# SSHCZO Metadata Worksheet

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| Data File Name | **SH\_Well\_W11.csv** |
| Date Prepared | 2017-10-19 |
| Descriptive Title | Well 11 |
| Update Frequency | Quarterly |
| Abstract | Groundwater level data and water temperature for well 11 are measured every 15 minutes using a HOBO U20-001-01 non-vented pressure transducer. Recorded data began 2014-11-13 through present. |
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| Data Value Descriptions | * COL1: label = TmStamp\_UTC; Units = Time Zone UTC * COL2: label = WaterTemp\_C; water temperature; Units = degC * COL3: label = WL\_BLG\_m; water level below ground; Units = meters |
| Keywords | Groundwater Depth, Groundwater Temperatures, Hydrology |
| Methods | Groundwater level measurements are recorded every 15 minutes on a HOBO U20-001-01 non-vented pressure transducer. Data are manually downloaded monthly using HOBO-Ware Pro software. Sensor depth is calculated in the software by processing with barometric pressure data recorded on a separate HOBO U20-001-01 pressure transducer. Water level below ground determined using the suspended cable length to sensor below ground and taking the difference of the SensorDepth\_m [WL\_BLG\_m = 3.46 - SensorDepth\_m].  well_diagram  TOC above land surface = 0.53 meters  Sensor level down borehole from MP = 3.98 meters  Sensor level below ground = 3.45 meters  Casing type = pvc  Quality control:  Data were checked by graphing data in R package and comparing to precipitation and manual water level measurements using a Solinist electric tape. Bad, missing, or erroneous data values were removed or marked with -9999 which could be caused during data downloads and/or malfunctioning sensors.  ISCO sampling: Data that fluctuate during autosampler run times remain in the data set for comparison during the actual sample times and for response time evaluations. Periods of known autosampler running or manual sampling:  2016-07-28 to 2016-08-15  2016-08-21 to 2016-08-23  2016-09-16 to 2016-09-17  2016-09-29 to 2016-10-05  2016-10-20 to 2016-11-02  2016-11-21 to 2016-12-13  2017-01-01 to 2017-01-05  2017-01-11 to 2017-01-13  2017-01-17 to 2017-01-30  2017-03-24 to 2017-04-16  2018-08-19: manual sampling  2018-10-14: manual sampling  2019-03-31: manual sampling  2019-04-27: manual sampling  2019-06-03: manual sampling  Other Data gaps:  2014-12-11 to 2014-12-12  2015-03-09  2015-06-27 to 2016-07-28: No sensor was installed  2017-05-26  2017-07-12  2017-08-16  2017-10-24  2018-10-15: sensor maintenance/cleaning  2022-04-08 to 2022-05-17, 2022-06-01 to 2022-06-24: data missing due to sensor being set to record every minute; logger filled up causing logger to stop recording during the gap times. Because of this data corrections were ran across a larger period of time.  **Note: Negative values appear due to the water column being above ground within the pvc casing.** |
| Sites | Shale Hills Valley northing/easting: 147848.6787/ 586967.8021; DMS: 40.664769, -77.904123 (NAD\_1983\_StatePlane\_Pennsylvania\_South\_FIPS\_3702); Elevation 270.938 |
| Publications | none |
| Citation | The following acknowledgment should accompany any publication or citation of these data: Logistical support and/or data were provided by the NSF-supported Susquehanna Shale Hills Critical Zone Observatory. |
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