



A DIVISION OF HALEY & ALDRICH

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January 30, 2025  
*(Revised February 5, 2025)*

-- Via E-Mail: *brian.oneill@hmhn.org* --

Mr. Brian O'Neill  
Hackensack Meridian Health  
343 Thornall Street  
8<sup>th</sup> Floor  
Edison, New Jersey 08837

**RE: Preliminary Landfill Characterization Sampling Results**  
Jersey Shore University Medical Center

Dear Mr. O'Neill:

The ELM Group, A Division of Haley & Aldrich (ELM), has prepared this letter to present a summary of the results of the landfill characterization sampling conducted in November 2024 in support of planned redevelopment activities at the Jersey Shore University Medical Center (JSUMC). As you are aware, a portion of the property is located on a closed solid waste landfill and as such certain activities need to be implemented to ensure regulatory compliance and safe working conditions.

Closure of the landfill was completed through the NJDEP Department of Solid and Hazardous Waste Management Program (Solid Waste) as memorialized in the March 26, 2006, Closure Plan Approval. Since that time, regulations have been enacted which require that sites comply with the Site Remediation Program (SRP) regulations if buildings are going to be erected on landfills (N.J.A.C. 7:26C-1.4(c)2i).

To that end, analytical data is necessary to characterize the concentrations of regulated compounds within the landfill material/soils beneath the proposed buildings. Collection of these characterization samples was coupled with the geotechnical investigation being conducted by Langan ahead of the planned construction activities. Between November 14 and November 27, 15 borings were installed in two of the three areas being redeveloped: the Central Tower and the Loading Dock (see Figure 1). Future investigation is planned around a third proposed building, the New Car Garage, which have not yet been conducted and will be reported under separate cover.

A minimum of one soil sample was collected from each of the borings. Sample intervals were biased toward the soil exhibiting greatest signs of impact such as odor, staining, refuse content, or PID readings. Samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, PCBs, Target Analyte List (TAL) metals, and cyanide.

When no landfill material was observed, samples were collected from the depth interval at which landfill have typically been encountered (i.e. 3 ft to 10 ft bgs) for delineation purposes. When refuse material was evident, a second soil sample was collected on contingency from the soils below the refuse layer. This second samples were only analyzed if the initial sample had regulated compounds in excess of the Soil Remediation Standards (N.J.A.C. 7:26D et. Seq).

A similar investigation and evaluation of the landfill condition will be conducted at the location of the proposed garage building. At the time of this letter, those investigations have yet to be conducted.

## **RESULTS SUMMARY**

Landfill material was not observed in any of the borings conducted in the Central Tower area. Five of the 11 borings in the Loading Dock area had observations of landfill material, at thicknesses between 1 foot and 10 feet. The location and intervals at which landfill fill material was observed are provided on Figure 1 which also includes landfill thickness data collected during previous investigations.

In general, the analytical samples collected from the landfill material and soil samples collected during investigation were largely compliant with NJDEP Soil Remediation Standards (SRS). At one location (CT-3), the compound benzo(a)anthracene exceeds the Migration to Ground Water (MGW) SRS and the compound benzo(a)pyrene exceeds the Residential Direct Contact SRS in the sample collected from 10 feet bgs. Five samples collected from borings within the Loading Dock area contain concentrations of lead greater than the MGW SRS of 90 mg/kg. At two locations, landfill material collect from the Loading Dock area exceeds the MGW SRS for silver. A summary of the compounds that exceeded criteria is provided on Figure 2 and Table 1.

At several locations, the concentrations of cadmium and mercury exceed the default MGW SRS. In accordance with applicable NJDEP Guidance, Site Specific Alternative Remediation Standards were developed for cadmium and mercury for the MGW pathway. Through this process, the MGW criteria was increased and compliance with the MGW exposure pathway was achieved.

The findings of the most recent investigation are comparable with the results of past investigations of the landfill material. As is currently the case with known impacts of the landfill material, the most appropriate remedial action for these exceedances of the NJDEP SRS, is inclusion within a deed notice restriction for the property and application for a Remedial Action Permit for Soil. Based on the exceedances of the MGW SRS, it is likely that a CEA and potentially a Remedial Action Permit for Ground Water will be necessary for presumed ground water impacts.

**Oneill, Brian  
Hackensack Meridian Health  
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If you require additional information, please contact the undersigned.

We look forward to continuing our assistance in this matter.

**THE ELM GROUP, INC.  
A DIVISION OF HALEY & ALDRICH**



Joey French, CHMM  
Project Manager

RJF/emf

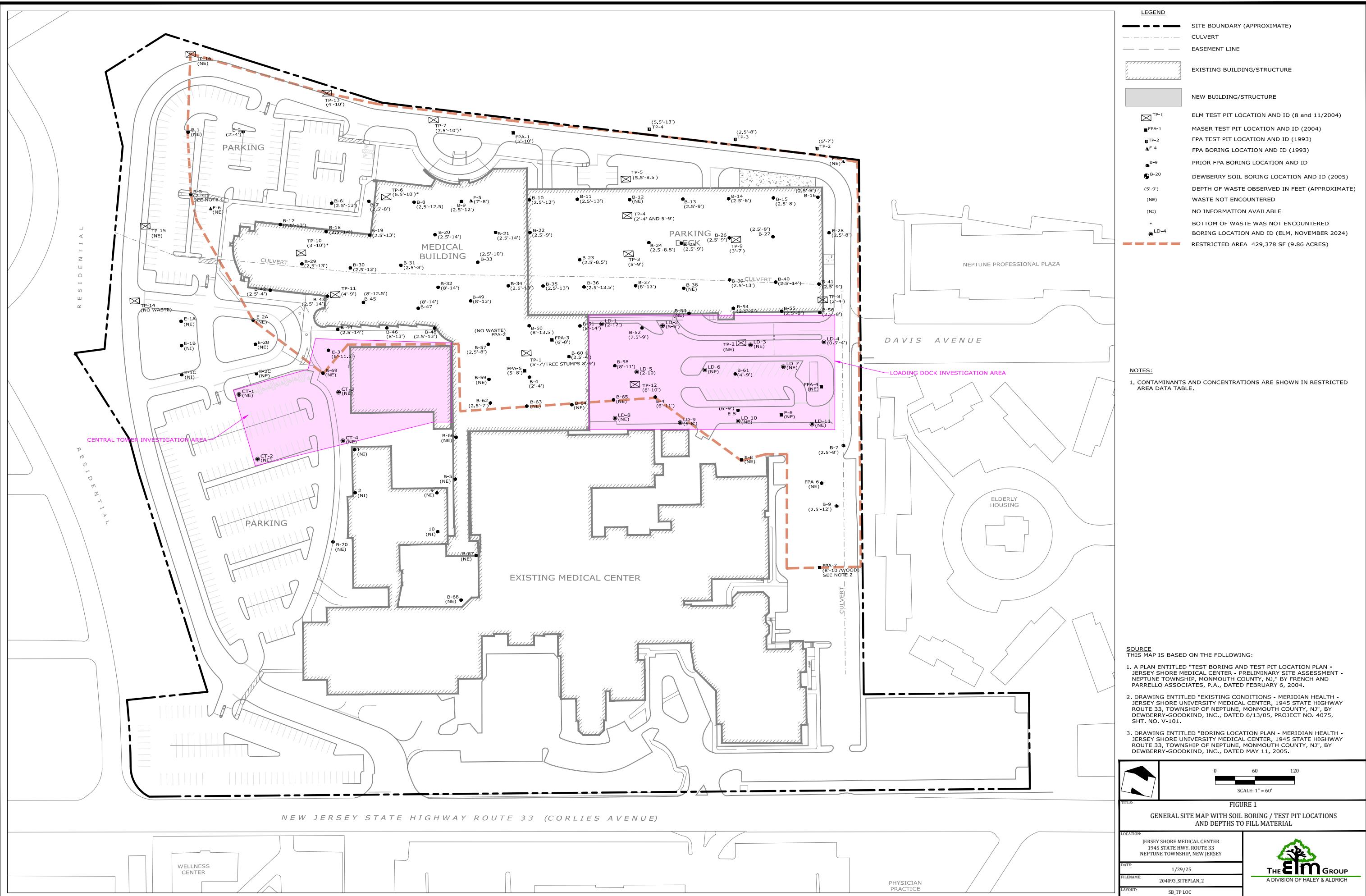
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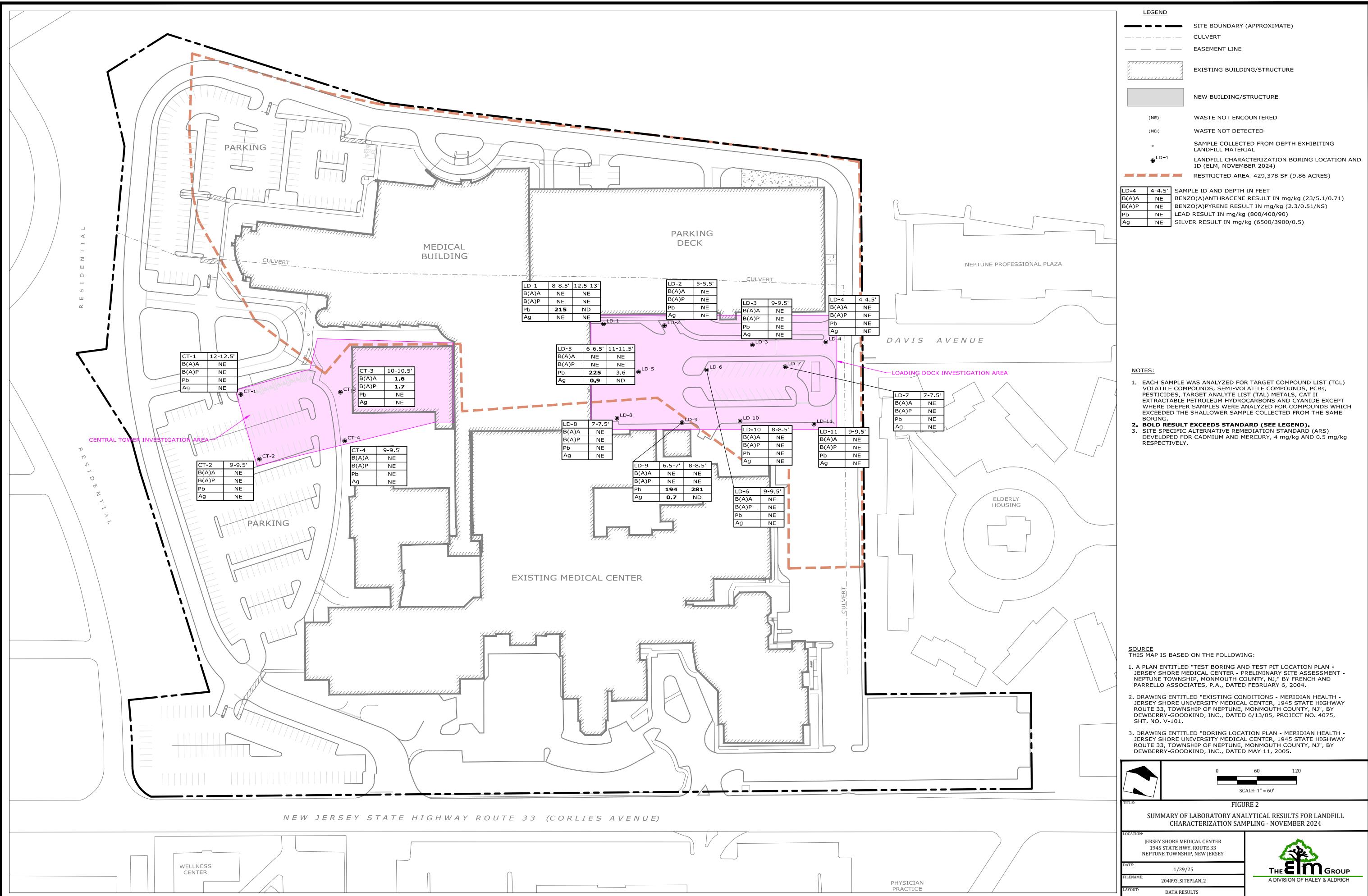


