

**IN THE OFFICE OF THE STATE ENGINEER OF THE
STATE OF NEVADA**

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| IN THE MATTER OF APPLICATIONS) | |
| 53987 THROUGH 53992, INCLUSIVE,) | |
| AND 54003 THROUGH 54021,) | |
| INCLUSIVE, FILED TO APPROPRIATE) | |
| THE UNDERGROUND WATERS OF) | SECOND WITNESS AND EXHIBIT |
| SPRING VALLEY, CAVE VALLEY,) | LIST FOR MILLARD AND JUAB |
| DELAMAR VALLEY, AND DRY LAKE) | COUNTIES |
| VALLEY HYDROGRAPHIC BASINS) | |
| (180, 181, 182 AND 184), LINCOLN) | |
| COUNTY AND WHITE PINE COUNTY,) | |
| NEVADA) | |

Millard County, Utah and Juab County, Utah, through their undersigned counsel, submit the following Second Witness and Exhibit list, with a reasonably detailed summary of the testimony of each witness.

Second List of Potential Witnesses and Summaries of Their Expected Testimony

1. Dr. Victor Heilweil
U.S. Geological Survey
Utah Water Science Center

Dr. Heilweil will testify as an expert witness. The substance of Dr. Heilweil's expected testimony is set forth in the report marked as Mill Exh __. In summary, Dr Heilweil believes that the groundwater withdrawals SNWA proposes in Spring Valley approach or exceed previously published estimates of total groundwater discharge from Spring Valley and therefore would capture most if not all of current groundwater discharge from Spring Valley including spring flow, groundwater ET, and well withdrawals, as well as capture groundwater from adjacent hydraulically-connected valleys, particularly where parts of those valleys are closer than more-distant parts of Spring Valley to the proposed pumping centers. Further Dr. Heilweil believes there is a subsurface hydraulic connection having substantial transmissivity between Spring Valley and Snake Valley. Further Dr. Heilweil believes the proposed SNWA well withdrawals would likely cause groundwater level declines and depletion of groundwater storage, and ultimately would cause a reduction in or a reversal of subsurface groundwater flow from Spring Valley to Snake Valley, a reduction in spring flow and groundwater evapotranspiration (ETg) in Snake Valley,

and/or a reduction in groundwater availability to current water users in Snake Valley. Further Dr. Heilweil believes continued and expanded monitoring of groundwater levels and spring discharge in both Spring and Snake Valleys is necessary for evaluating potential effects of increased well withdrawals, including the need to implement the Stipulated Agreement, Management and Monitoring Plans and expand the groundwater monitoring program to include Snake Valley and other hydraulically connected basins.

2. Hugh Hurlow, Hugh Hurlow, Ph.D. P.G.
Senior Scientist
Ground Water & Paleontology Program
Utah Geological Survey

Dr. Hurlow will testify as an expert witness. The substance of Dr. Hurlow's expected testimony is set forth in the report marked as Mill Exh __. In summary, Dr. Hurlow concludes from available geologic and hydrologic data that (1) subsurface interbasin flow from southern Spring Valley to southern Snake Valley forms a significant part of the hydrologic system of southern Snake Valley, (2) drawdown of groundwater levels from the proposed pumping in southern Spring Valley would drastically reduce, eliminate, or even reverse this interbasin flow, and (3) the southern Snake Valley groundwater system is currently sensitive to present stresses (groundwater pumping, changes in recharge), therefore decreasing recharge to this system by reducing interbasin flow would cause groundwater levels and spring flow to decline. Dr. Hurlow believes that that the groundwater monitoring and mitigation plan for the interbasin flow area outlined in the previous Spring Valley Stipulated Agreement between SNWA and the DOI Bureaus should be incorporated if water rights are granted, with the addition of selected UGS groundwater monitoring sites within the initial biological monitoring zone, and that the monitoring and mitigation program remain in place for several tens of years to track changes in groundwater levels and flow from the proposed pumping.

