NPDES Data Bridging Project Recommendation Report

Submitted to: Water Quality Permitting Review Implementation Steering Group
By: The Data Bridging Team
August 2017

NPDES Data Bridging Team
700 NE Multnomah St.
Suite 600
Portland, OR 97232
Phone: 503-229-5973
Contact: Svetlana Lazarev
www.oregon.gov/DEQ

DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

State of Oregon
Department of Environmental Quality

This report prepared by:

NPDES Data Bridging Team
www.oregon.gov/deq

Contact:
Svetlana Lazarev
503-229-5973

Table of Contents

Executive Summary

The data bridging project team was assembled in March 2017 following the recommendation outlined in the November 2016 MWH Recommendations and Implementation Plan NPDES Permitting Program Review. The team was charged with developing a recommendation for a process that would allow the permit writers access to essential data needed to write or renew an individual permit in a timely fashion.

The team met weekly for almost five months to define permit writing data needs, analyze data needs and sources for permit writing, and to design options for a new process and develop recommendations for the WQ Permitting Review Implementation Steering Group.

Project Deliverables

The project team developed a table containing a complete description of data needs as well as a description of existing effluent and ambient data sources. The team analyzed the current flow of effluent and ambient data through the permit writing process. This information provided the basis for developing potential options for data flow and management, and for the selection of recommendations on future NPDES permit data flow and management.

Recommendations

The project team developed the following recommendations.

- EXCEL template for Effluent Daily Data Reported into NetDMR
- The team recommends requiring effluent daily data be submitted by permittees into NetDMR using only an excel template provided by DEQ. The purpose of this is to facilitate efficient retrieval of data for permits. While the NetDMR is setup to accept the data as an attachment of any format, only the data reported in an Excel format is usable in the permit development process.
- Proposed Permit Data Management Process for NPDES Permit Writing and Renewal
- The proposed process clearly defines roles and responsibilities related to data management and flow. This process outlines a proposed structure that facilitates needed efficiency and expertise in obtaining and providing data to permit writers. The team also described a proposed data flow and data management process swim lanes that further elaborate the proposal.
- Suggested Qualifications and Essential Competencies
- The team recommends specific qualifications and essential competencies for specific tasks in the proposed structure.
- Incomplete Data Set Suggested Default Assumptions

When the data set for a given permit is incomplete, the team recommends making default assumptions in order to complete the calculations and adding the requirement for more data into the permit, so that a complete data set will be available for the next permit renewal cycle.

- Implementation Recommendations
- The project team recommends developing an implementation plan, with input from affected staff and managers. Prior to implementation, involving the DEQ specialists trained in change management is also recommended.

The team also evaluated benefits, risks and risk mitigation for the recommendation.

Alternatives Considered

The project team considered three alternatives to the proposed structure.
The alternative options were not selected for recommendation because of their potential to create bottlenecks in the process since the data retrieval is typically an iterative process. The ability of accessing the data in once place instead of having to go to multiple databases was high on the importance list and none of the alternatives provided that option.

1. Introduction

The purpose of this report is to provide a recommendation for a near-term strategy for improvements in data management process specific to individual municipal and industrial NPDES wastewater permits. The recommendation is a result of the effort undertaken by the Data Bridging Project Team. When implemented, the recommendation is intended to achieve the project goal of creating a near-term "bridging system", a process that would allow the permit writers to have needed effluent and ambient data in a timely manner. The report also addresses the project deliverables of identifying the types of data necessary to write an NPDES individual permit and a template for data collection and reporting.

2. Background

The data bridging project team was created in March 2017 following the recommendation outlined in the November 2016 MWH Recommendations and Implementation Plan NPDES Permitting Program Review. The team was charged with developing a recommendation for a process that would allow the permit writers an access to essential data needed to write or renew an individual permit in a timely fashion.

The Initial Problem Statement: Timely access to essential data is a significant problem that hampers the preparation of NPDES permits and permit renewals. Data are not readily accessible, outdated, or incomplete.

The Project Scope: Identifying the types of data necessary to write an NPDES individual permit in Oregon; cataloging the locations of the data; identifying the means of acquiring the necessary data; identifying or developing the skills needed to compile the data; developing a temporary process to ensure that data are available in a usable format when needed by permit writers. Provide a foundation for a long-term strategy development.

The Desired Outcomes: A clear and comprehensive description of the data required to write NPDES permits and a means of ensuring that permit writers will have that data in a timely fashion; a template for data collectors to use when acquiring the data.

The Deliverables:

- Near-term "bridging system", process and any necessary templates for NPDES permits writers to have the right data at the right time.
-
- Description of the business process related to the acquisition, organization, and delivery of data necessary for NPDES permit writing or renewal for use in the EDMS project in a consistent format.

3. Project Approach

The team, consisting of senior permit writers, water quality specialists, a policy development specialist, a compliance specialist, and data analysts set out to develop a process that would allow for a near-term solutions to the problems with timely availability of essential data, their accessibility, quality, and completeness. The approach used in this project was to:

- **Define** the data needs by creating a clear and comprehensive table of all data used in Reasonable Potential Analysis (RPA) for individual domestic and industrial permits development; all effluent and ambient data sources, minimum and desired number of samples, and statistic used are included in the data table.
- **Analyze** the data needs and sources. In this step the team learned about all existing databases and tools available to extract the data.
- **Design** the process that would allow for the timely availability of essential data to permit writers. This includes the development and evaluation of several different options.
- **Recommend** the process to the steering committee for implementation.

4. Project Deliverables

4.1 Clear and Comprehensive Description of Data Needs and Data Sources

This section describes:

- 4.1.1 The Reasonable Potential Analysis Data Needs Tables (summary, toxics, ammonia, pH, temperature, dissolved oxygen and chlorine)
- 4.1.2 Existing effluent and ambient data sources

4.1.1 Reasonable Potential Analysis Data Needs

Reasonable potential analysis data needs tables were developed for each analysis that is performed: toxics, ammonia, pH, temperature, dissolved oxygen, and chlorine. These tables provide a summary of the data needed to perform each analysis. These tables will be used to help inform the development of data systems needed to support these analyses. The tables contain the following information:

- Parameters used for the analysis
- Statistical value needed for the analysis
- Minimum number of data points to perform the analysis
- Ideal number of data points to perform the analysis
- The sources of the data

The Reasonable potential Analysis tables are shown in Appendix A and available electronically at http://deqsps/programs/permits/wq/priNPDES/PRI%20Shared%20Documents/Forms/AllItems.aspx

4.1.2 NPDES Existing Permitting Data Sources

Permit writers use the following effluent, ambient and other data sources to obtain data necessary for permit development and renewal.

Effluent Data Sources:

- **DMS** – Discharge Monitoring System. DEQ's in house database that contains effluent discharge monitoring data for major NPDES discharge facilities. Data entry and active use of this system will be discontinued in late 2017 following the migration of its functionality to NetDMR and ACES. The existing database (not the interface) will be maintained and access will still be available for historical data. [Link]
- **NetDMR** – EPA's electronic discharge monitoring report system used for submitting DMR data to states and EPA. This replaces the current paper submittals. Summary statistics entered into NetDMR are uploaded into ICIS. All daily data are included in submissions as an attachment and are stored in NetDMR. [Link]
- **ICIS** – Integrated Compliance Information System. EPA's permitting, compliance and enforcement database. Directly accessible by state agencies and EPA. DMR data are uploaded from NetDMR as well as hand entered by regulatory authorities. Additionally, ICIS has information about permits, permit versioning, limits, violations, and enforcements. This information is available to the public through ECHO.gov. [Link]
- **Paper DMRs** – Paper copies of discharge monitoring reports submitted by permittees as required by their permits. Prior to NetDMR these were considered the copy of record and are stored in regional files.
- **Permittee Submitted Data** – Often permittees are asked to collect additional or collect data for their own purposes.
- **Studies** – A number of peer review studies have been authored that include effluent data. Primary sources for these are USGS, universities, water treatment and reuse associations, etc.

