

**Table 5-2
CCPW Metals Analytical Results for In-Place Soil Compared to Soil Remediation Standards
Carteret Avenue, Garfield Avenue Group
PPG, Jersey City, New Jersey**

													Analyte CAS RN Units RDCSRS RDCSRS-GAG NRDCSRS	ANTIMONY 7440-36-0 mg/kg 31 NA 450	CHROMIUM 7440-47-3 mg/kg 120000 NA NA	NICKEL 7440-02-0 mg/kg 1600 NA 23000	THALLIUM 7440-28-0 mg/kg N/A NA NA	VANADIUM 7440-62-2 mg/kg N/A 390 1100						
Station (G1)	Offset (G2)	Location ID (G3)	Location Elevation (ft NAVD88) (G4, G5)	Sample ID (G6)	Depth Interval (ft bgs) (G7)	Sample Start Elevation (ft NAVD88) (G5, G8)	Sample End Elevation (ft NAVD88) (G5, G9)	Lab ID (G10)	Lab SDG (G10)	Date Collected (G11)	Sample Status (G12, G13)	Sample Type (G14)	Validated (Y/N) (G15)	Result (G16, G17)	Qualifier (G18, G19)	Result (G16, G20)	Qualifier (G18, G19)	Result (G16, G17)	Qualifier (G18, G19)	Result (G16, G17)	Qualifier (G18, G19)	Result (G16, G17)	Qualifier (G18, G19)	Specific Notes
8+36	26L	CAR-PDI-AA19A	10.9	CAR-PDI-AA19A-14.7-15.2	14.7 - 15.2	-3.8	-4.3	JC22070-7A	JC22070A	06/13/2016	Remaining	N	Y	< 0.35	UJ	13.3		9.9		< 0.47	U	21.7		
8+36	26L	CAR-PDI-AA19A	10.9	CAR-PDI-AA19A-15.2-15.7	15.2 - 15.7	-4.3	-4.8	JC22070-8A	JC22070A	06/13/2016	Remaining	N	Y	< 0.29	UJ	23.1	J	20.4	J	< 0.40	UJ	40.9	J	
9+02	26L	PSEG-SB54	10.2	NJD981084668-11/27/2006-SB54_10	10.0 - 10.5	0.2	-0.3	787472	A011	11/27/2006	Remaining	N	N	< 1.4	U	22.3		12.1		< 1.2	U	25.7		S1
9+02	26L	PSEG-SB54	10.2	NJD981084668-11/27/2006-SB54_36	36.5 - 37.0	-26.3	-26.8	787473	A011	11/27/2006	Remaining	N	N	< 1.4	U	270		3	B	< 1.2	U	6.4	B	S1
9+02	26L	PSEG-SB54	10.2	NJD981084668-11/28/2006-SB54_42	42.5 - 43.0	-32.3	-32.8	788113	A102	11/28/2006	Remaining	N	N	< 1.5	U	5.5		3.5	B	< 1.2	U	6.9	B	S1
9+02	26L	PSEG-SB54	10.2	NJD981084668-11/28/2006-788114	55.5 - 56.0	-45.3	-45.8	788114	A102	11/28/2006	Remaining	N	N	< 1.4	U	5.9		3.6	B	< 1.1	U	6.4	B	S1
9+03	21R	PSEG-SB52	11.1	NJD981084668-11/22/2006-SB52_8	8.5 - 9.0	2.6	2.1	786920	Z919	11/22/2006	Remaining	N	N	< 2	U	538		15.7		< 1.6	U	34.7		S1
9+03	21R	PSEG-SB52	11.1	PSEG-SB52C(8.5-9.0)J47237-5	8.5 - 9.0	2.6	2.1	J47237-5	J47237	11/22/2006	Remaining	N	Y	< 4.3	UJ	134	J	19.2		< 2.2	U	50.9	J	
9+03	21R	PSEG-SB52	11.1	PSEG-SB52D(9.0-9.1)J47237-6	9.0 - 9.1	2.1	2.0	J47237-6	J47237	11/22/2006	Remaining	N	Y	< 4	UJ	33.8	J	16.3		< 2	U	48.5	J	
9+03	21R	PSEG-SB52	11.1	PSEG-SB52E(10.0-10.5)J47237-7	10.0 - 10.5	1.1	0.6	J47237-7	J47237	11/22/2006	Remaining	N	Y	< 2.5	UJ	13	J	7		< 1.3	U	20	J	
9+03	21R	PSEG-SB52	11.1	PSEG-SB52F(12.0-13.0)J47237-8	12.0 - 13.0	-0.9	-1.9	J47237-8	J47237	11/22/2006	Remaining	N	Y	< 2.3	UJ	11.7	J	10.4		< 1.2	U	17.8	J	
9+03	21R	PSEG-SB52	11.1	PSEG-SB52G(14.2-14.9)J47237-9	14.2 - 14.9	-3.1	-3.8	J47237-9	J47237	11/22/2006	Remaining	N	Y	< 2.3	UJ	21.5	J	11.4		< 1.2	U	25.4	J	
9+03	21R	PSEG-SB52	11.1	PSEG-SB52GD(14.2-14.9)J47237-10	14.2 - 14.9	-3.1	-3.8	J47237-10	J47237	11/22/2006	Remaining	FD	Y	< 2.4	UJ	14.1	J	10.8		< 1.2	U	23.8	J	
9+03	21R	PSEG-SB52	11.1	PSEG-SB52H(16.0-16.5)J47368-9	16.0 - 16.5	-4.9	-5.4	J47368-9	J47368	11/27/2006	Remaining	N	Y	< 4.2	UJ	80.2		21.3		< 2.1	U	35.2		
9+03	21R	PSEG-SB52	11.1	PSEG-SB52I(19.0-20.0)J47368-10	19.0 - 20.0	-7.9	-8.9	J47368-10	J47368	11/27/2006	Remaining	N	Y	< 3.7	UJ	31.1		24.5		< 1.8	U	34.2		
9+03	21R	PSEG-SB52	11.1	PSEG-SB52ID(19.0-20.0)J47368-11	19.0 - 20.0	-7.9	-8.9	J47368-11	J47368	11/27/2006	Remaining	FD	Y	< 3.8	UJ	32.8		25.4		< 1.9	U	36.6		
9+03	21R	PSEG-SB52	11.1	PSEG-SB52J(20.0-21.0)J47368-12	20.0 - 21.0	-8.9	-9.9	J47368-12	J47368	11/27/2006	Remaining	N	Y	< 3.6	UJ	18.5		9.4		< 1.8	U	16.5		
9+03	21R	PSEG-SB52	11.1	NJD981084668-11/27/2006-SB52_21	21.0 - 21.5	-9.9	-10.4	787468	A011	11/27/2006	Remaining	N	N	< 1.4	U	13.8		11.6		< 1.2	U	15.2		S1
9+03	21R	PSEG-SB52	11.1	PSEG-SB52K(21.0-21.2)J47368-13	21.0 - 21.2	-9.9	-10.1	J47368-13	J47368	11/27/2006	Remaining	N	Y	< 2.5	UJ	17.1		10.1		< 1.3	U	18.6		
9+03	21R	PSEG-SB52	11.1	NJD981084668-11/27/2006-SB52_36	36.3 - 36.8	-25.2	-25.7	787469	A011	11/27/2006	Remaining	N	N	< 1.3	U	153		3.4	B	< 1.1	U	8.9	B	S1
9+03	21R	PSEG-SB52	11.1	NJD981084668-11/27/2006-SB52_42	42.9 - 43.4	-31.8	-32.3	787470	A011	11/27/2006	Remaining	N	N	< 1.4	U	6.3		2.8	B	< 1.1	U	6.3	B	S1
9+03	21R	PSEG-SB52	11.1	NJD981084668-11/27/2006-SB52_54	54.5 - 55.0	-43.4	-43.9	787471	A011	11/27/2006	Remaining	N	N	< 1.4	U	4.7		3.6	B	< 1.1	U	6.8	B	S1
9+04	18L	P4-CC20A	10.1	P4-CC20A-4.0-4.5	4.0 - 4.5	6.1	5.6	JB83952-4A	JB83952A	12/11/2014	Removed	N	Y	0.40	J	18.4		16.5		< 0.43	U	32.1		S2
9+04	18L	P4-CC20A	10.1	P4-CC20A-6.0-6.5	6.0 - 6.5	4.1	3.6	JB83952-5A	JB83952A	12/11/2014	Remaining	N	Y	< 0.27	U	20.6		18.5		< 0.40	U	35.4		
9+04	18L	P4-CC20A	10.1	P4-CC20A-8.0-8.5	8.0 - 8.5	2.1	1.6	JB83952-6A	JB83952A	12/11/2014	Remaining	N	Y	< 0.29	U	18.2		13.6		< 0.43	U	31.4		
9+42	7L	CAR-9+30-SW-N-2	10.7	CAR-9+30-SW-N-2-5.2-5.7	5.2 - 5.7	5.5	5.0	JC97439-2	JC97439	10/25/2019	Remaining	N	Y	6.0	J	1780		154		< 2.3	U	123		
9+44	6R	CAR-PDI-DD21A	10.7	CAR-PDI-DD21A-7.5-8.0	7.5 - 8.0	3.2	2.7	JC22070-26A	JC22070A	06/13/2016	Remaining	N	Y	< 7.2	UJ	21400	J	30.5	J	< 9.8	UJ	122	J	
9+44	6R	CAR-PDI-DD21A	10.7	CAR-PDI-DD21A-9.5-10.0	9.5 - 10.0	1.2	0.7	JC22070-27A	JC22070A	06/13/2016	Remaining	N	Y	2.0	J	3040		24.0		< 2.0	U	27.2		
9+44	6R	CAR-PDI-DD21A	10.7	CAR-PDI-DD21A-11.5-12.0	11.5 - 12.0	-0.8	-1.3	JC22070-21A	JC22070A	06/13/2016	Remaining	N	Y	< 0.29	UJ	291	J	35.6	J	< 0.80	UJ	42.1	J	
9+44	6R	CAR-PDI-DD21A	10.7	CAR-PDI-DD21A-13.5-14.0	13.5 - 14.0	-2.8	-3.3	JC22070-22A	JC22070A	06/13/2016	Remaining	N	Y	< 0.32	UJ	25.8		12.4		< 0.44	U	32.1		
9+44	6R	CAR-PDI-DD21A	10.7	CAR-PDI-DD21A-14.0-14.5	14.0 - 14.5	-3.3	-3.8	JC22070-23A	JC22070A	06/13/2016	Remaining	N	Y	< 0.29	UJ	28.5	J	16.9	J	< 0.40	UJ	37.4	J	
9+52	17R	EF-49	10.2	EF-B49-12.0	12.0 - 12.5	-1.8	-2.3	460-26881-2	460268811	05/25/2011	Remaining	N	Y	< 1.0	U					< 1.0	U	32.8		
9+82	20R	135-B19	9.9	PPG-135-B19E 9.4-9.9 796868	9.4 - 9.9	0.5	0.0	796868	B400	01/02/2007	Remaining	N	Y	< 1.6	UJ	23.5		18		< 1.5	U	39.1		
9+82	20R	135-B19	9.9	PPG-135-B19F 13.2-13.7 796869	13.2 - 13.7	-3.3	-3.8	796869	B400	01/02/2007	Remaining	N	Y	< 1.7	UJ	21.9		15		< 1.6	U	32.2		
9+82	20R	135-B19	9.9	PPG-135-B19G 17.2-18.2 796870	17.2 - 18.2	-7.3	-8.3	796870	B400	01/02/2007	Remaining	N	Y	< 1.9	UJ	33.7		28.3		< 1.8	U	41.1		
9+82	20R	135-B19	9.9	PPG-135-B19GD 17.2-18.2 796871	17.2 - 18.2	-7.3	-8.3	796871	B400	01/02/2007	Remaining	FD	Y	< 1.9	UJ	20.6		17.7		< 1.8	U	29.7		
9+82	20R	135-B19	9.9	PPG-135-B19H 20.2-20.7 796872	20.2 - 20.7	-10.3	-10.8	796872	B400	01/02/2007	Remaining	N	Y	< 1.2	UJ	13		14.2		< 1.2	U	15		
9+91	15R	CAR-EX-9+90-15R	9.7	CAR-EX-9+90-15R-6.6-7.1	6.6 - 7.1	3.1	2.6	JC97212-1	JC97212	10/22/2019	Remaining	N	Y	0.93	J	27.1		18.4		< 0.83	U	35.8		
NA	NA	EF-17	9.7	EF-B17-2.5	2.5 - 3.0	7.2	6.7	460-25550-41	460255501	04/19/2011	Remaining	N	Y	2.8	J	464		48.7		< 1.1	U	33.3		S3
NA	NA	EF-17	9.7	EF-B17-6.0	6.0 - 6.5	3.7	3.2	460-25599-9	460255991	04/20/2011	Remaining	N	Y	1.9	J	14.3		15.1		< 1.3	U	24.6		S3
NA	NA	EF-17	9.7	EF-B17-12.0	12.0 - 12.5	-2.3	-2.8	460-25599-11	460255991	04/20/2011	Remaining	N	Y	< 1.1	UJ	12.5		11.1		< 1.2	U	16.3		S3
NA	NA	EF-17	9.7	EF-B17-12.0X	12.0 - 12.5	-2.3	-2.8	460-25599-12	460255991	04/20/2011	Remaining	FD	Y	< 1.1	UJ	11.1		10.3		< 1.2	U	17.0		S3
NA	NA	EF-17	9.7	EF-B17-17.0	17.0 - 17.5	-7.3	-7.8	460-25599-13	460255991	04/20/2011	Remaining	N	Y	< 2.5	UJ	42.9		36.1		< 2.8	U	47.1		S3
NA	NA	EF-17	9.7	EF-B17-22.5	22.5 - 23.0	-12.8	-13.3	460-25599-14	460255991	04/20/2011	Remaining	N	Y	< 1.7	UJ	17.7		13.8	J	< 1.9	U	19.6	J	S3

