

Fall 2017 Water Levels

Fall levels are inconsistent, as usual, being more effected by withdrawals rather than giving a true picture of where water levels are at. Township map A is the usual depiction of how the water table changed comparing fall of 2016 to fall of 2017. Units 1, 2, and 3 had small rises; the other units were all declines getting greater as you move east. Just about the exact opposite as to what has happened the last two irrigation seasons. The District change of all the wells measured was a decline of -0.25 feet, Quantity Sub-Area 8 fell -0.44, but Unit 1/3 rose +0.64 feet.

A well in 4N-11W rose 4.05 feet, but that irrigation system was converted from gravity to SDI, which could account for a lot of that. Wells in 4N-10W include 3 installed in the High Plains Aquifer and 1 in the Dakota limestone. The Dakota well was up 1.00 feet while the other 3 were down. Townships 4N-09W and 4N-08W constitute only 2 wells, both drilled into the Dakota and both up. Township 3N-08W is a Dakota limestone well and it fell some this year. East of Fairbury in township 2N-03E the decline from 8 wells was -3.66 feet. The 5 High Plains Aquifer wells declined -1.28 feet but the 3 Dakota sandstone wells fell and average of -6.88 feet, the largest being a whopping -14.09.

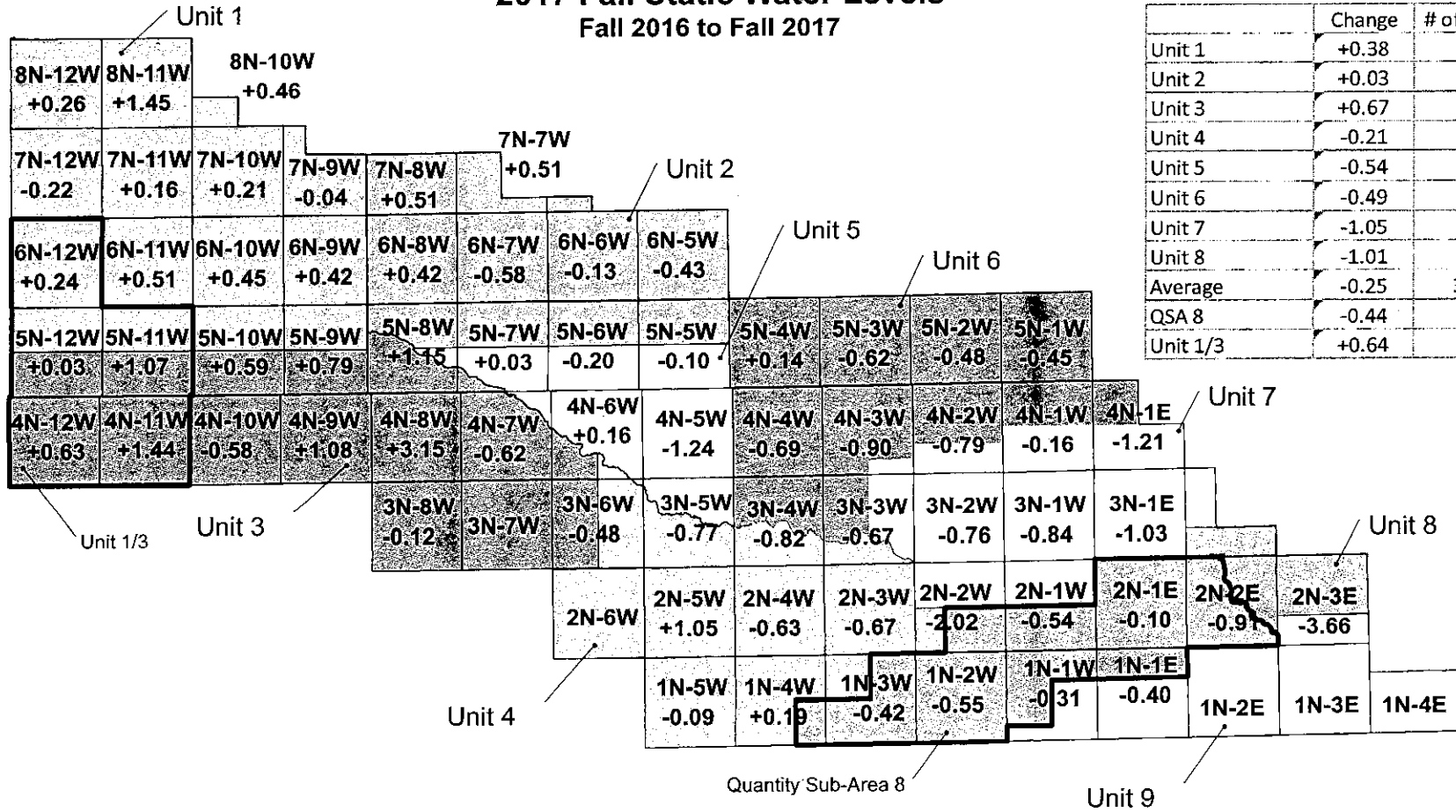
With the proposed change in Chapter 10 of the Groundwater Management Plan the Units go away and the Township map for the spring will look like Map B. Considering the differences mentioned in the previous paragraph, splitting levels out to the 3 Geologic Areas defined in the Hydro-geologic Study seems to be appropriate. Geologic Area 1, the large sand & gravel unit from Adams to Jefferson counties fell -0.16 of a foot; Geologic Area 2, the buried paleo-valley containing sand & gravel fell -0.66 of a foot; and Geologic Area 3, the limestone and sandstone Dakota aquifer fell -1.07 feet.

