

# PRACTICAL QUANTITATION LIMITS FOR GROUNDWATER ENVIRONMENTAL SAMPLES

Prepared for the U.S. Department of Energy  
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy  
under Contract DE-AC06-08RL14788

**CH2MHILL**  
Plateau Remediation Company

**P.O. Box 1600  
Richland, Washington 99352**

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**APPROVED**

*By Lynn M. Ayers at 2:42 pm, Aug 01, 2019*

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Release Approval

Date

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## ENVIRONMENTAL CALCULATION COVER PAGE

### SECTION 1 - Completed by the Responsible Manager

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### SECTION 2 - Completed by Preparer

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#### Revision History

Revision No.	Description	Date	Affected Pages
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**ENVIRONMENTAL CALCULATION COVER PAGE** (Continued)

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**SECTION 5 - Applicable if Calculation is a Risk Assessment or Uses an Environmental Model**

**Prior to Initiating Modeling:**

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Safety Software Approved:

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**Calculation Approved:**

Risk/Modeling Integration Manager:

N/A \_\_\_\_\_  
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## Terms

CHPRC	CH2M HILL Plateau Remediation Company
ECF	environmental calculation file
MDL	method detection limit
NRC	U.S. Nuclear Regulatory Commission
PQL	practical quantitation limit
RPQL	required practical quantitation limit
SOW	statement of work



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## 1 Purpose

The purpose of this environmental calculation file (ECF) is to establish and standardize the practical quantitation limits (PQLs) for use in analytical requirements tables in groundwater sampling and analysis plans and monitoring plans.

## 2 Background

This ECF presents a compilation of PQL values that are achievable by all environmental analytical laboratories contracted in support of the CH2M HILL Plateau Remediation Company (CHPRC) work scope. Analytical laboratories contracted in support of CHPRC work scope must have and maintain Washington State Department of Ecology laboratory accreditation for analytical methods used by the laboratory. In addition, analytical laboratories must have and maintain a current U.S. Nuclear Regulatory Commission (NRC) or NRC Agreement State radioactive materials license in accordance with 10 CFR 30, “Rules of General Applicability to Domestic Licensing of Byproduct Material,” 10 CFR 40, “Domestic Licensing of Source Material,” and 10 CFR 70, “Domestic Licensing of Special Nuclear Material.”

Contracted laboratories perform analytical services in accordance with applicable statements of work (SOWs). The SOWs define the scope of work, along with the requirements, expectations, and deliverable acceptability for performing environmental analyses. One requirement within the SOW is the required practical quantitation limits (RPQLs). Laboratories’ PQLs are expected to be equal to or less than the RPQLs per analyte per analytical method. The RPQLs identified in SOWs will be less than the “PQLs for use” except when the SOW RPQL is used as the “PQLs for use.”

The laboratory PQLs are either established based on the value of the lowest calibration standard or on the method detection limit (MDL) multiplied by a factor (usually 3 to 5 times) as determined by the laboratory. MDLs are determined in accordance with the most current version of 40 CFR 136, “Guidelines Establishing Test Procedures for the Analysis of Pollutants,” Appendix B, “Definition and Procedure for the Determination of the Method Detection Limit—Revision 2.” The MDL and PQL values published by the laboratories are based on ideal samples and sample volumes and do not take into account issues (i.e., dilutions or reduced sample sizes) resulting from difficult matrices.

## 3 Methodology

The following describes the methodology used to determine the “PQLs for use” values by preferred method analyte (Table 1) for use in the analytical requirements tables in groundwater sampling and analysis plans and monitoring plans.

1. Each contracted laboratory provided PQL values for the methods performed and specific analytes measured to support CHPRC work scope.
2. Determining the “All Lab PQL”: The PQL values from each laboratory were compared to determine the limiting laboratory value for each analyte for a given analytical method. These limiting laboratory values are listed in the column titled “All Lab PQL” in Tables 2 and 3.
3. Determining the “PQLs for Use”: The “All Lab PQL” values were compared to the current environmental analytical SOW RPQL values. The higher value between the “All Lab PQL” value and the SOW RPQL value is listed in the column titled “PQL (Lab Versus SOW)” in Tables 2 and 3.

- a. In some cases (e.g., chloride), not all laboratories' PQLs were used in determining the "PQLs for Use." If a laboratory's PQL was equal to or higher than 5 times the next highest PQL (e.g., laboratory 1 PQL is 5 µg/L, laboratory 2 PQL is 4 µg/L, and laboratory 3 PQL is 25 µg/L; the laboratory 3 PQL was not used) and was also higher than the SOW RPQL, it was not used for comparison. These laboratories may receive samples for these analytes if there is an equivalent method.
- b. In cases where the SOW RPQL value was lower than or equal to the "All Lab PQL" value, the "All Lab PQL" value was multiplied by 1.05 (to increase the value by 5%), and the resulting value became the "PQLs for use." The 5% adder was selected to allow for variations that could be encountered during the reevaluation of MDLs and subsequently variations of PQLs. The MDL reevaluation is performed by each laboratory annually in accordance with the most current version of 40 CFR 136, Appendix B. The selected PQL values are listed in the column titled "PQLs for Use" in Tables 2 and 3 and are summarized in Table 1.
- c. In cases where the SOW RPQL value was greater than the "All Lab PQL" value, the SOW RPWL was used for the "PQLs for use" value.
4. Determining preferred method: In the cases where an analyte may be determined by different methods, a preferred method was chosen and is summarized in Table 1. Several factors were used to choose the preferred method such as method reliability and reproducibility of quality control results, historical data (which method has been used more), and laboratory capabilities (how many laboratories can do which method and meet the "PQLs for Use").

## 4 Assumptions and Inputs

MDL studies are performed, at a minimum, annually by the laboratories for all analytical methods and for all constituents in accordance with the most current version of 40 CFR 136, Appendix B. In addition, over time some fluctuation in measured MDL values can occur. This variation can be the result of many different factors, including instrument-related issues (aging, maintenance, or replacement), laboratory process changes, and analytical method changes. Fluctuations in the MDL can result in similar fluctuations in PQL values. Based on historical performance these variations are typically small from year to year but can be cumulative over multiple years. For this reason, a 5% adder was applied to the current "All Lab PQL" value provided by the analytical laboratories as described in Section 3.

## 5 Software Applications

Microsoft® Excel® is an approved application (Hanford Information Systems Inventory Identification Number 1915) and was used to tabulate all data and perform the calculations. The calculations were performed within the limitations of the software as approved.

## 6 Calculation

The "PQLs for Use" values were compiled using the methodology presented in Section 3 and the assumptions presented in Section 4. The worksheets are represented in Tables 2 and 3.

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Table 1. PQLs for Use by Preferred Method and Analyte

Method	Analyte	CAS Number	PQLs for Use (µg/L)
6010	Bismuth	7440-69-9	210
	Boron	7440-42-8	105
	Calcium	7440-70-2	1050
	Iron	7439-89-6	105
	Lithium	7439-93-2	52.5
	Magnesium	7439-95-4	1050
	Phosphorous	7723-14-0	262.5
	Potassium	7440-09-7	5250
	Silicon	7440-21-3	525
	Sodium	7440-23-5	1050
	Sulfur	7704-34-9	210
	Titanium	7440-32-6	21
	Vanadium	7440-62-2	52.5
	Zinc	7440-66-6	21
6020	Aluminum	7429-90-5	105
	Antimony	7440-36-0	5.25
	Arsenic	7440-38-2	10.5
	Barium	7440-39-3	5.25
	Beryllium	7440-41-7	1.05
	Cadmium	7440-43-9	2.1
	Chromium	7440-47-3	10.5
	Cobalt	7440-48-4	5.25
	Copper	7440-50-8	12.6
	Lead	7439-92-1	3.15
	Manganese	7439-96-5	5.25
	Molybdenum	7439-98-7	5.25
	Nickel	7440-02-0	21
	Rhenium	7440-15-5	20
	Selenium	7782-49-2	10.5
	Silver	7440-22-4	5.25
	Strontium	7440-24-6	10.5
	Thallium	7440-28-0	2.1
	Thorium	7440-29-1	5.25
	Tin	7440-31-5	10.5

Table 1. PQLs for Use by Preferred Method and Analyte

Method	Analyte	CAS Number	PQLs for Use (µg/L)
	Uranium	7440-61-1	1.05
	Zirconium	7440-67-7	10.5
7470	Mercury	7439-97-6	0.5
7196	Hexavalent chromium	18540-29-9	10.5
7196	Hexavalent chromium (Low Level)	18540-29-9	5
300, 9056	Bromide	24959-67-9	262.5
	Chloride	16887-00-6	400
	Fluoride	16984-48-8	525
	Nitrate	14797-55-8	250
	Nitrite	14797-65-0	250
	Phosphate	14265-44-2	525
	Sulfate	14808-79-8	1050
350.1	Ammonia	7664-41-7	105
351.2	Nitrogen, Total Kjeldahl	N-KJELDAHL	1050
9014	Cyanide, free	--	4
335.4, 9012, 9014, 4500	Cyanide, total	57-12-5	10.5
4500-S, 376.1	Total sulfide	18496-25-8	2100
130.2, 2340	Hardness	HARDNESS	10000
160.2, 2540	Total suspended solids	TSS	21000
160.1, 2540	Total dissolved solids	TDS	21000
310.1, 2320, 4500	Alkalinity, total as CaCO <sub>3</sub>	ALKALINITY	5250
405.1, SM5210	Biochemical oxygen demand	BOD	2100
410.4	Chemical oxygen demand	COD	21000
1664, 9070	Oil & grease	OIL/GREASE	5250
415.1, 9060	Total carbon	TC	1050
	Total inorganic carbon	TIC	1050
	Total organic carbon	TOC	1050
1650, 9020/9023	Total organic halogens	59473-04-0	31.5
WTPH	TPH Diesel range organics	TPHDIESEL	500
	TPH Kerosene	TPHKEROSENE	500
	TPH Gasoline	TPHGASOLINE	500
	TPH Extractable	TPH Extractable	40
8260	1,1,1,2-Tetrachloroethane	630-20-6	2.1

