

# Triggered Source Monitoring

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# Triggered Source Water Monitoring §290.109(c)(4)(A)

- Required for all ground water systems that do not provide 4-log treatment of viruses and have a coliform positive distribution sample (and result is not invalidated)
- Source sample must be collected from each active well within 24 hours

# Triggered Source Water Monitoring Exceptions

§290.109(c)(4)(D)

- Invalidations
- GWS may submit for review that a TC+ distribution sample was caused by a Distribution Deficiency
  - No chlorine residual
  - Pressure drop
  - Sample collected from location or in a manner that could produce a false positive
  - Other

# Triggered Source Monitoring

- A positive distribution sample requires a sample from each active well
- PWS may sample only 'representative' wells  
IF
- Triggered Source Monitoring Plan approved by TCEQ

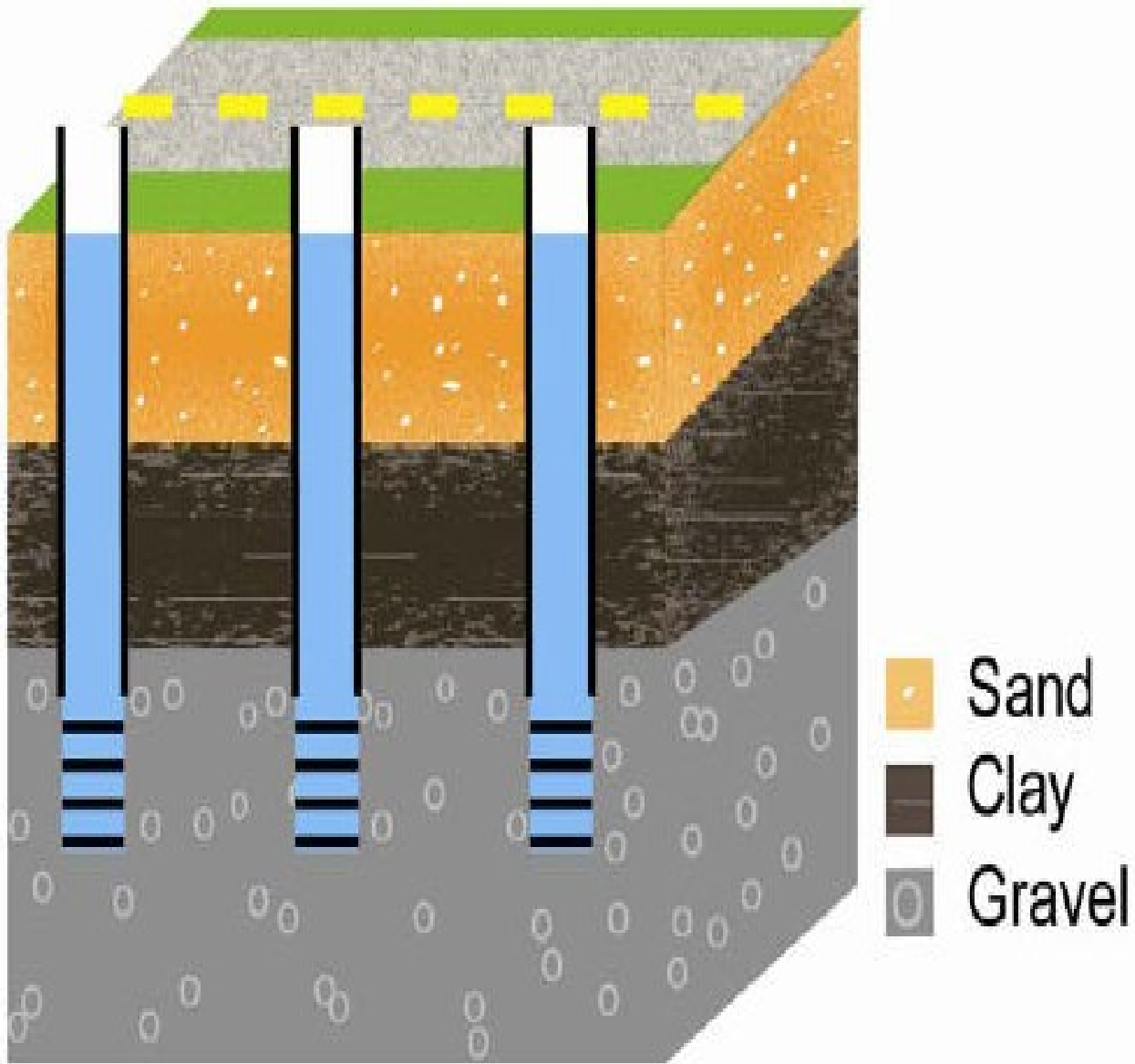
# Triggered Source Monitoring Plan (TSMP) §290.109(c)(4)(B)(ii)