Ambient Data Sources:

- **AWQMS** – Ambient Water Quality Monitoring System. This is a commercial web-based data management system for ambient data. All DEQ lab monitoring data will be stored in AWQMS. This is replacing LASAR and Element. [Link]
- **LASAR** – DEQ's old ambient monitoring database used by DEQ staff to access environmental data. This was the primary source of ambient monitoring data used for writing NPDES permits. Replaced by AWQMS. [Link]
- **WQ Portal** – An ambient water quality database sponsored by USGS, EPA and the National Water Quality Monitoring Council. DEQ water quality data will be uploaded into WQ Portal. Data from DEQ and other state and federal agencies can be accessed. [Link]
- **NWIS** – **N**ational **W**ater **I**nformation **S**ystem. A USGS sponsored database that contains water quality and stream flow data. [Link]
- **OWRD Stream flow data** – Oregon Water Resources Department database documenting historic and near real time data on stream flow state wide. [Link]
- **Hydromet** – United States Bureau of Reclamation database of stream discharge, reservoir storage and weather station data. Used for obtaining stream flow data throughout the Pacific Northwest. [Link]

- **Permittee Submitted Data** – Often permittees are asked to collect additional data or collect data for their own purposes.
- **Studies** – A number of peer review studies have been authored that include effluent data. Primary sources for these are USGS, universities, water treatment and reuse associations, etc.

Other Data Sources:

- **ACES** – **A**gency **C**ompliance and **E**nforcement **S**ystem. Internal DEQ database that houses data for reporting requirements, inspections, violations and enforcement actions. WQ has been using this database since 2014. [Link]
- **NET** – EPA's database for all things NPDES that are not DMR related. This includes annual reports, notices of intent and other required reporting. [Link]

4.2 Current State of Effluent and Ambient Data

The current state of effluent and ambient data is outlined in Figures 1 and 2 respectively. The diagram is arranged by "source" of information, who or what system "receives" the information, where the "storage" location is, who "locally QA's" the data, how the data are "queried" and finally how the data are "used" in the permit development process. In this scenario, data are sent to various locations (lab, databases, permit writers, etc.) in both electronic and paper form. The data are stored in various locations (databases, electronic files, hard copy files) and are typically QA'd when used for permit development. In most cases, the permit writers or lab personal provide quality assurance and technical support services.

Figure 1. The current state of Effluent Data

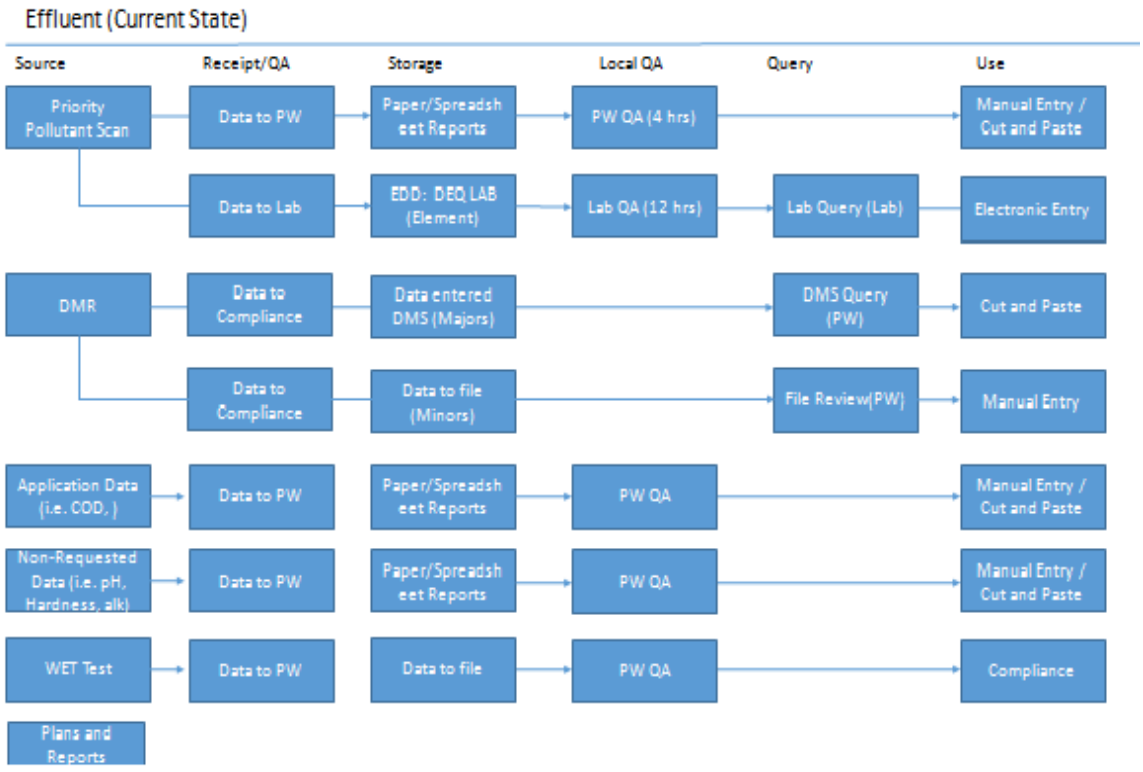
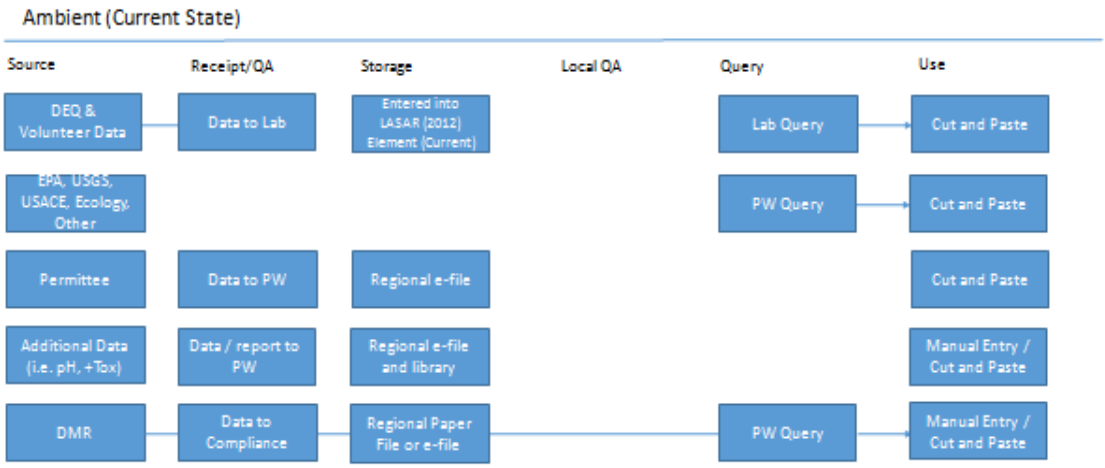


Figure 2. The current State of the Ambient Data



5. Recommendations

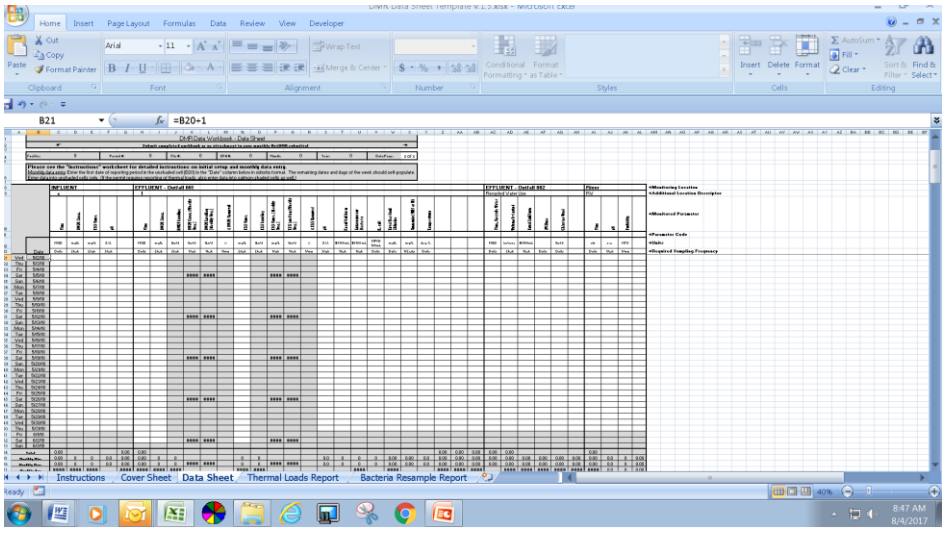
This section covers several recommendations from the project team:

- 5.1 Requiring effluent daily data be submitted in an excel template into NetDMR
- 5.2 The proposed process of data and data management related to the acquisition, organization, and delivery of data necessary for NPDES permit writing and renewal
- 5.3 Suggested Qualifications and Essential Competencies
- 5.4 Incomplete Data Set Default Assumptions
- 5.5 Implementation Recommendations
- 5.6 Discussion of recommendation benefits, risks, and assumptions

5.1 The EXCEL template for Effluent Daily Data Reported into NetDMR

The team recommends requiring effluent daily data be submitted by permittees into NetDMR using only an excel template provided by DEQ. The purpose of this is to facilitate efficient retrieval of data for permits. While NetDMR is setup to accept the data as an attachment of any format, only the data reported in an Excel format is usable in the permit development process.
The template is an EXCEL workbook that consists of four worksheets:
the Instructions tab, the Cover sheet, the Data sheet, and the Bacteria Resample Report. A picture of a Data sheet is shown in Figure 3 for illustration purposes. The complete Excel template is included in Appendix A and available electronically at
http://deqsps/programs/permits/wq/priNPDES/PRI%20Shared%20Documents/Forms/AllItems.aspx

Figure 3. The Data Sheet of the Excel Template



5.2 The Proposed Permit Data Management Process for NPDES Permit Writing and Renewal

The proposed process of data and data management related to the acquisition, organization, and delivery of data necessary for NPDES permit writing and renewal is presented in Figure 3.

