IOWA DEPARTMENT OF NATURAL RESOURCES - NPDES PERMIT APPLICATION
FORM 30, PART B - EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the Application Overview to determine whether this section applies to the treatment works.

Facility Name _____ Facility Number _____

Refer to the directions on the Application Overview to determine whether this section applies to your facility. Any facility with a design flow greater than or equal to 1.0 mgd, or who has (or is required to have) a pretreatment program, or who is otherwise required by the permitting authority to provide the data, must provide effluent testing data for each of the following pollutants. Provide the indicated effluent testing information for each active outfall through which effluent is discharged. Do not include information on combined sewer overflows in this part. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods, and as specified in Chapter 63 of the Iowa Administrative Code. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in Part B. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four years old.

Outfall Number _____ (Complete three scans for each active outfall discharging to surface waters.)

Pollutant	Maximum Daily Discharges				Average Daily Discharges					Analytical Method	Reporting Level ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
Metals (Total Recoverable), Cyanide, Phenols, and Hardness											
Antimony											
Arsenic											
Beryllium											
Cadmium											
Chromium											
Copper											
Lead											
Mercury											
Nickel											
Selenium											
Silver											
Thallium											
Zinc											
Cyanide*											
Total Phenolic Compounds*											
Hardness (as $CaCO_3$)											
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											

*Grab samples should be taken for these compounds only. Please refer to the instructions for further explanation.

Facility Name _____ Permit Number _____

Outfall Number _____ (Complete three scans for each active outfall discharging to surface waters.)

Pollutant	Maximum Daily Discharges				Average Daily Discharges					Analytical Method	Reporting Level ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
Volitile Organic Compounds											
Acrolein*											
Acrylonitrile*											
Benzene*											
Bromoform*											
Carbon Tetrachloride*											
Chlorobenzene*											
Chlorodibromo-Methane*											
Chloroethane*											
2-Chloro-Ethylvinyl Ether*											
Chloroform*											
Dichlorobromo-Methane*											
1,1-Dichloroethane*											
1,2-Dichloroethane*											
Trans-1,2-Dichloro-Ethylene*											
1,1- Dichloroethylene*											
1,2- Dichloropropane*											
1,3-Dichloro-Propylene*											
Ethylbenzene*											
Methyl Bromide*											
Methyl Chloride*											
Methylene Chloride*											
1,1,2,2-Tetrachloro-Ethane*											
Tetrachloro-Ethylene*											
Toluene*											
1,1,1-Trichloroethane*											
1,1,2-Trichloroethane*											
Trichloroethylene*											
Vinyl Chloride*											

*Grab samples should be taken for these compounds only. Please refer to the instructions for further explanation.

Facility Name _____ Permit Number _____

Outfall Number _____ (Complete three scans for each active outfall discharging to surface waters.)

Pollutant	Maximum Daily Discharges				Average Daily Discharges					Analytical Method	Reporting Level ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
Acid Extractable Compounds											
P-Chloro-M-Crsol											
2-Chlorophenol											
2,4-Dichlorophenol											
2,4-Dimethylphenol											
4,6-Dinitro-O-Cresol											
2,4-Dinitrophenol											
2-Nitrophenol											
4-Nitrophenol											
Pentachlorophenol											
Phenol											
2,4,6-Tricholorphenol											
Base Neutral Compounds											
Acenaphthene											
Acenapthylene											
Anthracene											
Benzidine											
Benzo(a)Anthracene											
Benzo(a)pyrene											
3,4 Benzo-Fluoranthene											
Benzo(ghi)perylene											
Benzo(k) Fluoranthene											
Bis (2-Chloroethoxy) Methane											
Bis (2-Chloroethoxy) Ether											
Bis (2-Chloroiso-Propyl) Ether											
Bis (2-Ethylhexyl) Phthalate											
4-Bromophenl Phenyl Ether											
Butyl Benzyl Phthalate											
2-Chloronaphthalene											

*Grab samples should be taken for these compounds only. Please refer to the instructions for further explanation.

Facility Name _____ Permit Number _____

Outfall Number _____ (Complete three scans for each active outfall discharging to surface waters.)

