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BOREHOLE GEOPHYSICAL LOG

English/Metric units M

SiteID (C1) 415954091435302	**Station name (C12)** 083N08W13ADBC 2010USGS CRM-6A	**Other ID** CRM-6A
County Linn	**State** Iowa	**Log date** 6/20/17
Owner City of Cedar Rapids		**Project** Cedar Rapids Alluvial Aquifer Study
Location description Northern bank of Cedar River; southeast of Seminole Valley Park		
Latitude 41.99833°	**Longitude** -91.73138 °	**Lat/Long datum** NAD83
Altitude LMP 221	**Altitude datum** NGVD88	**Log measurement point (LMP)** Top of Casing (TOC)
Height LMP 0.945 m above (+) LS	**Description of LMP** Top of PVC casing; 0.025 m above outer steel casing	
Borehole depth 31.42 TOC	**Borehole diameter** Unknown	**Casing bottom** 29.9 TOC
Casing diameter 10.16	**Casing type** PVC	**Source of data** USGS Iowa WSC and OGW BG
Logging unit USGS OGW BG	**Log orientiation** MN	**Magnetic declination** 0.68° 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** 3.23	**at time** 13:57
Hydrologic conditions Flood Plain of Cedar River, scattered thunderstorms during week of logging		

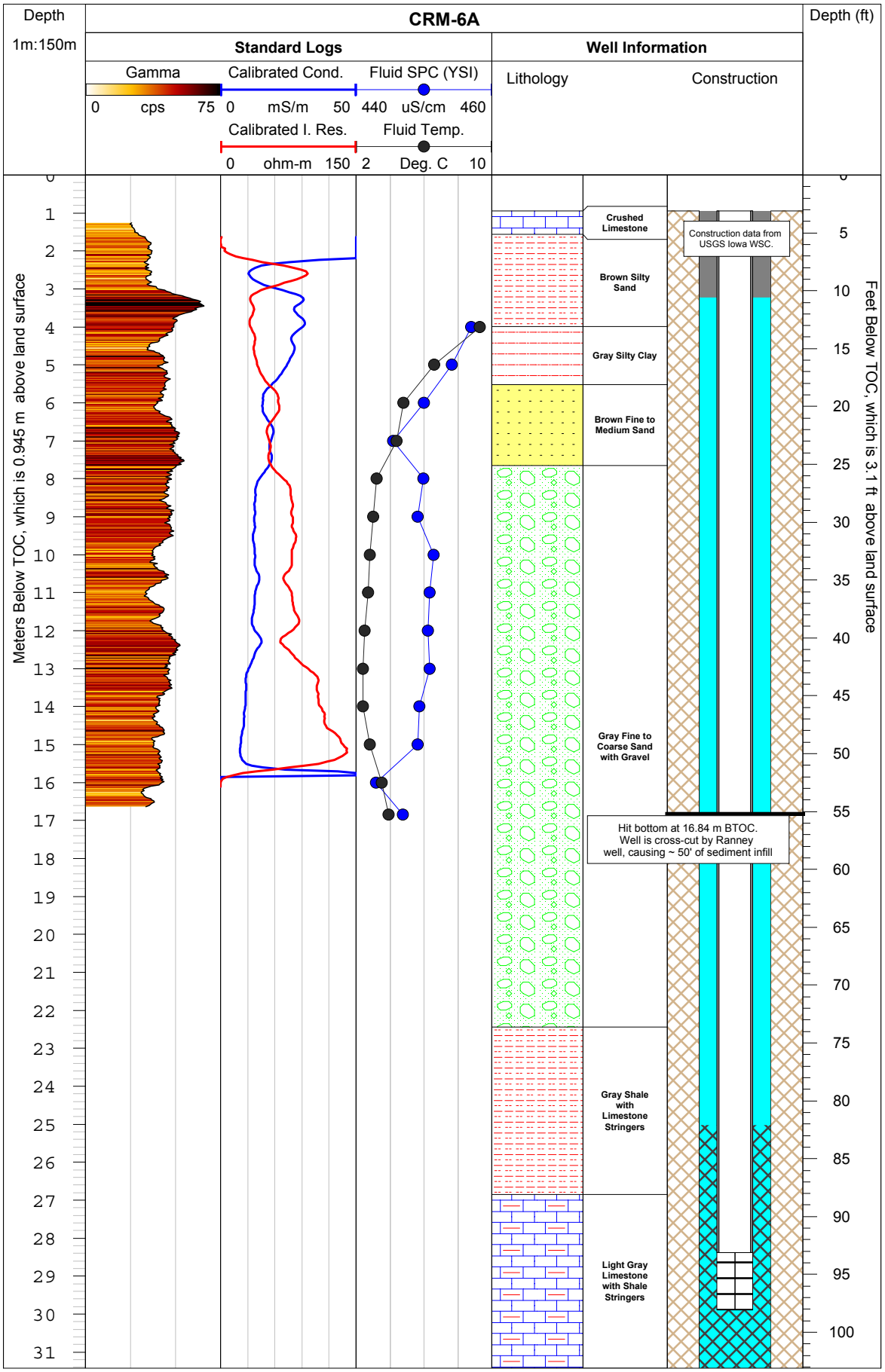
Tool manufacturer and model, tool serial number, log date and time, logging direction and speed, depth error after logging, log parameter(s) and date(s) of calibration check

Tool run 1 Mount Sopris Instruments (MSI), 2PIA-1000, SN 2377, 06/20/2017 at 14:47 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, 06/20/2017 at 14:55, logging down and up at ~4.6 m/min, measuring natural gamma, calibrated at factory

Tool run 3 Vista Clara (VC) NMR JP238, SN0001, 6/20/2017 at 15:00 logging down collecting stationary measurements in 0.25 m and 0.5 m increments, round trip error of 0.00 m, measuring total, mobile and bound water content, calibrated July 2016 at OGW-BG

Remarks The 4" PVC casing was significantly decentralized within the steel casing. If this decentralization continues throughout the well, the two frequencies of the JP238 cannot measure past the disturbed zone for at least half the circumference of the borehole. This fact along with the data—very high total water and very high bound content—lead to the interpretation that the NMR results do not represent the characteristics of the natural formations but, instead, are being more influenced by the grout used in well construction. Thus, these data should not be incorporated into any models or interpretations. Note also that the well is cross-cut by a ranney well, causing ~50' of infill and inhibiting logging to the bottom of casing.


CRM-6A
Depth
1m:150m
Depth (ft)
Standard Logs
Well Information
Gamma
0 cps 75
Calibrated Cond.
0 mS/m 50
Fluid SPC (YSI)
440 uS/cm 460
Calibrated I. Res.
0 ohm-m 150
Fluid Temp.
2 Deg. C 10
Lithology
Construction
Crushed Limestone
Brown Silty Sand
Gray Silty Clay
Brown Fine to Medium Sand
Gray Fine to Coarse Sand with Gravel
Gray Shale with Limestone Stringers
Light Gray Limestone with Shale Stringers
Construction data from USGS Iowa WSC.
Hit bottom at 16.84 m BTOC.
Well is cross-cut by Ranney well, causing ~ 50' of sediment infill
Meters Below TOC, which is 0.945 m above land surface
Feet Below TOC, which is 3.1 ft above land surface