- TSMP describes representative wells
  - Wells representing other wells
  - Wells representing distribution sites

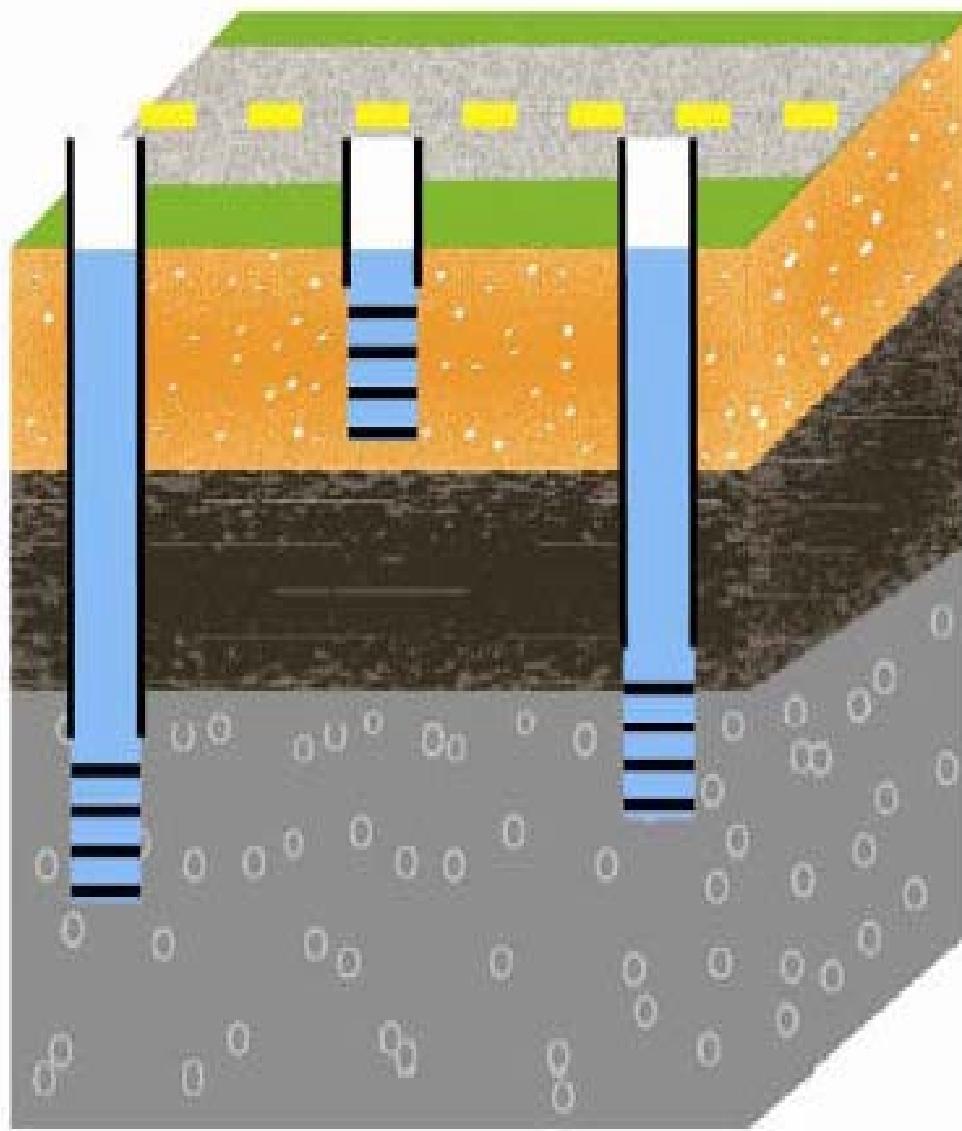
## Representative Wells

- Wells that are representative of other wells
  - If well field contains several similar wells (same depth, aquifer, construction) PWS may select ONE well in well field to sample (rather than all wells)