The Permit development process is subdivided into three working tasks: Compliance and Data Management tasks, Technical Services tasks, and Permit Development tasks.

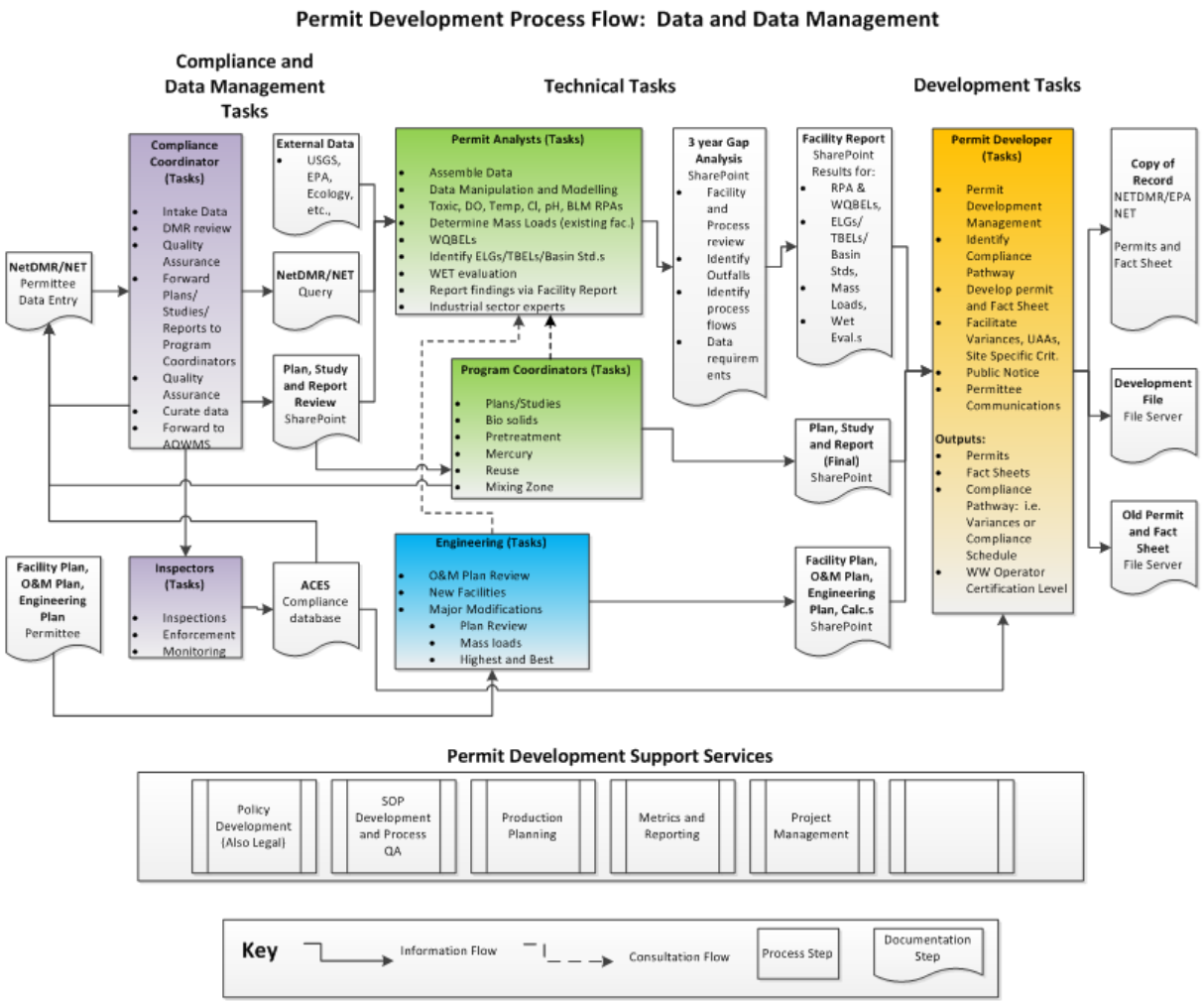
Compliance and Data Management tasks may involve Compliance Coordinators and Inspectors. Generally, the role of the compliance tasks is to manage the intake of data and determine compliance with existing limits and route characterization data and required plans/studies to the appropriate reviewer. The more advanced quality assurance functions, such as working with permittees and laboratories to resolve data collection and analysis issues and curating it into various data bases for assessment and permit development activities are also performed at this stage.

Technical tasks may be performed by Analysts, Program Coordinators, and Engineers. These tasks involve performing a gap analysis on facilities with respect to monitoring information required for permit development. According to a three year production plan, data are assembled and manipulated as needed. Using the data, the employees charged with the technical services tasks conduct the RPAs, WET evaluation, and determination of effluent limits. The technical services tasks may be assigned to Program Coordinators (biosolids, MMPs, pre-treatment, mixing zones, reuse), who review and approve the various management plans and studies. Mainly for new or heavily modified facilities, the employees performing the technical tasks are responsible for the development of certain mass loads, TBELS, ELGs, and the determination of highest and best condition.

Permit Development tasks include evaluating the facility and developing a permit and pathway to compliance. Based upon available information, the permit writer finalizes the effluent limits and assigns the waste water certification level. The Permit Writers also shepherds the draft permit through the public notification and comments periods and must be a subject matter expert in terms of the permit development process and regulatory tools such as variances, compliance schedules, intake credits, etc.

Working files for the permit development process are maintained on a common share point site. The final copy of record is maintained in the regional hard copy and the document repository. Hard copies are stored at the region or at HQ in the permit file.

Figure 3. Permit Development Process Flow: Data and Data Management



The data flow in the permit development process is further described in Figure 4. All effluent and ambient data, plans, reports, and studies required to be submitted by the permittee will be processed and stored in NetDMR. In the case of biosolids reporting, summary information will be directed by the major permittees to NET when NET becomes operational. NetDMR and NET will serve as the copy of record. All downloaded copies will be considered convenience copies. NetDMR is setup so that permittees need to indicate if they have attached various reports, studies or plans with a "Yes/No". This action results in notification being sent to the permit coordinator who sends the submitted information along to the appropriate program coordinator via working file located on the share point system. The program coordinator reviews the plan, study, or report and, if necessary, works with the permittee to revise and resubmit their information via NetDMR. The program coordinators also QA submitted data and work with the various permittees and labs on corrections. In the case of ambient data, the program coordinator submits a copy of the data to compliance staff and ultimately to the AQWMS system. In some cases, the program coordinators might also work with compliance and enforcement staff where resolutions cannot be readily achieved. An important element to ensure the success of the data management process is to develop and maintain a series of metrics that would indicate the progression of data as it is received, evaluated and finalized for use in the permit development process. The metrics would also be used to identify choke points in the system, prompting policy development to craft corrective actions and process improvements. The data flow is further illustrated by the swim lanes presented in Figure 5.

Figure 4. Data Flow in the Permit Development Process

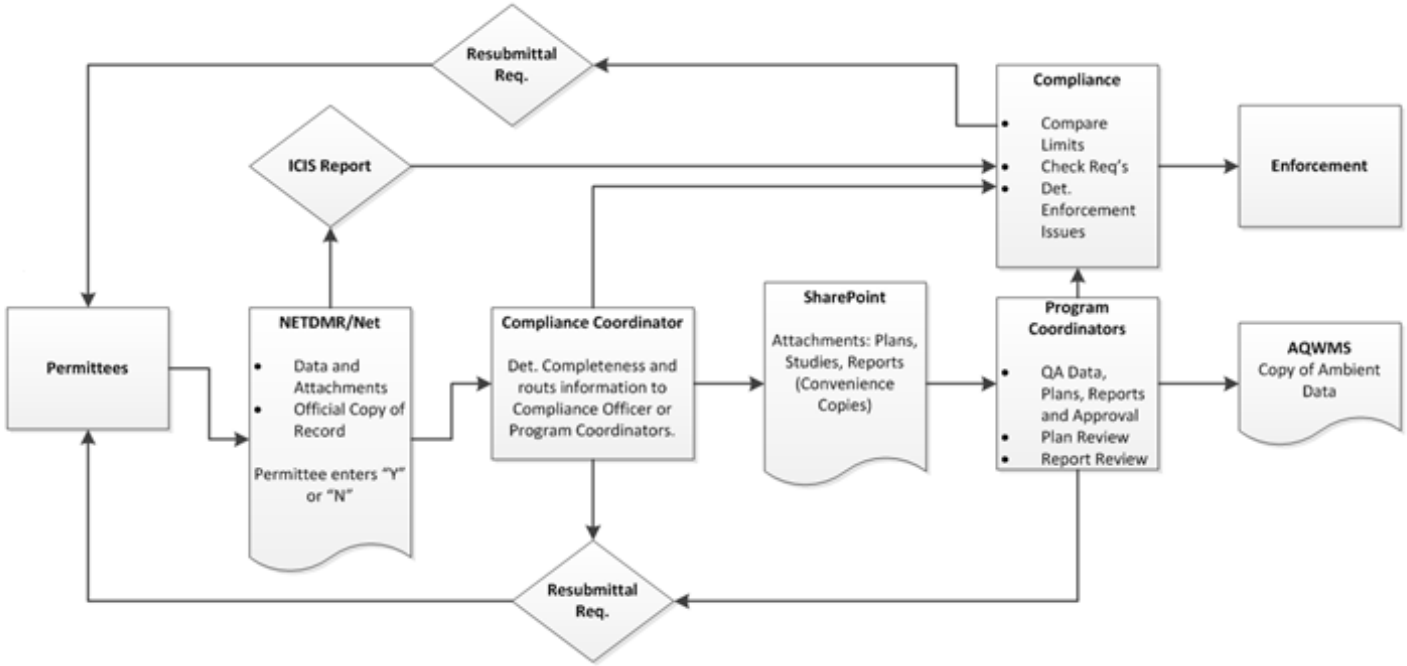
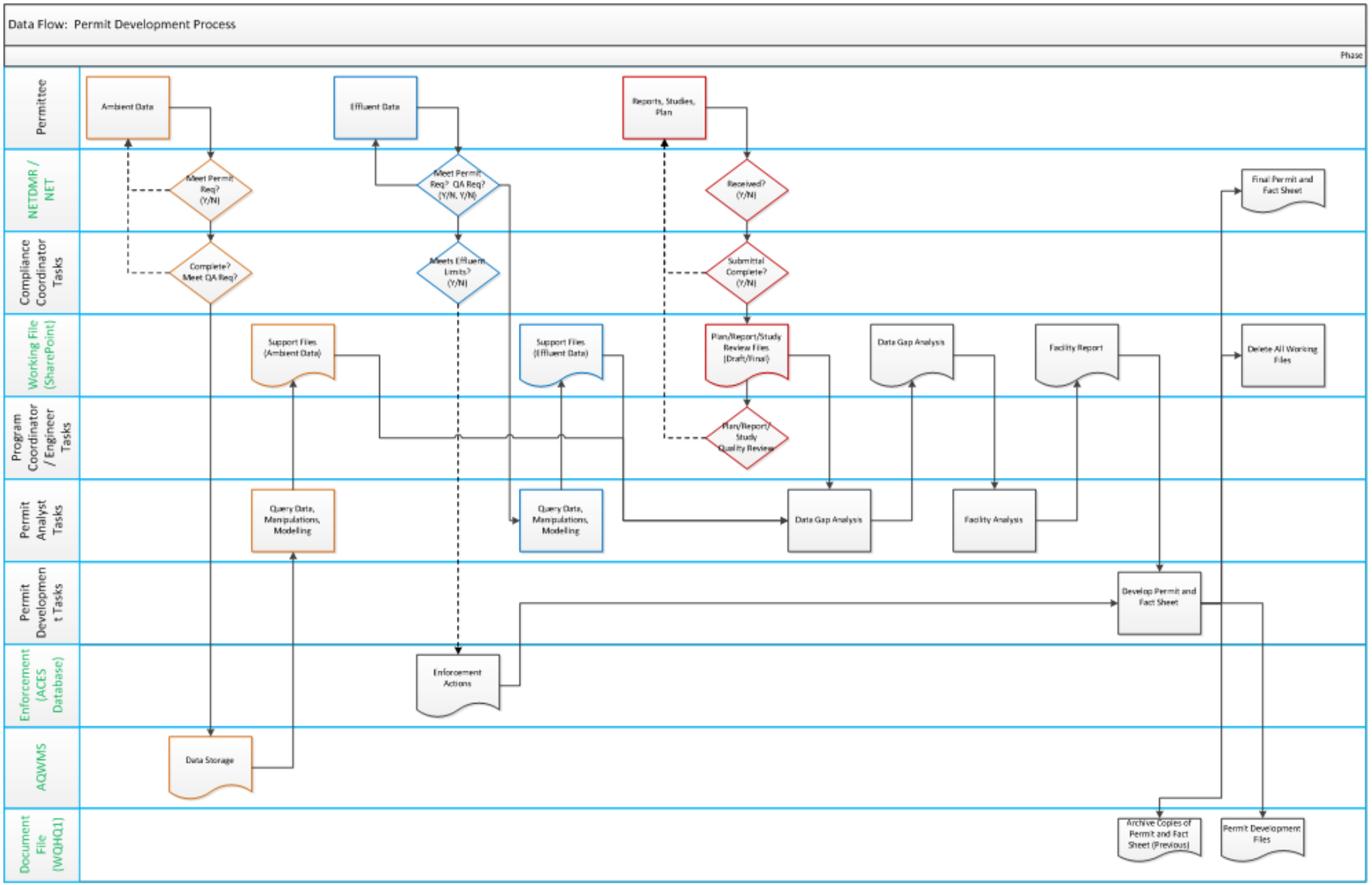


Figure 5. Swim Lanes of Data Flow in Permit Development Process



5.3 Suggested Qualifications and Essential Competencies

The three tasks areas described in Figure 3 require different areas of expertise and skill sets. Suggested qualifications and essential competencies are summarized in Table 1.

Table 1. Suggested Skills Sets by Task

Suggested Skill Set	Compliance and Data Management Tasks	Technical Tasks	Permit Development Tasks
Knowledge of State and Federal Permit Regulations and other Guidance Material and/or experience with the Clean Water Act.	x	x	x
Experience applying or complying with water quality requirements related to industrial and/or domestic wastewater treatment facilities.	x	x	x
Ability to demonstrate awareness of technologies, use technology effectively, and keep up-to-date with technology	x	x	x
Demonstrated ability to interpret, analyze, and summarize scientific or environmental data and to report finding of analysis.		x	x
Knowledge of hydrology, including Water Quality Analysis and Surface Water Flow Modeling		x	
Strong knowledge of Microsoft Excel software and applications.		x	
Experience writing Microsoft Excel macros		x	
Manipulating large datasets		x	
Accountability for high-quality and timely results	x	x	x
Ability to pay close attention to detail when completing work tasks	x	x	x
Excellent customer service skills	x	x	x
Ability to adapt quickly to change and easily consider new approaches	x	x	x
Foster an inclusive workplace where diversity and individual differences are valued	x	x	x
Ability to develop and maintain effective working relationships with others	x	x	x

5.4 Incomplete Data Set Suggested Default Assumptions

When the data set for a given permit is incomplete, the team recommends making default assumptions in order to complete the calculations and adding the requirement for more data into the permit, so that a complete data set will be available for the next permit renewal cycle.

Techniques to bridge short term data gaps where ambient data don't exist upstream in the receiving water body:

Option 1 – require the permittee to sample the upstream receiving water for the minimum amount of data – this could be achieved by conducting a review of all permits to be renewed one year out, looking at the ambient data availability and begin requiring permittees to collect data now
Option 2 – use data from other reaches and/or streams with similar water chemistry characteristics
Option 3 – for conventional pollutants and certain BLM parameters consider regional values if available.

The Default assumption to bridge short term data gaps where effluent data are not available are summarized in Table 2.

Table 2. Default Assumptions to use when Effluent Data are not available

Effluent		
Parameter	**Statistic**	**Default Values for Missing Data**
Toxics	maximum value, # of samples, CV	Assume RP
Flow	ADWDF, AWWDF, Monthly Average, Daily Max	Refer to previous permit
pH	90th%	Assume RP
Temperature °C	7-day avg. , 60-day avg. , maximum daily, 90th%	TMDL if available or (90th% of the parameter known at faculties with similar treatment process and ADWDF)
Alkalinity	10th%, 90th%	TMDL if available or (90th% of the parameter known at faculties with similar treatment process and ADWDF)
Chlorine	maximum, # of samples, CV	TMDL if available or (90th% of the parameter known at faculties with similar treatment process and ADWDF)
Ammonia	maximum, # of samples, CV	TMDL if available or (90th% of the parameter known at faculties with similar treatment process and ADWDF)
Hardness	10th%	TMDL if available or (90th% of the parameter known at faculties with similar treatment process and ADWDF)
Copper	Maximum, daily values	1.9 ug/L (2.3 acute/ 1.5 chronic) EPA assumed values use to derive copper criteria
Dissolved Oxygen	Monthly Average	TMDL if available or (90th% of the parameter known at faculties with similar treatment process and ADWDF)
CBOD5	Monthly Average	TMDL if available or (90th% of the parameter known at faculties with similar treatment process and ADWDF)
Ammonia as N	Monthly Average	TMDL if available or (90th% of the parameter known at faculties with similar treatment process and ADWDF)
Total Kjeldahl Nitrogen	Monthly Average	TMDL if available or (90th% of the parameter known at faculties with similar treatment process and ADWDF)
CBOD5 Bottle Decay Rate	Average Value	0.15 - 0.22 (Average Range in Klamath study)

5.5 Implementation Recommendations

The team recommends developing an implementation plan. Once the implementation plan has been developed, regional listening sessions presenting the plan to the staff prior to the implementation stage are recommended. Staff should be encouraged to point out any fatal flaws in the plan and any improvements to the process they may see. All DEQ staff will work together as a team to develop improvements to the process.

Involving DEQ specialists trained in change management is also recommended.

Implementation issues to consider:

Effluent Data

- DMRs
- Summary statistics: This information is submitted by the permittee into NetDMR and then it's uploaded into ICIS which then populates information into ECHO. Tools and instructions will need to be established and training on accessing the data will need to be provided to permit writers.
-
- Daily data: The plan is to require this information be submitted through a DEQ-approved excel template. This information will be stored in NetDMR. The implementation team will need to set up a process that ensures/requires permittees to submit this data using this template. The team will also need to determine the means for compliance officers to follow through with requiring permittees to submit daily data in this manner. Tools and training on using the template in permitting analyses will need to be developed.
-
-
- Toxics monitoring
- The implementation team will need to work closely with the lab to figure out the best way to accept, process, store and access effluent toxics data.
-
- Reports
- A system to accept annual reports (biosolids, land application, pretreatment, inflow/infiltration, WET tests, etc) and one-time reports (BMPs, RWUPs, mixing zone studies, etc) needs to be developed. The NetDMR group will need to be consulted to assess any limitations that may exist. Tools and training will need to be developed.

Ambient Data

- AWQMS and other agency databases training for permit writers and standard queries for specific RPAs will need to be considered.

A template for permittees to populate when submitting ambient data and an ambient QA/QC plan for permittees to follow is recommended.

5.6 Discussion of Recommendation Benefits, Risks, and Assumptions

The proposed data management process provides several benefits over the existing system and other options considered. These benefits are listed in section 5.6.1. There are also potential risks associated with instituting changes. Section 5.6.2 lists potential risks and suggested risk mitigation. Section 5.6.3 documents the assumptions made in the process of recommendation development.

-

5.6.1 The Proposed Data Management Process Development Benefits

-

Some of the potential benefits of the proposed process are summarized in Table 3.

Table 3. Macro and Micro Benefits of the proposed Data Management Flow Process

Macro Benefits		Micro Benefits	
1	Promotes consistency	1	Creates clearly defined roles and skill sets
2	Minimizes regional and local politics	2	Creates clearly defined timelines
3	Provides metrics to permit development process	3	Establishes clear expectations for every role
4	Should allow for increased productivity	4	Makes it easier to provide targeted training
5	Allows for specialization		
6	Creates efficiency opportunities		
7	Systemizes institutional knowledge into a written process		
8	Creates an ability to review process using SOP and a QA process		
9	Creates a systemized file collection, review, storage, and use		
10	Allows for better production planning		
11	Promotes accountability and corrective actions		
12	Results in legally robust permits that will potentially lead to decrease in litigation		
13	Increases transparency of the process		

5.6.2 The Proposed Data Management Process Risks and Risk Mitigation

Table 4. Risks and Suggested Mitigation

#	Risks	Mitigation
1	Slow or incomplete adoption of the new process within DEQ	○ Create a communication plan and roll out plan to gain adoption ○ Identify key members of the executive team (leadership) and other leaders among staff and get them on board first ○ Create excitement, focus on what the new process will do for everyone in the agency, be specific ○ Use widely accepted and successful change management techniques
2	Slow or incomplete adoption of the new process outside of DEQ	○ Create training materials for permittees to enter their data ○ Create a template for them to gather their data ○ Communicate out the expectation clearly on the website ○ Send an email blast to permittees explaining the new expectation
3	If staff augmentation is needed, there may be no funds available for this purpose	○ Assess everyone's skills that are already on staff, rearrange current staff to support the new skillsets needed for this process ○ Request funds to support staff augmentation through a Policy Option Package request
4	If people are taking on new roles, they may not have the skills needed to succeed in their new roles	○ Identify if there are people who currently have the skills needed currently on staff. Arrange for the experts to cross train others in these skills. ○ If needed, identify outside training that is available for staff to gain the skills they need to be successful.
5	Challenge in getting the various groups in the permit development process to operate in a coordinated manner	○ Training on the new process including clear roles and responsibilities ○ Create a transition plan with a high level of oversight from the old process to the new process ○ Define SOPs with ongoing feedback and update feature ("Permit Writer's Manual")
6	Create an initial realistic expectation of a timeline for the new permit development process	○ Training on the new process including clear roles and responsibilities ○ Identify and consider different roll out options (consider a pilot on a subset)
8	New communication roles between DEQ and the permittee are initially unclear (currently, permittees have a single ongoing point of contact, but the recommended process might necessitate a multipoint contact)	○ Create a communication plan that defines communication pathways and methods
9	The production process is initially more complex and more difficult to manage	○ Create management tools to track individual permits through the permit development process ○ Create management tools to track program metrics
10	Greater potential for burnout because staff are focused on narrower specialized tasks.	○ Create a rotational schedule so staff can periodically move into new positions
11	Lack of sense of ownership of the final permit documents. If an issue arises with the how the permit or fact sheet is written, whose responsibility is it to deal with the issue?	○ Have a knowledgeable person as an owner

1.6.3 The Proposed Data Management Process Assumptions

-
- We have a completed data set
- Permits are at a 5-year cycle
- All permits are current, extension minimized to under 10%
- We have a water focused program in a media based organizational structure
- Planned versus reactive permit development process
- Staff turnover and loss of institutional knowledge
- Management will be able to implement the permits generated by the recommended process
- Staff will be supported by management in their findings and conclusions
- Each permit is provided a defined set of resources
- There will be a continuous effort for process improvement
- Requirement to go through NetDMR
- Ongoing file management
- Clear roles and responsibilities

6. Alternatives Considered and Rationale for not Choosing Them

The project team considered three alternatives to the proposed structure.

- 1. Keep the current system with permit writers accessing the data they need with a focus on additional training so they know how to access the data and having a single site where a permit writer can go to find links to the various databases/tools.

- 2. Have a specialized data steward that pulls the needed data for permit writers. The permit writer would communicate to the data steward what data they need and the steward would have the expertise to query all the needed data from the various databases and submit the data to the permit writer.

- 3. Have a data steward build and maintain an automated data query tool that would be used by permit writers to access the data. Permit writers would be trained on using the query tool(s).

  The alternative options were not selected for recommendation because of several reasons. One of the reasons is their potential to create bottlenecks in the process since the data retrieval is typically an iterative process. Also, keeping the current system would allow the backlog to continue to grow. The ability of accessing the data in one place instead of having to go to multiple databases was high on the importance list and none of the alternatives provided that option. None of the considered alternatives support continuity of institutional knowledge the way the recommended process does.

Appendix A

a. Reasonable Potential Analyses Data Needs Tables

b. Excel Template for Daily Effluent Data Submissions to NetDMR

a. Reasonable Potential Analysis Data Needs Tables

Toxics RPA Data Needs

	Effluent				Ambient			
Parameter	**Statistic**	**Data Sources**	**Min # of Samples**	**Desired #**	**Statistic**	**Data Sources**	**Min # of Samples**	**Desired #**
Metals, Cynide, Nitrate, Ammonia Hardness								
Antimony (total) (may delete for marine discharges)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Arsenic (total)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Arsenic (Total Inorganic)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Arsenic (Total Inorganic Dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Beryllium (total) (may delete for marine discharges)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Cadmium (total and dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Chromium (total)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Chromium III (total and dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Chromium VI (total and dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Copper (Total and Dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Iron (may delete for marine discharges)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Lead (total and dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Mercury (total)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Nickel (total and dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Selenium (total and dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Silver (total and dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Thallium (total)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30

Zinc (total and dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Cyanide (Free)c	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Cyanide (Total)d	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Nitrate-Nitrite as N	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Ammonia as N	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Hardness (Total as CaCO3)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Copper BLM								
Copper (Total and Dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Dissolved Organic Carbon	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
pH	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Temperature	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Alkalinity	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Calcium (dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Magnesium (dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Sodium (dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Potassium (dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Sulfate (dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Chlorined (dissolved)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Conductivity	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Total Suspended Solids	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Volatile Organic Compounds								

Acroleink	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Acrylonitrilek	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Benzene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Bromoform	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Carbon Tetrachloride	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Chlorobenzene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Chlorodibromomethaneb	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Chloroethane	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
2-Chloroethylvinyl Etherk	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Chloroform	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Dichlorobromomethanec	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,2-Dichlorobenzene (o)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,3-Dichlorobenzene (m)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,4-Dichlorobenzene (p)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,1-dichloroethane	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,2-dichloroethane	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,2-trans-dichloroethylened	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,1-dichloroethylenef	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,2-dichloropropane	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,3-dichloropropyleneg	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Ethylbenzene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30

Methyl Bromideh	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Methyl Chlorideh	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Methylene Chloride	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,1,2,2-tetrachloroethane	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Tetrachloroethylenei	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Toluene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,1,1-trichloroethane	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,1,2-trichloroethane	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Trichloroethylenej	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Vinyl Chloride	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Acid Extractables								
p-chloro-m-cresolb	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
2-chlorophenol	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
2,4-dichlorophenol	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
2,4-dimethylphenol	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
4,6-dinitro-o-cresolc	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
2,4-dinitrophenol	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
2-nitrophenol	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
4-nitrophenol	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Pentachlorophenol	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Phenol	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30

2,4,5-trichlorophenold	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
2,4,6-trichlorophenol	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Base Neutrals								
Acenaphthene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Acenaphthylene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Anthracene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Benzidine	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Benzo(a)anthracene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Benzo(a)pyrene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
3,4-benzofluorantheneb	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Benzo(ghi)perylene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Benzo(k)fluoranthene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Bis(2-chloroethoxy)methane	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Bis(2-chloroethyl)ether	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Bis(2-chloroisopropyl)etherc	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Bis (2-ethylhexyl)phthalate	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
4-bromophenyl phenyl ether	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Butylbenzyl phthalate	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
2-chloronaphthalene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
4-chlorophenyl phenyl ether	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Chrysene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30

Di-n-butyl phthalate	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Di-n-octyl phthalate	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Dibenzo(a,h)anthracene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
3,3-Dichlorobenzidine	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Diethyl phthalate	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Dimethyl phthalate	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
2,4-dinitrotoluene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
2,6-dinitrotoluene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,2-diphenylhydrazined	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Fluoranthene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Fluorene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Hexachlorobenzene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Hexachlorobutadiene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Hexachlorocyclopentadiene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Hexachloroethane	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Indeno(1,2,3-cd)pyrene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Isophorone	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Napthalene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Nitrobenzene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
N-nitrosodi-n-propylamine	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
N-nitrosodimethylamine	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30

N-nitrosodiphenylamine	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Pentachlorobenzene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Phenanthrene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Pyrene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
1,2,4-trichlorobenzene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Tetrachloroben-zene,1,2,4,5e	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Pesticides and PCBx								
Aldrin	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
BHC Technical (Hexachlo-rocylco-hexane)b	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
BHC-alphab	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
BHC-betab	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
BHC-gamma (Lindane)b	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Chlordane	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Chloropyrifosc	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Demeton	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
DDD 4,4'	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
DDE 4,4'	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
DDT 4,4'	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Dieldrin	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Endosulfan alphad	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Endosulfan betae	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30

Endosulfan Sulfate	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Endrin	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Endrin Aldehyde	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Guthionc	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Heptachlor	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Heptachlor Epoxide	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Malathion	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Methoxychlor	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Mirex	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Parathionc	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Toxaphene	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
PCB- Aroclor 1254	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
PCB- Aroclor 1232	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
PCB- Aroclor 1260	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
PCB- Aroclor 1242	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
PCB- Aroclor 1221	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
PCB- Aroclor 1248	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
PCB- Aroclor 1016	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Parameters with State only Criteria								
Barium, Total	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Manganese, Total (include for discharge to marine waters only)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30

Sulfide-Hydrogen Sulfidec	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
2,4,5-TP [2-(2,4,5-Trichloro- phenoxy) propanoic acid]d	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
2,4-D (2,4-Dichlorophenoxy)e acetic acid)	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Dioxin 2,3,7,8-TCDDf	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
N-Nitrosodibutylamine	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
N-Nitrosodiethylamine	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
N-Nitrosopyrrolidine	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30
Total Phosphorus as P	maximum, # of samples, CV	DMS, NetDMR, EDD, Paper DMRs	4	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	4	30

Ammonia Reasonable Potential Analysis Data Needs								
	Effluent				**Ambient**			
Parameter	**Statistic**	**Data Sources**	**Min # of Samples**	**Desired #**	**Statistic**	**Data Sources**	**Min # of Samples**	**Desired #**
Ammonia	maximum, # of samples, CV	DMS, NetDMR, Paper DMRs	12	24	90th%, maximum	AWQMS, LASAR, WQ Portal, misc	12	24
pH	90th%	DMS, NetDMR, Paper DMRs	52	365	10th%, 90th%	AWQMS, LASAR, WQ Portal, misc	6/season	24
Temperature	90th%	DMS, NetDMR, Paper DMRs	52	365	7-day, 60-day, maximum, 90th%	AWQMS, LASAR, WQ Portal, misc	6/season	24
Alkalinity	10th%, 90th%	DMS, NetDMR, Paper DMRs	4	24	10th%, 90th%	AWQMS, LASAR, WQ Portal, misc	6/season	24
Salinity	Median	DMS, NetDMR, Paper DMRs	4	12	Median	AWQMS, LASAR, WQ Portal, misc	4/season	12

pH Reasonable Potential Analysis Data Needs								
	Effluent				Ambient			
Parameter	Statistic	Data Source	Min # of Samples	Desired #	Statistic	Data Source	Min # of Samples	Desired #
pH	Effluent Limit	NA	NA	NA	10th%, 90th%	AWQMS, LASAR, WQ Portal, misc.	6/season	24
Temperature	90th%	DMS, NetDMR, Paper DMRs	12	52	90th%	AWQMS, LASAR, WQ Portal, misc.	6/season	24
Alkalinity	10th%, 90th%	DMS, NetDMR, Paper DMRs	4	24	10th%	AWQMS, LASAR, WQ Portal, misc.	6/season	24
Salinity	Median	DMS, NetDMR, Paper DMRs	4	12	Median	AWQMS, LASAR, WQ Portal, misc.	4/season	12

Temperature Reasonable Potential Analysis Data Needs								
	Effluent				Ambient			
Parameter	Statistic	Data Sources	Min # of Samples	Desired #	Statistic	Data Sources	Min # of Samples	Desired #
Temperature	7-day, 60-day, maximum, 90th%	DMS, NetDMR, Paper DMRs	52	365	7-day, 60-day, maximum, 90th%	AWQMS, LASAR, WQ Portal, misc.	8/season	30

