Nevada Division of Environmental Protection
Bureau of Mining Regulation and Reclamation

Listing of Accepted Codes for Groundwater and Geochemical Modeling at Mine Sites

3 April 2018

The following is a listing of codes accepted by the Nevada Division of Environmental Protection (NDEP) – Bureau of Mining Regulation and Reclamation (BMRR) for hydrogeologic groundwater flow modeling and geochemical modeling at mine sites. This list will be periodically updated.

Inclusion of codes on this list is not an endorsement by the NDEP, BMRR, or the State of Nevada of the particular code, nor is exclusion of a code a rejection of that code's ability to sufficiently solve groundwater flow and transport or geochemical modeling problems. Instead, the codes specified on this list have undergone extensive peer review by outside agencies, or have been reviewed by NDEP personnel for suitability; have publically available guidance documents for users; and are available for download. Unless otherwise noted, all codes are open-source which allows BMRR to more rigorously evaluate model calculations. For additional information the reader is referred to the Guidance for Hydrogeologic Groundwater Flow Modeling at Mine Sites and the Guidance for Geochemical Modeling at Mine Sites.

Specific versions of each code are not denoted in the lists below. Unless otherwise specified all versions of a given code are deemed acceptable, although the more recent release should generally be used if possible.

Approved Hydrogeologic Groundwater Flow and Transport Modeling Codes

MODFLOW-2000[1]

MODFLOW-2005[1]

MODFLOW-NWT[1]

MODFLOW-USG[1]

MODFLOW-SURFACT[1, 2, 3]

MODFLOW 6[1, 2]

CXTFIT

Hydrus-1D

Approved Geochemical Modeling Codes

PHREEQC

PHAST

Visual MINTEQ

MINTEQA2

EQ3/6

NETPATH

WATEQ4F

Notes:

[1]All solute-transport simulation packages that are compatible with MODFLOW (e.g., MT3D-USGS, etc.) are acceptable when used with this software package.
[2]This code is currently being evaluated for suitability, until a determination is made this code is acceptable for use.
[3]This code is not open source.