## **LIST OF ENCLOSURES**

- Figure 1: General Site Map Showing Soil Boring/ Test Pit
- Figure 2: Summary of Laboratory Analytical Results for Landfill Characterization Sampling – November 2024
- Table 1: Summary of Landfill Characterization Analytical Samples







**TABLE 1**  
**Summary of Landfill Characterization Analytical Samples.**  
**Project: JSUMC (Jersey Shore University Medical Center)**  
**1945 NJ-RTE 33**  
**NEPTUNE, NEW JERSEY**

Location ID Sample ID Lab Sample ID Sample Media Sample Date Sample Depth (ft bgs) Units of Measure	Chemical Abstract System (CAS) Number	NJDEP Non-Residential Most Stringent Soil Remediation Standard (2021) mg/kg	NJDEP Residential Most Stringent Soil Remediation Standard (2021) mg/kg	NJDEP Migration to Ground Water Soil Remediation Standards (2021) mg/kg	CT-1 CT-1-12.0-111424 L2467504-01 Soil 11/14/2024 12 - 12.5' mg/kg	CT-2 CT-2-9.0-111524 L2467504-03 Soil 11/15/2024 9 - 9.5' mg/kg	CT-3 CT-3-10.0-111524 L2467504-02 Soil 11/15/2024 10 - 10.5' mg/kg	CT-4 CT-4-9.0-111824 L2467504-09 Soil 11/18/2024 9 - 9.5' mg/kg	LD-1 LD-1-8.0-111624 L2467504-05 Soil 11/16/2024 8 - 8.5' mg/kg	LD-1 LD-1-12.5-111624 L2467504-06 Soil 11/16/2024 12.5 - 13' mg/kg	LD-2 LD-2-5.0-112624 L2469777-04 Soil 11/26/2024 5 - 5.5' mg/kg
<b>EPH</b>											
EXTRACT, PETRO. HYDROCARBONS	EPHTOT	75000	5300	NS	39.1	28.8 U	147	29.6 U	118	NT	850
<b>VOLATILE ORGANIC COMPOUNDS</b>											
ACETONE	67-64-1	NS	70000	19	0.063	0.061	0.24	0.031 U	0.044	NT	0.016 J
BENZENE	71-43-2	11	2.2	0.0094	0.0006 U	0.00052 U	0.00092 U	0.00063 U	0.00058 U	NT	0.00034 U
BROMOCHLOROMETHANE	74-97-5	NS	NS	NS	0.0024 U	0.0021 U	0.0037 U	0.0025 U	0.0023 U	NT	0.0014 U
BROMODICHLOROMETHANE	75-27-4	59	11	0.005	0.0006 U	0.00052 U	0.00092 U	0.00063 U	0.00058 U	NT	0.00034 U
BROMOFORM	75-25-2	460	88	0.018	0.0048 U	0.0041 U	0.0073 U	0.005 U	0.0047 U	NT	0.0027 U
BROMOMETHANE	74-83-9	82	18	0.043	0.0024 U	0.0021 U	0.0037 U	0.0025 U	0.0023 U	NT	0.0014 U
2-BUTANONE	78-93-3	780000	47000	0.98	0.0032 J	0.0036 J	0.055	0.012 U	0.0079 J	NT	0.002 J
CARBON DISULFIDE	75-15-0	NS	NS	3.7	0.006 J	0.01 U	0.018 U	0.012 U	0.012 U	NT	0.0068 U
CARBON TETRACHLORIDE	56-23-5	6.9	1.4	0.0075	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
CHLOROBENZENE	108-90-7	8400	510	0.64	0.0006 U	0.00052 U	0.00092 U	0.00063 U	0.00083	NT	0.00034 U
CHLOROETHANE	75-00-3	NS	NS	NS	0.0024 U	0.0021 U	0.0037 U	0.0025 U	0.0023 U	NT	0.0014 U
CHLOROFORM	67-66-3	13000	590	0.33	0.00029 J	0.0016 U	0.0027 U	0.0019 U	0.0018 U	NT	0.001 U
CHLOROMETHANE	74-87-3	1200	270	NS	0.0011 J	0.0041 U	0.0073 U	0.005 U	0.0047 U	NT	0.0027 U
CYCLOHEXANE	110-82-7	NS	NS	NS	0.012 U	0.01 U	0.018 U	0.012 U	0.012 U	NT	0.0068 U
1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	0.12	0.026	0.005	0.0036 U	0.0031 U	0.0055 U	0.0038 U	0.0035 U	NT	0.002 U
1,2-DIBROMOETHANE	106-93-4	0.41	0.085	0.005	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
DIBROMOCHLOROMETHANE	124-48-1	43	8.3	0.005	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
1,2-DICHLOROBENZENE	95-50-1	110000	6700	11	0.0024 U	0.0021 U	0.0037 U	0.0025 U	0.0023 U	NT	0.0014 U
1,3-DICHLOROBENZENE	541-73-1	110000	6700	11	0.0024 U	0.0021 U	0.0037 U	0.0025 U	0.0023 U	NT	0.0014 U
1,4-DICHLOROBENZENE	106-46-7	13000	780	1.4	0.0024 U	0.0021 U	0.0037 U	0.0025 U	0.0044 J	NT	0.0014 U
DICHLORODIFLUOROMETHANE	75-71-8	260000	16000	38	0.012 U	0.01 U	0.018 U	0.012 U	0.012 U	NT	0.0068 U
1,1-DICHLOROETHANE	75-34-3	640	120	0.24	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
1,2-DICHLOROETHANE	107-06-2	30	5.8	0.0095	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
1,1-DICHLOROETHENE	75-35-4	180	11	0.0069	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
TRANS-1,2-DICHLOROETHENE	156-60-5	22000	1300	0.56	0.0018 U	0.0016 U	0.0027 U	0.0019 U	0.0018 U	NT	0.001 U
CIS-1,2-DICHLOROETHENE	156-59-2	13000	780	0.35	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
1,2-DICHLOROPROPANE	78-87-5	27	5.7	0.0058	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
CIS-1,3-DICHLOROPROPENE	10061-01-5	NS	NS	NS	0.0006 U	0.00052 U	0.00092 U	0.00063 U	0.00058 U	NT	0.00034 U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	NS	NS	NS	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
TOTAL, 1,3-DICHLOROPROPENE	542-75-6	23	4.8	0.0063	0.0006 U	0.00052 U	0.00092 U	0.00063 U	0.00058 U	NT	0.00034 U
1,4-DIOXANE	123-91-1	36	7	0.067	0.032 U	0.083 U	0.037 U	0.031 U	0.094 U	NT	0.055 U
ETHYLBENZENE	100-41-4	48	10	15	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
2-HEXANONE	591-78-6	6500	390	0.15	0.012 U	0.01 U	0.018 U	0.012 U	0.012 U	NT	0.00068 U
ISOPROPYLBENZENE	98-82-8	130000	7800	22	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
METHYL ACETATE	79-20-9	NS	78000	22	0.0048 U	0.0019 J	0.0073 U	0.005 U	0.0047 U	NT	0.0027 U
METHYLCYCLOHEXANE	108-87-2	NS	NS	NS	0.0048 U	0.0041 U	0.0073 U	0.005 U	0.0047 U	NT	0.0027 U
METHYLENE CHLORIDE	75-09-2	260	50	0.013	0.006 U	0.0052 U	0.0092 U	0.0063 U	0.0058 U	NT	0.0034 U

Notes:

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Table 1

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4-METHYL-2-PENTANONE	108-10-1	NS	NS	0.012 U	0.01 U	0.018 U	0.012 U	0.012 U	NT	0.0068 U	
METHYL TERT-BUTYL ETHER	1634-04-4	650	140	0.25	0.0024 U	0.0021 U	0.0037 U	0.0025 U	0.0023 U	NT	0.0014 U
STYRENE	100-42-5	260000	16000	2.1	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
1,1,2,2-TETRACHLOROETHANE	79-34-5	18	3.5	0.0069	0.0006 U	0.00052 U	0.00092 U	0.00063 U	0.00058 U	NT	0.00034 U
TETRACHLOROETHENE	127-18-4	1700	47	0.0086	0.0006 U	0.00052 U	0.00092 U	0.00063 U	0.00058 U	NT	0.00034 U
TOLUENE	108-88-3	100000	6300	7.8	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
1,2,3-TRICHLOROBENZENE	87-61-6	NS	NS	0.0024 U	0.0021 U	0.0037 U	0.0025 U	0.0023 U	NT	0.0014 U	
1,2,4-TRICHLOROBENZENE	120-82-1	13000	94	0.52	0.0024 U	0.0021 U	0.0037 U	0.0025 U	0.0023 U	NT	0.0014 U
1,1,2-TRICHLOROETHANE	79-00-5	64	12	0.017	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
TRICHLOROFLUOROMETHANE	75-69-4	390000	23000	29	0.0048 U	0.0041 U	0.0073 U	0.005 U	0.0047 U	NT	0.0027 U
1,1,2-TRICHLORO-1,2,2-TFE	76-13-1	NS	NS	0.0048 U	0.0041 U	0.0073 U	0.005 U	0.0047 U	NT	0.0027 U	
1,1,1-TRICHLOROETHANE	71-55-6	NS	160000	0.2	0.0006 U	0.00052 U	0.00092 U	0.00063 U	0.00058 U	NT	0.00034 U
TRICHLOROETHENE	79-01-6	14	3	0.0065	0.0006 U	0.00052 U	0.00092 U	0.00063 U	0.00058 U	NT	0.00034 U
VINYL CHLORIDE	75-01-4	5	0.97	0.0067	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
M&P XYLENE	MPXYLENE	NS	NS	NS	0.0024 U	0.0021 U	0.0037 U	0.0025 U	0.0023 U	NT	0.0014 U
O-XYLENE	95-47-6	NS	NS	NS	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
XYLENES (TOTAL)	1330-20-7	190000	12000	19	0.0012 U	0.001 U	0.0018 U	0.0012 U	0.0012 U	NT	0.00068 U
TOTAL VOLATILE ORGANIC TICS	TVOT	NS	NS	NS	0.036 J	0 U	0.047 J	0.059 J	0.022 J	NT	0.001 J
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>											
ACENAPHTHENE	83-32-9	50000	3600	NS	0.17 U	0.16 U	0.11 J	0.16 U	0.18 U	NT	0.14 U
ACENAPHTHYLENE	208-96-8	NS	NS	NS	0.17 U	0.16 U	0.37	0.16 U	0.034 J	NT	0.044 J
ACETOPHENONE	98-86-2	130000	7800	3.6	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
ANTHRACENE	120-12-7	250000	18000	NS	0.13 U	0.12 U	0.48	0.12 U	0.024 J	NT	0.035 J
ATRAZINE	1912-24-9	3200	220	0.33	0.17 U	0.16 U	0.2 U	0.16 U	0.18 U	NT	0.14 U
BENZALDEHYDE	100-52-7	910	170	NS	0.28 U	0.27 U	0.32 U	0.27 U	0.3 U	NT	0.24 U
BENZO(A)ANTHRACENE	56-55-3	23	5.1	<b>0.71</b>	0.071 U	0.068 U	<b>1.6</b>	0.069 U	0.076 J	NT	0.13
BENZO(A)PYRENE	50-32-8	2.3	<b>0.51</b>	NS	0.15 U	0.15 U	<b>1.7</b>	0.15 U	0.081 J	NT	0.13
BENZO(B)FLUORANTHENE	205-99-2	23	5.1	NS	0.053 U	0.051 U	1.8	0.052 U	0.091	NT	0.2
BENZO(G,H,I)PERYLENE	191-24-2	NS	NS	NS	0.17 U	0.16 U	0.87	0.16 U	0.058 J	NT	0.067 J
BENZO(K)FLUORANTHENE	207-08-9	230	51	NS	0.044 U	0.042 U	0.75	0.043 U	0.037 J	NT	0.034 J
1,1-BIPHENYL	92-52-4	450	87	NS	0.48 U	0.46 U	0.56 U	0.46 U	0.52 U	NT	0.41 U
BIS(2-CHLOROETHOXY) METHANE	111-91-1	2700	190	NS	0.23 U	0.22 U	0.26 U	0.22 U	0.25 U	NT	0.2 U
BIS(2-CHLOROETHYL) ETHER	111-44-4	3.3	0.63	0.33	0.076 U	0.073 U	0.088 U	0.074 U	0.083 U	NT	0.065 U
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	52000	3100	1.9	0.25 U	0.24 U	0.29 U	0.24 U	0.28 U	NT	0.22 U
BIS(2-ETHYLHEXYL)PHthalate	117-81-7	180	39	14	0.21 U	0.2 U	0.24 U	0.2 U	0.2 U	NT	0.18 U
4-BROMOPHENYL-PHENYLETHER	101-55-3	NS	NS	NS	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
BUTYLBENZYLPHthalate	85-68-7	1300	290	29	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
CAPROLACTAM	105-60-2	1300	290	16	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
CARBAZOLE	86-74-8	NS	NS	NS	0.21 U	0.2 U	0.13 J	0.2 U	0.23 U	NT	0.18 U
4-CHLORO-3-METHYLPHENOL	59-50-7	NS	NS	NS	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U

Notes:

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Table 1

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4-CHLORANILINE	106-47-8	13	2.7	0.23	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
2-CHLORONAPHTHALENE	91-58-7	67000	4800	NS	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
2-CHLOROPHENOL	95-57-8	6500	390	0.76	0.07 U	0.067 U	0.081 U	0.067 U	0.076 U	NT	0.06 U
4-CHLOROPHENYL-PHENYLETHER	7005-72-3	NS	NS	NS	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
CHRYSENE	218-01-9	2300	510	NS	0.13 U	0.12 U	1.6	0.12 U	0.083 J	NT	0.18
DIBENZO[A,H]ANTHRACENE	53-70-3	2.3	0.51	NS	0.073 U	0.07 U	0.21	0.071 U	0.08 U	NT	0.021 J
DIBENZOFURAN	132-64-9	NS	NS	NS	0.21 U	0.2 U	0.071 J	0.2 U	0.23 U	NT	0.18 U
3,3'-DICHLOROBENZIDINE	91-94-1	5.7	1.2	3.9	0.16 U	0.16 U	0.19 U	0.16 U	0.18 U	NT	0.14 U
2,4-DICHLOROPHENOL	120-83-2	2700	190	0.19	0.1 U	0.097 U	0.12 U	0.098 U	0.11 U	NT	0.087 U
DIETHYLPHthalATE	84-66-2	730000	51000	44	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
2,4-DIMETHYLPHENOL	105-67-9	18000	1300	2.3	0.2 U	0.19 U	0.23 U	0.19 U	0.22 U	NT	0.17 U
DIMETHYLPHthalATE	131-11-3	NS	NS	NS	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
DI-N-BUTYLPHthalATE	84-74-2	91000	6300	NS	0.21 U	0.2 U	0.24 U	0.2 U	0.066 J	NT	0.18 U
DI-N-OCTYLPHthalATE	117-84-0	9100	630	NS	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
4,6-DINITRO-2-METHYLPHENOL	534-52-1	NS	NS	NS	0.3 U	0.29 U	0.35 U	0.29 U	0.33 U	NT	0.26 U
2,4-DINITROPHENOL	51-28-5	1800	130	0.33	0.3 U	0.29 U	0.35 U	0.29 U	0.33 U	NT	0.26 U
2,4-DINITROTOLUENE	121-14-2	NS	NS	NS	0.1 U	0.1 U	0.12 U	0.1 U	0.11 U	NT	0.09 U
2,6-DINITROTOLUENE	606-20-2	NS	NS	NS	0.084 U	0.08 U	0.097 U	0.081 U	0.091 U	NT	0.072 U
FLUORANTHENE	206-44-0	33000	2400	NS	0.13 U	0.12 U	3.4	0.12 U	0.14	NT	0.2
FLUORENE	86-73-7	33000	2400	NS	0.21 U	0.2 U	0.17 J	0.2 U	0.23 U	NT	0.017 J
HEXACHLOROBENZENE	118-74-1	2.3	0.43	0.17	0.061 U	0.058 U	0.07 U	0.059 U	0.066 U	NT	0.052 U
HEXACHLOROBUTADIENE	87-68-3	47	8.9	0.17	0.078 U	0.075 U	0.091 U	0.076 U	0.086 U	NT	0.067 U
HEXACHLOROCYCLOPENTADIENE	77-47-4	7800	2.7	2.5	0.6 U	0.58 U	0.7 U	0.58 U	0.66 U	NT	0.52 U
HEXACHLOROETHANE	67-72-1	91	17	0.17	0.1 U	0.098 U	0.12 U	0.099 U	0.11 U	NT	0.088 U
INDENO[1,2,3-CD]PYRENE	193-39-5	23	5.1	NS	0.089 U	0.085 U	0.87	0.086 U	0.048 J	NT	0.056 J
ISOPHORONE	78-59-1	2700	570	0.23	0.071 U	0.068 U	0.082 U	0.069 U	0.077 U	NT	0.061 U
2-METHYLNAPHTHALENE	91-57-6	3300	240	3.1	0.25 U	0.24 U	0.029 J	0.24 U	0.28 U	NT	0.22 U
2-METHYLPHENOL	95-48-7	4600	320	0.77	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
3- AND 4- METHYLPHENOL	MEPH3MEPH4	NS	NS	NS	0.3 U	0.29 U	0.35 U	0.29 U	0.33 U	NT	0.26 U
NAPHTHALENE	91-20-3	27	5.7	19	0.21 U	0.2 U	0.072 J	0.2 U	0.092 J	NT	0.18 U
2-NITROANILINE	88-74-4	NS	NS	NS	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
3-NITROANILINE	99-09-2	NS	NS	NS	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
4-NITROANILINE	100-01-6	130	27	NS	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
NITROBENZENE	98-95-3	36	7.5	0.17	0.094 U	0.09 U	0.11 U	0.091 U	0.1 U	NT	0.08 U
2-NITROPHENOL	88-75-5	NS	NS	NS	0.46 U	0.44 U	0.53 U	0.44 U	0.5 U	NT	0.39 U
4-NITROPHENOL	100-02-7	NS	NS	NS	0.3 U	0.28 U	0.34 U	0.29 U	0.32 U	NT	0.25 U
N-NITROSO-DI-N-PROPYLAMINE	621-64-7	0.36	0.17	0.17	0.053 U	0.051 U	0.062 U	0.052 U	0.058 U	NT	0.046 U
N-NITROSODIPHENYLAMINE	86-30-6	520	110	1.1	0.052 U	0.05 U	0.06 U	0.05 U	0.057 U	NT	0.044 U
PENTACHLOROPHENOL	87-86-5	4.4	1	0.33	0.14 U	0.13 U	0.16 U	0.13 U	0.15 U	NT	0.12 U
PHENANTHRENE	85-01-8	NS	NS	NS	0.13 U	0.12 U	1.8	0.12 U	0.058 J	NT	0.13

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Table 1  
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\\haleyaldrich.com\share\elm\Projects\204093-Meridian\_JSMC\2024\_GeoTech\Results-Ltr\ Table-1\_SO\_Exceed\_20250124

**TABLE 1**  
**Summary of Landfill Characterization Analytical Samples.**  
**Project: JSUMC (Jersey Shore University Medical Center)**  
**1945 NJ-RTE 33**  
**NEPTUNE, NEW JERSEY**

Location ID Sample ID Lab Sample ID Sample Media Sample Date Sample Depth (ft bgs) Units of Measure	Chemical Abstract System (CAS) Number	NJDEP Non-Residential Most Stringent Soil Remediation Standard (2021) mg/kg	NJDEP Residential Most Stringent Soil Remediation Standard (2021) mg/kg	NJDEP Migration to Ground Water Soil Remediation Standards (2021) mg/kg	CT-1 CT-1-12.0-111424 L2467504-01 Soil 11/14/2024 12 - 12.5' mg/kg	CT-2 CT-2-9.0-111524 L2467504-03 Soil 11/15/2024 9 - 9.5' mg/kg	CT-3 CT-3-10.0-111524 L2467504-02 Soil 11/15/2024 10 - 10.5' mg/kg	CT-4 CT-4-9.0-111824 L2467504-09 Soil 11/18/2024 9 - 9.5' mg/kg	LD-1 LD-1-8.0-111624 L2467504-05 Soil 11/16/2024 8 - 8.5' mg/kg	LD-1 LD-1-12.5-111624 L2467504-06 Soil 11/16/2024 12.5 - 13' mg/kg	LD-2 LD-2-5.0-112624 L2469777-04 Soil 11/26/2024 5 - 5.5' mg/kg
PHENOL	108-95-2	270000	19000	21	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
PYRENE	129-00-0	25000	1800	NS	0.13 U	0.12 U	3	0.12 U	0.14	NT	0.24
1,2,4,5-TETRACHLOROBENZENE	95-94-3	390	23	NS	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
2,3,4,6-TETRACHLOROPHENOL	58-90-2	27000	1900	26	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
2,4,5-TRICHLOROPHENOL	95-95-4	91000	6300	68	0.21 U	0.2 U	0.24 U	0.2 U	0.23 U	NT	0.18 U
2,4,6-TRICHLOROPHENOL	88-06-2	230	49	0.86	0.12 U	0.12 U	0.14 U	0.12 U	0.13 U	NT	0.1 U
TOTAL SVOC TICS	TSVOT	NS	NS	NS	0.666 J	0.645 J	11.4 J	0 U	21.6 J	NT	0.38 J
<b>METALS</b>											
ALUMINUM	7429-90-5	NS	78000	NS	2130	1220	1810	874	4570	NT	3640
ANTIMONY	7440-36-0	520	31	5.4	4.88 U	4.7 U	5.93 U	4.81 U	0.796 J	NT	4.19 U
ARSENIC	7440-38-2	19	19	19	0.482 J	1.05	0.767 J	2.78	4.48	NT	1.48
BARIUM	7440-39-3	260000	16000	2100	4.87	4.02	61.6	3.87	83.5	NT	15.4
BERYLLIUM	7440-41-7	2600	160	0.7	0.054 J	0.47 U	0.593 U	0.481 U	0.08 J	NT	0.054 J
CADMIUM	7440-43-9	1100	71	4*	3.95	0.94 U	0.326 J	0.963 U	1.96	1.82 U	0.173 J
CALCIUM	7440-70-2	NS	NS	NS	70.2	180	2600	207	4090	NT	3680
CHROMIUM	7440-47-3	NS	NS	NS	14.2	7.95	3.71	6.6	25.2	NT	8.46
COBALT	7440-48-4	390	23	90	3.02	1.88 U	2.37 U	1.92 U	3	NT	3.03
COPPER	7440-50-8	52000	3100	910	0.977 U	1.7	3.94	1.27	45.1	NT	34.4
CYANIDE	57-12-5	NS	NS	NS	1.2 U	1.1 U	1.4 U	1.2 U	0.37 J	NT	1.1 U
IRON	7439-89-6	NS	NS	NS	1350	1820	3040	8620	25400	NT	8370
LEAD	7439-92-1	800	400	90	2.47 J	3.92 J	19.7	3.33 J	215	3.09 J	35.3
MAGNESIUM	7439-95-4	NS	NS	NS	70	34.3	76.7	27.5	150	NT	2220
MANGANESE	7439-96-5	31000	1900	NS	18.3	9.13	16.9	5.18	151	NT	59.5
MERCURY	7439-97-6	390	23	0.5*	0.066 J	0.077 U	0.096 U	0.099 U	0.489	0.089 U	0.178
NICKEL	7440-02-0	26000	1600	48	5.68	2.35 U	0.839 J	0.545 J	12.8	NT	10.3
POTASSIUM	7440-09-7	NS	NS	NS	233 J	92.1 J	146 J	101 J	185 J	NT	196 J
SELENIUM	7782-49-2	NS	NS	NS	1.95 U	1.88 U	2.37 U	1.92 U	2.2 U	NT	1.68 U
SILVER	7440-22-4	6500	390	0.5	0.488 U	0.47 U	0.593 U	0.481 U	0.549 U	NT	0.419 U
SODIUM	7440-23-5	NS	NS	NS	106 J	92.5 J	149 J	33.8 J	322	NT	420
THALLIUM	7440-28-0	NS	NS	NS	0.695 J	1.88 U	2.37 U	0.324 J	2.2 U	NT	1.68 U
VANADIUM	7440-62-2	6500	390	NS	13	7.47	5.58	38.5	12	NT	62
ZINC	7440-66-6	390000	23000	930	26.8	1.86 J	16.8	1.85 J	610	NT	41.5
<b>PCBs</b>											
AROCLOR-1016	12674-11-2	NS	NS	NS	0.0606 U	0.0567 U	0.0732 U	0.0599 U	0.0699 U	NT	0.0514 U
AROCLOR-1254	11097-69-1	NS	NS	NS	0.0606 U	0.0567 U	0.0732 U	0.0599 U	0.0463 J	NT	0.0236 J
AROCLOR-1248	12672-29-6	NS	NS	NS	0.0606 U	0.0567 U	0.0732 U	0.0599 U	0.0699 U	NT	0.0514 U
AROCLOR-1221	11104-28-2	NS	NS	NS	0.0606 U	0.0567 U	0.0732 U	0.0599 U	0.0699 U	NT	0.0514 U
AROCLOR-1232	11141-16-5	NS	NS	NS	0.0606 U	0.0567 U	0.0732 U	0.0599 U	0.0699 U	NT	0.0514 U
AROCLOR-1242	53469-21-9	NS	NS	NS	0.0606 U	0.0567 U	0.0732 U	0.0599 U	0.0699 U	NT	0.0963
AROCLOR-1260	11096-82-5	NS	NS	NS	0.0606 U	0.0567 U	0.0732 U	0.0599 U	0.0699 U	NT	0.01 J

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AROCOLOR-1262	37324-23-5	NS	NS	0.0606 U	0.0567 U	0.0732 U	0.0599 U	0.0699 U	NT	0.0514 U	
AROCOLOR-1268	11100-14-4	NS	NS	0.0606 U	0.0567 U	0.0732 U	0.0599 U	0.0699 U	NT	0.00684 J	
PCBS (TOTAL)	TPCB	1.1	0.25	1.6	0.0606 U	0.0567 U	0.0732 U	0.0599 U	0.0463 J	NT	0.137 J
<b>PESTICIDES</b>											
ALDRIN	309-00-2	0.21	0.041	0.13	0.00197 U	0.00195 U	0.00231 U	0.0019 U	0.00218 U	NT	0.00171 U
ALPHA-BHC	319-84-6	0.41	0.086	0.0023	0.00081 U	0.00081 U	0.00096 U	0.00079 U	0.0009 U	NT	0.00071 U
BETA-BHC	319-85-7	1.4	0.3	0.0046	0.00197 U	0.00195 U	0.00231 U	0.0019 U	0.00218 U	NT	0.00171 U
CHLORDANE	57-74-9	1.4	0.27	1.4	0.0164 U	0.0162 U	0.0192 U	0.0158 U	0.0181 U	NT	0.0143 U
DIELDRIN	60-57-1	0.16	0.034	0.024	0.00123 U	0.00122 U	0.00144 U	0.00119 U	0.00136 U	NT	0.00107 U
ENDOSULFAN I	959-98-8	NS	NS	NS	0.00197 U	0.00195 U	0.00231 U	0.0019 U	0.00218 U	NT	0.00171 U
ENDOSULFAN II	33213-65-9	NS	NS	NS	0.00197 U	0.00195 U	0.00231 U	0.0019 U	0.00218 U	NT	0.00171 U
ENDOSULFAN SULFATE	1031-07-8	NS	NS	NS	0.00081 U	0.00081 U	0.00096 U	0.00079 U	0.0009 U	NT	0.00071 U
ENDRIN	72-20-8	270	19	1.6	0.00081 U	0.00081 U	0.00096 U	0.00079 U	0.0009 U	NT	0.00071 U
GAMMA-BHC (LINDANE)	58-89-9	2.8	0.57	0.0035	0.00081 U	0.00081 U	0.00096 U	0.00079 U	0.0009 U	NT	0.00071 U
HEPTACHLOR	76-44-8	0.81	0.15	0.083	0.00098 U	0.00097 U	0.00115 U	0.00095 U	0.00109 U	NT	0.00085 U
HEPTACHLOR EPOXIDE	1024-57-3	0.4	0.076	0.081	0.00369 U	0.00365 U	0.00433 U	0.00356 U	0.00359 J	NT	0.00321 U
METHOXYCHLOR	72-43-5	4600	320	NS	0.00369 U	0.00365 U	0.00433 U	0.00356 U	0.00408 U	NT	0.00321 U
4,4'-DDD	72-54-8	11	2.3	0.47	0.00197 U	0.00195 U	0.00274	0.0019 U	0.0121	NT	0.0146
4,4'-DDE	72-55-9	11	2	0.47	0.00197 U	0.00195 U	0.00109 J	0.0019 U	0.00817	NT	0.0019 IP
4,4'-DDT	50-29-3	9.5	1.9	0.67	0.00369 U	0.00365 U	0.00433 U	0.00356 U	0.00408 U	NT	0.00428
TOXAPHENE	8001-35-2	2.3	0.49	6.2	0.0369 U	0.0365 U	0.0433 U	0.0356 U	0.0408 U	NT	0.0321 U
DELTA BHC	319-86-8	NS	NS	NS	0.00197 U	0.00195 U	0.00231 U	0.0019 U	0.00218 U	NT	0.00171 U
ALPHA-CHLORDANE	5103-71-9	NS	NS	NS	0.00246 U	0.00244 U	0.00288 U	0.00238 U	0.00171 J	NT	0.00101 JIP
BETA-CHLORDANE	5103-74-2	NS	NS	NS	0.00246 U	0.00244 U	0.00288 U	0.00238 U	0.00258 JIP	NT	0.00198 J
ENDRIN KETONE	53494-70-5	NS	NS	NS	0.00197 U	0.00195 U	0.00231 U	0.0019 U	0.00218 U	NT	0.00171 U
ENDRIN ALDEHYDE	7421-93-4	NS	NS	NS	0.00246 U	0.00244 U	0.00288 U	0.00238 U	0.00272 U	NT	0.00214 U
<b>RCRA Characteristics</b>											
CYANIDE	57-12-5	NS	NS	NS	1.2 U	1.1 U	1.4 U	1.2 U	0.37 J	NT	1.1 U

\* Site-Specific Migration to Ground Water Alternative Remediation Standard

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Table 1

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Location ID Sample ID Lab Sample ID Sample Media Sample Date Sample Depth (ft bgs) Units of Measure	Chemical Abstract System (CAS) Number	NJDEP Non-Residential Most Stringent Soil Remediation Standard (2021) mg/kg	NJDEP Residential Most Stringent Soil Remediation Standard (2021) mg/kg	NJDEP Migration to Ground Water Soil Remediation Standards (2021) mg/kg	LD-2 LD-2-6.5-112624 L246977-05 Soil 11/26/2024 6.5 - 7' mg/kg	LD-3 LD-3-9.0-111624 L2467504-07 Soil 11/16/2024 9 - 9.5' mg/kg	LD-4 LD-4-4.0-111624 L2467504-04 Soil 11/16/2024 4 - 4.5' mg/kg	LD-4 LD-4-7.0-111624 L2467504-08 Soil 11/16/2024 7 - 7.5' mg/kg	LD-5 LD-5-6.0-112024 L2468997-02 Soil 11/20/2024 6 - 6.5' mg/kg	LD-5 LD-5-11.0-112024 L2468997-03 Soil 11/20/2024 11 - 11.5' mg/kg	LD-6 LD-6-9.0-112524 L246977-03 Soil 11/25/2024 9 - 9.5' mg/kg
<b>EPH</b>											
EXTRACT, PETRO. HYDROCARBONS	EPHTOT	75000	5300	NS	NT	27.9 U	550	NT	149	NT	28.2 U
<b>VOLATILE ORGANIC COMPOUNDS</b>											
ACETONE	67-64-1	NS	70000	19	NT	0.02 J	0.043	NT	0.037 U	NT	0.023 U
BENZENE	71-43-2	11	2.2	0.0094	NT	0.00067 U	0.00066 U	NT	0.00074 U	NT	0.00046 U
BROMOCHLOROMETHANE	74-97-5	NS	NS	NS	NT	0.0027 U	0.0026 U	NT	0.003 U	NT	0.0019 U
BROMODICHLOROMETHANE	75-27-4	59	11	0.005	NT	0.00067 U	0.00066 U	NT	0.00074 U	NT	0.00046 U
BROMOFORM	75-25-2	460	88	0.018	NT	0.0054 U	0.0053 U	NT	0.006 U	NT	0.0037 U
BROMOMETHANE	74-83-9	82	18	0.043	NT	0.0027 U	0.0026 U	NT	0.003 U	NT	0.0019 U
2-BUTANONE	78-93-3	780000	47000	0.98	NT	0.013 U	0.01 J	NT	0.015 U	NT	0.0093 U
CARBON DISULFIDE	75-15-0	NS	NS	3.7	NT	0.013 U	0.013 U	NT	0.015 U	NT	0.0093 U
CARBON TETRACHLORIDE	56-23-5	6.9	1.4	0.0075	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
CHLOROBENZENE	108-90-7	8400	510	0.64	NT	0.00067 U	0.00066 U	NT	0.00074 U	NT	0.00046 U
CHLOROETHANE	75-00-3	NS	NS	NS	NT	0.0027 U	0.0026 U	NT	0.003 U	NT	0.0019 U
CHLOROFORM	67-66-3	13000	590	0.33	NT	0.002 U	0.002 U	NT	0.0022 U	NT	0.00034 J
CHLOROMETHANE	74-87-3	1200	270	NS	NT	0.0054 U	0.0053 U	NT	0.006 U	NT	0.0037 U
CYCLOHEXANE	110-82-7	NS	NS	NS	NT	0.013 U	0.013 U	NT	0.015 U	NT	0.0093 U
1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	0.12	0.026	0.005	NT	0.004 U	0.0039 U	NT	0.0045 U	NT	0.0028 U
1,2-DIBROMOETHANE	106-93-4	0.41	0.085	0.005	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
DIBROMOCHLOROMETHANE	124-48-1	43	8.3	0.005	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
1,2-DICHLOROBENZENE	95-50-1	110000	6700	11	NT	0.0027 U	0.0026 U	NT	0.003 U	NT	0.0019 U
1,3-DICHLOROBENZENE	541-73-1	110000	6700	11	NT	0.0027 U	0.0026 U	NT	0.003 U	NT	0.0019 U
1,4-DICHLOROBENZENE	106-46-7	13000	780	1.4	NT	0.0027 U	0.0026	NT	0.003 U	NT	0.0019 U
DICHLORODIFLUOROMETHANE	75-71-8	260000	16000	38	NT	0.013 U	0.013 U	NT	0.015 U	NT	0.0093 U
1,1-DICHLOROETHANE	75-34-3	640	120	0.24	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
1,2-DICHLOROETHANE	107-06-2	30	5.8	0.0095	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
1,1-DICHLOROETHENE	75-35-4	180	11	0.0069	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
TRANS-1,2-DICHLOROETHENE	156-60-5	22000	1300	0.56	NT	0.002 U	0.002 U	NT	0.0022 U	NT	0.0014 U
CIS-1,2-DICHLOROETHENE	156-59-2	13000	780	0.35	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
1,2-DICHLOROPROPANE	78-87-5	27	5.7	0.0058	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
CIS-1,3-DICHLOROPROPENE	10061-01-5	NS	NS	NS	NT	0.00067 U	0.00066 U	NT	0.00074 U	NT	0.00046 U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	NS	NS	NS	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
TOTAL, 1,3-DICHLOROPROPENE	542-75-6	23	4.8	0.0063	NT	0.00067 U	0.00066 U	NT	0.00074 U	NT	0.00046 U
1,4-DIOXANE	123-91-1	36	7	0.067	NT	0.029 U	0.029 U	NT	0.03 U	NT	0.074 U
ETHYLBENZENE	100-41-4	48	10	15	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
2-HEXANONE	591-78-6	6500	390	0.15	NT	0.013 U	0.013 U	NT	0.015 U	NT	0.0093 U
ISOPROPYLBENZENE	98-82-8	130000	7800	22	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
METHYL ACETATE	79-20-9	NS	78000	22	NT	0.0054 U	0.0053 U	NT	0.006 U	NT	0.0037 U
METHYLCYCLOHEXANE	108-87-2	NS	NS	NS	NT	0.0054 U	0.0053 U	NT	0.006 U	NT	0.0037 U
METHYLENE CHLORIDE	75-09-2	260	50	0.013	NT	0.0067 U	0.0066 U	NT	0.0074 U	NT	0.0046 U

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Table 1

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4-METHYL-2-PENTANONE	108-10-1	NS	NS	NT	0.013 U	0.013 U	NT	0.015 U	NT	0.0093 U	
METHYL TERT-BUTYL ETHER	1634-04-4	650	140	0.25	NT	0.0027 U	0.0026 U	NT	0.003 U	NT	0.0019 U
STYRENE	100-42-5	260000	16000	2.1	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
1,1,2,2-TETRACHLOROETHANE	79-34-5	18	3.5	0.0069	NT	0.00067 U	0.00066 U	NT	0.00074 U	NT	0.00046 U
TETRACHLOROETHENE	127-18-4	1700	47	0.0086	NT	0.00067 U	0.00066 U	NT	0.00074 U	NT	0.00046 U
TOLUENE	108-88-3	100000	6300	7.8	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
1,2,3-TRICHLOROBENZENE	87-61-6	NS	NS	NS	NT	0.0027 U	0.0026 U	NT	0.003 U	NT	0.0019 U
1,2,4-TRICHLOROBENZENE	120-82-1	13000	94	0.52	NT	0.0027 U	0.0026 U	NT	0.003 U	NT	0.0019 U
1,1,2-TRICHLOROETHANE	79-00-5	64	12	0.017	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
TRICHLOROFLUOROMETHANE	75-69-4	390000	23000	29	NT	0.0054 U	0.0053 U	NT	0.006 U	NT	0.0037 U
1,1,2-TRICHLORO-1,2,2-TFE	76-13-1	NS	NS	NS	NT	0.0054 U	0.0053 U	NT	0.006 U	NT	0.0037 U
1,1,1-TRICHLOROETHANE	71-55-6	NS	160000	0.2	NT	0.00067 U	0.00066 U	NT	0.00074 U	NT	0.00046 U
TRICHLOROETHENE	79-01-6	14	3	0.0065	NT	0.00067 U	0.00066 U	NT	0.00074 U	NT	0.00046 U
VINYL CHLORIDE	75-01-4	5	0.97	0.0067	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
M&P XYLENE	MPXYLENE	NS	NS	NS	NT	0.0027 U	0.0026 U	NT	0.003 U	NT	0.0019 U
O-XYLENE	95-47-6	NS	NS	NS	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
XYLENES (TOTAL)	1330-20-7	190000	12000	19	NT	0.0013 U	0.0013 U	NT	0.0015 U	NT	0.00093 U
TOTAL VOLATILE ORGANIC TICS	TVOT	NS	NS	NS	NT	0.029 J	0.082 J	NT	0 U	NT	0 U
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>											
ACENAPHTHENE	83-32-9	50000	3600	NS	NT	0.16 U	0.15 U	NT	0.16 U	NT	0.16 U
ACENAPHTHYLENE	208-96-8	NS	NS	NS	NT	0.16 U	0.15 U	NT	0.033 J	NT	0.16 U
ACETOPHENONE	98-86-2	130000	7800	3.6	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
ANTHRACENE	120-12-7	250000	18000	NS	NT	0.12 U	0.12 U	NT	0.022 J	NT	0.12 U
ATRAZINE	1912-24-9	3200	220	0.33	NT	0.16 U	0.15 U	NT	0.16 U	NT	0.16 U
BENZALDEHYDE	100-52-7	910	170	NS	NT	0.26 U	0.25 U	NT	0.26 U	NT	0.26 U
BENZO(A)ANTHRACENE	56-55-3	23	5.1	<b>0.71</b>	NT	0.066 U	0.064 U	NT	0.069	NT	0.066 U
BENZO(A)PYRENE	50-32-8	2.3	<b>0.51</b>	NS	NT	0.14 U	0.14 U	NT	0.062 J	NT	0.14 U
BENZO(B)FLUORANTHENE	205-99-2	23	5.1	NS	NT	0.049 U	0.017 J	NT	0.072	NT	0.049 U
BENZO(G,H,I)PERYLENE	191-24-2	NS	NS	NS	NT	0.16 U	0.15 U	NT	0.05 J	NT	0.16 U
BENZO(K)FLUORANTHENE	207-08-9	230	51	NS	NT	0.041 U	0.04 U	NT	0.02 J	NT	0.041 U
1,1-BIPHENYL	92-52-4	450	87	NS	NT	0.44 U	0.44 U	NT	0.033 J	NT	0.44 U
BIS(2-CHLOROETHOXY) METHANE	111-91-1	2700	190	NS	NT	0.21 U	0.21 U	NT	0.21 U	NT	0.21 U
BIS(2-CHLOROETHYL) ETHER	111-44-4	3.3	0.63	0.33	NT	0.07 U	0.069 U	NT	0.071 U	NT	0.07 U
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	52000	3100	1.9	NT	0.23 U	0.23 U	NT	0.24 U	NT	0.23 U
BIS(2-ETHYLHEXYL)PHthalate	117-81-7	180	39	14	NT	0.2 U	0.097 J	NT	0.2 U	NT	0.2 U
4-BROMOPHENYL-PHENYLETHER	101-55-3	NS	NS	NS	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
BUTYLBENZYLPHthalate	85-68-7	1300	290	29	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
CAPROLACTAM	105-60-2	1300	290	16	NT	0.22	0.19 U	NT	0.2 U	NT	0.2 U
CARBAZOLE	86-74-8	NS	NS	NS	NT	0.2 U	0.19 U	NT	0.02 J	NT	0.2 U
4-CHLORO-3-METHYLPHENOL	59-50-7	NS	NS	NS	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U

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4-CHLORANILINE	106-47-8	13	2.7	0.23	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
2-CHLORONAPHTHALENE	91-58-7	67000	4800	NS	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
2-CHLOROPHENOL	95-57-8	6500	390	0.76	NT	0.064 U	0.063 U	NT	0.065 U	NT	0.064 U
4-CHLOROPHENYL-PHENYLETHER	7005-72-3	NS	NS	NS	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
CHRYSENE	218-01-9	2300	510	NS	NT	0.12 U	0.12 U	NT	0.098 J	NT	0.12 U
DIBENZO[A,H]ANTHRACENE	53-70-3	2.3	0.51	NS	NT	0.068 U	0.067 U	NT	0.069 U	NT	0.068 U
DIBENZOFURAN	132-64-9	NS	NS	NS	NT	0.2 U	0.19 U	NT	0.12 J	NT	0.2 U
3,3'-DICHLOROBENZIDINE	91-94-1	5.7	1.2	3.9	NT	0.15 U	0.15 U	NT	0.15 U	NT	0.15 U
2,4-DICHLOROPHENOL	120-83-2	2700	190	0.19	NT	0.094 U	0.092 U	NT	0.095 U	NT	0.094 U
DIETHYLPHthalATE	84-66-2	730000	51000	44	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
2,4-DIMETHYLPHENOL	105-67-9	18000	1300	2.3	NT	0.19 U	0.18 U	NT	0.19 U	NT	0.19 U
DIMETHYLPHthalATE	131-11-3	NS	NS	NS	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
DI-N-BUTYLPHthalATE	84-74-2	91000	6300	NS	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
DI-N-OCTYLPHthalATE	117-84-0	9100	630	NS	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
4,6-DINITRO-2-METHYLPHENOL	534-52-1	NS	NS	NS	NT	0.28 U	0.28 U	NT	0.28 U	NT	0.28 U
2,4-DINITROPHENOL	51-28-5	1800	130	0.33	NT	0.28 U	0.28 U	NT	0.28 U	NT	0.28 U
2,4-DINITROTOLUENE	121-14-2	NS	NS	NS	NT	0.097 U	0.095 U	NT	0.099 U	NT	0.097 U
2,6-DINITROTOLUENE	606-20-2	NS	NS	NS	NT	0.077 U	0.076 U	NT	0.078 U	NT	0.077 U
FLUORANTHENE	206-44-0	33000	2400	NS	NT	0.12 U	0.023 J	NT	0.058 J	NT	0.12 U
FLUORENE	86-73-7	33000	2400	NS	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
HEXAChLOROBENZENE	118-74-1	2.3	0.43	0.17	NT	0.056 U	0.055 U	NT	0.057 U	NT	0.056 U
HEXAChLOROBUTADIENE	87-68-3	47	8.9	0.17	NT	0.073 U	0.071 U	NT	0.074 U	NT	0.073 U
HEXAChLOROCYCLOPENTADIENE	77-47-4	7800	2.7	2.5	NT	0.56 U	0.55 U	NT	0.57 U	NT	0.56 U
HEXAChLOROETHANE	67-72-1	91	17	0.17	NT	0.095 U	0.093 U	NT	0.096 U	NT	0.095 U
INDENO[1,2,3-CD]PYRENE	193-39-5	23	5.1	NS	NT	0.082 U	0.08 U	NT	0.033 J	NT	0.082 U
ISOPHORONE	78-59-1	2700	570	0.23	NT	0.066 U	0.064 U	NT	0.067 U	NT	0.066 U
2-METHYLNAPHTHALENE	91-57-6	3300	240	3.1	NT	0.23 U	0.23 U	NT	0.44	NT	0.23 U
2-METHYLPHENOL	95-48-7	4600	320	0.77	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
3- AND 4- METHYLPHENOL	MEPH3MEPH4	NS	NS	NS	NT	0.28 U	0.28 U	NT	0.28 U	NT	0.28 U
NAPHTHALENE	91-20-3	27	5.7	19	NT	0.2 U	0.19 U	NT	0.19 J	NT	0.2 U
2-NITROANILINE	88-74-4	NS	NS	NS	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
3-NITROANILINE	99-09-2	NS	NS	NS	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
4-NITROANILINE	100-01-6	130	27	NS	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
NITROBENZENE	98-95-3	36	7.5	0.17	NT	0.087 U	0.085 U	NT	0.088 U	NT	0.087 U
2-NITROPHENOL	88-75-5	NS	NS	NS	NT	0.42 U	0.41 U	NT	0.43 U	NT	0.42 U
4-NITROPHENOL	100-02-7	NS	NS	NS	NT	0.27 U	0.27 U	NT	0.28 U	NT	0.27 U
N-NITROSO-DI-N-PROPYLAMINE	621-64-7	0.36	0.17	0.17	NT	0.049 U	0.048 U	NT Loading Dock Areas U	NT	0.049 U	
N-NITROSODIPHENYLAMINE	86-30-6	520	110	1.1	NT	0.048 U	0.047 U	NT	0.049 U	NT	0.048 U
PENTACHLOROPHENOL	87-86-5	4.4	1	0.33	NT	0.13 U	0.13 U	NT	0.13 U	NT	0.13 U
PHENANTHRENE	85-01-8	NS	NS	NS	NT	0.12 U	0.021 J	NT	0.28	NT	0.12 U

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PHENOL	108-95-2	270000	19000	21	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
PYRENE	129-00-0	25000	1800	NS	NT	0.12 U	0.027 J	NT	0.088 J	NT	0.12 U
1,2,4,5-TETRACHLOROBENZENE	95-94-3	390	23	NS	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
2,3,4,6-TETRACHLOROPHENOL	58-90-2	27000	1900	26	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
2,4,5-TRICHLOROPHENOL	95-95-4	91000	6300	68	NT	0.2 U	0.19 U	NT	0.2 U	NT	0.2 U
2,4,6-TRICHLOROPHENOL	88-06-2	230	49	0.86	NT	0.11 U	0.11 U	NT	0.11 U	NT	0.11 U
TOTAL SVOC TICS	TSVT	NS	NS	NS	NT	0.763 J	5.88 J	NT	4.95 J	NT	0 U
<b>METALS</b>											
ALUMINUM	7429-90-5	NS	78000	NS	NT	558	1310	NT	3820	NT	561
ANTIMONY	7440-36-0	520	31	5.4	NT	4.64 U	0.441 J	NT	2.75 J	NT	4.67 U
ARSENIC	7440-38-2	19	19	19	NT	0.339 J	5.29	NT	6.5	NT	0.426 J
BARIUM	7440-39-3	260000	16000	2100	NT	3.39	33	NT	68.1	NT	2.03
BERYLLIUM	7440-41-7	2600	160	0.7	NT	0.464 U	0.453 U	NT	0.195 J	NT	0.467 U
CADMUM	7440-43-9	1100	71	4*	NT	0.929 U	0.257 J	NT	0.593 J	NT	0.933 U
CALCIUM	7440-70-2	NS	NS	NS	NT	96.5	717	NT	2250	NT	149
CHROMIUM	7440-47-3	NS	NS	NS	NT	4.84	9.29	NT	12.6	NT	4.39
COBALT	7440-48-4	390	23	90	NT	1.86 U	1.12 J	NT	3.23	NT	1.87 U
COPPER	7440-50-8	52000	3100	910	NT	0.62 J	11.1	NT	90.3	NT	0.806 J
CYANIDE	57-12-5	NS	NS	NS	NT	1.1 U	0.38 J	NT	1.2 U	NT	1.1 U
IRON	7439-89-6	NS	NS	NS	NT	1330	7650	NT	15300	NT	550
LEAD	7439-92-1	800	400	90	NT	2.44 J	102	2.5 J	225	3.59 J	1.42 J
MAGNESIUM	7439-95-4	NS	NS	NS	NT	20.7	62.7	NT	487	NT	23.6
MANGANESE	7439-96-5	31000	1900	NS	NT	31.1	31.9	NT	86.3	NT	3.06
MERCURY	7439-97-6	390	23	0.5*	0.117	0.082 U	0.233	0.079 U	0.243	0.094 U	0.078 U
NICKEL	7440-02-0	26000	1600	48	NT	2.32 U	3.13	NT	13	NT	2.33 U
POTASSIUM	7440-09-7	NS	NS	NS	NT	58 J	34 J	NT	258	NT	76.2 J
SELENIUM	7782-49-2	NS	NS	NS	NT	1.86 U	1.81 U	NT	0.459 J	NT	1.87 U
SILVER	7440-22-4	6500	390	0.5	NT	0.464 U	0.453 U	NT	0.882	0.478 U	0.467 U
SODIUM	7440-23-5	NS	NS	NS	NT	57.4 J	180 J	NT	708	NT	67.7 J
THALLIUM	7440-28-0	NS	NS	NS	NT	1.86 U	0.327 J	NT	1.84 U	NT	1.87 U
VANADIUM	7440-62-2	6500	390	NS	NT	6.97	6.74	NT	16	NT	3.78
ZINC	7440-66-6	390000	23000	930	NT	3.28 J	107	NT	234	NT	1.2 J
<b>PCBs</b>											
AROCLOR-1016	12674-11-2	NS	NS	NS	NT	0.0585 U	0.0543 U	NT	0.0556 U	NT	0.0569 U
AROCLOR-1254	11097-69-1	NS	NS	NS	NT	0.0585 U	0.0463 J	NT	0.0556 U	NT	0.0569 U
AROCLOR-1248	12672-29-6	NS	NS	NS	NT	0.0585 U	0.0543 U	NT	0.0556 U	NT	0.0569 U
AROCLOR-1221	11104-28-2	NS	NS	NS	NT	0.0585 U	0.0543 U	NT	0.0556 U	NT	0.0569 U
AROCLOR-1232	11141-16-5	NS	NS	NS	NT	0.0585 U	0.0543 U	NT	0.0556 U	NT	0.0569 U
AROCLOR-1242	53469-21-9	NS	NS	NS	NT	0.0585 U	0.0543 U	NT	0.0556 U	NT	0.0569 U
AROCLOR-1260	11096-82-5	NS	NS	NS	NT	0.0585 U	0.0142 J	NT	0.0556 U	NT	0.0569 U

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Table 1

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Location ID Sample ID Lab Sample ID Sample Media Sample Date Sample Depth (ft bgs) Units of Measure	Chemical Abstract System (CAS) Number	NJDEP Non-Residential Most Stringent Soil Remediation Standard (2021) mg/kg	NJDEP Residential Most Stringent Soil Remediation Standard (2021) mg/kg	NJDEP Migration to Ground Water Soil Remediation Standards (2021) mg/kg	LD-2 LD-2-6.5-112624 L2469777-05 Soil 11/26/2024 6.5 - 7' mg/kg	LD-3 LD-3-9.0-111624 L2467504-07 Soil 11/16/2024 9 - 9.5' mg/kg	LD-4 LD-4-4.0-111624 L2467504-04 Soil 11/16/2024 4 - 4.5' mg/kg	LD-4 LD-4-7.0-111624 L2467504-08 Soil 11/16/2024 7 - 7.5' mg/kg	LD-5 LD-5-6.0-112024 L2468997-02 Soil 11/20/2024 6 - 6.5' mg/kg	LD-5 LD-5-11.0-112024 L2468997-03 Soil 11/20/2024 11 - 11.5' mg/kg	LD-6 LD-6-9.0-112524 L2469777-03 Soil 11/25/2024 9 - 9.5' mg/kg
AROCOLOR-1262	37324-23-5	NS	NS	NS	NT	0.0585 U	0.0543 U	NT	0.0556 U	NT	0.0569 U
AROCOLOR-1268	11100-14-4	NS	NS	NS	NT	0.0585 U	0.0543 U	NT	0.00713 J	NT	0.0569 U
PCBS (TOTAL)	TPCB	1.1	0.25	1.6	NT	0.0585 U	0.0605 J	NT	0.00713 J	NT	0.0569 U
<b>PESTICIDES</b>											
ALDRIN	309-00-2	0.21	0.041	0.13	NT	0.00188 U	0.00182 U	NT	0.0019 U	NT	0.00186 U
ALPHA-BHC	319-84-6	0.41	0.086	0.0023	NT	0.00078 U	0.00075 U	NT	0.00079 U	NT	0.00077 U
BETA-BHC	319-85-7	1.4	0.3	0.0046	NT	0.00188 U	0.00182 U	NT	0.0019 U	NT	0.00186 U
CHLORDANE	57-74-9	1.4	0.27	1.4	NT	0.0157 U	0.0152 U	NT	0.0158 U	NT	0.0155 U
DIELDRIN	60-57-1	0.16	0.034	0.024	NT	0.00118 U	0.00114 U	NT	0.00119 U	NT	0.00116 U
ENDOSULFAN I	959-98-8	NS	NS	NS	NT	0.00188 U	0.00182 U	NT	0.0019 U	NT	0.00186 U
ENDOSULFAN II	33213-65-9	NS	NS	NS	NT	0.00188 U	0.00182 U	NT	0.0019 U	NT	0.00186 U
ENDOSULFAN SULFATE	1031-07-8	NS	NS	NS	NT	0.00078 U	0.00075 U	NT	0.00079 U	NT	0.00077 U
ENDRIN	72-20-8	270	19	1.6	NT	0.00078 U	0.00075 U	NT	0.00079 U	NT	0.00077 U
GAMMA-BHC (LINDANE)	58-89-9	2.8	0.57	0.0035	NT	0.00078 U	0.00075 U	NT	0.00079 U	NT	0.00077 U
HEPTACHLOR	76-44-8	0.81	0.15	0.083	NT	0.00094 U	0.0009 U	NT	0.00094 U	NT	0.00093 U
HEPTACHLOR EPOXIDE	1024-57-3	0.4	0.076	0.081	NT	0.00353 U	0.00341 U	NT	0.00356 U	NT	0.0035 U
METHOXYCHLOR	72-43-5	4600	320	NS	NT	0.00353 U	0.00341 U	NT	0.00356 U	NT	0.0035 U
4,4'-DDD	72-54-8	11	2.3	0.47	NT	0.00188 U	0.00108 JIP	NT	0.278	NT	0.00186 U
4,4'-DDE	72-55-9	11	2	0.47	NT	0.00188 U	0.0037	NT	0.268	NT	0.00186 U
4,4'-DDT	50-29-3	9.5	1.9	0.67	NT	0.00353 U	0.00341 U	NT	0.0728	NT	0.0035 U
TOXAPHENE	8001-35-2	2.3	0.49	6.2	NT	0.0353 U	0.0341 U	NT	0.0356 U	NT	0.035 U
DELTA BHC	319-86-8	NS	NS	NS	NT	0.00188 U	0.00182 U	NT	0.0019 U	NT	0.00186 U
ALPHA-CHLORDANE	5103-71-9	NS	NS	NS	NT	0.00236 U	0.00227 U	NT	0.00237 U	NT	0.00233 U
BETA-CHLORDANE	5103-74-2	NS	NS	NS	NT	0.00236 U	0.00126 JIP	NT	0.00237 U	NT	0.00233 U
ENDRIN KETONE	53494-70-5	NS	NS	NS	NT	0.00188 U	0.00182 U	NT	0.0019 U	NT	0.00186 U
ENDRIN ALDEHYDE	7421-93-4	NS	NS	NS	NT	0.00236 U	0.00227 U	NT	0.00237 U	NT	0.00233 U
<b>RCRA Characteristics</b>											
CYANIDE	57-12-5	NS	NS	NS	NT	1.1 U	0.38 J	NT	1.2 U	NT	1.1 U

\* Site-Specific Migration to Ground Water Alternative Remediation Standard

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<b>EPH</b>										
EXTRACT, PETRO. HYDROCARBONS	EPHTOT	75000	5300	NS	27.3 U	382	187	NT	90	30.2 U
<b>VOLATILE ORGANIC COMPOUNDS</b>										
ACETONE	67-64-1	NS	70000	19	0.014 J	0.026 U	0.043 U	NT	0.024 U	0.027 U
BENZENE	71-43-2	11	2.2	0.0094	0.00051 U	0.00086	0.00087 U	NT	0.00049 U	0.00054 U
BROMOCHLOROMETHANE	74-97-5	NS	NS	NS	0.002 U	0.0021 U	0.0035 U	NT	0.0019 U	0.0022 U
BROMODICHLOROMETHANE	75-27-4	59	11	0.005	0.00051 U	0.00053 U	0.00087 U	NT	0.00049 U	0.00054 U
BROMOFORM	75-25-2	460	88	0.018	0.004 U	0.0042 U	0.0069 U	NT	0.0039 U	0.0043 U
BROMOMETHANE	74-83-9	82	18	0.043	0.002 U	0.0021 U	0.0035 U	NT	0.0019 U	0.0022 U
2-BUTANONE	78-93-3	780000	47000	0.98	0.01 U	0.01 U	0.017 U	NT	0.0097 U	0.011 U
CARBON DISULFIDE	75-15-0	NS	NS	3.7	0.01 U	0.01 U	0.017 U	NT	0.0097 U	0.011 U
CARBON TETRACHLORIDE	56-23-5	6.9	1.4	0.0075	0.001 U	0.001 U	0.0017 U	NT	0.00097 U	0.0011 U
CHLOROBENZENE	108-90-7	8400	510	0.64	0.00051 U	0.00053 U	0.00087 U	NT	0.00049 U	0.00054 U
CHLOROETHANE	75-00-3	NS	NS	NS	0.002 U	0.0021 U	0.0035 U	NT	0.0019 U	0.0022 U
CHLOROFORM	67-66-3	13000	590	0.33	0.0015 U	0.0013 J	0.0026 U	NT	0.0015 U	0.0016 U
CHLOROMETHANE	74-87-3	1200	270	NS	0.004 U	0.0042 U	0.0069 U	NT	0.0039 U	0.0043 U
CYCLOHEXANE	110-82-7	NS	NS	NS	0.01 U	0.01 U	0.017 U	NT	0.0097 U	0.011 U
1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	0.12	0.026	0.005	0.003 U	0.0032 U	0.0052 U	NT	0.0029 U	0.0032 U
1,2-DIBROMOETHANE	106-93-4	0.41	0.085	0.005	0.001 U	0.001 U	0.0017 U	NT	0.00097 U	0.0011 U
DIBROMOCHLOROMETHANE	124-48-1	43	8.3	0.005	0.001 U	0.001 U	0.0017 U	NT	0.00097 U	0.0011 U
1,2-DICHLOROBENZENE	95-50-1	110000	6700	11	0.002 U	0.0021 U	0.0035 U	NT	0.0019 U	0.0022 U
1,3-DICHLOROBENZENE	541-73-1	110000	6700	11	0.002 U	0.0021 U	0.0035 U	NT	0.0019 U	0.0022 U
1,4-DICHLOROBENZENE	106-46-7	13000	780	1.4	0.002 U	0.0021 U	0.0035 U	NT	0.0019 U	0.0022 U
DICHLORODIFLUOROMETHANE	75-71-8	260000	16000	38	0.01 U	0.01 U	0.017 U	NT	0.0097 U	0.011 U
1,1-DICHLOROETHANE	75-34-3	640	120	0.24	0.001 U	0.001 U	0.00035 J	NT	0.00097 U	0.0011 U
1,2-DICHLOROETHANE	107-06-2	30	5.8	0.0095	0.001 U	0.001 U	0.0017 U	NT	0.00097 U	0.0011 U
1,1-DICHLOROETHENE	75-35-4	180	11	0.0069	0.001 U	0.001 U	0.0017 U	NT	0.00097 U	0.0011 U
TRANS-1,2-DICHLOROETHENE	156-60-5	22000	1300	0.56	0.0015 U	0.0016 U	0.0026 U	NT	0.0015 U	0.0016 U
CIS-1,2-DICHLOROETHENE	156-59-2	13000	780	0.35	0.001 U	0.001 U	0.0017 U	NT	0.00097 U	0.0011 U
1,2-DICHLOROPROPANE	78-87-5	27	5.7	0.0058	0.001 U	0.001 U	0.0017 U	NT	0.00097 U	0.0011 U
CIS-1,3-DICHLOROPROPENE	10061-01-5	NS	NS	NS	0.00051 U	0.00053 U	0.00087 U	NT	0.00049 U	0.00054 U
TRANS-1,3-DICHLOROPROPENE	10061-02-6	NS	NS	NS	0.001 U	0.001 U	0.0017 U	NT	0.00097 U	0.0011 U
TOTAL, 1,3-DICHLOROPROPENE	542-75-6	23	4.8	0.0063	0.00051 U	0.00053 U	0.00087 U	NT	0.00049 U	0.00054 U
1,4-DIOXANE	123-91-1	36	7	0.067	0.081 U	0.029 U	0.14 U	NT	0.078 U	0.032 U
ETHYLBENZENE	100-41-4	48	10	15	0.001 U	0.00054 J	0.0017 U	NT	0.00097 U	0.0011 U
2-HEXANONE	591-78-6	6500	390	0.15	0.01 U	0.01 U	0.017 U	NT	0.0097 U	0.011 U
ISOPROPYLBENZENE	98-82-8	130000	7800	22	0.001 U	0.001 U	0.0017 U	NT	0.00097 U	0.0011 U
METHYL ACETATE	79-20-9	NS	78000	22	0.004 U	0.0042 U	0.0069 U	NT	0.0039 U	0.0043 U
METHYLCYCLOHEXANE	108-87-2	NS	NS	NS	0.004 U	0.0065 J	0.0069 U	NT	0.0039 U	0.0043 U
METHYLENE CHLORIDE	75-09-2	260	50	0.013	0.0051 U	0.0053 U	0.0087 U	NT	0.0049 U	0.0054 U