Second List of Potential Exhibits

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| MILL_Exh_009 | Second Witness and Exhibit List for Millard and Juab Counties |
| MILL_Exh_010 | Expert Testimony Report by Dr. Victor M. Heilweil, U.S. Geological Survey, Utah Water Science Center, August 24, 2011 |
| MILL_Exh_011 | Expert Testimony Report by Dr. Hugh A. Hurlow, Senior Scientist Utah Geological Survey, Entitled <u>Intebasin Groundwater Flow From Southern Spring Valley to Northern Hamlin Valley and Southern Snake Valley, West Central Utah and Nevada: Comments on Estimates of Flow Rate, Possible Effects of Proposed Groundwater Development in Southern Spring Valley, and Groundwater Monitoring</u> , August 2011 |
| MILL_Exh_012 | AQUIFER TEST—Analysis of multiple-well aquifer test of carbonate-rock aquifer, southeastern Spring Valley, HA184, near Great Basin National Park, NV, January 18, 2010 |
| MILL_Exh_013 | AQUIFER TEST—Analysis of BS-SW single-well aquifer test of carbonate-rock aquifer, southwestern Snake Valley, HA195, near Great Basin National Park, NV, November 25, 2010 |
| MILL_Exh_014 | Bredehoeft, et al, <u>Groundwater - The Water Budget Myth</u> , 1982 |
| MILL_Exh_015 | Victor M. Heilweil CV, August 23, 2011 |
| MILL_Exh_016 | HA694A_Plume & Carlton |
| MILL_Exh_017 | HA694B Sheet2 Thomas et al |
| MILL_Exh_018 | HA694C Sheet2 Harrill et al |
| MILL_Exh_019 | Harrill Prudic 1998 |
| MILL_Exh_020 | Potentiometric Map Gardner & Plume |
| MILL_Exh_021 | PP1409B Plate Plume |
| MILL_Exh_022 | sir20075089 plate1 WilsonPotMap |
| MILL_Exh_023 | sir20075261_Plate01_Sweetkind |
| MILL_Exh_024 | sir20115032_Halford |
| MILL_Exh_025 | Theis 1957 |

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| MILL_Exh_026 | wrir95-4173 Shaefer & Harrill |
| MILL_Exh_027 | Presentation - Great Basin Carbon and Aluvial Aquifer System Study, October, 2009 |
| MILL_Exh_028 | Presentation - Snake Valley Groundwater, April, 2011 |
| MILL Exh 029 | GBCAAS_Abstract |
| MILL_Exh_030 | GBCAAS Appendix01 |
| MILL_Exh_031 | GBCAAS Appendix02 |
| MILL_Exh_032 | GBCAAS Appendix03 |
| MILL_Exh_033 | GBCAAS Appendix04 |
| MILL_Exh_034 | GBCAAS Appendix05 |
| MILL_Exh_035 | GBCAAS Appendix06 |
| MILL_Exh_036 | GBCAAS Appendix07 |
| MILL_Exh_037 | GBCAAS Appendix08 |
| MILL_Exh_038 | GBCAAS Chapter A |
| MILL_Exh_039 | GBCAAS Chapter B |
| MILL_Exh_040 | GBCAAS Chapter C |
| MILL_Exh_041 | GBCAAS Chapter D |
| MILL_Exh_042 | GBCAAS Cover |
| MILL_Exh_043 | GBCAAS Plate 01 |
| MILL_Exh_044 | GBCAAS Plate 02 |
| MILL_Exh_045 | Auxiliary1 mdm |
| MILL_Exh_046 | Auxiliary2 mdm |
| MILL_Exh_047 | Auxiliary3 mdm |
| MILL_Exh_048 | Auxiliary4 mdm |

MILL_Exh_049 Auxiliary5 mdm

MILL_Exh_050 Auxiliary6_mdm

MILL_Exh_051 table A8-1 mdm

MILL_Exh_052 Hurlow Figure 1 - Generalized location map of southern Spring Valley and southern Snake Valley, and selected hydrologic features.

MILL_Exh_053 Hurlow Figure 2 - Annotated detail from potentiometric surface map of Gardner and others (2011).

Respectfully submitted this 25th day of August, 2011.

/s/ J. Mark Ward
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