Table 1. PQLs for Use by Preferred Method and Analyte

Method	Analyte	CAS Number	PQLs for Use (µg/L)
	1,1,1-Trichloroethane	71-55-6	5
	1,1,2,2-Tetrachloroethane	79-34-5	5
	1,1,2-Trichloroethane	79-00-5	5
	1,1-Dichloroethane	75-34-3	10
	1,1-Dichloroethylene	75-35-4	10
	1,1-Dichloropropene	563-58-6	2.1
	1,2,3-Trichloropropane	96-18-4	5
	1,2,4-Trichlorobenzene	120-82-1	10
	1,2,4-Trimethylbenzene	95-63-6	5
	1,2-Dibromo-3-chloropropane	96-12-8	5.25
	1,2-Dibromoethane	106-93-4	5
	1,2-Dichloroethane	107-06-2	5
	1,2-Dichloroethylene (total)	540-59-0	10
	1,2-Dichloropropane	78-87-5	5
	1,3,5-Trimethylbenzene	108-67-8	5
	1,3-Dichloropropane	142-28-9	2.1
	1,4-Dichlorobenzene	106-46-7	4
	2-Butanone	78-93-3	10.5
	2-Chloro-1,3-butadiene	126-99-8	10
	2-Chloroethylvinyl ether	110-75-8	20
	2-Chlorotoluene	95-49-8	2.1
	2-Hexanone	591-78-6	20
	2-Pentanone	107-87-9	10.5
	4-Chlorotoluene	106-43-4	2.1
	4-Isopropyltoluene	110-75-8	10.5
	4-Methyl-2-pentanone	108-10-1	10.5
	Acetone	67-64-1	20
	Acetonitrile	75-05-8	100
	Acrolein	107-02-8	100
	Acrylonitrile	107-13-1	100
	Allyl chloride	107-05-1	10.5
	Benzene	71-43-2	5
	Bromobenzene	108-86-1	2.1
	Bromodichloromethane	75-27-4	5

Table 1. PQLs for Use by Preferred Method and Analyte

Method	Analyte	CAS Number	PQLs for Use (µg/L)
	Bromoform	75-25-2	5
	Bromomethane	74-83-9	10
	Carbon disulfide	75-15-0	10.5
	Carbon tetrachloride	56-23-5	3
	Chlorobenzene	108-90-7	5
	Chloroethane	75-00-3	10
	Chloroform	67-66-3	5
	Chloromethane	74-87-3	10
	Cyclohexane	110-82-7	2.1
	Dibromochloromethane	124-48-1	5
	Dibromomethane	74-95-3	10
	Dichlorodifluoromethane	75-71-8	10
	Ethyl acetate	141-78-6	5000
	Ethyl ether	60-29-7	5
	Ethyl methacrylate	97-63-2	10.5
	Ethylbenzene	100-41-4	4
	Hexane	110-54-3	5.25
	Iodomethane	74-88-4	10.5
	Isobutyl alcohol	78-83-1	500
	Isopropyl alcohol	67-63-0	105
	Isopropylbenzene	98-82-8	5
	Methacrylonitrile	126-98-7	10.5
	Methyl methacrylate	80-62-6	10.5
	Methylene chloride	75-09-2	5.25
	Propionitrile	107-12-0	21
	Styrene	100-42-5	5
	Tetrachloroethylene	127-18-4	5
	Tetrahydrofuran	109-99-9	50
	Toluene	108-88-3	5
	Trichloroethylene	79-01-6	2.1
	Trichlorofluoromethane	75-69-4	10
	Trichlorotrifluoroethane	76-13-1	10
	Vinyl acetate	108-05-4	50
	Vinyl chloride	75-01-4	2.1

Table 1. PQLs for Use by Preferred Method and Analyte

Method	Analyte	CAS Number	PQLs for Use (µg/L)
	Xylenes (total)	1330-20-7	10
	cis-1,2-Dichloroethylene	156-59-2	5
	cis-1,3-Dichloropropylene	10061-01-5	5
	m,p-Xylenes	179601-23-1	5
	n-Butyl alcohol	71-36-3	262.5
	n-Butylbenzene	104-51-8	5
	n-Propylbenzene	103-65-1	2.1
	o-Xylene	95-47-6	5
	p-Isopropyltoluene	99-87-6	2.1
	sec-Butylbenzene	135-98-8	2.1
	tert-Butylbenzene	98-06-6	2.1
	trans-1,2-Dichloroethylene	156-60-5	5
	trans-1,3-Dichloropropylene	10061-02-6	5
	trans-1,4-Dichloro-2-butene	110-57-6	50
8270	1,2,4,5-Tetrachlorobenzene	95-94-3	20
	1,2,4-Trichlorobenzene	120-82-1	13
	1,2-Dichlorobenzene	95-50-1	10.5
	1,2-Diphenylhydrazine	122-66-7	10.5
	1,3,5-Trinitrobenzene	99-35-4	52.5
	1,3-Dichlorobenzene	541-73-1	10.5
	1,4-Dinitrobenzene	100-25-4	10.5
	1,4-Dioxane	123-91-1	21
	1,4-Naphthoquinone	130-15-4	52.5
	1-Methylnaphthalene	90-12-0	10.5
	1-Naphthylamine	134-32-7	25
	2,3,4,6-Tetrachlorophenol	58-90-2	52.5
	2,4,5-Trichlorophenol	95-95-4	10.5
	2,4,6-Trichlorophenol	88-06-2	10.5
	2,4-Dichlorophenol	120-83-2	10.5
	2,4-Dimethylphenol	105-67-9	10.5
	2,4-Dinitrophenol	51-28-5	50
	2,4-Dinitrotoluene	121-14-2	10.5
	2,6-Dichlorophenol	87-65-0	10.5
	2,6-Dinitrotoluene	606-20-2	10.5



Table 1. PQLs for Use by Preferred Method and Analyte

Method	Analyte	CAS Number	PQLs for Use (µg/L)
	2-Acetylaminofluorene	53-96-3	100
	2-Butoxyethanol	111-76-2	5000
	2-Chloronaphthalene	91-58-7	10.5
	2-Chlorophenol	95-57-8	10.5
	2-Methyl-4,6-dinitrophenol	534-52-1	52.5
	2-Methylnaphthalene	91-57-6	10.5
	2-Naphthylamine	91-59-8	10.5
	2-Nitrophenol	88-75-5	10.5
	2-Picoline	109-06-8	21
	3,3'-Dichlorobenzidine	91-94-1	52.5
	3,3'-Dimethylbenzidine	119-93-7	50
	3-Methylcholanthrene	56-49-5	21
	3 & 4 Methylphenol	65794-96-9	20
	4-Aminobiphenyl	92-67-1	52.5
	4-Bromophenylphenylether	101-55-3	10.5
	4-Chloro-3-methylphenol	59-50-7	10.5
	4-Chloroaniline	106-47-8	10.5
	4-Chlorophenylphenylether	7005-72-3	10.5
	4-Nitrophenol	100-02-7	21
	4-Nitroquinoline-1-oxide	56-57-5	105
	5-Nitro-o-toluidine	99-55-8	21
	7,12 Dimethylbenz(a)anthracene	57-97-6	21
	Acenaphthene	83-32-9	10.5
	Acenaphthylene	208-96-8	10.5
	Acetophenone	98-86-2	10.5
	Aniline	62-53-3	10.5
	Anthracene	120-12-7	10.5
	Aramite	140-57-8	20
	Benzo(a)anthracene	56-55-3	10.5
	Benzo(a)pyrene	50-32-8	10.5
	Benzo(b)fluoranthene	205-99-2	10.5
	Benzo(ghi)perylene	191-24-2	10.5
	Benzo(k)fluoranthene	207-08-9	10.5
	Benzoic acid	65-85-0	52.5

Table 1. PQLs for Use by Preferred Method and Analyte

Method	Analyte	CAS Number	PQLs for Use (µg/L)
	Benzyl alcohol	100-51-6	10.5
	Butylbenzylphthalate	85-68-7	10.5
	Carbazole	86-74-8	10.5
	Chlorobenzilate	510-15-6	10.5
	Chrysene	218-01-9	10.5
	Cresols (total)	1319-77-3	21
	Di-n-butylphthalate	84-74-2	10.5
	Di-n-octylphthalate	117-84-0	10.5
	Diallate	2303-16-4	21
	Dibenzo(a,h)anthracene	53-70-3	10.5
	Dibenzofuran	132-64-9	10.5
	Diethylphthalate	84-66-2	10.5
	Dimethoate	60-51-5	21
	Dimethylphthalate	131-11-3	10.5
	Dinoseb	88-85-7	21
	Diphenylamine	122-39-4	10.5
	Diphenylamine+N-Nitrosodiphenylamine	DPA+NNDPA/86-30-6	10.5
	Disulfoton	298-04-4	52.5
	Ethyl methanesulfonate	62-50-0	10.5
	Famphur	52-85-7	105
	Fluoranthene	206-44-0	10.5
	Fluorene	86-73-7	10.5
	Hexachlorobenzene	118-74-1	10.5
	Hexachlorobutadiene	87-68-3	10.5
	Hexachlorocyclopentadiene	77-47-4	10.5
	Hexachloroethane	67-72-1	10.5
	Hexachlorophene	70-30-4	525
	Hexachloropropene	1888-71-7	105
	Indeno(1,2,3-cd)pyrene	193-39-5	10.5
	Isodrin	465-73-6	10.5
	Isophorone	78-59-1	10.5
	Isosafrole	120-58-1	21
	Kepone	143-50-0	100

