PURPOSE: To establish a policy regarding Microscopic Particulate Analysis (MPA) monitoring including Crypto/Giardia testing of new water wells that are not excluded per this policy to determine if ground water is under the direct influence of surface water (GWUDI).

I. Effective 8/1/18 - LAC 51:XII.169.C.2 - *Unless LDH-OPH's exclusion criteria are met, a ground water under the direct influence of surface water (GWUDISW) determination acceptable to the state health officer shall be provided for all new wells.*

II. A ground water source that does not meet the below exemption criteria (see Section III) shall conduct MPA monitoring per the following, and in accordance with the published methods identified below:

A. Collect one or more 1 micron filters through which at least 500 gallons (~1,893 liters) of untreated groundwater has passed at a regulated flow rate over a period of no more than a 24 hours.

B. Such filters shall be refrigerated, but not frozen, and delivered to a laboratory for the identification of insects or other macroorganisms, algae, rotifers and large diameter pathogens such as Giardia or Cryptosporidium [see USEPA's "Consensus Method for Determining Groundwaters under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA)", and Method 1623.1: Cryptosporidium and Giardia in Water by Filtration/IMS/FA, for organisms and detritus of interest].

C. The laboratory utilized shall be recognized by the USEPA for such work and it shall identify such organisms or detritus found on the filter and, in the case of Giardia or Cryptosporidium, whether any observed specimens were alive or dead.

D. In addition, the laboratory report shall indicate the overall risk of surface water contamination of the tested source as one of low, medium, or high.

E. This information, in combination, with other factors mentioned under the definition of GWUDISW contained in Chapter 11 of this Part, shall be used by the state health officer in determining whether or not a new well will be deemed as a GWUDISW source.

III. The exemption criteria and process flow as derived from the EPA documentation are below.

A. Exemption Criterion 1:

The ground water sources (wells) located horizontally **200 feet** or more away from a surface water feature (SWF) are exempt from MPA monitoring and are directly considered as non-GWUDISW. For the purpose of GWUDISW determination, a surface water feature is defined as "an area inundated continuously with flowing or standing water" (i.e. "perennial" water feature). Examples of such water features are perennial canals and ditches, streams and rivers, lakes and ponds, reservoirs, swamps and marshes, and ocean features. The features that are only periodically flooded (i.e. "intermittent" water features) are not considered as SWF. In the previous Louisiana GWUDISW study, intermittent wetlands or low lying areas were not considered SWF. The horizontal distance from a SWF must be field verified.

B. Exemption Criterion 2:

The wells that are screened in a confined aquifer or separated from SWF(s) by a confining layer are exempt from MPA monitoring and are directly considered as non-GWUDISW. A confining layer is defined as "a continuous, extensive geologic unit of low permeability".

C. Exemption Criterion 3:

If a ground water source cannot meet the above exemption criteria 1 or 2, the source must meet all of the following four conditions to be exempt from MPA monitoring and is then directly considered as non-GWUDISW.

1. The top of the well screen must be 50 feet or more below the ground surface;
2. The well must have a pumping rate less than or equal to 500 gallons per minute (gpm) when on-line;
3. The well must have a properly installed sanitary seal; and
4. Water quality sampling shows no total coliform contamination, or any correlation between the ground water source and the surface water feature with respect to turbidity, temperature, pH, and conductivity.

Flow Chart - Exemption process: