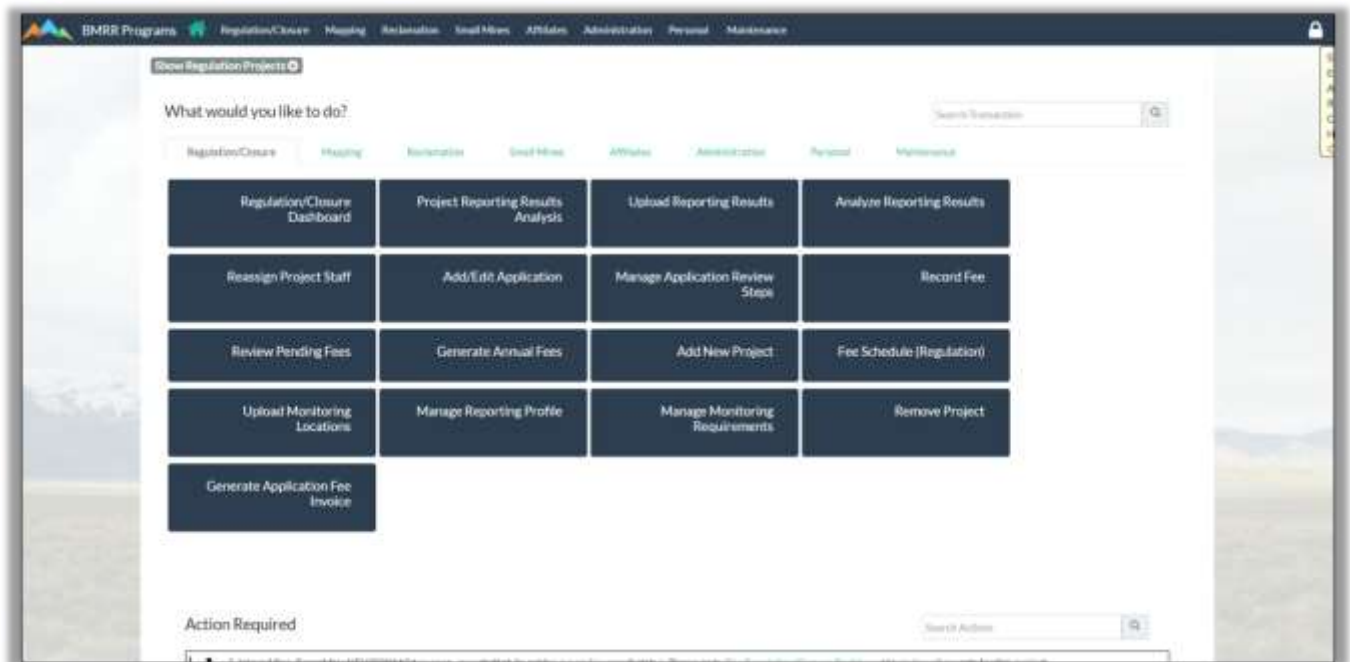




Nevada Division of Environmental Protection Bureau of Mining Regulation and Reclamation

Reporting Guidance for Submittal of Electronic Data to the BMRR Database



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I. Introduction

The Nevada Division of Environmental Protection (Division), Bureau of Mining Regulation and Reclamation (BMRR) has developed a reporting database for the transmission and storage of electronic data related to the Water Pollution Control Permit (WPCP) monitoring program. This new system will optimize the reporting, review, and storage of information submitted to the Division for compliance monitoring. This guidance document outlines the data upload format requirements for WPCP monitoring types including monitoring wells, piezometers, pit lakes, mined material characterization, sumps and leak detections, climate data, and more. These data will be submitted to the Division in the companion “*BMRR_database_upload_sheet.xlsx*” Excel file.

II. General Requirements

The BMRR database is designed to upload electronic monitoring data from the first tab of the “*BMRR_database_upload_sheet.xlsx*” Excel file. If data are provided in multiple tabs, the user must consolidate them into one tab prior to uploading the information. The BMRR database will provide a list of error codes for lines that are not complete or are not in an acceptable format for import. These error codes will be provided to the Permittee when encountered during the upload process. In the future, the Division hopes to further improve the BMRR database to allow direct upload of the electronic data by the Permittee to the database for their mine project(s).

When submitting the completed “*BMRR_database_upload_sheet.xlsx*” Excel file, please revise the file name to include the permit number and applicable quarter for the dataset, e.g., “*NEVXXXXXXX_Q2_2021.xlsx*”. In the following sections, further detail is provided on the proper formatting of the two main required types of data – compliance monitoring data and monitoring location data.

Compliance Monitoring Data



Photo source: oransco.org

III. Compliance Monitoring Data

Electronic compliance monitoring data must be submitted to the Division using the ***“BMRR_database_upload_sheet.xlsx”*** format and in the **first tab** of the Excel file. All monitoring data reported to the Division is to be included on a single spreadsheet, e.g., water quality data, pit lake sampling, leak detection monitoring, weather data, groundwater and surface water levels, process component monitoring, etc., with the monitoring data extending down the sheet as far as necessary to include all applicable data that is reported in Part I.D. of the WPCP. By submitting all compliance monitoring data in a single Excel file, the number of submittals to the Division is reduced. This Excel file includes the numerical data themselves (e.g., concentrations, flow rates) and metadata required to fully interpret analysis results (e.g., if the sample was filtered). If there are any fields that are not applicable to a specific monitoring location, these fields are simply left blank. To facilitate upload of data into the BMRR database, the data must be submitted in the required format as outlined below, otherwise error messages will be generated during the upload process, therefore review and approval of the submittal will be delayed.

Several fields require specific inputs that must be in the exact format described below; these instructions are in ***bolded italics***. Fields denoted with an asterisk (*) are required fields and must be populated for the database to accept and upload the electronic data. Every effort should be made to populate all other applicable fields. Missing fields may result in an incomplete submission. Additional information on each field is as follows:

- A. Location ID*
Sample location identifier, unique to the location; ***This identifier is case-sensitive must match the Monitoring ID included within the Water Pollution Control Permit in Part I.D.***
- B. Sample Date*
The date on which the sample was collected; format in mm/dd/year.
- C. Sampled By
Initials of the individual of who completed the sample collection.
- D. Laboratory Sample Number
The unique identifier given to the sample by the laboratory. If the sample type is not processed in a State-certified laboratory, leave this field blank.
- E. Laboratory Certification Number
The unique reference or EPA certification number assigned to the laboratory, which is used to track chain-of custody and other analytical procedures. If the sample type is not processed in a State-certified laboratory, leave this field blank.
- F. Lab Test Date
The date on which the sample was analyzed; format in mm/dd/yyyy, if applicable.
- G. Filtration
The status of sample filtration for the water-quality sample; If the sample was filtered, this should be denoted as “Filtered”, no spaces. If the sample was unfiltered, this should be denoted as “Unfiltered”, no spaces. If the sample type does not require filtration, leave this field blank.
- H. Filter Size
If the sample was filtered, report the size of the filter used in micrometers. If this information is not currently collected, please institute data collection moving forward.

I. Parameter*

The name of the parameter type that is being reported (e.g., water quantity, mined material characterization, climate attribute, Profile I constituent, etc.); ***Parameters should correspond with the exact syntax included in Appendix A.*** If a parameter is not included in the current list, the parameter and corresponding unit of measurement may be added to the database. Please submit such requests to the Division.

J. Value*

Numerical value for the appropriate sample, parameter, and sample location/date; Values less than the practical quantitation limit (PQL) shall be reported using the less than “<” sign, followed by the PQL.

If a sample was missed or not collected for a reporting period, please insert an acceptable code that best defines the reason for the missed sample (**Table 1**) in the “Value” column of the data upload Excel file. Additionally, the user must include any laboratory flag codes in the “Notes” column of the Excel upload file for the sample or parameter set.

Table 1. List of reason codes for missed samples. These codes may be used in the “Value” column of the data upload Excel file.

Code	Description
DRY	dry monitoring point
NETS	not enough to sample
DAM	damaged monitoring point
INA	inaccessible monitoring point
NM	not mined

K. Units*

Please include the unit of measurement for the parameter of interest; ***Units should correspond with the exact syntax and format included in Appendix A.***

L. Reporting Limit

Provide the laboratory reporting limit for the analytical method completed, if applicable. If this information is not currently collected, please institute data collection moving forward.

M. Notes

Any additional information on the sample or a text description of the sampling event, e.g. Laboratory flags during analysis.

Monitoring Location Data



IV. Monitoring Location Data

Please Note: If Monitoring Location Data has already been submitted to the Division, this section only needs to be rereferred to for submittal of new monitoring locations. If monitoring locations were not been submitted to the Division during the development of the BMRR database in 2020 or new locations have been added recently to the WPCP, please include this data in the **second tab** of the “***BMRR_database_upload_sheet.xlsx***” Excel file and notify the inspector or permit writer for the respective project of the newly included monitoring location data.

Each distinct monitoring location outlined in Part I.D. of the WPCP including active, inactive, proposed, or closed locations must be entered into the BMRR database using the submission requirements outlined in the “***BMRR_database_upload_sheet.xlsx***” template and below. All fields below are required for submission of Monitoring Location Data. Fields that require an exact syntax format are outlined in ***bolded italics***. Additional information on each field is as follows:

- A. Permit No
Water Pollution Control Number

- A. Location ID
Sample location identifier, unique to the location; required field; ***This identifier is case sensitive and must match the Monitoring ID included within the Water Pollution Control Permit in Part I.D.*** The Location ID cannot match a previously submitted Location ID for the same WPCP Number.

- B. Easting
Spatial location of sampling point (Universal Transverse Mercator [UTM], North American Datum [NAD] 1983, Zone 11N, in meters). Easting must be a numeric value between 239650 and 756640 and accurate to two decimal points (ref. NRS 327.030.b).

- C. Northing
Spatial location of sampling point (UTM NAD 1983, Zone 11N, in meters); Northing must be a numeric value between 3875990 and 4653330 and accurate to two decimal points (ref. NRS 327.030.b).

- D. Notes
Text field to describe the monitoring point location (e.g., “Upgradient well for HLP”, “Ore stockpiled on site”). ***This field should match the Identification field in Part I.D of the WPCP.***

- E. TypeID
Type of monitoring location (e.g., monitoring well, surface water, etc.). This identifier will be filled out by the BMRR.

- F. Status
Identify if the monitoring point is “Active”, “Proposed”, “Closed”, or “Inactive”.

V. Common Formatting Errors

Below is a list of common formatting errors that are often confronted during upload of electronic data to the database. The list errors below is not all-inclusive but meant to help the Permittee further become aware of the upload requirements for the BMRR database.

- The data is not on the first tab of the excel upload file or separated into multiple tabs.
- The Location ID syntax does not match the unique location code as outlined in Part I.D. of the WPCP, e.g., MW-1 was reported instead of MW-01 as listed in the permit.
- The reported Location ID, Parameter, or Unit values do not match the exact syntax provided in Appendix A.
- Additional spaces were added around text or symbols in the reported Location ID, Parameter, and/or Unit columns, e.g., ‘mg/l ’ instead of ‘mg/l’.
- Additional data was included in the upload sheet that is not listed in Part I.D of the WPCP.
- Blank rows or columns are added to the data upload sheet.
- Values are left blank and no reason code is given for the missed sample – see **Table 1**.

Appendix A – Acceptable Parameters and Units

The below table provides a list of parameters and units that are accepted by the BMRR database. The parameters and units reported to the Division are to be included in Column I and K, respectively, in the “*BMRR database upload sheet.xlsx*” excel sheet. If your permit contains a parameter that is not listed in the table below, please contact the assigned inspector or permit writer for your project to notify them so that it may be added to the database, if appropriate. **An important note** – the parameters and units are case-sensitive, so please exactly follow the syntax listed for the parameter and/or unit of interest. Additional spaces before or after text or symbols will also incur an error code in the database during upload.

Parameter	Units	Units	Notes
226Radium + 228Radium	pCi/L		
Acid Generating Potential (AGP)	T/kT CaCO ₃		
Acid Neutralizing Potential (ANP)	T/kT CaCO ₃		
ANP/AGP			
Acidity, Total	mg/L		
Alkalinity Carbonate	mg/L		
Alkalinity, Bicarbonate (as CaCO ₃)	mg/L as CaCO ₃		
Alkalinity, Total (as CaCO ₃)	mg/L as CaCO ₃		
Aluminum	mg/L		
Ammonia	mg/L		
Amount	lbs		e.g., lbs of lime used
Annual precipitation	in, mm		
ANP/AGP	Ratio		
Antimony	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Application rate	gpm		
Arsenic	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Average accumulation	gallons		
Average air temperature	°F		