However; the question most want to know, is what will spring levels be. To see if the dedicated observation wells might shed some light Map C and Sheets D & E were created. Map C locates the dedicated observation well sites and sheets D and E have daily water levels for 6 sites from spring of 2010 to fall of 2017. These graphs are not depths to water, but rather elevation of the water table. Sheet D doesn't show much, except that the elevation of the water table in Jacobitz's well is 100 feet higher than in W Hergott's well. It was hoped that 2017 summer declines would show a marked up tick on sheet E. That would be true for Harms and Nedrow, but the results aren't so defined on the other 4.

Whatever the spring levels may be, it does appear unlikely that the new trigger level for allocations based on the spring graph will be met.

A

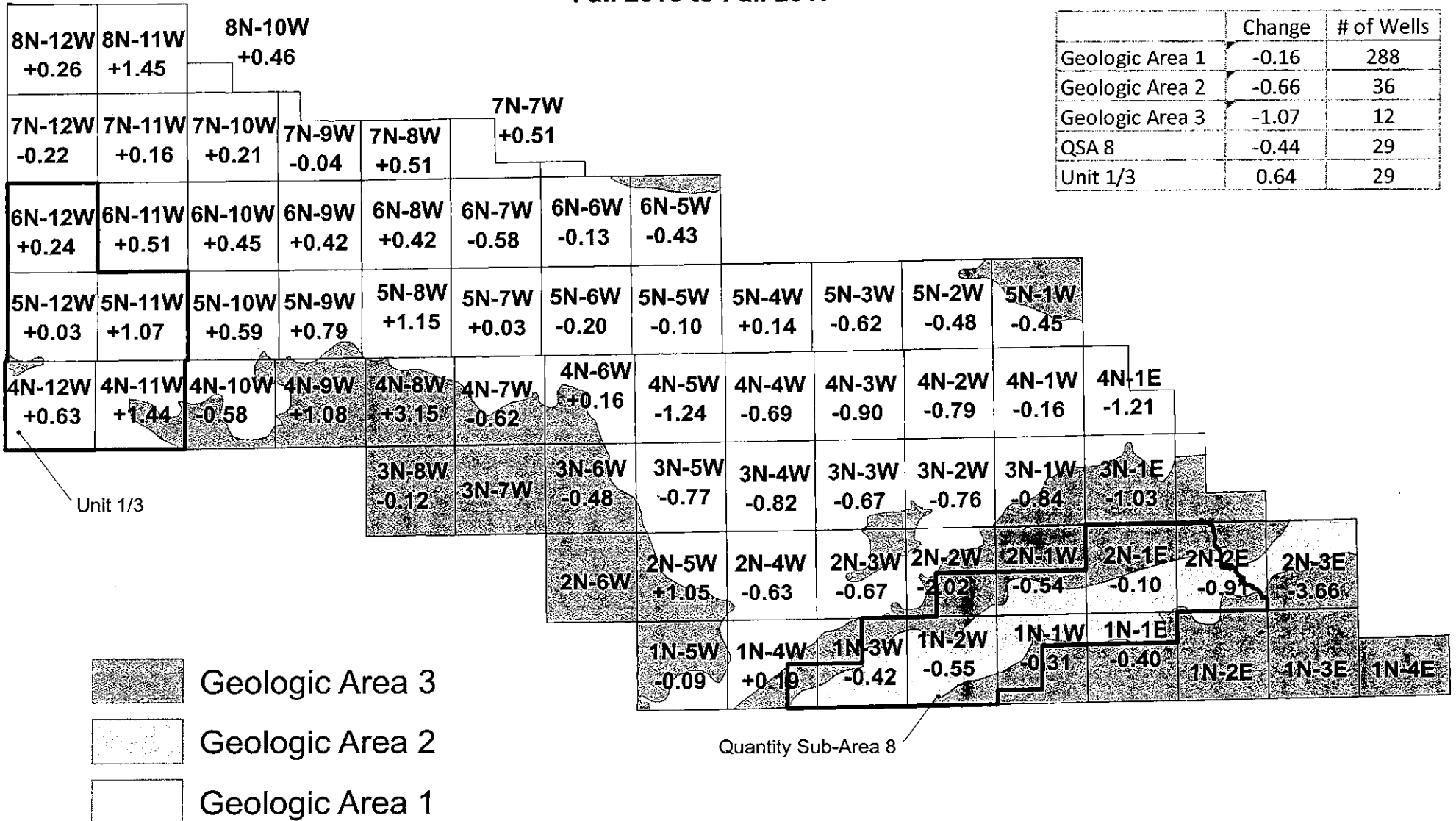
Little Blue Natural Resources District 2017 Fall Static Water Levels Fall 2016 to Fall 2017