Table 1. PQLs for Use by Preferred Method and Analyte

Method	Analyte	CAS Number	PQLs for Use (µg/L)
	Methapyrilene	91-80-5	52.5
	Methyl methanesulfonate	66-27-3	10.5
	Methyl parathion	298-00-0	10.5
	N-Methyl-N-nitrosomethylamine	62-75-9	10.5
	N-Nitrosodi-n-butylamine	924-16-3	10.5
	N-Nitrosodiethylamine	55-18-5	10.5
	N-Nitrosodipropylamine	621-64-7	10.5
	N-Nitrosomethylethylamine	10595-95-6	10.5
	N-Nitrosomorpholine	59-89-2	10.5
	N-Nitrosopiperidine	100-75-4	10.5
	N-Nitrosopyrrolidine	930-55-2	10.5
	Naphthalene	91-20-3	10.5
	Nitrobenzene	98-95-3	10.5
	Parathion	56-38-2	52.5
	Pentachlorobenzene	608-93-5	10.5
	Pentachloroethane	76-01-7	52.5
	Pentachloronitrobenzene	82-68-8	52.5
	Pentachlorophenol	87-86-5	52.5
	Phenacetin	62-44-2	21
	Phenanthrene	85-01-8	10.5
	Phenol	108-95-2	10.5
	Phorate	298-02-2	52.5
	Pronamide	23950-58-5	21
	Pyrene	129-00-0	10.5
	Pyridine	110-86-1	21
	Safrole	94-59-7	21
	Sulfotepp	3689-24-5	50
	Thionazin	297-97-2	52.5
	Tributylphosphate	126-73-8	10.5
	Triethylphosphorothioate	126-68-1	52.5
	a,a-Dimethylphenethylamine	122-09-8	52.5
	bis(2-Chloro-1-methylethyl)ether	108-60-1	10.5
	bis(2-Chloroethoxy)methane	111-91-1	10.5
	bis(2-Chloroethyl) ether	111-44-4	10.5

Table 1. PQLs for Use by Preferred Method and Analyte

Method	Analyte	CAS Number	PQLs for Use (µg/L)
	bis(2-Ethylhexyl)phthalate	117-81-7	10.5
	m-Dinitrobenzene	99-65-0	10.5
	m-Nitroaniline	99-09-2	21
	n-Decane	124-18-5	10.5
	o-Cresol	95-48-7	10.5
	o-Nitroaniline	88-74-4	21
	o-Toluidine	95-53-4	20
	p-(Dimethylamino)azobenzene	60-11-7	21
	p-Nitroaniline	100-01-6	21
	p-Phenylenediamine	106-50-3	525
8015	Ethanol	64-17-5	21000
	Ethylene glycol	107-21-1	10500
	Methanol	67-56-1	5250
8151	2,4,5-T	93-76-5	1.05
	2,4,5-TP (Silvex)	93-72-1	1.05
	2,4-D	94-75-7	20
	2,4-DB	94-82-6	5
	Dalapon	75-99-0	12
	Dicamba	1918-00-9	2.1
	Dichlorprop	120-36-5	5
	MCPA	94-74-6	420
	MCPP	93-65-2	420
8081	4,4'-DDD	72-54-8	0.1
	4,4'-DDE	72-55-9	0.1
	4,4'-DDT	50-29-3	0.1
	Aldrin	309-00-2	0.0525
	Chlordane	57-74-9	0.525
	Dieldrin	60-57-1	0.5
	Endosulfan I	959-98-8	0.0525
	Endosulfan II	33213-65-9	0.1
	Endosulfan sulfate	1031-07-8	0.1
	Endrin	72-20-8	0.1
	Endrin aldehyde	7421-93-4	0.1
	Endrin ketone	53494-70-5	0.1

Table 1. PQLs for Use by Preferred Method and Analyte

Method	Analyte	CAS Number	PQLs for Use (µg/L)
	Heptachlor	76-44-8	0.0525
	Heptachlor epoxide	1024-57-3	0.0525
	Methoxychlor	72-43-5	0.5
	Toxaphene	8001-35-2	2.625
	alpha-BHC	319-84-6	0.0525
	alpha-Chlordane	5103-71-9	0.5
	beta-BHC	319-85-7	0.0525
	delta-BHC	319-86-8	0.0525
	gamma-BHC (Lindane)	58-89-9	0.0525
	gamma-Chlordane	5103-74-2	0.1
8082	Aroclor-1016	12674-11-2	1.05
	Aroclor-1221	11104-28-2	2.1
	Aroclor-1232	11141-16-5	1.05
	Aroclor-1242	53469-21-9	1.05
	Aroclor-1248	12672-29-6	1.05
	Aroclor-1254	11097-69-1	1.05
	Aroclor-1260	11096-82-5	1.05
	Aroclor-1262	37324-23-5	1.05
	Aroclor-1268	11100-14-4	1.05
8290	2,3,7,8-TCDD	1746-01-6	1.05E-05
	1,2,3,7,8-PeCDD	40321-76-4	5.25E-05
	1,2,3,4,7,8-HxCDD	39227-28-6	5.25E-05
	1,2,3,6,7,8-HxCDD	57653-85-7	5.25E-05
	1,2,3,7,8,9-HxCDD	19408-74-3	5.25E-05
	1,2,3,4,6,7,8-HpCDD	35822-46-9	5.25E-05
	OCDD	34465-46-8	1.05E-04
	2,3,7,8-TCDF	51207-31-9	1.05E-05
	1,2,3,7,8-PeCDF	57117-41-6	5.25E-05
	2,3,4,7,8-PeCDF	57117-31-4	5.25E-05
	1,2,3,4,7,8-HxCDF	70648-26-9	5.25E-05
	1,2,3,6,7,8-HxCDF	57117-44-9	5.25E-05
	2,3,4,6,7,8-HxCDF	60851-34-5	5.25E-05
	1,2,3,7,8,9-HxCDF	72918-21-9	5.25E-05
1,2,3,4,6,7,8-HpCDF	67562-39-4	5.25E-05	

Table 1. PQLs for Use by Preferred Method and Analyte

Method	Analyte	CAS Number	PQLs for Use (µg/L)
	1,2,3,4,7,8,9-HpCDF	55673-89-7	5.25E-05
	OCDF	39001-02-0	1.05E-04
	Tetrachlorodibenzo-p-Dioxins	41903-57-5	1.05E-05
	Tetrachlorodibenzofurans	55722-27-5	1.05E-05
	Pentachlorodibenzo-p-Dioxins	36088-22-9	5.25E-05
	Pentachlorodibenzofurans	30402-15-4	5.25E-05
	Hexachlorodibenzo-p-Dioxins	37871-00-4	5.25E-05
	Hexachlorodibenzofurans	55684-94-1	5.25E-05
ASTM D1385	Hydrazine	302-01-2	4.2

Reference: ASTM D1385, *Standard Test Method for Hydrazine in Water*.

Note: For four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update V*.

CAS = Chemical Abstracts Service

PQL = practical quantitation limit

TPH = total petroleum hydrocarbon

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Table 2. PQL Worksheet

Method	Analyte	CAS Number	Lab 1 PQL	Lab 2 PQL	Lab 3 PQL	Lab 4 PQL	SOW Rev 3 RPQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
6010	Aluminum	7429-90-5	200	100	100	200	200	µg/L	200	200	210
6010	Antimony	7440-36-0	20	10	20	20	60	µg/L	20	60	60
6010	Arsenic	7440-38-2	30	10	15	10	10	µg/L	30	30	31.5
6010	Barium	7440-39-3	5	50	10	100	100	µg/L	100	100	105
6010	Beryllium	7440-41-7	5	5	1	5	5	µg/L	5	5	5.25
6010	Bismuth (preferred method)	7440-69-9	--	200	100	20	200	µg/L	200	200	210
6010	Boron (preferred method)	7440-42-8	50	100	100	50	50	µg/L	100	100	105
6010	Cadmium	7440-43-9	5	5	5	5	5	µg/L	5	5	5.25
6010	Calcium (preferred method)	7440-70-2	200	1000	200	1000	1,000	µg/L	1000	1000	1050
6010	Chromium	7440-47-3	10	10	10	10	10	µg/L	10	10	10.5
6010	Cobalt	7440-48-4	5	50	10	10	50	µg/L	50	50	52.5
6010	Copper	7440-50-8	20	25	15	10	25	µg/L	25	25	26.25
6010	Iron (preferred method)	7439-89-6	100	100	100	100	100	µg/L	100	100	105
6010	Lead	7439-92-1	20	10	9	3	15	µg/L	20	20	21
6010	Lithium (preferred method)	7439-93-2	--	50	20	10	50	µg/L	50	50	52.5
6010	Magnesium (preferred method)	7439-95-4	300	1000	200	1000	1,000	µg/L	1000	1000	1050
6010	Manganese	7439-96-5	10	15	10	10	15	µg/L	15	15	15.75
6010	Molybdenum	7439-98-7	10	40	20	10	40	µg/L	40	40	42
6010	Nickel	7440-02-0	5	40	40	20	40	µg/L	40	40	42
6010	Phosphorous (preferred method)	7723-14-0	150	250	3000	200	250	µg/L	3000	250	262.50 <sup>a</sup>
6010	Potassium (preferred method)	7440-09-7	150	5000	3000	1000	5,000	µg/L	5000	5000	5250
6010	Selenium	7782-49-2	30	--	20	5	50	µg/L	30	50	50
6010	Silicon (preferred method)	7440-21-3	100	400	500	50	400	µg/L	500	500	525
6010	Silver	7440-22-4	5	10	10	10	10	µg/L	10	10	10.5
6010	Sodium (preferred method)	7440-23-5	300	1000	1000	1000	1,000	µg/L	1000	1000	1050
6010	Strontium	7440-24-6	5	5	10	10	10	µg/L	10	10	10.5
6010	Sulfur (preferred method)	7704-34-9	50	--	100	200	200	µg/L	200	200	210
6010	Thallium	7440-28-0	20	--	15	10	50	µg/L	20	50	50
6010	Tin	7440-31-5	10	--	100	50	100	µg/L	100	100	105
6010	Titanium (preferred method)	7440-32-6	5	--	10	20	20	µg/L	20	20	21
6010	Vanadium (preferred method)	7440-62-2	5	50	10	10	50	µg/L	50	50	52.5
6010	Zinc (preferred method)	7440-66-6	20	20	20	20	20	µg/L	20	20	21



Table 2. PQL Worksheet

Method	Analyte	CAS Number	Lab 1 PQL	Lab 2 PQL	Lab 3 PQL	Lab 4 PQL	SOW Rev 3 RPQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
6020	Aluminum (preferred method)	7429-90-5	50	50	30	100	50	µg/L	100	100	105
6020	Antimony (preferred method)	7440-36-0	2	5	2	1	5	µg/L	5	5	5.25
6020	Arsenic (preferred method)	7440-38-2	5	10	5	2	5	µg/L	10	10	10.5
6020	Barium (preferred method)	7440-39-3	4	2	1	5	5	µg/L	5	5	5.25
6020	Beryllium (preferred method)	7440-41-7	0.5	0.5	1	0.5	0.5	µg/L	1	1	1.05
6020	Bismuth	7440-69-9	2	--	--	--	20	µg/L	2	20	20
6020	Boron	7440-42-8	15	--	--	150	50	µg/L	150	150	50 <sup>a</sup>
6020	Cadmium (preferred method)	7440-43-9	1	0.5	1	2	2	µg/L	2	2	2.1
6020	Calcium	7440-70-2	200	--	--	1000	200	µg/L	1000	1000	210 <sup>a</sup>
6020	Chromium (preferred method)	7440-47-3	10	10	2	10	10	µg/L	10	10	10.5
6020	Cobalt (preferred method)	7440-48-4	1	2	1	5	3	µg/L	5	5	5.25
6020	Copper (preferred method)	7440-50-8	2	1	2	20	10	µg/L	20	20	12.6 <sup>a</sup>
6020	Iron	7439-89-6	100	--	--	100	100	µg/L	100	100	105
6020	Lead (preferred method)	7439-92-1	2	3	1	2	3	µg/L	3	3	3.15
6020	Lithium	7439-93-2	10	--	--	20	10	µg/L	20	20	21
6020	Magnesium	7439-95-4	30	--	50	100	50	µg/L	100	100	105
6020	Manganese (preferred method)	7439-96-5	5	2	1	5	5	µg/L	5	5	5.25
6020	Molybdenum (preferred method)	7439-98-7	1	5	2	2	5	µg/L	5	5	5.25
6020	Nickel (preferred method)	7440-02-0	2	5	2	20	5	µg/L	20	20	21
6020	Phosphorous	7723-14-0	50	100	--	--	50	µg/L	100	100	105
6020	Potassium	7440-09-7	300	--	--	1000	1000	µg/L	1000	1000	1050
6020	Rhenium (preferred method)	7440-15-5	2	--	--	--	20	µg/L	2	20	20
6020	Selenium (preferred method)	7782-49-2	5	5	5	10	5	µg/L	10	10	10.5
6020	Silicon	7440-21-3	--	--	--	--	250	µg/L	0	250	250
6020	Silver (preferred method)	7440-22-4	1	2	5	0.5	2	µg/L	5	5	5.25
6020	Sodium	7440-23-5	250	--	--	1000	500	µg/L	1000	1000	1050
6020	Strontium (preferred method)	7440-24-6	10	5	10	5	10	µg/L	10	10	10.5
6020	Thallium (preferred method)	7440-28-0	2	2	1	0.1	2	µg/L	2	2	2.1
6020	Thorium (preferred method)	7440-29-1	2	2	5	0.2	2	µg/L	5	5	5.25
6020	Tin (preferred method)	7440-31-5	5	2	10	10	5	µg/L	10	10	10.5
6020	Titanium	7440-32-6	10	5	--	200	10	µg/L	200	200	10.5 <sup>a</sup>
6020	Uranium (preferred method)	7440-61-1	0.2	1	1	0.1	1	µg/L	1	1	1.05 <sup>a</sup>

Table 2. PQL Worksheet

Method	Analyte	CAS Number	Lab 1 PQL	Lab 2 PQL	Lab 3 PQL	Lab 4 PQL	SOW Rev 3 RPQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
6020	Vanadium	7440-62-2	20	--	5	5	10	µg/L	20	20	21
6020	Zinc	7440-66-6	20	20	10	100	10	µg/L	100	100	21 <sup>b</sup>
6020	Zirconium (preferred method)	7440-67-7	10	--	0.5	0.5	10	µg/L	10	10	10.5
7470	Mercury	7439-97-6	0.2	0.2	0.2	0.2	0.5	µg/L	0.2	0.5	0.5
7196	Hexavalent chromium	18540-29-9	10	10	20	10	10	µg/L	20	20	10.5 <sup>b</sup>
7196	Hexavalent chromium (Low Level)	18540-29-9	4	-	-	-	5	µg/L	4	5	5
300, 9056	Bromide	24959-67-9	200	250	200	200	250	µg/L	250	250	262.5
300, 9056	Chloride	16887-00-6	200	200	3000	200	400	µg/L	3000	400	400 <sup>a</sup>
300, 9056	Fluoride	16984-48-8	100	100	500	100	500	µg/L	500	500	525
300, 9056	Nitrate	14797-55-8	100	40	500	200	250	µg/L	500	500	525
300, 9056	Nitrite	14797-65-0	100	20	500	100	250	µg/L	500	500	250 <sup>b</sup>
300, 9056	Phosphate	14265-44-2	200	500	500	500	500	µg/L	500	500	525
300, 9056	Sulfate	14808-79-8	400	500	5000	1000	550	µg/L	5000	5000	1050 <sup>a</sup>
350.1	Ammonia	7664-41-7	50	--	100	100	50	µg/L	100	100	105
351.2	Nitrogen, Total Kjeldahl	N-KJELDAHL	100	--	1000	--	100	µg/L	1000	1000	1050
9014	Cyanide, free	--	2	--	--	--	4	µg/L	2	4	4
335.4, 9012, 9014, 4500	Cyanide, total	57-12-5	5	--	10	10	10	µg/L	10	10	10.5
9034	Sulfide (acid soluble)	18496-25-8	2500	--	4000	--	2000	µg/L	4000	4000	4200
4500-S, 376.1	Total sulfide (preferred method)	18496-25-8	100	--	-	2000	2000	µg/L	2000	2000	2100
130.2, 2340	Hardness	HARDNESS	2000	-	5000	10	10000	µg/L	5000	10000	10000
160.2, 2540	Total suspended solids	TSS	5000	-	4000	20000	10000	µg/L	20000	20000	21000
160.1, 2540	Total dissolved solids	TDS	14286	--	10000	20000	10000	µg/L	20000	20000	21000
310.1, 2320, 4500	Alkalinity, total as CaCO <sub>3</sub>	ALKALINITY	2000	--	5000	5000	5000	µg/L	5000	5000	5250
405.1, SM5210	Biochemical oxygen demand	BOD	2000	-	2000	--	2000	µg/L	2000	2000	2100
410.4	Chemical oxygen demand	COD	20000	--	20000	--	20000	µg/L	20000	20000	21000
1664, 9070	Oil & grease	OIL/GREASE	5000	--	5000	5000	5000	µg/L	5000	5000	5250
415.1, 9060	Total carbon	TC	1000	-	-	--	1000	µg/L	1000	1000	1050
415.1, 9060	Total inorganic carbon	TIC	1000	-	-	--	1000	µg/L	1000	1000	1050
415.1, 9060	Total organic carbon	TOC/7440-44-0	1000	--	1000	1000	1000	µg/L	1000	1000	1050
1650, 9020/9023	Total organic halogens	59473-04-0	10	-	30	--	10	µg/L	30	30	31.5
WTPH	TPH Diesel range organics	TPHDIESEL	200	--	250	--	500	µg/L	250	500	500

