

**Table 2-9  
Benzene Analytical Results in the Unsaturated Soil Zone Compared to IGW Soil Screening Levels  
Forrest Current-Use Remediation Areas, Garfield Avenue Group  
PPG, Jersey City, New Jersey**

													Analyte CAS-RN Units DIGWSSL	BENZENE 71-43-2 mg/kg 0.005		
Grid ID (G1)	Location ID (G2)	Location Elevation (ft NAVD88) (G3, G4)	Sample ID (G5, G6)	Depth Interval (ft bgs) (G7)	Sample Start Elevation (ft NAVD88) (G4, G8)	Sample End Elevation (ft NAVD88) (G4, G9)	Lab ID (G10)	Lab SDG (G10)	Date Collected (G11)	Sample Status (G12, G13)	Sample Type (G14)	Groundwater Elevation (ft NAVD88) (G6)	Validated (Y/N) (G15)	Result (G16, G17)	Qualifier (G18, G19)	Specific Notes
CC10B	P4-FOR-CC10B	10.7	P4-FOR-CC10B-3.0-3.5	3.0 - 3.5	7.7	7.2	JC22855-5A	JC22855A	06/23/2016	remaining	N	6.3	Y	0.0010		S1
CC12B	NFS-PDI-CC12B	10.7	NFS-PDI-CC12B-0.0-0.5	0.0 - 0.5	10.7	10.2	JC27321-2A	JC27321A	09/09/2016	remaining	N	6.1	Y	< 0.00017	U	S2
CC12B	NFS-PDI-CC12B	10.7	NFS-PDI-CC12B-2.0-2.5	2.0 - 2.5	8.7	8.2	JC27321-8A	JC27321A	09/09/2016	remaining	N	6.1	Y	< 0.00018	U	S2
CC12B	NFS-PDI-CC12B	10.7	NFS-PDI-CC12B-4.0-4.5	4.0 - 4.5	6.7	6.2	JC27321-10A	JC27321A	09/09/2016	remaining	N	6.1	Y	0.00052	J	S2
CC12B	NFS-PDI-CC12B	10.7	NFS-PDI-CC12B-4.0-4.5X	4.0 - 4.5	6.7	6.2	JC27321-11A	JC27321A	09/09/2016	remaining	FD	6.1	Y	< 0.00014	U	S2
CC12B	NFS-PDI-CC12BR	10.5	NFS-PDI-CC12BR-0.5-1.0	0.5 - 1.0	10.0	9.5	JC31705-2A	JC31705A	11/14/2016	remaining	N	6.1	Y	< 0.00014	U	S3
CC12B	NFS-PDI-CC12BR	10.5	NFS-PDI-CC12BR-2.5-3.0	2.5 - 3.0	8.0	7.5	JC31705-8A	JC31705A	11/14/2016	remaining	N	6.1	Y	0.00037	J	S3
CC14B	NFS-PDI-CC14B	10.8	NFS-PDI-CC14B-0.5-1.0	0.5 - 1.0	10.3	9.8	JC27804-17A	JC27804A	09/16/2016	remaining	N	6.1	Y	< 0.00021	U	S2
CC14B	NFS-PDI-CC14B	10.8	NFS-PDI-CC14B-2.5-3.0	2.5 - 3.0	8.3	7.8	JC27804-19A	JC27804A	09/16/2016	remaining	N	6.1	Y	< 0.00016	U	S2
EE15B	NFS-PDI-EE15B	11.0	NFS-PDI-EE15B-0.0-0.5	0.0 - 0.5	11.0	10.5	JC27483-1A	JC27483A	09/13/2016	remaining	N	6.1	Y	< 0.00012	U	S2
EE15B	NFS-PDI-EE15B	11.0	NFS-PDI-EE15B-2.0-2.5	2.0 - 2.5	9.0	8.5	JC27483-8A	JC27483A	09/13/2016	remaining	N	6.1	Y	0.00020	J	S2
EE15B	NFS-PDI-EE15B	11.0	NFS-PDI-EE15B-4.0-4.5	4.0 - 4.5	7.0	6.5	JC27483-11A	JC27483A	09/13/2016	remaining	N	6.1	Y	<b>0.0131</b>	J	S2, S4
EE15B	NFS-PDI-EE15B	11.0	NFS-PDI-EE15B-4.0-4.5X	4.0 - 4.5	7.0	6.5	JC27483-10A	JC27483A	09/13/2016	remaining	FD	6.1	Y	0.00060		S2
X12B	EF-05	10.6	EF-B05-2.5	2.5 - 3.0	8.1	7.6	460-25190-11	460251901	04/11/2011	remaining	N	6.1	Y	< 0.0014	U	S1
Y12B	P4-FOR-Y12B	10.5	P4-FOR-Y12B-0.5-1.0	0.5 - 1.0	9.9	9.4	JC22855-17A	JC22855A	06/23/2016	remaining	N	6.3	Y	< 0.00012	U	S5
Y12B	P4-FOR-Y12B	10.5	P4-FOR-Y12B-2.0-2.5	2.0 - 2.5	8.4	7.9	JC22855-18A	JC22855A	06/23/2016	remaining	N	6.3	Y	< 0.00013	U	S5
Y12B	P4-FOR-Y12BR	10.5	P4-FOR-Y12BR-0.5-1.0	0.5 - 1.0	9.9	9.4	JC23104-12A	JC23104A	06/28/2016	remaining	N	6.3	Y	0.0012		S5
Z12B	PSEG-SB62	10.0	NJD981084668-8/17/2007-1	1.5 - 2.0	8.5	8.0	854412	K070	08/17/2007	remaining	N	6.3	N	<b>0.27</b>		S1, S4, S6

