# CZO Metadata Worksheet

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| Data File Name | δ2H and δ18O Stable Isotopes in Groundwater |
| Date Prepared | 2/24/2012 |
| Descriptive Title | Shale Hills CZO Stable Isotope Groundwater Data (Level I) |
| Update Frequency | As data becomes available. |
| Abstract | Quality assured groundwater stable isotope data of spatially distributed wells have been prepared using DT-100 Liquid Water Isotope Analyzer. Samples were analyzed following IAEA Standard Operating Procedure. Daily groundwater samples were collected using two ISCO Samplers at two locations in the riparian zone. Spatially distributed samples were collected bimonthly from 17 wells throughout the watershed. The map of spatially distributed wells is given below in Further References. Samples were plotted compared to the Local Meteoric Water Line (LMWL).  |
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| Data Value Descriptions | * COL1: label=Date (m/d/yy)
* COL2: label=Calendar Season
* COL3: label=Sample Label
* COL4: label=δ2H Reportable Value (permil)
* COL5: label=δ2H Standard Deviation (permil)
* COL6: label=δ18O Reportable Value (permil)
* COL7: label=δ18O Standard Deviation (permil)
* COL8: label=EMPTY
* COL9: label=Date (m/d/yy)
* COL10: label=Calendar Season
* COL11: label=Sample Label
* COL12: label=δ2H Reportable Value (permil)
* COL13: label=δ2H Standard Deviation (permil)
 | * COL14: label=δ18O Reportable Value (permil)
* COL15: label=δ18O Standard Deviation (permil)
* COL16: label=EMPTY
* COL17: label=Date (m/d/yy)
* COL18: label=Sample Label
* COL19: label=Time Collected
* COL20: label=Depth to Water Table (m)
* COL21: label=Elevation of Water Table (m)
* COL22: label=δ2H Reportable Value (permil)
* COL23: label=δ2H Standard Deviation (permil)
* COL24: label=δ18O Reportable Value (permil)
* COL25: label=δ18O Standard Deviation (permil)
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| Keywords | Shale Hills, CZO, Stable Isotopes, Groundwater, Deuterium, Oxygen-18 |
| Methods | * Water samples were analyzed on DT-100 Liquid-Water Isotope Analyzer <http://www.lgrinc.com/analyzers/overview.php?prodid=16>
* IAEA Standard Operating Procedure was followed with in-house standards <http://www-naweb.iaea.org/napc/ih/documents/other/laser_procedure_rev12.PDF>
* Deuterium (2H) and Oxygen-18 (18O) isotope values were calculated to within 1‰ and 0.2‰ respectively.
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| Further References | Well Map: http://www.czo.psu.edu/downloads/gw\_wells.pdf |
| Citation | The following acknowledgment should accompany any publication or citation of these data: Logistical support and/or data were provided by the NSF-supported Shale Hills Susquehanna Critical Zone Observatory. |
| Publications | none |
| Data Use Notes | The user of Shale Hills Susquehanna CZO data agrees to provide proper acknowledgment with each usage of the data. Citation of the name(s) of the investigator(s) responsible for the data set, in addition to the generic statement above, constitutes proper acknowledgment. Author(s) (including Shale Hills Susquehanna CZO investigators) of published material that makes use of previously unpublished Shale Hills Susquehanna CZO data agree to provide the Shale Hills Susquehanna CZO data manager with four (4) copies (preferably reprints) of that material for binding as soon as it becomes available. The user of Shale Hills Susquehanna CZO data agrees not to resell or redistribute shared data. The user of these data should be aware that, while efforts have been taken to ensure that these data are of the highest quality, there is no guarantee of perfection for the data contained herein and the possibility of errors exists. These data are defined as either public or private, such that a password may be required for access. |