Table 2. PQL Worksheet

Method	Analyte	CAS Number	Lab 1 PQL	Lab 2 PQL	Lab 3 PQL	Lab 4 PQL	SOW Rev 3 RPQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
WTPH	TPH Kerosene	TPHKEROSENE	200	--	250	-	500	µg/L	250	500	500
WTPH	TPH Gasoline	TPHGASOLINE	100	--	25	-	500	µg/L	100	500	500
WTPH	TPH Extractable	TPH Extractable	--	--	--	-	40	µg/L	0	40	40
8260	1,1,1,2-Tetrachloroethane	630-20-6	2	1	1	1	1.7	µg/L	2	2	2.1
8260	1,1,1-Trichloroethane	71-55-6	2	3	1	1	5	µg/L	3	5	5
8260	1,1,2,2-Tetrachloroethane	79-34-5	2	1	1	1	5	µg/L	2	5	5
8260	1,1,2-Trichloroethane	79-00-5	2	1	1	1	5	µg/L	2	5	5
8260	1,1-Dichloroethane	75-34-3	2	1	1	1	10	µg/L	2	10	10
8260	1,1-Dichloroethylene	75-35-4	2	1	1	1	10	µg/L	2	10	10
8260	1,1-Dichloropropene	563-58-6	2	--	1	1	1	µg/L	2	2	2.1
8260	1,2,3-Trichloropropane	96-18-4	2	1	2.5	1	5	µg/L	2.5	5	5
8260	1,2,4-Trichlorobenzene	120-82-1	2	--	1	1	10	µg/L	2	10	10
8260	1,2,4-Trimethylbenzene	95-63-6	2	--	1	1	5	µg/L	2	5	5
8260	1,2-Dibromo-3-chloropropane	96-12-8	2	1	5	2	5	µg/L	5	5	5.25
8260	1,2-Dibromoethane	106-93-4	2	1	1	1	5	µg/L	2	5	5
8260	1,2-Dichloroethane	107-06-2	2	1	1	1	5	µg/L	2	5	5
8260	1,2-Dichloroethylene (total)	540-59-0	4	2	1	-	10	µg/L	4	10	10
8260	1,2-Dichloropropane	78-87-5	2	1	1	1	5	µg/L	2	5	5
8260	1,3,5-Trimethylbenzene	108-67-8	2	--	1	1	5	µg/L	2	5	5
8260	1,3-Dichloropropane	142-28-9	2	--	1	1	1	µg/L	2	2	2.1
8260	1,4-Dichlorobenzene (preferred method)	106-46-7	2	1	1	1	4	µg/L	2	4	4
8260	1,4-Dioxane	123-91-1	50	--	200	200	500	µg/L	200	500	500
8260	2-Butanone	78-93-3	10	5	6	10	10	µg/L	10	10	10.5
8260	2-Chloro-1,3-butadiene	126-99-8	2	1	1	1	10	µg/L	2	10	10
8260	2-Chloroethylvinyl ether	110-75-8	10	--	3	2	20	µg/L	10	20	20
8260	2-Chlorotoluene	95-49-8	2	--	1	1	1	µg/L	2	2	2.1
8260	2-Hexanone	591-78-6	10	5	5	10	20	µg/L	10	20	20
8260	2-Pentanone	107-87-9	10	--	5	--	10	µg/L	10	10	10.5
8260	4-Chlorotoluene	106-43-4	2	--	1	1	1	µg/L	2	2	2.1
8260	4-Isopropyltoluene	110-75-8	10	--	3	--	1	µg/L	10	10	10.5
8260	4-Methyl-2-pentanone	108-10-1	10	5	5	10	10	µg/L	10	10	10.5
8260	Acetone	67-64-1	10	2	10	10	20	µg/L	10	20	20

Table 2. PQL Worksheet

Method	Analyte	CAS Number	Lab 1 PQL	Lab 2 PQL	Lab 3 PQL	Lab 4 PQL	SOW Rev 3 RPQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
8260	Acetonitrile	75-05-8	50	10	30	50	100	µg/L	50	100	100
8260	Acrolein	107-02-8	10	10	20	10	100	µg/L	20	100	100
8260	Acrylonitrile	107-13-1	10	10	20	10	100	µg/L	20	100	100
8260	Allyl chloride	107-05-1	10	2	2	1	10	µg/L	10	10	10.5
8260	Benzene	71-43-2	2	1	1	1	5	µg/L	2	5	5
8260	Bromobenzene	108-86-1	2	--	1	1	1	µg/L	2	2	2.1
8260	Bromodichloromethane	75-27-4	2	1	1	1	5	µg/L	2	5	5
8260	Bromoform	75-25-2	2	1	1	1	5	µg/L	2	5	5
8260	Bromomethane	74-83-9	2	2	2	1	10	µg/L	2	10	10
8260	Carbon disulfide	75-15-0	10	1	2	1	5	µg/L	10	10	10.5
8260	Carbon tetrachloride	56-23-5	2	1	1	1	3	µg/L	2	3	3
8260	Chlorobenzene	108-90-7	2	1	1	1	5	µg/L	2	5	5
8260	Chloroethane	75-00-3	2	2	2	1	10	µg/L	2	10	10
8260	Chloroform	67-66-3	2	1	1	1	5	µg/L	2	5	5
8260	Chloromethane	74-87-3	2	2	2	1	10	µg/L	2	10	10
8260	Cyclohexane	110-82-7	2	--	2	1	1	µg/L	2	2	2.1
8260	Dibromochloromethane	124-48-1	2	1	1	1	5	µg/L	2	5	5
8260	Dibromomethane	74-95-3	2	1	1	1	10	µg/L	2	10	10
8260	Dichlorodifluoromethane	75-71-8	2	2	2	1	10	µg/L	2	10	10
8260	Ethyl acetate	141-78-6	10	2	5	--	5000	µg/L	10	5000	5000
8260	Ethyl ether	60-29-7	2	--	2	1	5	µg/L	2	5	5
8260	Ethyl methacrylate	97-63-2	10	1	3	1	10	µg/L	10	10	10.5
8260	Ethylbenzene	100-41-4	2	1	1	1	4	µg/L	2	4	4
8260	Hexane	110-54-3	5	--	2	1	4	µg/L	5	5	5.25
8260	Iodomethane	74-88-4	10	2	1	1	10	µg/L	10	10	10.5
8260	Isobutyl alcohol	78-83-1	100	80	110	100	500	µg/L	110	500	500
8260	Isopropyl alcohol	67-63-0	50	10	40	100	100	µg/L	100	100	105
8260	Isopropylbenzene	98-82-8	2	--	1	1	5	µg/L	2	5	5
8260	Methacrylonitrile	126-98-7	10	10	10	10	10	µg/L	10	10	10.5
8260	Methyl methacrylate	80-62-6	10	2	4	5	10	µg/L	10	10	10.5
8260	Methylene chloride	75-09-2	5	1	2	1	5	µg/L	5	5	5.25
8260	Propionitrile	107-12-0	10	10	20	10	10	µg/L	20	20	21

Table 2. PQL Worksheet

Method	Analyte	CAS Number	Lab 1 PQL	Lab 2 PQL	Lab 3 PQL	Lab 4 PQL	SOW Rev 3 RPQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
8260	Styrene	100-42-5	2	1	1	1	5	µg/L	2	5	5
8260	Tetrachloroethylene	127-18-4	2	1	1	1	5	µg/L	2	5	5
8260	Tetrahydrofuran	109-99-9	10	10	7	--	50	µg/L	10	50	50
8260	Toluene	108-88-3	2	1	1	1	5	µg/L	2	5	5
8260	Trichloroethylene	79-01-6	2	1	1	1	1	µg/L	2	2	2.1
8260	Trichlorofluoromethane	75-69-4	2	1	2	1	10	µg/L	2	10	10
8260	Trichlorotrifluoroethane	76-13-1	5	--	3	1	10	µg/L	5	10	10
8260	Vinyl acetate	108-05-4	5	2	3	2	50	µg/L	5	50	50
8260	Vinyl chloride	75-01-4	2	2	1	1	2	µg/L	2	2	2.1
8260	Xylenes (total)	1330-20-7	6	1	2	--	10	µg/L	6	10	10
8260	cis-1,2-Dichloroethylene	156-59-2	2	1	1	1	5	µg/L	2	5	5
8260	cis-1,3-Dichloropropylene	10061-01-5	2	1	1	1	5	µg/L	2	5	5
8260	m,p-Xylenes	179601-23-1	4	--	2	--	5	µg/L	4	5	5
8260	n-Butyl alcohol	71-36-3	250	50	60	100	100	µg/L	250	250	262.5
8260	n-Butylbenzene	104-51-8	2	--	1	1	5	µg/L	2	5	5
8260	n-Propylbenzene	103-65-1	2	--	1	1	1	µg/L	2	2	2.1
8260	o-Xylene	95-47-6	2	--	1	1	5	µg/L	2	5	5
8260	p-Isopropyltoluene	99-87-6	2	--	1	1	1	µg/L	2	2	2.1
8260	sec-Butylbenzene	135-98-8	2	--	1	1	1	µg/L	2	2	2.1
8260	tert-Butylbenzene	98-06-6	2	--	1	1	1	µg/L	2	2	2.1
8260	trans-1,2-Dichloroethylene	156-60-5	2	1	1	1	5	µg/L	2	5	5
8260	trans-1,3-Dichloropropylene	10061-02-6	2	1	3	1	5	µg/L	3	5	5
8260	trans-1,4-Dichloro-2-butene	110-57-6	10	2	3	2	50	µg/L	10	50	50
8270	1,2,4,5-Tetrachlorobenzene	95-94-3	10	--	10	10	20	µg/L	10	20	20
8270	1,2,4-Trichlorobenzene	120-82-1	10	--	4	10	13	µg/L	10	13	13
8270	1,2-Dichlorobenzene	95-50-1	10	--	4	10	10	µg/L	10	10	10.5
8270	1,2-Diphenylhydrazine	122-66-7	10	--	10	--	10	µg/L	10	10	10.5
8270	1,3,5-Trinitrobenzene	99-35-4	10	--	50	--	50	µg/L	50	50	52.5
8270	1,3-Dichlorobenzene	541-73-1	10	--	10	10	10	µg/L	10	10	10.5
8270	1,4-Dichlorobenzene	106-46-7	10	--	4	10	10	µg/L	10	10	10.5
8270	1,4-Dinitrobenzene	100-25-4	10	--	10	10	10	µg/L	10	10	10.5
8270	1,4-Dioxane (preferred method)	123-91-1	10	--	20	10	10	µg/L	20	20	21