DO Reasonable Potential Analysis Data Needs								
	Effluent				Ambient			
Parameter	Statistic	Data Source	Min # of Samples	Desired #	Statistic	Data Source	Min # of Samples	Desired #
DO	Monthly Average for 7Q10	DMS, NetDMR, Paper DMRs	4	NA	Monthly Average for 7Q10	AWQMS, LASAR, WQ Portal, misc.	4/season	12
Temperature C	Monthly Average for 7Q10	DMS, NetDMR, Paper DMRs	4	24	Monthly Average for 7Q10	AWQMS, LASAR, WQ Portal, misc.	4/season	12
CBOD	Monthly Average for 7Q10	DMS, NetDMR, Paper DMRs	12	24	Monthly Average for 7Q10	AWQMS, LASAR, WQ Portal, misc.	4/season	12
Ammonia as N	Monthly Average for 7Q10	DMS, NetDMR, Paper DMRs	4	12	Monthly Average for 7Q11	AWQMS, LASAR, WQ Portal, misc.	4/season	12

Total Kjeldahl Nitrogen	Monthly Average for 7Q10	DMS, NetDMR, Paper DMRs	4	12	Monthly Average for 7Q10	AWQMS, LASAR, WQ Portal, misc.	4/season	12
Flow	Average Dry Design Weather	DMS, NetDMR, Paper DMRs	NA	NA	7Q10 (or low flow for the condition)	AWQMS, LASAR, WQ Portal, Tier 2	4/season	12
Depth	NA	NA	NA	NA	Average Channel Depth	Local field study (permitee, DEQ), USGS	1	4
Width	NA	NA	NA	NA	Average Channel Width	Local field study (permitee, DEQ), USGS	1	4
Velocity	NA	NA	NA	NA	Average Channel Width	Local field study (permitee, DEQ), USGS	1	4

Cl Reasonable Potential Analysis Data Needs									
	Effluent				**Ambient**				
Parameter	**Statistic**	**Data Source**	**Min # of Samples**	**Desired #**	**Statistic**	**Data Source**	**Min # of Samples**	**Desired #**	**Comment**
Chlorine	# Samples, Highest Value, CV	DMS, NetDMR, Paper DMRs	12	365	NA	NA	NA	NA	Zero is typically assumed for ambient because chlorine is not typically present in streams because it decays quickly

b. Excel Template for Daily Effluent Data Submissions to NetDMR

Instructions for Completing the Oregon DEQ Monthly Discharge Monitoring Report (DMR) Data Workbook

The following are instructions for completing the DMR data workbook. Once completed, the workbook is to be submitted as an attachment with monthly NetDMR submittals. The information included in this workbook should correspond with the monitoring and reporting requirements included in the facility's NPDES permit. This workbook is intended to serve as a template for all data submittals. However, the permittee may contact their DEQ permit compliance person if they would like to propose an alternative for approval and use.

This workbook includes several individual worksheets (tabs). With few exceptions, two of these - the Cover Sheet and the Data Sheet - must be submitted monthly by all permittees. Permittees with "Excess Thermal Load" (or other thermal load) monitoring and reporting requirements will also need to submit the "Thermal Loads Report" sheet. The "Bacteria Resample Report" sheet must be submitted to DEQ when a permittee resamples for E. coli bacteria following an E.coli exceedance.

Initial Setup

Cover Sheet: The permittee will need to fill in the facility information at the top of this sheet. The second row, with operator certification information, will only need to be filled in for domestic wastewater treatment facilities. Industrial permittees may delete this row along with the row starting with "4" (containing the question related to sewer system overflows).

Data Sheet:

Important: While the template has been reviewed for accuracy of the embedded formulas, modifications such as deleting rows and cells may impact the calculations performed within the spreadsheet. It is the permittee's responsibility to ensure the calculations are correct. Contact your permit compliance person at DEQ if you have questions. Making certain modifications will require you to "unprotect" the sheet (this option is within the "Review" tab in Excel 2013). Once modifications have been made, you will need to select the "protect sheet" option to ensure the formatting isn't inadvertently modified during data entry.

- o The template Data Sheet is organized into four monitoring locations: Influent, Effluent Outfall 001, Effluent Outfall 002 and River (these are listed in Row 8, with the related ICIS code in Row 9). Each of these has a set of columns for each monitored parameter (listed in Row 10, with the related ICIS parameter code in Row 11). **These are example monitoring locations and parameters, your data sheet will need to be modified to correlate with your permit-required monitoring.**
- o Add or delete columns of cells as necessary (only add or delete the cells within the table itself to preserve the header info).
- o Enter the monitoring locations, parameters, parameter code, units, and required monitorimg frequencies in Rows 8 - 13. This information should correspond with the requirements in Schedule B of the permit.
- o The data sheet is set up to automaticallly calculate the BOD and TSS loads.

o The top three rows within the body of the spreadsheet (rows 14 - 16) are only needed for rolling 7-day average values (usually associated with temperature). If the facility does not have reporting requirements related to 7-day rolling averages, these three rows may be deleted. (Note that 7-day rolling averages are different from weekly reporting values, which are usually related to BOD and TSS.)
o Make sure the number of decimal places within each column is appropriate for the parameter.
o If desired, unnecessary summary statistic rows near the bottom of the sheet may be deleted.
o Enter the permit effluent limits in the row at the bottom of the sheet.

Monthly data entry

Cover Sheet:

o Enter the month and the year of the reporting period in the cells near the top.
o Answer the questions starting with "During the reporting period..."
o Follow the directions below these questions for any additional information that may be required.

Data Sheet:

o Enter the first date of reporting period in the unshaded cell (B20) in the "Date" column below in xx/xx/xx format (for example, if the monitoring period is March 2019, enter 3/1/19 into the cell). The remaining dates and days of the week should self-populate. (Note that the cell for entering the first date may change from B20 if rows above are removed.)
o Enter data into unshaded cells. If the permit requires the reporting of 7-day average temperature data, data should also be entered in the salmon-shaded cells. The remaining shaded cells contain formulas and/or cell references and should self-populate.
o Review the data entered, along with the summary statistics to ensure there are no errors.

Thermal Loads Report:

Note: The methodology for calculating thermal loads may vary between permits. The Thermal Loads Report template included in this workbook is for one specific situation. The permittee will need to ensure that the thermal loads and limits from the permit are appropriately addressed in the Thermal Loads Report. Contact your permit compliance person at DEQ if you have any questions.
o If using the "Thermal Loads Report" template, see the instructions on that sheet.

Bacteria Resample Report:

o If using the "Bacteria Resample Report" template, see the instructions on that sheet.

Report Submittal

o Once you've completed a monthly report, it should be thoroughly reviewed. This is an official, legal document and it is the responsibility of the facility personnel to ensure it is complete and accurate.

o The completed report should be saved to your computer (or other secure location) using the following naming convention: Facility Name_ Facility EPA ID Number_ Month_Year_"DMR". For example, the City of Salem's report for data collected during July 2019 should be named: Salem_OR0026409_July_2019_DMR

o A copy of the electronic file should then be attached the the NetDMR submittal for the appropriate month.

DMR Data Workbook - Cover Sheet

Submit completed workbook as an attachment to your monthly NetDMR submittal

Facility:		Permit #:		File #:		USEPA #:		County:		Month:		Year:	
Collection:		Lead Operator:		Cert.#:		Treatment:		Lead Operator:		Cert. #:	

1		**During this reporting period, was all permit-required monitoring performed?**
2		**During this reporting period, did all monitored parameters meet permit limitations?**
3		**During this reporting period, were any violations caused by unanticipated bypass or upset?**
4		**During this reporting period, were there any sewer system overflows?**

◄To be filled out by domestic facilities only

Provide additional information below to document signifigant daily events and detailed explanations if you answered **No** to question 1 and/or 2, and also if you answered **Yes** to question 3 and/or 4.

Noncompliance reports must contain (See Schedule F):

a. A description of the noncompliance and its cause;

b. The period of noncompliance, including exact dates and times;

c. The estimated time noncompliance is expected to continue if it has not been corrected; and

d. Steps taken or planned to reduce, eliminate, and prevent reoccurance ot the noncompliance.

