenzofuran	ND - 5.6	6.2	0 / 37
	Fluoranthene	ND - 1.8	50	0 / 37
	Fluorene	ND - 11	50	0 / 37
	N-Nitrosodi-n-propylamine	ND - 7.6	--	NA
	N-Nitrosodiphenylamine	ND - 11	--	NA
	Naphthalene	ND - 20	13	1/ 37
	Phenanthrene	ND - 26	50	0 / 37
	Pyrene	ND - 2.6	50	0 / 37
Total cPAHs				
	Total cPAHs	ND - 6.690	25	0 / 79
Inorganic Compounds				
	Aluminum	1,600 - 7,000	33000	0 / 25
	Antimony	ND - 4.9	--	NA
	Arsenic	ND - 8.9	7.5	2 / 25
	Barium	ND - 418	300	1 / 25
	Beryllium	ND - 0.63	0.16	3 / 25
	Cadmium	ND - 3.7	1	3 / 25
	Calcium	242 - 9560	35000	0 / 25
	Chromium	4.4 - 66.3	10	13 / 25
	Cobalt	ND - 6.6	30	0 / 25
	Copper	3.9 - 406	25	10 / 25
	Iron	3,910 - 38,700	2000	25 / 25
	Lead	1.5 - 591	1000	0 / 67
	Magnesium	802 - 7160	5000	2 / 25
	Manganese	3.27 - 1460	5000	0 / 25
	Mercury	ND - 0.37	0.1	4 / 25
	Nickel	4.5 - 24.5	13	7 / 25
	Potassium	265 - 1420	43000	0 / 25
	Selenium	ND - 2.2	2	1 / 25
	Silver	ND - 0.79	--	NA
	Sodium	ND - 433	8,000	0 / 25
	Thallium	ND - 0.24	--	NA
	Vanadium	5.9 - 46.3	150	0 / 25
	Zinc	9.5 - 763	20	18 / 25
Polychlorinated Biphenyls (PCBs)				
	Total Aroclors	ND - 8.0	25	0 / 117

Table 1. Environmmental Media Range of Sampling Results and Exceedances of SCGs
OU-3 PRAP, Sunnyside Yard, Queens, New York

SUBSURFACE SOIL	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]	Screening Criteria[b] (ppm)[a]	Frequency Exceeding Screening Criteria
TCLP Semivolatile Organic Compounds (SVOCs)				
	None	All ND		
TCLP Inorganic Compounds				
	Arsenic	ND - 0.0756	5	0 / 2
	Barium	0.873 - 1.090	100	0 / 2
	Cadmium	ND - 0.026	1	0 / 2
	Lead	ND - 0.0271	5	0 / 2
GROUNDWATER	**Potential Contaminants of Concern**	**Concentration Range Detected[1] (ppb)[a]**	**Screening Criteria[b] (ppb)[a]**	**Frequency Exceeding Screening Criteria**
Volatile Organic Compounds				
(VOCs)				
	1,1-Dichloroethane	ND - 3	5	0 / 32
	1,2-Dichloroethene (total)	ND - 14	5	1 / 32
	2-Hexanone	ND - 4.8	50	0 / 32
	4-Methyl-2-Pentanone	ND - 1300	--	NA
	Acetone	ND - 14	50	0 / 32
	Benzene	ND - 4	1	4 / 32
	Bromodichloromethane	ND - 3	50	0 / 32
	Carbon Disulfide	ND - 0.7	--	0 / 32
	Ethyl Benzene	ND - 8.8	5	2 / 32
	m&p-Xylenes	ND - 12	5	1 / 32
	o-Xylene	ND - 2.6	5	0 / 32
	Styrene	ND - 1	5	0 / 32
	Tetrachloroethene	ND - 23	5	1 / 32
	Toluene	ND - 5	5	0 / 32
	Trichloroethene	ND - 24	5	1 / 32
	Xylene (total)	ND - 18	5	1 / 32
Semivolatile Organic Compounds				
(SVOCs)				
	2-Methylphthalene	ND - 210	--	NA
	4-Methylphenol	ND - 0.7	--	NA
	Acephthene	ND - 9.8	20	0 / 56
	Anthracene	ND - 2	50	0 / 51
	Benzo(a)pyrene	ND - 0.2	--	NA
	Benzo(b)fluoranthene	ND - 0.2	0.002	1 / 50
	Benzo(k)fluoranthene	ND - 0.3	0.002	1 / 50
	bis(2-Ethylhexyl)phthalate	ND - 44	5	4 / 52
	Butylbenzylphthalate	ND - 0.2	50	0 / 50
	Di-n-butylphthalate	ND - 2	--	NA
	Di-n-octylphthalate	ND - 0.3	50	0 / 50
	Dibenzofuran	ND - 13	--	0 / 56
	Diethylphthalate	0-0.6	50	0 / 51
	Fluoranthene	ND - 1	50	0 / 53
	Fluorene	ND - 14	50	0 / 52
	Indeno(1,2,3-cd)pyrene	ND - 0.2	0.002	1 / 50
	Naphthalene	ND - 2	10	0 / 50
	Phenthrene	ND - 11	50	0 / 55
	Pyrene	ND - 0.9	50	0 / 53