Pollutant	Maximum Daily Discharges				Average Daily Discharges					Analytical Method	Reporting Level ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
Base Neutral Compounds (Continued)											
4-Chlorophenyl Phenyl Ether											
Chrysene											
Di-N-Butyl Phthalate											
Di-N-Octyl Phthalate											
Dibenzo(A,H) Anthracene											
1,2-Dichlorobenzene											
1,3-Dichlorobenzene											
1,4-Dichlorobenzene											
3,3-Dichlorobenzidine											
Diethyl Phthalate											
Dimethyl Phthalate											
2,4-Dinitrotoluene											
2,6-Dinitrotoluene											
1,2-Diphenylhydrazine											
Fluoranthene											
Fluorene											
Hexachlorobenzene											
Hexachlorobuta-Diene											
Hexachlorocyclo-Pentadiene											
Hexachloroethane											
Indeno(1,2,3-CD) Pyrene											
Isophorone											
Napthalene											
Nitrobenzene											
N-Nitrosodi-N-Propylamine											
N-Nitrosodi-Methylamine											
N-Nitrosodi-Phenylamine											
Phenanthrene											
Pyrene											
1,2,4-Trichlorobenzene											

End of Part B

FORM 30, PART B - INSTRUCTIONS

A municipal or semi-public facility that discharges effluent to surface waters and meets one or more of the following criteria must complete Part B (Expanded Effluent Testing Data):

- Has a design flow rate greater than or equal to 1 mgd; or
- Is required to have a pretreatment program (or has one in place); or
- Is otherwise required by the permitting authority to provide the information.

Complete Part B once for each active outfall through which effluent is discharged to surface waters. Active outfalls include discharges for controlled discharge lagoons, but do not include discharges that occur less than once every five years**.** Indicate on each page the outfall number (as assigned in question 15 of Part A) for which the data are provided. Use the blank rows provided to submit any data the facility may have for pollutants not specifically listed in Part B. Note that the permitting authority may require additional testing on a case-by-case basis.

All facilities meeting any of the three criteria above must provide data for each of the pollutants in Part B. **All applicants submitting effluent testing data must base this data on a minimum of three pollutant scans.** All samples analyzed must be representative of the discharge from the sampled outfall.

Sampling data must be representative of the facilities' discharge and take into consideration seasonal variations. **At least two of the samples used to complete the effluent testing must have been taken no fewer than 4 months and no more than 8 months apart.** For example, one sample may be taken in April and another in October to meet this requirement. Applicants unable to meet this time requirement due to periodic, discontinuous, or seasonal discharges can obtain alternative guidance on this requirement from the permit writer.

All data provided in the application must be based on samples taken within four years prior to the date of submittal of this permit application. If you have existing data that fulfills the requirements described below, you may use that data in lieu of conducting additional sampling. If you measure more than the required number of daily values for a pollutant, you must include them in the data you report. Use the blank rows provided on the application to provide any existing sampling data that your facility may have for pollutants that are not listed. All data provided in the application must be based on samples taken within four years prior to the submittal date of this permit application.

A person experienced in performing wastewater sampling should supervise the collection of samples for the reported analyses. Specific requirements contained in the applicable analytical methods, including Chapter 63 of the Iowa Administrative Code, should be followed for sample containers, sample preservation, holding times, and collection of duplicate samples. Samples should be taken at a time representative of normal operation. To the extent feasible, all processes that contribute to wastewater should be in operation and the treatment system should be operating properly with no system upsets. Samples should be collected from the center of the flow channel (where turbulence is at a maximum), at a location specified in the current NPDES permit, or at any location adequate for the collection of a representative sample.

One grab sample must be collected for each scan for cyanide and total phenols. Four grab samples must be collected for each scan for all of the Volatile Organic Compounds (VOCs), and the four samples must be combined in the lab and analyzed as one. For all other pollutants, one 24-hour composite sample must be collected for each scan. A minimum of one grab sample, instead of a 24-hour composite, may be taken for effluent from waste stabilization (controlled discharge) lagoons.

Grab and composite samples are defined as follows:

- Grab sample: a representative, discrete portion of the sewage, industrial waste, other waste, surface water, or groundwater taken without regard to flow rate.
- 24-Hour Composite sample:
  a. For facilities where no significant industrial waste is present, a sample made by collecting a minimum of 6 grab samples taken 4 hours apart and combined in proportion to the flow rate at the time each grab sample

was collected. (Generally, grab samples should be collected at 8 am, 12 pm (noon), 4 pm, 8 pm, 12 am (midnight), and 4 am on weekdays (Monday - Friday) unless local conditions indicate another more appropriate time for sample collection).

b. For facilities where significant industrial waste is present, a sample made by collecting a minimum of 12 grab samples taken 2 hours apart and combined in proportion to flow rate at the time each grab sample was collected. (Generally, grab samples should be collected at 8 am, 10 am, 12 pm (noon), 2 pm, 4 pm, 6 pm, 8 pm, 10 pm, 12 am (midnight), 2 am, 4 am, and 6 am on weekdays (Monday - Friday) unless local conditions indicate a more appropriate time for sample collection).

c. An automatic composite sampling device may also be used for collection of flow proportioned or time proportioned composite samples.

d. For VOC analysis, four (4) (rather than six or twelve) or grab samples should be collected for each compound. These four samples should be collected during actual hours of discharge over a 24-hour period and need not be flow proportioned. The four grab samples must be combined in the laboratory immediately before analysis. Only one analysis of the four combined grab samples is required.

The Iowa DNR or EPA may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, sampling season, the duration between sampling events, and protocols for collecting samples under 40 CFR Part 136. Contact the permit writer for detailed guidance on sampling techniques and for answers to specific questions. The following instructions explain how to complete each of the columns in the pollutant tables in Part B.

Maximum Daily Discharge. For composite samples taken with a composite sampling device, the daily discharge is the average pollutant concentration and total mass found in a composite sample taken over a 24-hour period. For a series of grab samples, the daily discharge is the arithmetic or flow-weighted total mass or average pollutant concentration found in a series of six grab samples (or four grab samples for VOCs) taken during the operating hours of the facility during a 24-hour period. Treat non-detect values as zero (0) when calculating an arithmetic mean. For a single grab sample, the daily discharge is the total mass or pollutant concentration found in the sample analysis.

To determine the maximum daily discharge values, compare the daily discharge values from each of the sample events. Report the highest total mass and highest concentration level from these samples.

- “Concentration” is the amount of pollutant that is present in a sample with respect to the size of the sample. The daily discharge concentration is the average concentration of the pollutant throughout the 24-hour period.
- “Mass” is calculated as the total mass of the pollutant discharged over the 24-hour period.
- All data must be reported as both concentration and mass (where appropriate). Use the following abbreviations in the columns headed “Units”.

mg - milligrams	mg/l - milligrams per liter	µg/l - micrograms per liter	g - grams
ppm - parts per million	ppb - parts per billion	su - standard units	kg - kilograms
gpd - gallons per day	MGD - million gallons per day	lbs - pounds ton (English ton)	T - tons (metric tons)

Average Daily Discharge. The average daily discharge is determined by calculating the arithmetic mean of the daily pollutant concentration and the arithmetic mean of the daily total mass of the pollutant from each of the sample events within the four years prior to this permit application. Treat non-detect values as zero (0) when calculating an arithmetic mean. Report the concentration, mass, and units used under the “Average Daily Discharge” column, along with the number of samples on which the average is based. Use the unit abbreviations shown above in “Maximum Daily Discharge”. If data requested in Part B have been reported on your Discharge Monitoring Reports (DMRs), you may compile such data and report it under the average and maximum daily discharge columns.

Analytical Method. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods and Chapter 63 of the Iowa Administrative Code. Applicants should use methods that enable pollutants to be detected at levels adequate to meet water quality-based standards. Where no approved method can detect a pollutant at the water quality-based standards level, use the most sensitive approved method. If you believe that an alternative method should be used (e.g., due to matrix interference), obtain prior approval from the permit writer. If an alternative method is specified in the existing permit, use that method unless otherwise directed by the

permit writer. Where no approved analytical method exists, you may use a suitable method but you must provide a description of the method. For the purposes of the application, “suitable method” means a method that is sufficiently sensitive to measure as close to the water quality-based standard as possible.

Indicate the method used for each pollutant in the “Analytical Method” column of the pollutant tables. If a method has not been approved for a pollutant for which you are providing data, you may use a suitable method to measure the concentration of the pollutant in the discharge and provide a detailed description of the method used or a reference to the published method. In such cases, indicate the method used and attach a narrative description of the method that includes the sample holding time, preservation techniques, and the quality control measures used.

Reporting Levels. Provide the method detection limit (MDL), minimum level (ML), or other designated method endpoint reflecting the precision of the analytical method used. All analytical results must be reported using the actual numeric values determined by the analysis. In other words, even where analytical results are below the detection or quantitation level of the method used, the actual data should be reported, rather than reporting “non-detect” (“ND”) or “zero” (“0”). Because the endpoint of the method has also been reported along with the test results, the permit writer will be able to determine if the data are in the “non-detect” or “below quantitation” range.

For any dilutions made and any problems encountered in the analysis, attach an explanation and supporting documentation with the application. For GC/MS, report all results found to be present by spectral confirmation (i.e., quantitation limits or detection limits should not be used as a reporting threshold for GC/MS).

Total Recoverable Metals. Total recoverable metals are measured from unfiltered samples using EPA methods specified in 40 CFR Part 136.3. A digestion procedure is used to solubilize suspended materials and destroy possible organic metal complexes. The method measures dissolved metals plus those metals recovered from suspended particles by the method digestion.