Representative  
Wells -  
Acceptable



50 Feet



Not  
Representative

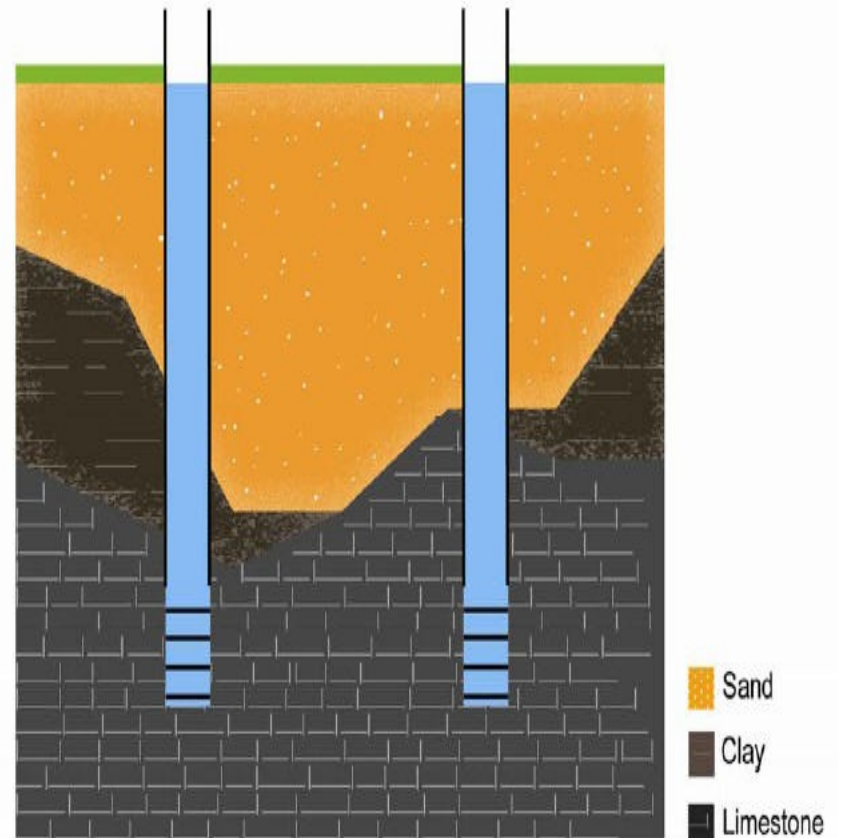
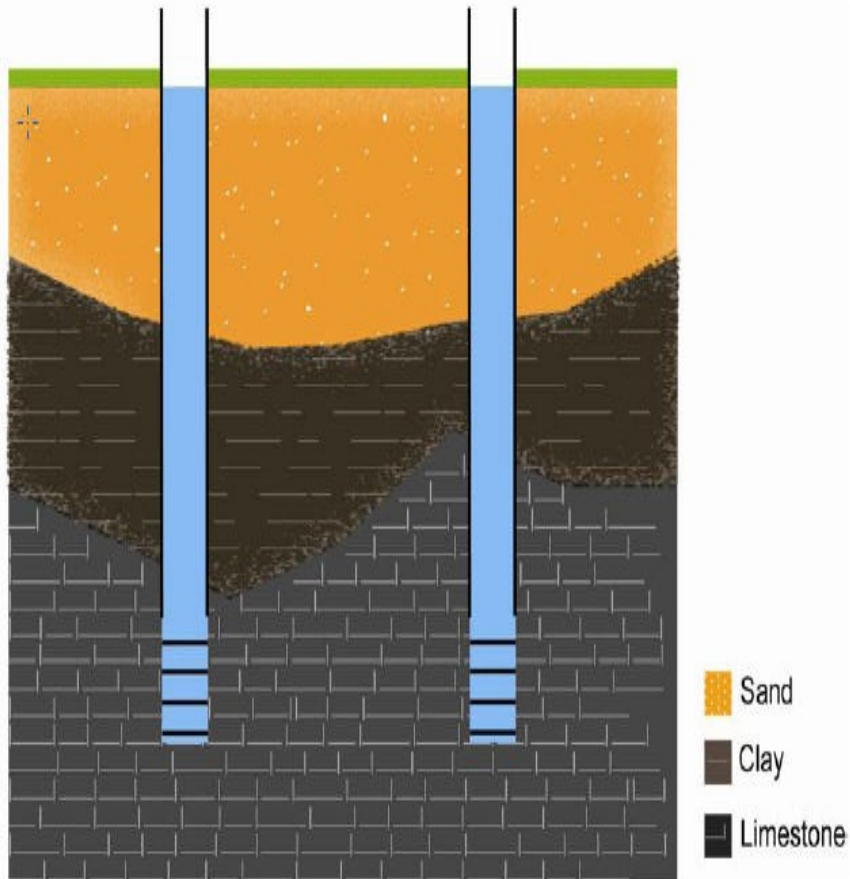
-  Sand
-  Clay
-  Gravel