Table 2. PQL Worksheet

Method	Analyte	CAS Number	Lab 1 PQL	Lab 2 PQL	Lab 3 PQL	Lab 4 PQL	SOW Rev 3 RPQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
8270	1,4-Naphthoquinone	130-15-4	10	--	50	--	50	µg/L	50	50	52.5
8270	1-Methylnaphthalene	90-12-0	1	--	4	10	10	µg/L	10	10	10.5
8270	1-Naphthylamine	134-32-7	10	--	10	--	25	µg/L	10	25	25
8270	2,3,4,6-Tetrachlorophenol	58-90-2	10	--	50	10	50	µg/L	50	50	52.5
8270	2,4,5-Trichlorophenol	95-95-4	10	--	10	10	10	µg/L	10	10	10.5
8270	2,4,6-Trichlorophenol	88-06-2	10	--	10	10	10	µg/L	10	10	10.5
8270	2,4-Dichlorophenol	120-83-2	10	--	10	10	10	µg/L	10	10	10.5
8270	2,4-Dimethylphenol	105-67-9	10	--	10	10	10	µg/L	10	10	10.5
8270	2,4-Dinitrophenol	51-28-5	20	--	30	20	50	µg/L	30	50	50
8270	2,4-Dinitrotoluene	121-14-2	10	--	10	10	10	µg/L	10	10	10.5
8270	2,6-Dichlorophenol	87-65-0	10	--	10	--	10	µg/L	10	10	10.5
8270	2,6-Dinitrotoluene	606-20-2	10	--	10	10	10	µg/L	10	10	10.5
8270	2-Acetylaminofluorene	53-96-3	10	--	100	--	100	µg/L	100	100	100
8270	2-Butoxyethanol	111-76-2	10	--	--	--	5000	µg/L	10	5000	5000
8270	2-Chloronaphthalene	91-58-7	1	--	4	10	10	µg/L	10	10	10.5
8270	2-Chlorophenol	95-57-8	10	--	10	10	10	µg/L	10	10	10.5
8270	2-Methyl-4,6-dinitrophenol	534-52-1	10	--	50	20	20	µg/L	50	50	52.5
8270	2-Methylnaphthalene	91-57-6	1	--	4	10	10	µg/L	10	10	10.5
8270	2-Naphthylamine	91-59-8	10	--	10	--	10	µg/L	10	10	10.5
8270	2-Nitrophenol	88-75-5	10	--	10	10	10	µg/L	10	10	10.5
8270	2-Picoline	109-06-8	10	--	20	--	20	µg/L	20	20	21
8270	3,3'-Dichlorobenzidine	91-94-1	10	--	50	10	50	µg/L	50	50	52.5
8270	3,3'-Dimethylbenzidine	119-93-7	10	--	20	--	50	µg/L	20	50	50
8270	3-Methylcholanthrene	56-49-5	10	--	20	--	20	µg/L	20	20	21
8270	3+4 Methylphenol (cresol, m+p)	65794-96-9	10	--	10	10	20	µg/L	10	20	20
8270	4-Aminobiphenyl	92-67-1	10	--	50	--	50	µg/L	50	50	52.5
8270	4-Bromophenylphenylether	101-55-3	10	--	10	10	10	µg/L	10	10	10.5
8270	4-Chloro-3-methylphenol	59-50-7	10	--	10	10	10	µg/L	10	10	10.5
8270	4-Chloroaniline	106-47-8	10	--	10	10	10	µg/L	10	10	10.5
8270	4-Chlorophenylphenylether	7005-72-3	10	--	10	10	10	µg/L	10	10	10.5
8270	4-Nitrophenol	100-02-7	10	--	10	20	10	µg/L	20	20	21
8270	4-Nitroquinoline-1-oxide	56-57-5	10	--	100	--	100	µg/L	100	100	105

Table 2. PQL Worksheet

Method	Analyte	CAS Number	Lab 1 PQL	Lab 2 PQL	Lab 3 PQL	Lab 4 PQL	SOW Rev 3 RPQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
8270	5-Nitro-o-toluidine	99-55-8	10	--	20	--	20	µg/L	20	20	21
8270	7,12 Dimethylbenz(a)anthracene	57-97-6	10	--	20	100	20	µg/L	100	100	21 <sup>a</sup>
8270	Acenaphthene	83-32-9	1	--	4	10	10	µg/L	10	10	10.5
8270	Acenaphthylene	208-96-8	1	--	4	10	10	µg/L	10	10	10.5
8270	Acetophenone	98-86-2	10	--	10	10	10	µg/L	10	10	10.5
8270	Aniline	62-53-3	10	--	10	10	10	µg/L	10	10	10.5
8270	Anthracene (preferred method)	120-12-7	1	--	4	10	10	µg/L	10	10	10.5
8270	Aramite	140-57-8	10	--	18.4	--	20	µg/L	18.4	20	20
8270	Benzo(a)anthracene (preferred method)	56-55-3	1	--	4	10	10	µg/L	10	10	10.5
8270	Benzo(a)pyrene (preferred method)	50-32-8	1	--	4	10	10	µg/L	10	10	10.5
8270	Benzo(b)fluoranthene (preferred method)	205-99-2	1	--	4	10	10	µg/L	10	10	10.5
8270	Benzo(ghi)perylene (preferred method)	191-24-2	1	--	4	10	10	µg/L	10	10	10.5
8270	Benzo(k)fluoranthene (preferred method)	207-08-9	1	--	4	10	10	µg/L	10	10	10.5
8270	Benzoic acid	65-85-0	20	--	25	50	50	µg/L	50	50	52.5
8270	Benzyl alcohol	100-51-6	10	--	10	10	10	µg/L	10	10	10.5
8270	Butylbenzylphthalate	85-68-7	10	--	4	10	10	µg/L	10	10	10.5
8270	Carbazole	86-74-8	1	--	4	10	10	µg/L	10	10	10.5
8270	Chlorobenzilate	510-15-6	10	--	10	--	10	µg/L	10	10	10.5
8270	Chrysene (preferred method)	218-01-9	1	--	4	10	10	µg/L	10	10	10.5
8270	Cresols (total)	1319-77-3	20	--	--	--	20	µg/L	20	20	21
8270	Di-n-butylphthalate	84-74-2	10	--	4	10	10	µg/L	10	10	10.5
8270	Di-n-octylphthalate	117-84-0	10	--	4	10	10	µg/L	10	10	10.5
8270	Diallate	2303-16-4	10	--	20	--	20	µg/L	20	20	21
8270	Dibenzo(a,h)anthracene (preferred method)	53-70-3	1	--	4	10	10	µg/L	10	10	10.5
8270	Dibenzofuran	132-64-9	10	--	4	10	10	µg/L	10	10	10.5
8270	Diethylphthalate	84-66-2	10	--	4	10	10	µg/L	10	10	10.5
8270	Dimethoate	60-51-5	10	--	20	--	20	µg/L	20	20	21
8270	Dimethylphthalate	131-11-3	10	--	4	10	10	µg/L	10	10	10.5
8270	Dinoseb (preferred method)	88-85-7	10	--	20	--	20	µg/L	20	20	21
8270	Diphenylamine	122-39-4	10	--	10	--	10	µg/L	10	10	10.5
8270	Diphenylamine+N-Nitrosodiphenylamine	DPA+NNDPA/86- 30-6	--	--	10	10	10	µg/L	10	10	10.5