Additional Information:

DMR Data Workbook - Excess Thermal Load (ETL) Special Report (Option B Rogue Example)

Submit completed workbook as an attachment to your monthly NetDMR submittal

Facility:	0	Permit #:	0	File #:	0	EPA #:	0	Month:	0	Year:	0	Data Page:	x of x

Instructions (this text may be partially or fully deleted or edited for submittals)

The following are instructions for filling in this "Thermal Loads Report" for a specific permit situation. The Thermal Loads Reports for other permit situations (conditions) will be different. Since the methodology for calculating thermal loads varies between permits, the permittee will need to ensure that the thermal loads and limits from the permit are appropriately addressed in the Thermal Loads Report. Contact your permit compliance person at DEQ if you have any questions.

Instructions:

Initial Setup

o Check your permit (Schedules A and B) to ensure that the requirements on calculating the Excess Thermal Loads and Excess Thermal Loads Limits are the same as presented below In the ETL and ETL Limits section (in yellow). If the criteria or ETL Limit are different than presented, these should be changed to correspond to the values in the permit.

If the "ΔT" value in the"ETL Limit -Option B" section below (in yellow) is different in your permit, change it to correspond to the value in the permit.

o In the main table below, make any necessary changes to the monitoring location and required sampling frequency column headings to ensure they correspond with the permit. (Note: The parameter and units should not be changed since this would affect the calculations.)

Monthly Data Entry

o The shaded columns are either calculations, or references to the primary data sheet and do not need to be filled in.

o If Thermal Credits are allowed under your permit and credits were generated, enter the values in the "Thermal Credits" column. Otherwise, leave blank.

o Enter the applicable temperature crterion for each day in that column.

o If you elect to use "Option A" to determine your ETL limit, enter the applicable values from the permit in the "Excess Thermal Load Limit - Option A" column..

o If you elect to use "Option B" to determine your ETL limit, leave the "Excess Thermal Load Limit - Option A" column. blank and enter the "ΔT" value from your permit in the unshaded cell near the top of the "Excess Thermal Load Limit - Option B" column..

o The last column ("Exceedance?") will self-populate. A "Yes" values in this column indicates an exceedance of the permit limit.

From Applicable Permit (the following is an example from a permit in the Rogue River Basin)

ETL = Qe (Te - Tr)Cf - Thermal Credits

Qe = rolling 7-day average effluent flow, cfs

Time Period	Criteria °C	ETL Limit - Option A (million Kcals/d)
April 1 - May 15	13.0	**223**

ETL Limit - Option B

ETL Limit = (ΔT)(Qe + Qr) Cf

Te = rolling 7-day average of the daily maximum effluent temperature, deg. C

Tr = applicable criterion, deg. C

Cf = converstion factor, 2.446 million kcals/day

May 16 - May 31	18.0	**270**
June 1 - June 15	18.0	**274**
June 16 - June 30	18.0	**229**
July 1 - August 31	19.8	**208**
Sept 1 Sept 15	18.6	**229**
Sept 16 - Sept 31	18.0	**178**
Oct 1 - Oct 15	18.0	**180**
Oct 16 - Oct 31	13.0	**194**

ΔT is the allowable temperature increase

ΔT = **0.071** °C

	EFFLUENT - Outfall 001								**River**		**Criteria/Limits/Compliance**				
	1								RW						
	Flow	**Temperature**	**Flow, 7-day Avg**	**Flow, 7-day Avg**	**Temperature, 7-day Avg**	**Excess Thermal Load (w/o credits)**	**Thermal Credits**	**Excess Thermal Load**	**Flow**	**Flow, 7-day Avg**	**Applicable Temperature Criterion**	**Excess Thermal Load Limit - Option A**	**ΔT to be used with ETL Option B**	**Excess Thermal Load Limit - Option B**	**Exceedance?**
Date	MGD	deg. C.	MGD	cfs	deg. C.	million Kcal/day	million Kcal/day	million Kcal/day	cfs	cfs	deg. C.	million Kcal/day	deg. C.	million Kcal/day	
	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily		Daily	Daily

◄**Monitoring Location/Other**

◄**Additional Descriptor**

◄**Parameter**

◄**Parameter Code**

◄**Units**

◄**Required Sampling Frequency**

		Copied From Data Sheet	Copied From Data Sheet	Calculated	Calculated	Calculated	Calculated	Enter Values	Calculated	Copied From Data Sheet	Calculated	Enter Values	Enter values from permit if using Option A	Enter value from permit if using Option B	Calculated	Calculated	◄Notes
														0.0709			
Wed	**4/25/18**	**0.00**	**0**							**0.00**							
Thu	**4/26/18**	**0.00**	**0**							**0.00**							
Fri	**4/27/18**	**0.00**	**0**							**0.00**							
Sat	**4/28/18**	**0.00**	**0**							**0.00**							
Sun	**4/29/18**	**0.00**	**0**							**0.00**							
Mon	**4/30/18**	**0.00**	**0**							**0.00**							
Tue	**5/1/18**	**0.00**	**0**	0.00	0.00	0.00	0.00		0.00	**0.00**	0.00	13	19		0.00	No	
Wed	**5/2/18**	**0.00**	**0**	0.00	0.00	0.00	0.00		0.00	**0.00**	0.00	13	19		0.00	No	
Thu	**5/3/18**	**0.00**	**0**	0.00	0.00	0.00	0.00		0.00	**0.00**	0.00	13	19		0.00	No	
Fri	**5/4/18**	**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**13**	**19**		**0.00**	**No**	
Sat	**5/5/18**	**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**13**	**19**		**0.00**	**No**	
Sun	**5/6/18**	**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**13**	**19**		**0.00**	**No**	
Mon	**5/7/18**	**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**13**	**19**		**0.00**	**No**	
Tue	**5/8/18**	**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**13**	**19**		**0.00**	**No**	
Wed	**5/9/18**	**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**13**	**19**		**0.00**	**No**	
Thu	**5/10/18**	**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**13**	**19**		**0.00**	**No**	
Fri	**5/11/18**	**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**13**	**19**		**0.00**	**No**	
Sat	**5/12/18**	**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**13**	**19**		**0.00**	**No**	
Sun	**5/13/18**	**0.00**	**0**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**13**	**19**		**0.00**	**No**	

Mon	5/14/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	13	19		0.00	No
Tue	5/15/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	13	19		0.00	No
Wed	5/16/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18	54.5		0.00	No
Thu	5/17/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18	54.5		0.00	No
Fri	5/18/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18	54.5		0.00	No
Sat	5/19/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18	54.5		0.00	No
Sun	5/20/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18	54.5		0.00	No
Mon	5/21/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18	54.5		0.00	No
Tue	5/22/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18	54.5		0.00	No
Wed	5/23/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18	54.5		0.00	No
Thu	5/24/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18	54.5		0.00	No
Fri	5/25/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18	54.5		0.00	No
Sat	5/26/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18	54.5		0.00	No
Sun	5/27/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18	54.5		0.00	No
Mon	5/28/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18	54.5		0.00	No
Tue	5/29/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18			0.00	No
Wed	5/30/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18			0.00	No
Thu	5/31/18	0.00	0	0.00	0.00	0.00	0.00		0.00	0.00	0.00	18			0.00	No
Total								0.00	0.00							
Monthly Min.								0.00	0.00						Number of days exceeding limit during the month	
Monthly Max.								0.00	0.00							
Monthly Avg								#DIV/0!	0.00							0

DMR Data Workbook - Bacteria Special Report (to be used to report bacteria resampling results)		
E	Submit completed workbook as an attachment to your monthly NetDMR submittal	D

Facility:	0	Permit #:	0	File #:	0	EPA #:	0	Month:	October	Year:	0	Data Page:	x of x

Instructions

If it is allowed under the permit, re-sampling may be implemented if a singe bacteria sample exceeds the 406 organisms per 100 mL. If this exceedance and resampling occur, follow the instructions below to record the necessary information on this sheet.

o Include information relating to the original sample and the required Oregon Emergency Response System (OERS) report in the first section below.

o Fill in the data related to the original sample and the resamples in the next two tables (the shaded "Geo Mean" cell will calculate automatically).

The result of the effluent E. coli sample taken at TIME on DATE was XXX organisms per 100 mL. The underlined text indicate what information is required.

Reported potential violation to OERS at TIME on DATE (report #XXXXXXX).
Five resamples were taken at four hour intervals within 28 hours of the original sample at the dates and times below.
The log mean of the results of the five resamples is less than 126 organisms per 100 mL.
Accordingly, no violation of the bateria limit is triggered. (See permit)
Reported to OERS that no violation occured at TIME on DATE.

Original Sample

Date	Time	Result

Resamples

Date	Time	Result
Geo Mean		#NUM!