



STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

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December 16, 2009

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Re. **BMI Plant Sites and Common Areas Projects, Henderson, Nevada**
Water Level Electronic Data Deliverable (EDD) Format

Dear Sirs and Madam:

All of the parties listed above shall be referred to as "the Companies" for the purposes of this letter. Attachment A to this letter provides a suggested format for the water level EDD. NDEP is soliciting comments from the Companies regarding this format. Please provide any comments to the NDEP **by January 29, 2010**.

Please contact me with any questions (tel: 702-486-2850 x247; e-mail: brakvica@ndep.nv.gov).

Sincerely,

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BAR:s



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Attachment A

Unified Groundwater Level EDD Format

The objective of this guidance is to specify the design of the format for the submission of electronic groundwater level monitoring data from the Companies to NDEP. The goal is to streamline the uploading of the Companies' electronic data into the regional database maintained by the NDEP and to facilitate sharing of data amongst the Companies. This task requires defining each element of the EDD(s) so that they are provided in a consistent format. Provided below are the required elements of the EDD groundwater level format and descriptions of the elements. Required formats and codes are provided in the Appendices. Due to the resources required to modify the EDD for each Company, it is the desire of the NDEP to modify this EDD as infrequently as possible.

The groundwater level EDD should be delivered as a Microsoft Access database (file format Access 2000 or later) containing a single table. It is understood that not all fields will contain a value. Empty fields will be represented as "NULLs" in the Microsoft Access database.

Calculating Groundwater Elevation in the Presence of LNAPL

In the presence of light non-aqueous phase liquid (LNAPL), groundwater elevation (gw_elevation) must be calculated using the thickness and specific weight of the LNAPL product, in addition to the top-of-casing elevation (point_elevation) and depth to water (depth). For instance, a one foot thick layer of pure benzene on top of an aquifer, with a specific weight of 0.88, would add 0.88 feet to the potentiometric pressure that was calculated using top of casing and depth to water measurements. If LNAPL corrections are made to groundwater elevation calculations, details regarding LNAPL thickness and density must be summarized in the comment field.

EDD Data Fields

Short Description	Field Name	Detailed Description
Company doing the measuring	company	The name of the company taking the groundwater level measurement.
Well Owner	well_owner	Company that owns the well.
Well ID	well	A unique identifier for the well. Well identifiers must match the identifiers listed in the All Wells Database currently maintained by BRC.

Short Description	Field Name	Detailed Description
Northing Coordinate	northing	Northing coordinate of the well in NAD 1983 State Plane Nevada East feet
Easting Coordinate	easting	Easting coordinate of the well in NAD 1983 State Plane Nevada East feet
Monitoring Date	date	Date of measurement
Monitoring Time	time	Time of measurement
Measuring Point Elevation	point_elevation	The elevation of the measuring point (well top of casing). This field is included to allow for new survey data (i.e. well modifications which could change top-of-casing elevation)
Measurement Value	depth	Value of depth measurement
Non-aqueous Phase Liquid	napl	Field indicating the presence of non-aqueous phase liquid. Possible values are listed in Appendix A. If the value in this field is LNAPL, groundwater elevation must be calculated according to the guidance in the section <i>Calculating Groundwater Elevation in the Presence of LNAPL</i>
Groundwater Elevation	gw_elevation	Groundwater elevation, calculated by subtracting depth from point_elevation., or, in the presence of LNAPL, by following the guidance in the section <i>Calculating Groundwater Elevation in the Presence of LNAPL</i>
Parameter Unit	unit	Units of both the measurement value and the groundwater elevation (typically feet)
Monitoring Qualifier	qualifier	A short code describing well conditions (dry, obstructed, pumping, static, etc.) which prevent accurate measurement. A list of codes is provided in Appendix B. If this field contains a value, the measurement value and groundwater elevation fields should be left blank (NULL)
Measurement Comment	comment	Any comments elaborating on the monitoring qualifier field, or any other observations relevant to the measurement event
Recorded By	recorded_by	Name of the person who took the measurement

Appendix A: NAPL Types

Qualifier	Description
DNAPL	Dense non-aqueous phase liquid
LNAPL	Light non-aqueous phase liquid
NONE	Non-aqueous phase liquid not present.

Appendix B: Monitoring Qualifiers

Qualifier	Description
DRY	Well dry
OBSTRUCTED	Well obstructed
OTHER	Other condition (e.g. pumping, static, etc.) preventing accurate groundwater level measurement