Table 1. Environmmental Media Range of Sampling Results and Exceedances of SCGs
OU-3 PRAP, Sunnyside Yard, Queens, New York

GROUNDWATER	Potential Contaminants of Concern	Concentration Range Detected[1] (ppb)[a]	Screening Criteria[b] (ppb)[a]	Frequency Exceeding Screening Criteria
Inorganic Compounds				
	Aluminum	19.8-14200	--	N/A
	Antimony	ND - 45.5	3	6 / 27
	Arsenic	ND - 27.5	25	1 / 27
	Barium	16 - 696	1000	0 / 27
	Beryllium	ND - 0.27	3	0 / 27
	Calcium	7200 - 128000	--	NA
	Chromium, Total	ND - 37.8	50	0 / 27
	Cobalt	ND - 15.5	--	0 / 27
	Copper	ND - 114	200	0 / 27
	Iron	242 - 118000	300	32 / 33
	Lead	ND - 207	25	4 / 27
	Magnesium	1130 - 50000	35000	1 / 27
	Manganese	331 - 6310	300	34 / 34
	Mercury	ND - 0.7	0.7	0 / 27
	Nickel	ND - 26	100	0 / 27
	Potassium	1030 - 6180	--	0 / 27
	Selenium	ND - 5.5	10	0 / 27
	Silver	ND - 2.4	50	0 / 27
	Sodium	7960 - 209000	20000	20 / 27
	Thallium	ND - 6.3	0.5	2 / 27
	Vanadium	ND - 51.4	--	NA
	Zinc	11.7 - 157	2000	0 / 27
Polychlorinated Biphenyls (PCBs) [2]				
	Total Aroclors	ND - 8.9	0.09	5 / 60

SEPARATE PHASE HYDROCARBON (SPH)	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]	Screening Criteria[b] (ppb)[a]	Frequency Exceeding Screening Criteria
Polychlorinated Biphenyls (PCBs)				
	Total Aroclors	ND - 360	--	NA

SEWER WATER	Potential Contaminants of Concern	Concentration Range Detected[1] (ppb)[a]	Screening Criteria[b] (ppb)[a]	Frequency Exceeding Screening Criteria
Polychlorinated Biphenyls (PCBs)				
	Total Aroclors	ND - 14.8	--	NA

SEWER SEDIMENT	Potential Contaminants of Concern	Concentration Range Detected[1] (ppm)[a]	Screening Criteria[b] (ppm)[a]	Frequency Exceeding Screening Criteria
Polychlorinated Biphenyls (PCBs)				
	Total Aroclors	7.39 - 54	--	NA

Table 1. Environmmental Media Range of Sampling Results and Exceedances of SCGs
OU-3 PRAP, Sunnyside Yard, Queens, New York

Notes:

[1] Concentration ranges exhibit minimum to maximum values (includes non-detect [ND] values).

[2] Indicates groundwater samples with concentrations of PCBs greater than the screening criteria were either turbid, or contained a petroleum sheen.

[a] ppb=parts per billion, which is equivalent to micrograms per liter (ug/l) for groundwater and sewer water samples; ppm=parts per million, which is equivalent to milligrams per kilogram (mg/kg) for soil, sewer sediment, and SPH samples and milligrams per liter (mg/L) for TCLP samples

[b] Screening criteria include the following:

Soil:

PCBs - NYSDEC Site-Specific Cleanup Level (25 ppm)
cPAHs - NYSDEC Site-Specific Cleanup Level (25 ppm)
Lead - NYSDEC Site-Specific Cleanup Level (1,000 ppm)
Remaining soil parameters - NYSDEC NYSDEC TAGM 4046 Recommended Soil Cleanup Objectives

Groundwater: Class GA Groundwater Standards

[c] cPAHs - Seven specific polycyclic aromatic hydrocarbons (PAHs) the NYSDEC considers to be carcinogenic (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene).

Table 2
Remedial Alternative Costs
Amtrak Sunnyside Yard, Queens, New York

Remedial Alternative	Capital Cost	Present Value OM&M	Total Present Worth
Remedial Alternative 1: No Further Action	$0	$0	$0
Remedial Alternative II: Excavation of Mobile SPH/Enhanced In Situ Biodegradation of Residual SPH/In-place Cleaning of Engine House Service Pits/Removal of USTs, Exterior Engine House Inspection Pits and Fuel Pump Vaults	**$4,238,582**	**$75,811**	**$4,314,393**
Remedial Alternative III: Excavation/Off-Site Disposal and Removal of Mobile and Residual SPH and SPH-Impacted Soil/Off-Site Disposal of Subsurface Structures and USTs	$12,099,356	$0	$12,099,356