Appendix A

CD-ROM Contents

A.1.0 INTRODUCTION

This appendix has been prepared to describe the digital contents provided on the CD-ROM accompanying this report. The CD-ROM contains the four data volumes described in this report, as well as water chemistry, and water rights information. The CD-ROM contains a folder structure that reflects the headings below.

A.1.1 Read-Me File

Included on the CD-ROM is a text file version of this appendix that describes the contents of the CD-ROM.

A.1.2 Data Volumes

There are four data volumes included on the CD-ROM as Adobe Acrobat PDF's. These volumes contain a more comprehensive review of the baseline information than what is provided in this summary document.

- Volume 1: Geology of White Pine and Lincoln Counties and Adjacent Areas, Nevada and Utah: The Geologic Framework of Regional Groundwater Flow Systems.
- Volume 2: Physical Settings of Selected Streams in Clark, Lincoln, and White Pine Counties Groundwater Development Project.
- Volume 3: Physical Settings of Selected Springs in Clark, Lincoln, and White Pine Counties Groundwater Development Project.
- Volume 4: Water-Level Data Compilation and Evaluation for Clark, Lincoln, and White Pine Counties Groundwater Development Project.

A.1.3 Water Chemistry

Water chemistry information has been provided as both a Microsoft Excel spreadsheet as well as a data report from DRI that has been provided in Adobe Acrobat PDF format.

A.1.3.1 Water_Chemistry.xls

The Water_Chemistry.xls file contains individual worksheets with information on site locations, major elements, trace elements, stable isotopes, and a reference list. The worksheets and fields within the worksheets are described in the following sections.

A.1.3.1.1 Site Information

This table describes the basic site information. The fields in this table are described as follows:

- Map ID - Provides a reference ID used on maps within the water quality section of this report.
- Site ID - Unique site identifier for the location.
- Station Name - Commonly, a name based upon the section, township, and range legal description of a particular site.
- Site Name - A more general name for a particular site. Commonly, the same as the Station Name.
- Site Type - Provides a description of the site as either a well, spring, or stream.
- Hydrographic Area - Identifies the specific hydrographic area (by name) where the site is located.
- HA Number - Identifies the hydrographic area by number.
- UTM N (m) - Provides the Universal Transverse Mercator (UTM) Northing of the location in meters. All the coordinates are displayed as UTM Zone 11, North American Datum of 1983.
- UTM E (m) - Provides the UTM Easting of the location in meters. All the coordinates are displayed as UTM Zone 11, North American Datum of 1983.
- Ground Elevation (ft-amsl) - This is the elevation, relative to sea level, of the land surface at the location in feet above mean sea level.
- Well Depth (ft-bgs) - Depth of the well in feet below ground surface.
- Hole Depth (ft-bgs) - The borehole depth of the drilled well.
- Well Diameter (inch) - The diameter of the well in inches.
- Top of Open Screen Interval (ft-bgs) - Top depth of the open screened interval in feet below ground surface.

- Bottom of Open Screen Interval (ft-bgs) - Bottom depth of the open screened interval in feet below ground surface.
- Depth to Water - Depth to water in feet below ground surface.
- Aquifer Material - Water-bearing rock or unconsolidated gravel, sand or silt through which groundwater is transmitted.

A.1.3.1.2 Majors

This table contains information on major element chemistry. The fields in this table are described as follows:

- Map ID - Provides a reference ID used on maps within the water quality section of this report.
- Site ID - Unique site identifier for the location.
- Site Name - A more general name for a particular site. Commonly, the same as the Station Name
- Data Source - The source of the water chemistry information. This field is linked to the references table.
- HA - Identifies the hydrographic area by number.
- Sample Collection Date - The date the sample was collected.
- Water Temperature (deg C) - The temperature of the sample in degrees celsius.
- pH - The pH of the sample in pH units.
- Conductivity (uS/cm) - The conductivity of the sample in microsiemens per centimeter.
- DO (mg/L) - The dissolved oxygen content of the sample in milligrams per liter.
- K (mg/L) - The potassium concentration of the sample in milligrams per liter.
- Mg (mg/L) - The magnesium concentration of the sample in milligrams per liter.
- Na (mg/L) - The sodium concentration of the sample in milligrams per liter.
- Ca (mg/L) - The calcium concentration of the sample in milligrams per liter.
- SO4 (mg/L) - The sulfate concentration of the sample in milligrams per liter.
- Cl (mg/L) - The chloride concentration of the sample in milligrams per liter.

- Br (ug/L) - The bromide concentration of the sample in micrograms per liter.
- F (mg/L) - The fluoride concentration of the sample in milligrams per liter.
- PO4 (mg/L as P) - The phosphate concentration of the sample in milligrams per liter as phosphorus.
- P (mg/L as P) - The phosphorous concentration of the sample in milligrams per liter as phosphorous.
- NO3 (mg/L as N) - The nitrate concentration of the sample in milligrams per liter as nitrogen.
- NO2 (mg/L as N) - The nitrite concentration of the sample in milligrams per liter as nitrogen.
- NO3 + NO2 (mg/L as N) - The sum of nitrate and nitrite concentration of the sample in milligrams per liter as nitrogen.
- HCO3 field (mg/L as HCO3) - Field-determined bicarbonate concentration of the sample in milligrams per liter as bicarbonate.
- CO3 field (mg/L as CO3) - Field-determined carbonate concentration of the sample in milligrams per liter as carbonate.
- HCO3 Lab (mg/L as HCO3) - Laboratory-determined bicarbonate concentration of the sample in milligrams per liter as bicarbonate.
- CO3 Lab (mg/L as CO3) - Laboratory-determined carbonate concentration of the sample in milligrams per liter as carbonate.
- SiO2 (mg/L) - The silica concentration of the sample in milligrams per liter.
- Hardness (mg/L as CaCO3) - The measure of excessive amount of calcium and magnesium present in the sample in milligrams per liter.
- TDS (mg/L) - The total dissolved solids in the sample in milligrams per liter.
- Cation/Anion Balance (%) - Reaction error expressed as a percentage of the total ion concentration.
- Charge Balance Field (%) - Field-determined charge balance.
- Charge Balance Lab (%) - Laboratory-determined charge balance.