Table 2. PQL Worksheet

Method	Analyte	CAS Number	Lab 1 PQL	Lab 2 PQL	Lab 3 PQL	Lab 4 PQL	SOW Rev 3 RPQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
8270	Disulfoton	298-04-4	10	--	50	--	50	µg/L	50	50	52.5
8270	Ethyl methanesulfonate	62-50-0	10	--	10	--	10	µg/L	10	10	10.5
8270	Famphur	52-85-7	10	--	100	--	100	µg/L	100	100	105
8270	Fluoranthene (preferred method)	206-44-0	1	--	4	10	10	µg/L	10	10	10.5
8270	Fluorene (preferred method)	86-73-7	1	--	4	10	10	µg/L	10	10	10.5
8270	Hexachlorobenzene (preferred method)	118-74-1	10	--	10	10	10	µg/L	10	10	10.5
8270	Hexachlorobutadiene	87-68-3	10	--	10	10	10	µg/L	10	10	10.5
8270	Hexachlorocyclopentadiene	77-47-4	10	--	50	10	10	µg/L	50	50	10.5 <sup>a</sup>
8270	Hexachloroethane	67-72-1	10	--	10	10	10	µg/L	10	10	10.5
8270	Hexachlorophene	70-30-4	500	--	--	--	500	µg/L	500	500	525
8270	Hexachloropropene	1888-71-7	10	--	100	--	100	µg/L	100	100	105
8270	Indeno(1,2,3-cd)pyrene (preferred method)	193-39-5	1	--	4	10	10	µg/L	10	10	10.5
8270	Isodrin	465-73-6	10	--	10	--	10	µg/L	10	10	10.5
8270	Isophorone	78-59-1	10	--	10	10	10	µg/L	10	10	10.5
8270	Isosafrole	120-58-1	10	--	20	--	20	µg/L	20	20	21
8270	Kepone	143-50-0	10	--	-	--	100	µg/L	100	100	100
8270	Methapyrilene	91-80-5	10	--	50	--	50	µg/L	50	50	52.5
8270	Methyl methanesulfonate	66-27-3	10	--	10	--	10	µg/L	10	10	10.5
8270	Methyl parathion	298-00-0	10	--	50	--	10	µg/L	50	50	10.5 <sup>a</sup>
8270	n-Nitrosodimethylamine	62-75-9	10	--	10	10	10	µg/L	10	10	10.5
8270	N-Nitrosodi-n-butylamine	924-16-3	10	--	10	10	10	µg/L	10	10	10.5
8270	N-Nitrosodiethylamine	55-18-5	10	--	10	10	10	µg/L	10	10	10.5
8270	N-Nitrosodipropylamine	621-64-7	10	--	10	10	10	µg/L	10	10	10.5
8270	N-Nitrosomethylethylamine	10595-95-6	10	--	10	--	10	µg/L	10	10	10.5
8270	N-Nitrosomorpholine	59-89-2	10	--	10	--	10	µg/L	10	10	10.5
8270	N-Nitrosopiperidine	100-75-4	10	--	10	--	10	µg/L	10	10	10.5
8270	N-Nitrosopyrrolidine	930-55-2	10	--	10	10	10	µg/L	10	10	10.5
8270	Naphthalene (preferred method)	91-20-3	1	--	4	10	10	µg/L	10	10	10.5
8270	Nitrobenzene	98-95-3	10	--	10	10	10	µg/L	10	10	10.5
8270	Parathion	56-38-2	10	--	50	--	50	µg/L	50	50	52.5
8270	Pentachlorobenzene	608-93-5	10	--	10	10	10	µg/L	10	10	10.5



Table 2. PQL Worksheet

Method	Analyte	CAS Number	Lab 1 PQL	Lab 2 PQL	Lab 3 PQL	Lab 4 PQL	SOW Rev 3 RPQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
8270	Pentachloroethane	76-01-7	10	--	50	--	50	µg/L	50	50	52.5
8270	Pentachloronitrobenzene	82-68-8	10	--	50	--	50	µg/L	50	50	52.5
8270	Pentachlorophenol	87-86-5	10	--	50	20	10	µg/L	50	50	52.5
8270	Phenacetin	62-44-2	10	--	20	-	20	µg/L	20	20	21
8270	Phenanthrene (preferred method)	85-01-8	1	--	4	10	10	µg/L	10	10	10.5
8270	Phenol	108-95-2	10	--	10	10	10	µg/L	10	10	10.5
8270	Phorate	298-02-2	10	--	50	--	50	µg/L	50	50	52.5
8270	Pronamide	23950-58-5	10	--	20	--	20	µg/L	20	20	21
8270	Pyrene (preferred method)	129-00-0	1	--	10	10	10	µg/L	10	10	10.5
8270	Pyridine	110-86-1	10	--	20	10	20	µg/L	20	20	21
8270	Safrole	94-59-7	10	--	20	--	20	µg/L	20	20	21
8270	Sulfotep	3689-24-5	10	--	20	--	50	µg/L	20	50	50
8270	Thionazin	297-97-2	10	--	50	--	50	µg/L	50	50	52.5
8270	Tributylphosphate	126-73-8	10	--	--	--	10	µg/L	10	10	10.5
8270	Triethylphosphorothioate	126-68-1	10	--	50	--	50	µg/L	50	50	52.5
8270	a,a-Dimethylphenethylamine	122-09-8	10	--	50	--	50	µg/L	50	50	52.5
8270	bis(2-Chloro-1-methylethyl)ether	108-60-1	10	--	10	10	10	µg/L	10	10	10.5
8270	bis(2-Chloroethoxy)methane	111-91-1	10	--	10	10	10	µg/L	10	10	10.5
8270	bis(2-Chloroethyl) ether	111-44-4	10	--	10	10	10	µg/L	10	10	10.5
8270	bis(2-Ethylhexyl)phthalate	117-81-7	10	--	10	10	10	µg/L	10	10	10.5
8270	m-Dinitrobenzene	99-65-0	10	--	--	10	10	µg/L	10	10	10.5
8270	m-Nitroaniline	99-09-2	10	--	10	20	10	µg/L	20	20	21
8270	n-Decane	124-18-5	10	--	--	--	10	µg/L	10	10	10.5
8270	o-Cresol	95-48-7	10	--	10	10	10	µg/L	10	10	10.5
8270	o-Nitroaniline	88-74-4	10	--	10	20	10	µg/L	20	20	21
8270	o-Toluidine	95-53-4	10	--	10	--	20	µg/L	10	20	20
8270	p-(Dimethylamino)azobenzene	60-11-7	10	--	20	--	10	µg/L	20	20	21
8270	p-Nitroaniline	100-01-6	10	--	10	20	10	µg/L	20	20	21
8270	p-Phenylenediamine	106-50-3	500	--	100	--	500	µg/L	500	500	525
8270 (SIM)	Anthracene (PAH)	120-12-7	0.1	--	0.1	0.1	10	µg/L	0.1	10	10
8270 (SIM)	Benzo(a)anthracene (PAH)	56-55-3	0.1	--	0.1	0.1	0.3	µg/L	0.1	0.3	0.3
8270 (SIM)	Benzo(a)pyrene (PAH)	50-32-8	0.1	--	0.1	0.1	0.5	µg/L	0.1	0.5	0.5

Table 2. PQL Worksheet

Method	Analyte	CAS Number	Lab 1 PQL	Lab 2 PQL	Lab 3 PQL	Lab 4 PQL	SOW Rev 3 RPQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
8270 (SIM)	Benzo(b)fluoranthene (PAH)	205-99-2	0.1	--	0.1	0.1	0.5	µg/L	0.1	0.5	0.5
8270 (SIM)	Benzo(ghi)perylene (PAH)	191-24-2	0.1	--	0.1	0.1	1	µg/L	0.1	1	1
8270 (SIM)	Benzo(k)fluoranthene (PAH)	207-08-9	0.1	--	0.1	0.1	0.5	µg/L	0.1	0.5	0.5
8270 (SIM)	Chrysene (PAH)	218-01-9	0.1	--	0.1	0.1	3	µg/L	0.1	3	3
8270 (SIM)	Dibenz[a,h]anthracene (PAH)	53-70-3	0.1	--	0.1	0.1	1	µg/L	0.1	1	1
8270 (SIM)	Fluoranthene (PAH)	206-44-0	0.1	--	0.1	0.1	5	µg/L	0.1	5	5
8270 (SIM)	Fluorene (PAH)	86-73-7	0.1	--	0.1	0.1	3	µg/L	0.1	3	3
8270 (SIM)	Hexachlorobenzene	118-74-1	0.1	--	0.1	0.1	3	µg/L	0.1	3	3
8270 (SIM)	Indeno(1,2,3-cd)pyrene (PAH)	193-39-5	0.1	--	0.1	0.1	0.3	µg/L	0.1	0.3	0.3
8270 (SIM)	Naphthalene (PAH)	91-20-3	0.1	--	0.1	0.1	10	µg/L	0.1	10	10
8270 (SIM)	Phenanthrene (PAH)	85-01-8	0.1	--	0.1	0.1	10	µg/L	0.1	10	10
8270 (SIM)	Pyrene (PAH)	129-00-0	0.1	--	0.1	0.1	5	µg/L	0.1	5	5
8015	Ethanol	64-17-5	20000	--	1000	--	5000	µg/L	20000	20000	21000
8015	Ethylene glycol	107-21-1	10000	--	10000	5000	10000	µg/L	10000	10000	10500
8015	Methanol	67-56-1	2000	--	1000	3000	5000	µg/L	3000	5000	5250
8151	2,4,5-T	93-76-5	0.25	--	1	0.1	1	µg/L	1	1	1.05
8151	2,4,5-TP (Silvex)	93-72-1	0.25	--	1	0.1	1	µg/L	1	1	1.05
8151	2,4-D	94-75-7	0.25	--	4	1	20	µg/L	4	20	20
8151	2,4-DB	94-82-6	0.25	--	4	1	5	µg/L	4	5	5
8151	Dalapon	75-99-0	5	--	2	4	12	µg/L	5	12	12
8151	Dicamba	1918-00-9	0.25	--	2	0.2	2	µg/L	2	2	2.1
8151	Dichlorprop	120-36-5	0.25	--	4	1	5	µg/L	4	5	5
8151	Dinoseb	88-85-7	0.25	--	1	1	2	µg/L	1	2	2
8151	MCPA	94-74-6	50	--	400	100	400	µg/L	400	400	420
8151	MCPP	93-65-2	50	--	400	100	400	µg/L	400	400	420
8081	4,4'-DDD	72-54-8	0.04	--	0.05	0.05	0.1	µg/L	0.05	0.1	0.1
8081	4,4'-DDE	72-55-9	0.04	--	0.05	0.05	0.1	µg/L	0.05	0.1	0.1
8081	4,4'-DDT	50-29-3	0.04	--	0.05	0.05	0.1	µg/L	0.05	0.1	0.1
8081	Aldrin	309-00-2	0.02	--	0.05	0.05	0.05	µg/L	0.05	0.05	0.0525
8081	Chlordane	57-74-9	0.25	--	0.5	--	0.5	µg/L	0.5	0.5	0.525
8081	Dieldrin	60-57-1	0.04	--	0.05	0.05	0.5	µg/L	0.05	0.5	0.5
8081	Endosulfan I	959-98-8	0.02	--	0.05	0.05	0.05	µg/L	0.05	0.05	0.0525

