



BOREHOLE GEOPHYSICAL LOG

English/Metric units

SiteID (C1) 415939091400201	Station name (C12) 2015USGS GPW5	Other ID GX-5
County Linn	State Iowa	Log date 06/19/17
Owner USGS		Project Cedar Rapids Alluvial Aquifer Study
Location description In small park adjacent to and northeast of Cedar Lake off of Shaver Rd.		
Latitude 41.99425 °	Longitude -91.66736°	Lat/Long datum NAD83
Altitude LMP 226	Altitude datum NGVD88	Log measurement point (LMP) Top of Casing (TOC)
Height LMP 0.795 m above (+) LS	Description of LMP Top of steel casing; 0.04 m above inner 2" PVC casing	
Borehole depth 8.72 TOC	Borehole diameter Unknown	Casing bottom 8.72 TOC
Casing diameter 5.08	Casing type PVC	Source of data USGS Iowa WSC and OGW BG
Logging unit USGS OGW BG	Log orientation MN	Magnetic declination 0.72° W
Recorded by KLCP/SNP		Observed by LG/ EB/JW
Software non-ASCII logs WellCAD 5.1		Type of log ZZ-Composite
Fluid type Water	Fluid depth below LMP 3.32	at time 16:03
Hydrologic conditions Flood Plain of the Cedar River, scattered thunderstorms during week of logging		
Tool manufacturer and model, tool serial number, log date and time, logging direction and speed, depth error after logging, log parameter(s) and date(s) of calibration check		
Tool run 1 Mount Sopris Instruments (MSI), 2PIA-1000, SN 2377, 06/19/2017 at 18:41 logging down and up at ~4.6 m/min, round trip error of 0 ft, measuring bulk electrical conductivity, calibrated in field on date of log		
Tool run 2 MSI, 2PGA, SN2339, 06/19/2017 at 19:00, logging down and up at ~4.6 m/min, measuring natural gamma, calibrated at factory		
Tool run 3 Vista Clara (VC) NMR JP175, SN001, 6/19/2017 at 16:45, logging down collecting stationary measurements in 0.5 m increments, round trip error of 0.01 m, measuring total, mobile and bound water content, calibrated May 2016 at OGW-BG		
Remarks		
<p>For each depth, the decay data are shown as total-, mobile-, capillary-, clay-, and bound- fractions of water content (where bound = clay + capillary), Sum of Echoes (SOE), and Mean Log T2 (MLT2). The T2 "free water cut-off" was 33 ms. All water content (WC) greater than the free water cut off is mobile, and all WC less than the free water cut-off is immobile or bound. A T2 cut-off for clay was set at 3 ms. Using this clay cut off, the bound water can be subdivided into clay-bound and capillary bound. Noise indicates the fit of the multiexponential decay curve to the data.</p> <p>Hydraulic conductivity(K) was estimated at each depth using two empirical relations, including the Schlumberger-Doll research (SDR) and the Sum of Echoes (SOE). The default parameters for these equations were used. These are derivative estimates that can be updated if better site specific parameters are determined.</p>		