A.1.3.1.3 Trace Elements

This table contains information on trace element chemistry. The fields in this table are described as follows:

- Map ID - Provides a reference ID used on maps within the water quality section of this report.
- Site ID - Unique site identifier for the location.
- Site Name - Provides the name of the site and is linked to the Site ID field in the Site Information table.
- Data Source - The source of the water chemistry information. This field is linked to the references table.
- HA - Identifies the hydrographic area by number.
- Sample Collection Date - The date the sample was collected.
- Ag (ug/L) - The silver concentration of the sample in micrograms per liter.
- Al (ug/L) - The aluminum concentration of the sample in micrograms per liter.
- As (ug/L) - The arsenic concentration of the sample in micrograms per liter.
- B (ug/L) - The boron concentration of the sample in micrograms per liter.
- Ba (ug/L) - The barium concentration of the sample in micrograms per liter.
- Be (ug/L) - The beryllium concentration of the sample in micrograms per liter.
- Bi (ug/L) - The bismuth concentration of the sample in micrograms per liter.
- Cd (ug/L) - The cadmium concentration of the sample in micrograms per liter.
- Co (ug/L) - The cobalt concentration of the sample in micrograms per liter.
- Cr (ug/L) - The chromium concentration of the sample in micrograms per liter
- Cu (ug/L) - The copper concentration of the sample in micrograms per liter.
- Fe (ug/L) - The iron concentration of the sample in micrograms per liter.
- Hg (ug/L) - The mercury concentration of the sample in micrograms per liter.
- Li (ug/L) - The lithium concentration of the sample in micrograms per liter.

- Mn (ug/L) - The manganese concentration of the sample in micrograms per liter.
- Mo (ug/L) - The molybdenum concentration of the sample in micrograms per liter.
- Ni (ug/L) - The nickel concentration of the sample in micrograms per liter.
- Pb (ug/L) - The lead concentration of the sample in micrograms per liter.
- Sb (ug/L) - The antimony concentration of the sample in micrograms per liter.
- Se (ug/L) - The selenium concentration of the sample in micrograms per liter.
- Sr (ug/L) - The strontium concentration of the sample in micrograms per liter.
- Tl (ug/L) - The thallium concentration of the sample in micrograms per liter.
- U (ug/L) - The uranium concentration of the sample in micrograms per liter.
- V (ug/L) - The vanadium concentration of the sample in micrograms per liter.
- Zn (ug/L) - The zinc concentration of the sample in micrograms per liter.

A.1.3.1.4 Stable Isotopes

This table contains information on stable isotope chemistry. The fields in this table are described as follows:

- Map ID - Provides a reference ID used on maps within the water quality section of this report.
- Site ID - Unique site identifier for the location.
- Site Name -A more general name for a particular site.
- Data Source - The source of the water chemistry information. This field is linked to the references table.
- HA - Identifies the hydrographic area by number.
- Sample Collection Date - The date the sample was collected.
- $\delta^{18}O$ (per mil) - The $\delta^{18}O$ value of the sample expressed in parts per mil.
- $\delta^{2}H$ (per mil) - The $\delta^{2}H$ value of the sample expressed in parts per mil.

A.1.3.2 DRI Data Report

An Adobe Acrobat PDF of a DRI letter report titled "Annual Data Report for Geochemical, Isotopic, and Biological Monitoring for East Central and Southeastern Nevada" has been included on the CD-ROM.

A.1.4 Water Rights

The water rights folder contains a folder of maps in Adobe Acrobat PDF format as well as folders with information on water rights in both Nevada and Utah.

A.1.4.1 Figures

The figures directory contains the following maps.

- 1_Hydrologic_Study_Area.pdf
- 2_WtrRtsPtDiversion_Coyote_Spring_Valley.pdf
- 3_WtrRtsPtDiversion_Delamar_Valley.pdf
- 4_WtrRtsPtDiversion_DryLake_Valley.pdf
- 5_WtrRtsPtDiversion_Cave_Valley.pdf
- 6_WtrRtsPtDiversion_Spring_Valley184.pdf
- 7_WtrRtsPtDiversion_Snake_Valley.pdf
- 8_Active_Underground_Rights_Summary.pdf

A.1.4.2 Water_Rights_Information

This folder contains information regarding water rights for both Nevada and Utah.

A.1.4.2.1 Nevada_Water_Rights

This folder contains two files that are described as follows:

- Underground_Committed_Water_Rights.pdf - Is an Adobe Acrobat PDF of the Hydrographic Basin Summaries as downloaded from the NDWR web site.

- NV_Water_Rights_20070307_20071218.xls - Is a Microsoft Excel spreadsheet of the water rights abstracts as downloaded from the NDWR web site. The field names and codes used in the spreadsheet are provided within additional worksheets within the file.

A.1.4.2.2 Utah_Water_Rights

This folder contains two files that are described as follows:

- Utah_Water_Rights_20070313.xls - Is a Microsoft Excel spreadsheet of the water rights information for portions of Snake, Hamlin, and Pleasant valleys. The field names and codes used in the spreadsheet are provided within additional worksheets within the file.

- undergrounddiversion_20071204.xls - Is a Microsoft Excel spreadsheet of the preliminary committed underground rights for the Utah portion of Snake Valley.