  
50 Feet





# Importance of Well Logs



**Table 2-7. Requirements for Representative Well Group Table**

Well proposed to be sampled as representative of the group *	Backup Well ID	Source IDs of Wells Represented	Names of Wells Represented	Well Depth / Aquifer	Entry Point(s) associated with wells
The well that you propose to sample as representative of the group of wells.	Well to be sampled if primary representative well is offline.	TCEQ source IDs for wells that are proposed to be represented by the well listed in the first column.	System's name for well.	Depth of well / aquifer that those wells draw water from.	Usually a group of wells will feed the same entry point, but not always.

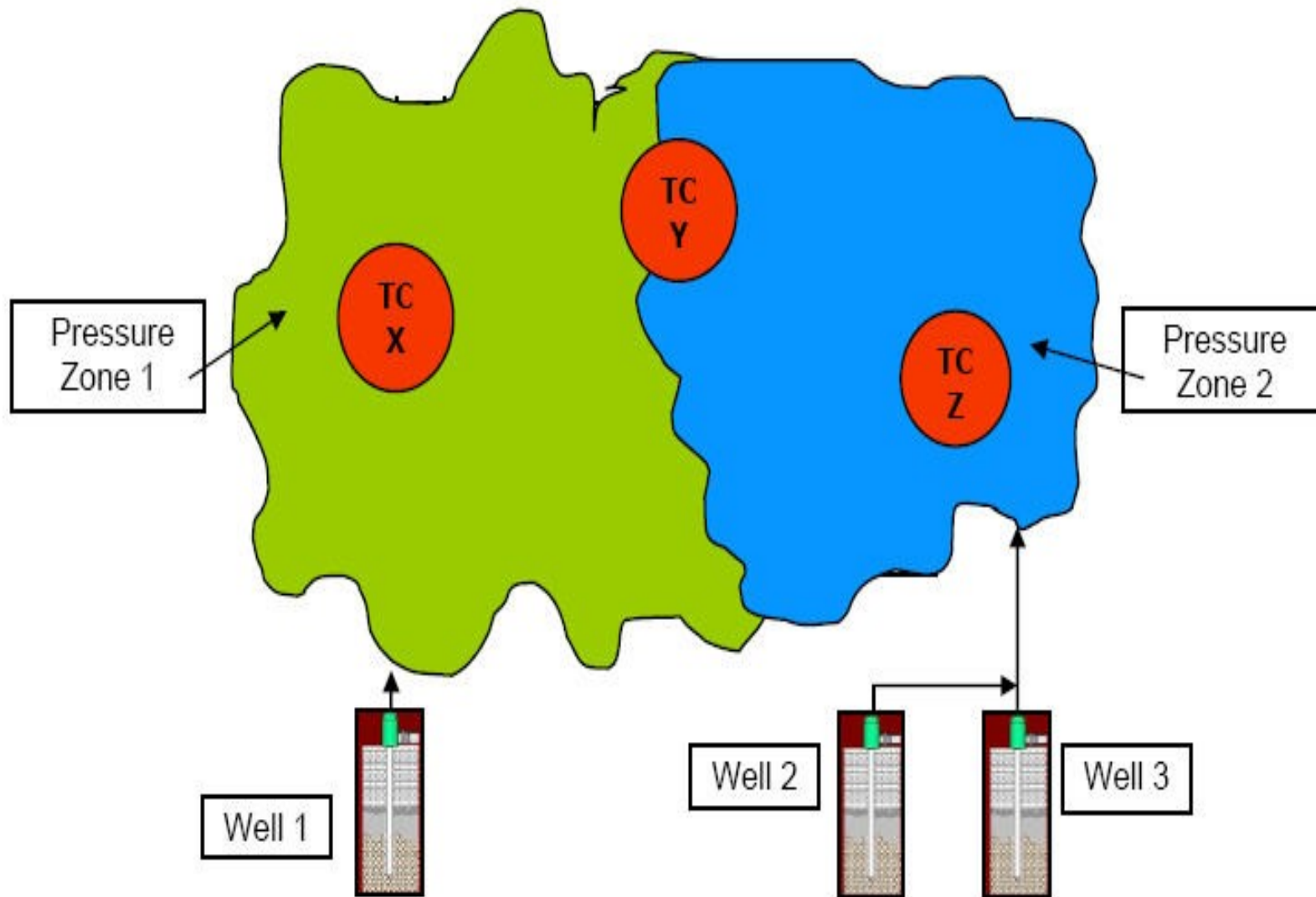
**Table 2-8. Example of Representative Well Table (for One Group with Two Wells)**