	Change	# of Wells
Unit 1	+0.38	66
Unit 2	+0.03	45
Unit 3	+0.67	33
Unit 4	-0.21	41
Unit 5	-0.54	32
Unit 6	-0.49	69
Unit 7	-1.05	26
Unit 8	-1.01	39
Average	-0.25	352
QSA 8	-0.44	29
Unit 1/3	+0.64	29

B

Little Blue Natural Resources District 2017 Fall Static Water Levels Fall 2016 to Fall 2017

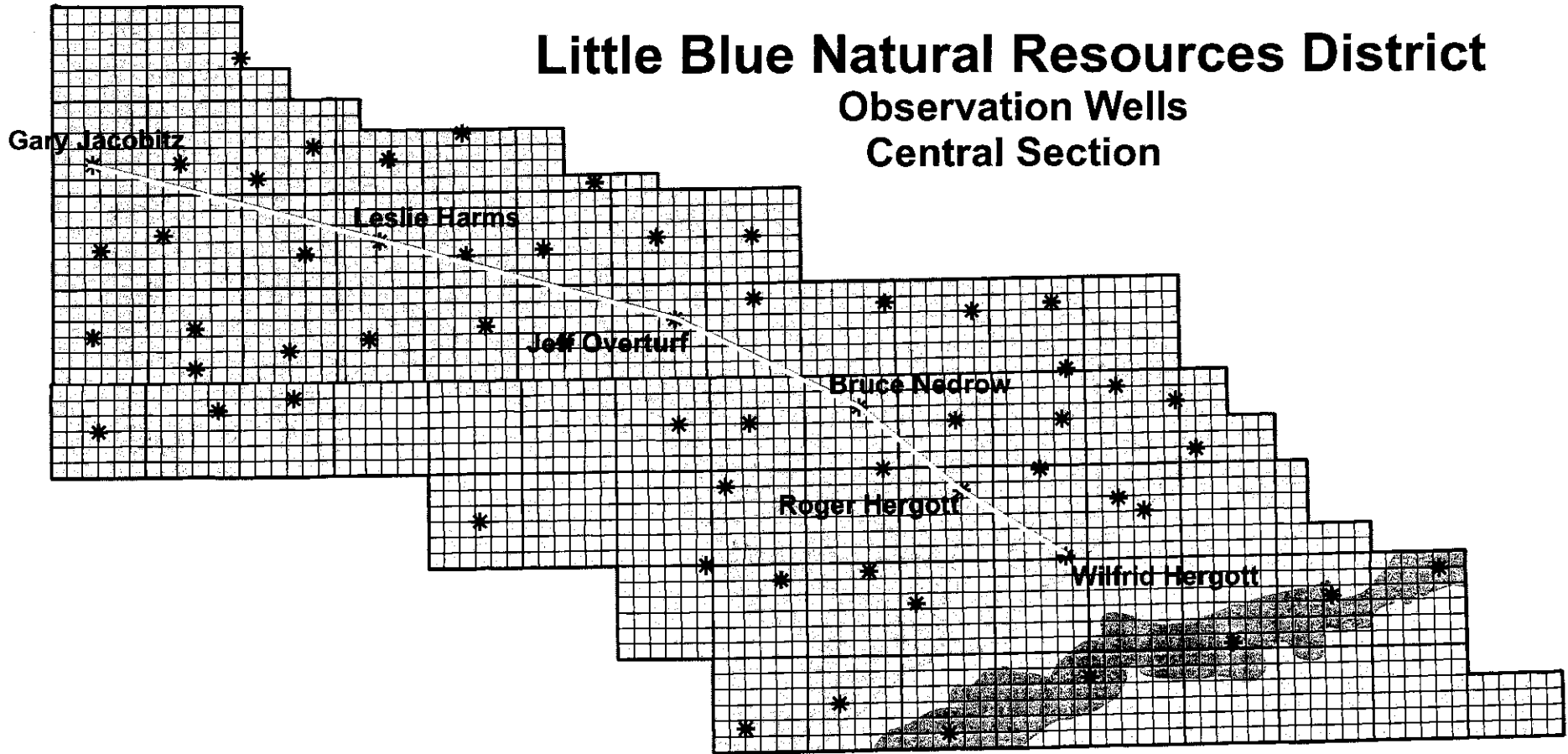


C

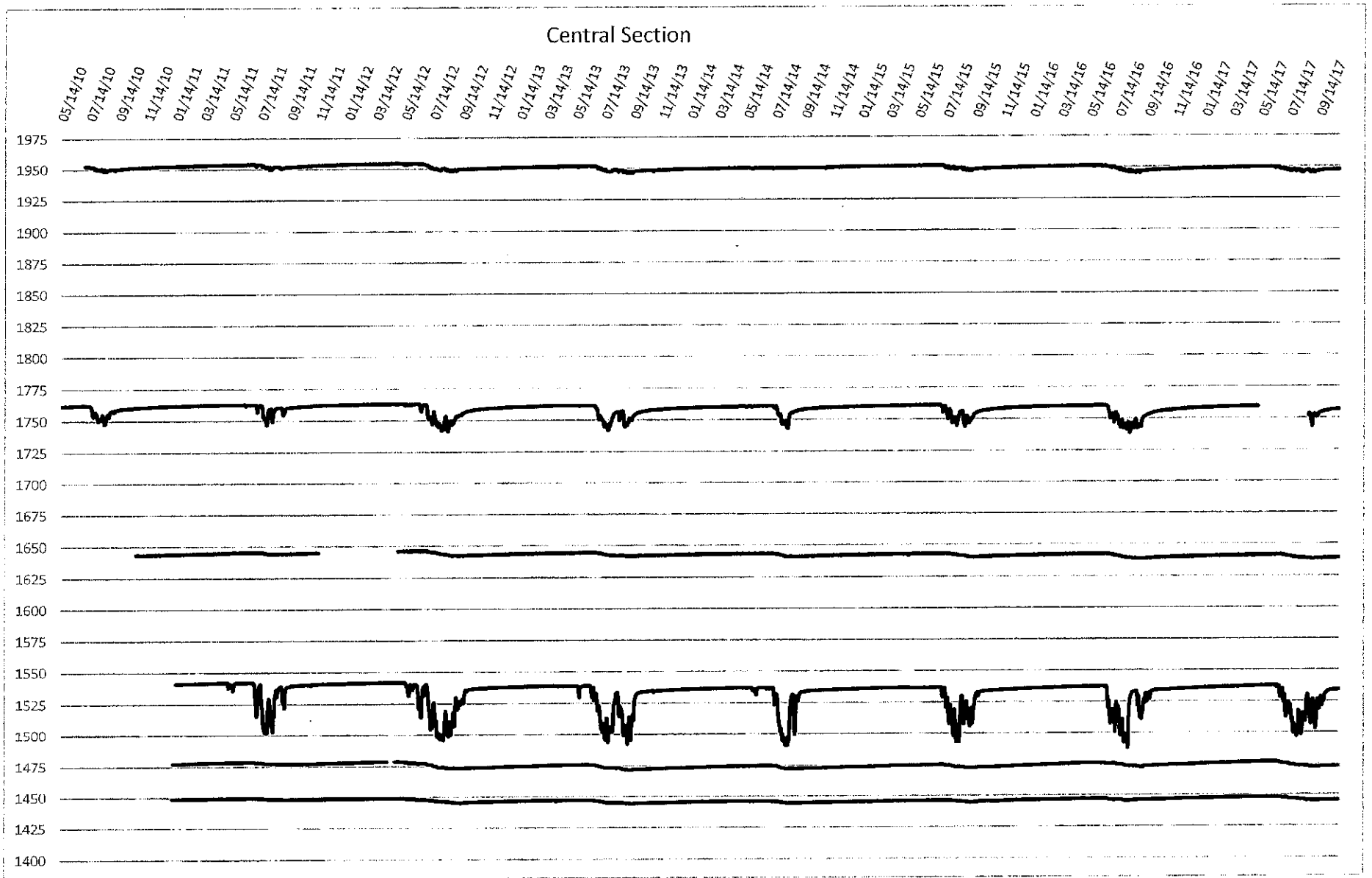
Little Blue Natural Resources District

Observation Wells

Central Section



D



E