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4-METHYL-2-PENTANONE	108-10-1	NS	NS	0.01 U	0.01 U	0.017 U	NT	0.0097 U	0.011 U	
METHYL TERT-BUTYL ETHER	1634-04-4	650	140	0.25	0.002 U	0.0035 U	NT	0.0019 U	0.0022 U	
STYRENE	100-42-5	260000	16000	2.1	0.001 U	0.0017 U	NT	0.00097 U	0.0011 U	
1,1,2,2-TETRACHLOROETHANE	79-34-5	18	3.5	0.0069	0.00051 U	0.00053 U	0.00087 U	NT	0.00049 U	0.00054 U
TETRACHLOROETHENE	127-18-4	1700	47	0.0086	0.00051 U	0.00053 U	0.00087 U	NT	0.00049 U	0.00054 U
TOLUENE	108-88-3	100000	6300	7.8	0.001 U	0.0012	0.0017 U	NT	0.00097 U	0.0011 U
1,2,3-TRICHLOROBENZENE	87-61-6	NS	NS	NS	0.002 U	0.0021 U	0.0035 U	NT	0.0019 U	0.0022 U
1,2,4-TRICHLOROBENZENE	120-82-1	13000	94	0.52	0.002 U	0.0021 U	0.0035 U	NT	0.0019 U	0.0022 U
1,1,2-TRICHLOROETHANE	79-00-5	64	12	0.017	0.001 U	0.001 U	0.0017 U	NT	0.00097 U	0.0011 U
TRICHLOROFLUOROMETHANE	75-69-4	390000	23000	29	0.004 U	0.0042 U	0.0069 U	NT	0.0039 U	0.0043 U
1,1,2-TRICHLORO-1,2,2-TFE	76-13-1	NS	NS	NS	0.004 U	0.0042 U	0.0069 U	NT	0.0039 U	0.0043 U
1,1,1-TRICHLOROETHANE	71-55-6	NS	160000	0.2	0.00051 U	0.00053 U	0.00087 U	NT	0.00049 U	0.00054 U
TRICHLOROETHENE	79-01-6	14	3	0.0065	0.00051 U	0.00053 U	0.00087 U	NT	0.00049 U	0.00054 U
VINYL CHLORIDE	75-01-4	5	0.97	0.0067	0.001 U	0.001 U	0.0017 U	NT	0.00097 U	0.0011 U
M&P XYLENE	MPXYLENE	NS	NS	NS	0.002 U	0.0021	0.0035 U	NT	0.0019 U	0.0022 U
O-XYLENE	95-47-6	NS	NS	NS	0.001 U	0.001	0.0017 U	NT	0.00097 U	0.0011 U
XYLENES (TOTAL)	1330-20-7	190000	12000	19	0.001 U	0.0031	0.0017 U	NT	0.00097 U	0.0011 U
TOTAL VOLATILE ORGANIC TICS	TVOT	NS	NS	NS	0 U	0 U	0 U	NT	0 U	0 U
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>										
ACENAPHTHENE	83-32-9	50000	3600	NS	0.16 U	0.024 J	0.16 U	NT	0.14 U	0.17 U
ACENAPHTHYLENE	208-96-8	NS	NS	NS	0.16 U	0.15 U	0.16 U	NT	0.14 U	0.17 U
ACETOPHENONE	98-86-2	130000	7800	3.6	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
ANTHRACENE	120-12-7	250000	18000	NS	0.12 U	0.047 J	0.12 U	NT	0.11 U	0.13 U
ATRAZINE	1912-24-9	3200	220	0.33	0.16 U	0.15 U	0.16 U	NT	0.14 U	0.17 U
BENZALDEHYDE	100-52-7	910	170	NS	0.26 U	0.26 U	0.26 U	NT	0.24 U	0.28 U
BENZO(A)ANTHRACENE	56-55-3	23	5.1	<b>0.71</b>	0.066 U	0.097	0.068 U	NT	0.06 U	0.071 U
BENZO(A)PYRENE	50-32-8	2.3	<b>0.51</b>	NS	0.14 U	0.093 J	0.15 U	NT	0.13 U	0.15 U
BENZO(B)FLUORANTHENE	205-99-2	23	5.1	NS	0.05 U	0.11	0.025 J	NT	0.018 J	0.053 U
BENZO(G,H,I)PERYLENE	191-24-2	NS	NS	NS	0.16 U	0.066 J	0.16 U	NT	0.14 U	0.17 U
BENZO(K)FLUORANTHENE	207-08-9	230	51	NS	0.042 U	0.036 J	0.042 U	NT	0.038 U	0.044 U
1,1-BIPHENYL	92-52-4	450	87	NS	0.45 U	0.44 U	0.46 U	NT	0.41 U	0.48 U
BIS(2-CHLOROETHOXY) METHANE	111-91-1	2700	190	NS	0.21 U	0.21 U	0.22 U	NT	0.19 U	0.23 U
BIS(2-CHLOROETHYL) ETHER	111-44-4	3.3	0.63	0.33	0.071 U	0.07 U	0.072 U	NT	0.064 U	0.076 U
BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	52000	3100	1.9	0.24 U	0.23 U	0.24 U	NT	0.21 U	0.25 U
BIS(2-ETHYLHEXYL)PHthalate	117-81-7	180	39	14	0.2 U	0.19 U	0.2 U	NT	0.046 J	0.21 U
4-BROMOPHENYL-PHENYLETHER	101-55-3	NS	NS	NS	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
BUTYLBENZYLPHthalate	85-68-7	1300	290	29	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
CAPROLACTAM	105-60-2	1300	290	16	0.2 U	0.19 U	0.18 J	NT	0.18 U	0.21 U
CARBAZOLE	86-74-8	NS	NS	NS	0.2 U	0.024 J	0.2 U	NT	0.18 U	0.21 U
4-CHLORO-3-METHYLPHENOL	59-50-7	NS	NS	NS	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U

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4-CHLORANILINE	106-47-8	13	2.7	0.23	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
2-CHLORONAPHTHALENE	91-58-7	67000	4800	NS	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
2-CHLOROPHENOL	95-57-8	6500	390	0.76	0.065 U	0.064 U	0.066 U	NT	0.059 U	0.07 U
4-CHLOROPHENYL-PHENYLETHER	7005-72-3	NS	NS	NS	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
CHRYSENE	218-01-9	2300	510	NS	0.12 U	0.13	0.12 U	NT	0.11 U	0.13 U
DIBENZO[ <i>A,H</i> ]ANTHRACENE	53-70-3	2.3	0.51	NS	0.069 U	0.067 U	0.07 U	NT	0.062 U	0.073 U
DIBENZOFURAN	132-64-9	NS	NS	NS	0.2 U	0.017 J	0.033 J	NT	0.18 U	0.21 U
3,3'-DICHLOROBENZIDINE	91-94-1	5.7	1.2	3.9	0.15 U	0.15 U	0.15 U	NT	0.14 U	0.16 U
2,4-DICHLOROPHENOL	120-83-2	2700	190	0.19	0.095 U	0.093 U	0.097 U	NT	0.086 U	0.1 U
DIETHYLPHthalate	84-66-2	730000	51000	44	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
2,4-DIMETHYLPHENOL	105-67-9	18000	1300	2.3	0.19 U	0.18 U	0.19 U	NT	0.17 U	0.2 U
DIMETHYLPHthalate	131-11-3	NS	NS	NS	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
DI-N-BUTYLPHthalate	84-74-2	91000	6300	NS	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
DI-N-OCTYLPHthalate	117-84-0	9100	630	NS	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
4,6-DINITRO-2-METHYLPHENOL	534-52-1	NS	NS	NS	0.28 U	0.28 U	0.29 U	NT	0.26 U	0.3 U
2,4-DINITROPHENOL	51-28-5	1800	130	0.33	0.28 U	0.28 U	0.29 U	NT	0.26 U	0.3 U
2,4-DINITROTOLUENE	121-14-2	NS	NS	NS	0.099 U	0.096 U	0.1 U	NT	0.089 U	0.1 U
2,6-DINITROTOLUENE	606-20-2	NS	NS	NS	0.078 U	0.076 U	0.08 U	NT	0.071 U	0.083 U
FLUORANTHENE	206-44-0	33000	2400	NS	0.12 U	0.22	0.12 U	NT	0.11 U	0.13 U
FLUORENE	86-73-7	33000	2400	NS	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
HEXAChlorOBENZENE	118-74-1	2.3	0.43	0.17	0.057 U	0.056 U	0.058 U	NT	0.051 U	0.061 U
HEXAChlorOBUTADIENE	87-68-3	47	8.9	0.17	0.074 U	0.072 U	0.075 U	NT	0.066 U	0.078 U
HEXAChlorOCYCLOPENTADIENE	77-47-4	7800	2.7	2.5	0.57 U	0.55 U	0.58 U	NT	0.51 U	0.6 U
HEXAChlorOETHANE	67-72-1	91	17	0.17	0.096 U	0.094 U	0.098 U	NT	0.087 U	0.1 U
INDENO[1,2,3-CD]PYRENE	193-39-5	23	5.1	NS	0.083 U	0.052 J	0.085 U	NT	0.075 U	0.088 U
ISOPHORONE	78-59-1	2700	570	0.23	0.066 U	0.065 U	0.068 U	NT	0.06 U	0.071 U
2-METHYLNAPHTHALENE	91-57-6	3300	240	3.1	0.24 U	0.027 J	0.14 J	NT	0.21 U	0.25 U
2-METHYLPHENOL	95-48-7	4600	320	0.77	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
3- AND 4- METHYLPHENOL	MEPH3MEPH4	NS	NS	NS	0.28 U	0.28 U	0.29 U	NT	0.26 U	0.3 U
NAPHTHALENE	91-20-3	27	5.7	19	0.2 U	0.025 J	0.089 J	NT	0.18 U	0.21 U
2-NITROANILINE	88-74-4	NS	NS	NS	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
3-NITROANILINE	99-09-2	NS	NS	NS	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
4-NITROANILINE	100-01-6	130	27	NS	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
NITROBENZENE	98-95-3	36	7.5	0.17	0.088 U	0.086 U	0.089 U	NT	0.079 U	0.094 U
2-NITROPHENOL	88-75-5	NS	NS	NS	0.43 U	0.42 U	0.44 U	NT	0.39 U	0.46 U
4-NITROPHENOL	100-02-7	NS	NS	NS	0.28 U	0.27 U	0.28 U	NT	0.25 U	0.3 U
N-NITROSO-DI-N-PROPYLAMINE	621-64-7	0.36	0.17	0.17	0.05 U	0.049 U	0.051 U	NT	0.045 U	0.053 U
N-NITROSODIPHENYLAMINE	86-30-6	520	110	1.1	0.049 U	0.048 U	0.05 U	NT	0.044 U	0.052 U
PENTACHLOROPHENOL	87-86-5	4.4	1	0.33	0.13 U	0.13 U	0.13 U	NT	0.12 U	0.14 U
PHENANTHRENE	85-01-8	NS	NS	NS	0.12 U	0.19	0.047 J	NT	0.11 U	0.13 U

