GROUND WATER UNDER THE DIRECT INFLUENCE OF A SURFACE WATER (GWUDI) DETERMINATION PROTOCOL

GWUDI Parameter	Min. Sampling Frequency	Additional Criteria
pH	Weekly (continuous preferred)	All weekly water quality parameters shall be done on the same day
Temperature	Weekly (continuous preferred)	"
Conductivity	Weekly (continuous preferred)	"
Turbidity	Weekly (continuous preferred)	"
Tunnel Flow	Weekly (daily preferred)	"
Rain gage reading	Weekly (daily preferred)	"
Stream gage reading (if applicable)	Weekly (daily preferred)	"
Heterotrophic Plate Count	Weekly	"
Total Coliforms	Weekly	"
E. coli	Weekly	"
Microscopic Particulate Analysis (MPA)	Monthly **or** minimum four (4) Rainfall Events*	*Taken within 48 hrs of a 1" rainfall event (rain gage documentation required)
Giardia	Same sampling event as MPA	
Cryprosporidium	Same sampling event as MPA	

- These minimum parameters should be included in a GWUDI determination sampling protocol to be submitted to, and approved by, the Department of Health Safe Drinking Water Branch (SDWB) prior to the initiation of sampling. The protocol shall clearly describe and illustrate the sample location(s) and provide a justification for its selection, e.g. located upstream of suspected surface water-infiltrating portals, contributing streams, springs, etc. Historical data can be used to justify the selection. Minimum data collection period is **6 months (wet weather period only),** with a recommendation for 12 months to account for all seasonal variations. Wet weather period is considered to occur in the months of November through May (NOAA data). The SDWB shall be given the opportunity to observe sampling events and shall be provided with adequate notice to schedule such an observation visit. EPA drinking water methods and Department of Health certified labs shall be used where applicable.

- Once data is obtained based on this protocol, the applicant shall submit a report that analyzes the data and all affecting surface and subsurface hydrogeological factors, pathogen sources and potentially contaminating activities, and provides a GWUDI recommendation. The SDWB will review, provide comments if applicable, and concur or disagree with the GWUDI determination.

- The SDWB will also be given the opportunity to inspect the suspected GWUDI site (contributing area aboveground, visible portals, openings, etc) as a part of our sampling protocol approval and ultimately our GWUDI determination process – preferably before the setup of the sampling equipment.

- The SDWB reserves the right to modify this protocol, including test parameters, sampling frequency, and study duration, depending on the unique climatological, hydrogeological, or other affecting (watershed practices, source design, etc.) conditions presented at the source in question.