Table 5-2
CCPW Metals Analytical Results for In-Place Soil Compared to Soil Remediation Standards
Carteret Avenue, Garfield Avenue Group
PPG, Jersey City, New Jersey

ABBREVIATIONS:

bgs - below ground surface
CAS RN - Chemical Abstracts Service Registry Number
CCPW - Chromate Chemical Production Waste
Cr - chromium
Cr⁺³ - trivalent chromium
Cr⁺⁶ - hexavalent chromium
El. - elevation
FD - field duplicate sample type
ft - feet
mg/kg - milligrams per kilogram
N - normal sample type
NAVD88 - North American Vertical Datum of 1988
NA - not applicable
NJDEP - New Jersey Department of Environmental Protection
NRDCSRS - NJDEP Non-Residential Direct Contact Soil Remediation Standard
RDCSRS - NJDEP Residential Direct Contact Soil Remediation Standard
RDCSRS-GAG - Residential Direct Contact Soil Remediation Standard - Garfield Avenue Group (alternative remediation standard approved by the NJDEP on December 28, 2016)
SCC - Soil Cleanup Criteria
SDG - sample delivery group
SRS - Soil Remediation Standard
U.S. - United States

QUALIFIERS:

B - Indicates that the analyte was detected at a concentration less than the Practical Quantitation Limit but greater than or equal to the Instrument Detection Limit.
BJ – The result was negated and estimated since the sample result was greater than three times, but less than 10 times, the maximum instrument blank concentration.
J - The result was an estimated value; the associated numerical value was an approximate concentration of the analyte in the sample.
JF - The result was an estimate value since the sample result was greater than three times, but less than 10 times, the maximum field blank concentration.
U - The analyte was not detected above the sample reporting limit shown.
UJ - The analyte was not detected above the sample reporting limit shown and the reporting limit was approximate.

GENERAL NOTES:

G1. "Station" refers to a sample's location along the excavation's centerline, which runs the length of the center of Carteret Avenue starting from the westernmost edge of Carteret Avenue, as presented on Figure 5-2. Station values are presented in hundreds of feet. For example, station 1+50 is 150 feet along the excavation's centerline. An entry of "NA" in this column indicates the sample is located beyond the limits of the centerline established as part of the Carteret Avenue excavation.
G2. "Offset" refers to a sample's distance in feet 90 degrees from the excavation's centerline in the southeasterly direction, as presented on Figure 5-2. An addition of "L" in this column indicates the sample is located to the left of the excavation's centerline and an addition of "R" in this column indicates the sample is located to the right of the excavation's centerline. An entry of "NA" in this column indicates the sample is located beyond the limits of the centerline established as part of the Carteret Avenue excavation.
G3. "Location ID" refers to the location name where samples were collected.
G4. "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.
G5. Elevation vertical datum is NAVD88, in U.S. survey ft.
G6. "Sample ID" refers to the name of a sample collected at a given location and is unique to the depth of the sample collected.
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" indicates whether a sample is remaining or removed:
- "Remaining" indicates the soil in that interval is outside the excavation footprint, and remains in-place at that location; and
- "Removed" indicates the sample was removed during excavation.
G13. The post-excavation survey points and 1-ft post-excavation contours representing the as-built terminal excavation elevations are provided on Figure 5-2.
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. A blank entry indicates that the sample was not tested for that analyte.
G17. Bold text indicates a result that exceeds the RDCSRS or the RDCSRS-GAG. Bold and italicized text indicates a result that exceeds the NRDCSRS. Non-bold and non-italicized text indicates the result does not exceed the most stringent SRS.
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.
G20. There is currently no NJDEP SRS and no NJDEP SCC for total Cr. Therefore, total Cr results are compared to the interim NJDEP Residential SCC for Cr⁺³ of 120,000 mg/kg as the cleanup criteria for soil at the Garfield Avenue Group Sites. There is no non-residential SCC for Cr⁺³. Bold values indicate a result that exceeds the interim NJDEP Residential SCC.

Table 5-2
CCPW Metals Analytical Results for In-Place Soil Compared to Soil Remediation Standards
Carteret Avenue, Garfield Avenue Group
PPG, Jersey City, New Jersey

SPECIFIC NOTES:

S1. This sample was collected by another party. A data validation memorandum has not been identified.

S2. This sample serves as a Cr⁺⁶ confirmation pit bottom sample and was removed due to excavation of non-chrome fill from El. 6.4 ft NAVD88 to the bottom of excavation in accordance with the *Final Remedial Action Work Plan (Soil) – Carteret Avenue (Revision 1)*.

S3. Samples were collected at this location in Pacific Avenue and are being used in the evaluation of delineation of CCPW-related impacts.