Barium	mg/L		
Beryllium	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Bismuth	mg/L		
Boron	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Cadmium	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Calcium	mg/L		
Chloride	mg/L		
Chromium	mg/L		
Chromium (III)	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Chromium (VI)	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Cobalt	mg/L		
Collar elevation	ft AMSL		
Color	PCU		Platinum-Cobalt Scale
Conductivity	S/m	µS/cm	
Continuous field temperature	°F		
Copper	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Count			e.g., dosing counter
Crush Strength	psi		e.g., paste backfill
Destination			describe location in Notes column (Column N)
Depth below collar	ft		feet below collar elevation
Depth below surface	ft bgs		feet below ground surface
Depth of sample	ft bgs		feet below ground surface
Depth of solution	ft		
Depth to groundwater	ft bgs		feet below ground surface
Discharge distance	feet		
Duration	hours		e.g., discharge duration, evaporator active
Dissolved Oxygen	mg/L		
Distance from Embankment	ft		
Erosion	-		Use Yes/No in Value column; e.g., visual inspection
Evaporation	in, mm		
Evapotranspiration (ET)	mm/time unit		
Field Eh	mV		oxidation or reduction potential
Field ORP	mV		
Field pH	SU		Standard Unit
Field Specific Conductance	µS/cm		
Field Temperature	°F		
Filter Cake WAD Cyanide	mg/kg		e.g., Paste backfill
Flow Rate	gpm	gpd	
Fluoride	mg/L		
Freeboard	ft		
Free Cyanide	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Gallium	mg/L		
Gross Alpha	pCi/L		
Gross Alpha MDC	pCi/L		
Groundwater elevation	ft AMSL		
Hardness			Depends on test
HCL Rinse Residue	%		
HNO3 Rinse Residue	%		
Hot Water Rinse Residue	%		
Hydraulic head	ft		
Iron	mg/L		
Lake area	Acres		
Lake surface elevation	ft AMSL		
Lake volume	acre-foot		
Lead	mg/L	µg/L	µg/L applies for Surface Water Profile reference values

Leak detection	gallons		
Lithium	mg/L		
Magnesium	mg/L		
Manganese	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Maximum air temperature	°F		
Maximum lake depth	ft		
Mercury	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
MGD	mgd		million gallons per day
Minimum air temperature	°F		
Moisture content	%		
Molybdenum	mg/L		
NAG pH	S.U.		
Net Neutralization Potential (NNP)	T/kT CaCO ₃		
Nickel	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Nitrate (as N)	mg/L		
Nitrate +Nitrite (as N)	mg/L		
Nitrite (as N)	mg/L		
Nitrogen, Total (as N)	mg/L		
Nitrogen, Total Kjeldahl	mg/L		
Non-Extractable Sulfur	%		
Non-Potentially Acid Generation (PAG) material	tons		
Non-Water Soluble Sulfate	%		
Number of wells	-		e.g. injection wells in operation during a quarter
Ore Shipped	tons		
Ore Stockpiled	tons		
Oxidation Reduction Potential (ORP)	mV		
Paste pH	SU		
pH	SU		
Phosphorus	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Physical instability	-		Use Yes/No in Value column; e.g., visual inspection
Pit floor elevation	ft AMSL		
Potassium	mg/L		
Potentially Acid Generating (PAG) material	tons		
Precipitation (rain+snow)	in, mm		
Precipitation (total)	in, mm		
Presence of Evaporative Mineral Precipitates	%		EMPs
Pumping rate	gpm		
Pyritic Sulfur	%		
Relative humidity	%		
Rock lithotype	-		
Scandium	mg/L		
Selenium	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Silver	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Slump	in		
Snow Water Equivalence SWE	in	mm	
Sodium	mg/L		
Sodium Adsorption Ratio (SAR)	mEq/L		
Solar Radiation	W/m ²		
Specific Conductance	µS/cm		
Storm duration	hours		
Strontium	mg/L		
Sulfate	mg/L		
Sulfide	mg/L	µg/L	µg/L applies for Surface Water Profile reference values
Temperature	°F		
Thallium	mg/L	µg/L	µg/L applies for Surface Water Profile reference values

Thorium	mg/L	PCi/L	PCi/L applies for Profile I-R
Tin	mg/L		
Titanium	mg/L		
Tons of material	tons		e.g., material placed or received
Total Dissolved Solids	mg/L		
Total Organic Carbon	%		
Total Sulfur	%		
Total Suspended Solids	mg/L		
Turbidity	NTU		Nephelometric Turbidity Unit
Uranium	mg/L	PCi/L	PCi/L applies for Profile I-R
Vanadium	mg/L		
Volume	gallons		
Volume collected/conveyed	gallons, gpd		
Volume excavated	gallons, gpd		
WAD Cyanide	mg/L		
Water elevation	ft AMSL		
Water present	-		Use Yes/No in Value column; e.g., visual inspection
Water-Soluble Sulfates	%		
Wind Direction	azimuth degree		
Wind Speed	mph		
Zinc	mg/L	µg/L	µg/L applies for Surface Water Profile reference values