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**ABBREVIATIONS:**

ACO - Administrative Consent Order  
bgs - below ground surface  
CAS RN - Chemical Abstracts Service Registry Number  
DIGWSSL - Default Impact to Groundwater Soil Screening Level  
El. - elevation  
FD - field duplicate sample type  
ft - feet  
JCO - Judicial Consent Order  
IGW - Impact to Groundwater  
MGP - manufactured gas plant  
mg/kg - milligrams per kilogram  
N - normal sample type  
NAVD88 - North American Vertical Datum of 1988  
SDG - sample delivery group

**QUALIFIERS:**

J - The result was an estimated value; the associated numerical value was an approximate concentration of the analyte in the sample.  
U - The analyte was not detected above the sample reporting limit shown.

**GENERAL NOTES:**

G1. "Grid ID" refers to an area, typically 30 ft by 30 ft, identified as Grid Row W through HH (extending west to east) and Grid Column 10B through 17B (extending from south to north).  
G2. "Location ID" refers to the location name where samples were collected.  
G3. "Location Elevation" refers to the pre-remediation surface elevation for samples collected from the pit bottom, and the surface elevation of the sample location when the sample was collected via boring or test pit.  
G4. Elevation vertical datum is NAVD88, in U.S. survey ft.  
G5. "Sample ID" refers to the name of a sample collected at a given location and is unique to the depth of the sample collected. The depth listed in the Sample ID may not necessarily correspond to the actual sample depth interval due to corrections made as a result of post-field work review of surveyed surface elevations and/or boring logs. In some cases, the "Sample ID" in the table is a variant of the sample ID in the laboratory report and/or data validation report. In these cases, the "Lab ID" associates the sample results to the laboratory report and/or data validation report.  
G6. This table compares sample results from the unsaturated zone to the DIGWSSLs. The groundwater elevations (above which is the unsaturated zone) on Forrest Street Properties was estimated as the 50th percentile groundwater elevation from ten monitoring wells located on or adjacent to Forrest Street Properties gauged between February 2007 and December 2016. The groundwater elevation (above which is the unsaturated zone) on Forrest Street was estimated as the 50th percentile groundwater elevation from seven monitoring wells located on or adjacent to Forrest Street gauged between December 2003 and December 2016. The monitoring well locations and data are included in Appendix D. The estimated groundwater elevation for Forrest Street Properties is El. 6.1 ft NAVD88, and the estimated groundwater elevation for Forrest Street is El. 6.3 ft NAVD88.  
G7. "Depth Interval" is based on the "Location Elevation."  
G8. "Sample Start Elevation" refers to the start of the sample interval. There may be up to 0.1 ft variation between the listed Sample Start Elevation and the elevation calculated using the Location Elevation and Depth Interval due to rounding of the numbers.  
G9. "Sample End Elevation" refers to the end of the sample interval. There may be up to 0.1 ft variation between the listed Sample End Elevation and the elevation calculated using the Location Elevation and Depth Interval due to rounding of the numbers.  
G10. "Lab ID" refers to the identification number assigned to the sample by the analytical laboratory performing the sample analysis. "Lab SDG" refers to the delivery group number assigned to the sample by the analytical laboratory.  
G11. "Date Collected" refers to the date the soil sample was collected.  
G12. "Sample Status" of "remaining" indicates the soil in that interval is outside the excavation footprint, and remains in-place at that location.  
G13. The 1-ft post-excavation contours representing the as-built terminal excavation elevations are provided on Figure 4-1 through Figure 4-9.  
G14. "Sample Type" indicates whether the sample type is normal (N) or a field duplicate (FD).  
G15. "Y" indicates that a sample underwent data validation and "N" indicates that data validation was not conducted.  
G16. "Result" refers to the analytical result which is reported in mg/kg.  
G17. Bold text indicates that the result exceeds the DIGWSSL. Non-bold text indicates that the result does not exceed the DIGWSSL.  
G18. "Qualifier" refers to the data qualifier assigned by the data validation team reviewing the data from the laboratory for validated data. For unvalidated data, it refers to the qualifier assigned by the laboratory.  
G19. Non-detect results are shown on this table using the Method Detection Limit, if available; otherwise they are shown at the Reporting Limit.

**SPECIFIC NOTE:**

S1. This sample is remaining in place within the Forrest Street Utility Offset.  
  
S2. This sample is remaining in place with the 90 Forrest Street Alleyway.  
  
S3. This sample is remaining in place within the 86/90 Forrest Street Building Footprint.  
  
S4. In Grids EE15B and Z12B, the benzene concentrations in samples NFS-PDI-EE15B-4.0-4.5 and NJD981084668-8/17/2007-1 exceed the DIGWSSL. The benzene concentrations in these samples are not related to MGP impacts emanating from Site 114 per the technical memorandum entitled, *Forrest Street and Forrest Street Properties Emanating-From Parameters (Revision 1)*, dated September 20, 2018, as accepted by NJDEP on November 5, 2018. As these exceedances are not associated with MGP operations, they do not fall under purview of the ACO and JCO and are the responsibility of the property owner.  
  
S5. This sample is remaining in place within the 100 Forrest Street Loading Dock Driveway.  
  
S6. This sample was collected by another party. A data validation memorandum has not been identified.