# SSHCZO Metadata Worksheet

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| Data File Name | **GPR\_SH\_July2013.zip**  **FieldNotesWithLineNumbersJuly2013.pdf inside the zip file GPR\_Grid\_2013.xlsx** |
| Date Prepared | 10/21/15 |
| Descriptive Title | Ground penetrating radar (GPR) data collected by infiltration experiment at Shale Hills in July 2013 |
| Update Frequency | Project complete |
| Abstract | Three sets of 21 GPR lines were collected, in duplicate (42 lines each set). The set of lines are diagramed in GPR\_grid\_2013.xlsx. Each group is identified by a line number given in FieldNotesWithLineNumbers. The water infiltration pre-wet the soil to extend the range of the dye migration. All of these were collected in a single day. Duplicate radar lines provide a measure of data reproducibility and sensitivity.  Processed radargrams are available in the appendix of the Pitman master’s thesis. Processing parameters are provided there. |
| Investigator  Contact Info | *Laura Toran* [*ltoran@temple.edu*](mailto:ltoran@temple.edu)  *Jonathan Nyquist* [*nyq@temple.edu*](mailto:nyq@temple.edu)  *Henry Lin* [*hul3@psu.edu*](mailto:hul3@psu.edu) |
| Data Value Descriptions | \*.mrk is a file containing marks made along the survey.  \*.rad is a header file for each line  \*.rd3 is the primary GPR data in 32-bit binary format  Bad lines are as noted in the field book are not included in the record. |
| Keywords | Infiltration experiment, Shale Hills, Missed Grouse, geophysical monitoring |
| Methods | A MALA GPR with 800 Mhz shielded antenna was used. The sample interval was 0.1164 ns. The time window was 46.434 nanoseconds (400 samples per trace). A trace was collected every 1 cm along the lines triggered by the Mala survey wheel attached to the antenna.  The antenna was pulled by hand, but guided by a rigid board for reproducible location. A distance measuring wheel was used to encode the horizontal position. |
| Sites | Shale Hills watershed north slope |
| Publications | Pitman, Lacey. 2014. Ground-penetrating radar images of a dye tracer test within the unsaturated zone at the Suusquehanna-Shale Hills CZO. Unpublished Master’s Thesis, Temple University.  Nyquist, J, Toran, L, Pitman, L and Lin, H.  Comparison of Time-Lapse GPR and Dye Tracer Tests for Monitoring Hillslope Flow in the Susquehanna Shale Hills CZO, Pennsylvania.  In prep. |