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**TABLE 1**  
**Summary of Landfill Characterization Analytical Samples.**  
**Project: JSUMC (Jersey Shore University Medical Center)**  
**1945 NJ-RTE 33**  
**NEPTUNE, NEW JERSEY**

Location ID Sample ID Lab Sample ID Sample Media Sample Date Sample Depth (ft bgs) Units of Measure	Chemical Abstract System (CAS) Number	NJDEP Non-Residential Most Stringent Soil Remediation Standard (2021) mg/kg	NJDEP Residential Most Stringent Soil Remediation Standard (2021) mg/kg	NJDEP Migration to Ground Water Soil Remediation Standards (2021) mg/kg	LD-7 LD-7-7.0-112224 L2469777-01 Soil 11/22/2024 7 - 7.5' mg/kg	LD-8 LD-8-7.0-112024 L2468997-04 Soil 11/20/2024 7 - 7.5' mg/kg	LD-9 LD-9-6.5-112724 L2470015-01 Soil 11/27/2024 6.5 - 7' mg/kg	LD-9 LD-9-8.0-112724 L2470015-02 Soil 11/25/2024 8 - 8.5' mg/kg	LD-10 LD-10-8.0-112524 L2469777-02 Soil 11/19/2024 8 - 8.5' mg/kg	LD-11 LD-11-9.0-111924 L2468997-01 Soil 11/19/2024 9 - 9.5' mg/kg
PHENOL	108-95-2	270000	19000	21	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
PYRENE	129-00-0	25000	1800	NS	0.12 U	0.2	0.021 J	NT	0.025 J	0.13 U
1,2,4,5-TETRACHLOROBENZENE	95-94-3	390	23	NS	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
2,3,4,6-TETRACHLOROPHENOL	58-90-2	27000	1900	26	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
2,4,5-TRICHLOROPHENOL	95-95-4	91000	6300	68	0.2 U	0.19 U	0.2 U	NT	0.18 U	0.21 U
2,4,6-TRICHLOROPHENOL	88-06-2	230	49	0.86	0.11 U	0.11 U	0.11 U	NT	0.1 U	0.12 U
TOTAL SVOC TICS	TSVT	NS	NS	NS	0 U	1.26 J	0 U	NT	0 U	0.194 J
<b>METALS</b>										
ALUMINUM	7429-90-5	NS	78000	NS	1530	3840	4070	NT	745	1060
ANTIMONY	7440-36-0	520	31	5.4	4.69 U	4.45 U	1.25 J	NT	4.26 U	4.88 U
ARSENIC	7440-38-2	19	19	19	1.44	2.62	6.76	NT	0.884	0.24 J
BARIUM	7440-39-3	260000	16000	2100	3.54	21.2	63.2	NT	3.01	3.77
BERYLLIUM	7440-41-7	2600	160	0.7	0.469 U	0.125 J	0.287 J	NT	0.426 U	0.488 U
CADMUM	7440-43-9	1100	71	4*	0.938 U	0.89 U	1.61	NT	0.852 U	0.977 U
CALCIUM	7440-70-2	NS	NS	NS	180	16300	11300	NT	240	55.1
CHROMIUM	7440-47-3	NS	NS	NS	10.4	12.7	13.2	NT	3.72	3.49
COBALT	7440-48-4	390	23	90	1.88 U	2.83	3.16	NT	0.175 J	1.95 U
COPPER	7440-50-8	52000	3100	910	3.84	31.4	351	NT	2.84	3.76
CYANIDE	57-12-5	NS	NS	NS	1.2 U	1.1 U	1.1 U	NT	1 U	1.2 U
IRON	7439-89-6	NS	NS	NS	3180	8610	11200	NT	2530	543
LEAD	7439-92-1	800	400	90	2.97 J	10.4	194	281	18.6	2.65 J
MAGNESIUM	7439-95-4	NS	NS	NS	38.9	4900	610	NT	76.8	27.1
MANGANESE	7439-96-5	31000	1900	NS	4.6	82.1	58.2	NT	6.91	4.11
MERCURY	7439-97-6	390	23	0.5*	0.082 U	0.086 U	0.317	0.154 J	0.081 U	0.087 U
NICKEL	7440-02-0	26000	1600	48	2.35 U	10.1	28	NT	0.791 J	0.267 J
POTASSIUM	7440-09-7	NS	NS	NS	203 J	279	272	NT	47.7 J	134 J
SELENIUM	7782-49-2	NS	NS	NS	0.242 J	0.393 J	0.719 J	NT	1.7 U	0.256 J
SILVER	7440-22-4	6500	390	0.5	0.469 U	0.445 U	0.725	1.09 U	0.426 U	0.488 U
SODIUM	7440-23-5	NS	NS	NS	133 J	369	2500	NT	254	96 J
THALLIUM	7440-28-0	NS	NS	NS	1.88 U	1.78 U	0.308 J	NT	1.7 U	1.95 U
VANADIUM	7440-62-2	6500	390	NS	7.81	38.7	89.6	NT	16	5.21
ZINC	7440-66-6	390000	23000	930	4.43 J	21.2	237	NT	17.2	2.92 J
<b>PCBs</b>										
AROCLOR-1016	12674-11-2	NS	NS	NS	0.0582 U	0.0539 U	0.0598 U	NT	0.0508 U	0.0602 U
AROCLOR-1254	11097-69-1	NS	NS	NS	0.0582 U	0.00878 J	0.0598 U	NT	0.0508 U	0.0602 U
AROCLOR-1248	12672-29-6	NS	NS	NS	0.0582 U	0.0539 U	0.0598 U	NT	0.0508 U	0.0602 U
AROCLOR-1221	11104-28-2	NS	NS	NS	0.0582 U	0.0539 U	0.0598 U	NT	0.0508 U	0.0602 U
AROCLOR-1232	11141-16-5	NS	NS	NS	0.0582 U	0.0539 U	0.0598 U	NT	0.0508 U	0.0602 U
AROCLOR-1242	53469-21-9	NS	NS	NS	0.0582 U	0.0539 U	0.0598 U	NT	0.0508 U	0.0602 U
AROCLOR-1260	11096-82-5	NS	NS	NS	0.0582 U	0.0539 U	0.0119 J	NT	0.0508 U	0.0602 U

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AROCOLOR-1262	37324-23-5	NS	NS	0.0582 U	0.0539 U	0.0598 U	NT	0.0508 U	0.0602 U	
AROCOLOR-1268	11100-14-4	NS	NS	0.0582 U	0.0539 U	0.0107 J	NT	0.00869 J	0.0602 U	
PCBS (TOTAL)	TPCB	1.1	0.25	1.6	0.0582 U	0.00878 J	0.0226 J	NT	0.00869 J	0.0602 U
<b>PESTICIDES</b>										
ALDRIN	309-00-2	0.21	0.041	0.13	0.00187 U	0.00185 U	0.00528 U	NT	0.00163 U	0.00199 U
ALPHA-BHC	319-84-6	0.41	0.086	0.0023	0.00078 U	0.00077 U	0.0022 U	NT	0.00068 U	0.00082 U
BETA-BHC	319-85-7	1.4	0.3	0.0046	0.00187 U	0.00185 U	0.00528 U	NT	0.00163 U	0.00199 U
CHLORDANE	57-74-9	1.4	0.27	1.4	0.0156 U	0.0236	0.044 U	NT	0.0136 U	0.0166 U
DIELDRIN	60-57-1	0.16	0.034	0.024	0.00117 U	0.00116 U	0.0033 U	NT	0.00102 U	0.00124 U
ENDOSULFAN I	959-98-8	NS	NS	NS	0.00187 U	0.00185 U	0.00528 U	NT	0.00163 U	0.00199 U
ENDOSULFAN II	33213-65-9	NS	NS	NS	0.00187 U	0.00185 U	0.00528 U	NT	0.00163 U	0.00199 U
ENDOSULFAN SULFATE	1031-07-8	NS	NS	NS	0.00078 U	0.00077 U	0.0022 U	NT	0.00068 U	0.00082 U
ENDRIN	72-20-8	270	19	1.6	0.00078 U	0.00077 U	0.0022 U	NT	0.00068 U	0.00082 U
GAMMA-BHC (LINDANE)	58-89-9	2.8	0.57	0.0035	0.00078 U	0.00077 U	0.0022 U	NT	0.00068 U	0.00082 U
HEPTACHLOR	76-44-8	0.81	0.15	0.083	0.00093 U	0.00092 U	0.00264 U	NT	0.00081 U	0.00099 U
HEPTACHLOR EPOXIDE	1024-57-3	0.4	0.076	0.081	0.00352 U	0.00347 U	0.00991 U	NT	0.00306 U	0.00373 U
METHOXYCHLOR	72-43-5	4600	320	NS	0.00352 U	0.00347 U	0.00991 U	NT	0.00306 U	0.00373 U
4,4'-DDD	72-54-8	11	2.3	0.47	0.00187 U	0.00497	0.065	NT	0.00163 U	0.00199 U
4,4'-DDE	72-55-9	11	2	0.47	0.00187 U	0.00462	0.0672	NT	0.00074 J	0.00199 U
4,4'-DDT	50-29-3	9.5	1.9	0.67	0.00352 U	0.0015 J	0.0191	NT	0.00306 U	0.00373 U
TOXAPHENE	8001-35-2	2.3	0.49	6.2	0.0352 U	0.0347 U	0.0991 U	NT	0.0306 U	0.0373 U
DELTA BHC	319-86-8	NS	NS	NS	0.00187 U	0.00185 U	0.00528 U	NT	0.00163 U	0.00199 U
ALPHA-CHLORDANE	5103-71-9	NS	NS	NS	0.00234 U	0.00296 IP	0.0066 U	NT	0.0006 JIP	0.00248 U
BETA-CHLORDANE	5103-74-2	NS	NS	NS	0.00234 U	0.00463	0.0066 U	NT	0.00075 JIP	0.00248 U
ENDRIN KETONE	53494-70-5	NS	NS	NS	0.00187 U	0.00185 U	0.00528 U	NT	0.00163 U	0.00199 U
ENDRIN ALDEHYDE	7421-93-4	NS	NS	NS	0.00234 U	0.00231 U	0.0066 U	NT	0.00204 U	0.00248 U
<b>RCRA Characteristics</b>										
CYANIDE	57-12-5	NS	NS	NS	1.2 U	1.1 U	1.1 U	NT	1 U	1.2 U

\* Site-Specific Migration to Ground Water Alternative Remediation Standard

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