Table 2. PQL Worksheet

Method	Analyte	CAS Number	Lab 1 PQL	Lab 2 PQL	Lab 3 PQL	Lab 4 PQL	SOW Rev 3 RPQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
8081	Endosulfan II	33213-65-9	0.04	--	0.05	0.05	0.1	µg/L	0.05	0.1	0.1
8081	Endosulfan sulfate	1031-07-8	0.04	--	0.05	0.05	0.1	µg/L	0.05	0.1	0.1
8081	Endrin	72-20-8	0.04	--	0.05	0.05	0.1	µg/L	0.05	0.1	0.1
8081	Endrin aldehyde	7421-93-4	0.04	--	0.05	0.05	0.1	µg/L	0.05	0.1	0.1
8081	Endrin ketone	53494-70-5	0.04	--	0.05	0.05	0.1	µg/L	0.05	0.1	0.1
8081	Heptachlor	76-44-8	0.02	--	0.05	0.05	0.05	µg/L	0.05	0.05	0.0525
8081	Heptachlor epoxide	1024-57-3	0.02	--	0.05	0.05	0.05	µg/L	0.05	0.05	0.0525
8081	Methoxychlor	72-43-5	0.2	--	0.1	0.25	0.5	µg/L	0.25	0.5	0.5
8081	Toxaphene	8001-35-2	0.5	--	2	2.5	2	µg/L	2.5	2.5	2.625
8081	alpha-BHC	319-84-6	0.02	--	0.05	0.05	0.05	µg/L	0.05	0.05	0.0525
8081	alpha-Chlordane	5103-71-9	0.02	--	0.05	0.05	0.5	µg/L	0.05	0.5	0.5
8081	beta-BHC	319-85-7	0.02	--	0.05	0.05	0.05	µg/L	0.05	0.05	0.0525
8081	delta-BHC	319-86-8	0.02	--	0.05	0.05	0.05	µg/L	0.05	0.05	0.0525
8081	gamma-BHC (Lindane)	58-89-9	0.02	--	0.05	0.05	0.05	µg/L	0.05	0.05	0.0525
8081	gamma-Chlordane	5103-74-2	0.02	--	0.05	0.05	0.1	µg/L	0.05	0.1	0.1
8082	Aroclor-1016	12674-11-2	0.1	--	1	1	1	µg/L	1	1	1.05
8082	Aroclor-1221	11104-28-2	0.1	--	1	2	1	µg/L	2	2	2.1
8082	Aroclor-1232	11141-16-5	0.1	--	1	1	1	µg/L	1	1	1.05
8082	Aroclor-1242	53469-21-9	0.1	--	1	1	1	µg/L	1	1	1.05
8082	Aroclor-1248	12672-29-6	0.1	--	1	1	1	µg/L	1	1	1.05
8082	Aroclor-1254	11097-69-1	0.1	--	1	1	1	µg/L	1	1	1.05
8082	Aroclor-1260	11096-82-5	0.1	--	1	1	1	µg/L	1	1	1.05
8082	Aroclor-1262	37324-23-5	0.1	--	1	1	1	µg/L	1	1	1.05
8082	Aroclor-1268	11100-14-4	0.1	--	1	1	1	µg/L	1	1	1.05

Note: For four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update V*.

a. The highest PQL value from the laboratories was not used to calculate values for the "PQLs for Use" column.

b. PQL value from the laboratory 3 was not used to calculate values for the "PQLs for Use" column because it is above cleanup action levels.

CAS = Chemical Abstracts Service

PAH = polyaromatic hydrocarbon

PQL = practical quantitation limit

RPQL = required practical quantitation limit

SOW = statement of work

TPH = total petroleum hydrocarbon

Table 3. PQL Worksheet for Method 8290 and ASTM D1385

Method	Analyte	CAS Number	Lab 5 PQL	Lab 6 PQL	SOW PQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
8290	2,3,7,8-TCDD	1746-01-6	1.00E-05	5.00E-06	1.00E-05	µg/L	1.00E-05	1.00E-05	1.05E-05
8290	1,2,3,7,8-PeCDD	40321-76-4	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	1,2,3,4,7,8- HxCDD	39227-28-6	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	1,2,3,6,7,8- HxCDD	57653-85-7	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	1,2,3,7,8,9- HxCDD	19408-74-3	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	1,2,3,4,6,7,8- HpCDD	35822-46-9	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	OCDD	34465-46-8	1.00E-04	2.50E-05	1.00E-04	µg/L	1.00E-04	1.00E-04	1.05E-04
8290	2,3,7,8-TCDF	51207-31-9	1.00E-05	5.00E-06	1.00E-05	µg/L	1.00E-05	1.00E-05	1.05E-05
8290	1,2,3,7,8-PeCDF	57117-41-6	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	2,3,4,7,8-PeCDF	57117-31-4	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	1,2,3,4,7,8- HxCDF	70648-26-9	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	1,2,3,6,7,8- HxCDF	57117-44-9	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	2,3,4,6,7,8- HxCDF	60851-34-5	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	1,2,3,7,8,9- HxCDF	72918-21-9	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	1,2,3,4,6,7,8- HpCDF	67562-39-4	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	1,2,3,4,7,8,9- HpCDF	55673-89-7	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	OCDF	39001-02-0	1.00E-04	2.50E-05	1.00E-04	µg/L	1.00E-04	1.00E-04	1.05E-04
8290	Tetrachlorodibenzo-p-Dioxins	41903-57-5	1.00E-05	5.00E-06	1.00E-05	µg/L	1.00E-05	1.00E-05	1.05E-05
8290	Tetrachlorodibenzofurans	55722-27-5	1.00E-05	5.00E-06	1.00E-05	µg/L	1.00E-05	1.00E-05	1.05E-05
8290	Pentachlorodibenzo-p-Dioxins	36088-22-9	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05

Table 3. PQL Worksheet for Method 8290 and ASTM D1385

Method	Analyte	CAS Number	Lab 5 PQL	Lab 6 PQL	SOW PQL Limit	Units	All Lab PQL	PQL (Lab Versus SOW)	PQLs for Use
8290	Pentachlorodibenzofurans	30402-15-4	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	Hexachlorodibenzo-p-Dioxins	37871-00-4	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
8290	Hexachlorodibenzofurans	55684-94-1	5.00E-05	1.25E-05	5.00E-05	µg/L	5.00E-05	5.00E-05	5.25E-05
ASTM D1385	Hydrazine	302-01-2	--	4	4	µg/L	4	4	4.2

Reference: ASTM D1385, *Standard Test Method for Hydrazine in Water*.

Note: For four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update V*.

CAS = Chemical Abstracts Service

PQL = practical quantitation limit

SOW = statement of work

## 7 Results/Conclusions

The results of this evaluation are provided in Table 1, which lists the “PQLs for Use,” by preferred analytical method and analyte established through this process

## 8 References

- 10 CFR 30, “Rules of General Applicability to Domestic Licensing of Byproduct Material,” *Code of Federal Regulations*, as amended. Available at: <https://www.nrc.gov/reading-rm/doc-collections/cfr/part030/>.
- 10 CFR 40, “Domestic Licensing of Source Material,” *Code of Federal Regulations*, as amended. Available at: <https://www.nrc.gov/reading-rm/doc-collections/cfr/part040/>.
- 10 CFR 70, “Domestic Licensing of Special Nuclear Material,” *Code of Federal Regulations*, as amended. Available at: <https://www.nrc.gov/reading-rm/doc-collections/cfr/part070/>.
- 40 CFR 136, “Guidelines Establishing Test Procedures for the Analysis of Pollutants,” Appendix B, “Definition and Procedure for the Determination of the Method Detection Limit—Revision 2,” *Code of Federal Regulations*. Available at: [https://www.ecfr.gov/cgi-bin/text-idx?SID=9d679d1fc19665ed9ad1946468f1152f&mc=true&node=ap40.25.136\\_17.b&rgn=div9](https://www.ecfr.gov/cgi-bin/text-idx?SID=9d679d1fc19665ed9ad1946468f1152f&mc=true&node=ap40.25.136_17.b&rgn=div9)
- ASTM D1385, *Standard Test Method for Hydrazine in Water*, ASTM International, West Conshohocken, Pennsylvania.
- SW-846, 2015, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update V*, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, Washington, D.C. Available at: <https://www.epa.gov/hw-sw846>.

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