Jaden I. Kamen et al., Int J Earth Sci Geol. 2020
DOI: dx.doi.org/10.18689/2642-1569.a3.002

madridge CONFERENCES

5th International Conference on

GEOLOGY & EARTH SCIENCE

October 16, 2020 | Virtual Conference

Evidence of the Lignite-Water Syndrome in Louisiana

Jaden I. Kamen[1] and Robert B. Finkelman[2]
[1]Plano ISD Academy High School, USA
[2]University of Texas at Dallas, USA

Recent studies in Texas and Arkansas have demonstrated a link between groundwater in the Carrizo-Wilcox Aquifer that has been in communication with low-rank coals and a degenerative kidney disease resulting in dialysis treatment (End Stage Renal Disease, referred to here as the Lignite-Water Syndrome). This relationship was first noted in Eastern Europe where it was called Balkan Endemic Nephropathy. The Carrizo-Wilcox Aquifer and associated low-rank coals extend into northwest Louisiana. A detailed analysis of dialysis patents on a zip-code level indicated that the people living in this region have a substantially higher incidence of patients on dialysis than does the rest of the state (27.78/10,000 vs 21.24/10,000). Neither ethnicity nor age appear to be confounding factors. Data for six of the eight Parishes (Bossier, Caddo, De Soto, Natchitoches, Sabine and Webster) that produce Carrizo-Wilcox water for human consumption show that the incidence of dialysis treatment jumps to 51/10,000, a statistically significant 2.5 times the average of the rest of the state. This ratio is the same as the ratio found in Texas and North Dakota for dialysis patients in the regions underlain by low rank coals versus non-coal regions. The data indicate that the health of as many as 40% of the dialysis patients in northwest Louisiana have been impacted by drinking water from the Carrizo-Wilcox Aquifer.