Representative Well ID	Backup Rep Well ID	Source IDs of Wells Represented	Names of Wells Represented	Well Depth / Aquifer	Entry Point(s) associated with wells
G1019999A	G1019999B	G1019999A	Well 1	Chicot / 280'	EP001
		G1019999B	Well 2	Chicot / 300'	

**Table 2-9. Example of Representative Well Table (for Two Groups with Eight Wells)**

Representative Well ID	Backup Rep Well ID	Source IDs of Wells Represented	Names of Wells Represented	Well Depth / Aquifer	Entry Point(s) associated with wells
G2550001A	G2550001B	G2550001A	Well 1	Glen Rose / 1233'	EP001
		G2550001B	Well 2	Glen Rose / 1200'	
		G2550001C	Well 3	Glen Rose / 1188'	
		G2550001D	Well 4	Glen Rose / 1046'	
G2550001E	G2550001F	G2550001E	Well 5	Trinity / 541'	EP002
		G2550001F	Well 6	Trinity / 540'	
		G2550001G	Well 7	Trinity / 555'	
		G2550001H	Well 8	Trinity / 539'	

# Distribution System with Multiple Pressure Zones



# Pressure Zone Table

<b>TCR Site</b>	<b>Pressure Zone</b>	<b>Contributing Wells</b>
1	South	South Ave Well 1 South Ave Well 2 Diehl Drive Well Main Well 1 Main Well 2 Main Well 3 West Side Well
2	North Central	Main Well 1 Main Well 2 Main Well 3
3	West Side	Main Well 1 Main Well 2 Main Well 3 West Side Well
4	West Side	Main Well 1 Main Well 2 Main Well 3 West Side Well

**Table 2-1. Source Sample Site Table Field Definitions**

Source	TCEQ Source ID	Sample Site	Notes
List the source(s). Use the system's name for the source.	The 9-digit code that you can find in TCEQ documentation. The first letter is a code for the type of source, then the 7-digit PWS ID, then a letter code to distinguish each unique source.	A brief description of the place where you sample the source water. For a well, this is often "Tap at Well Head," for a purchased water source it is often "Tap at Take Point," for a SWTP it is often "Lab Raw Tap."	Make any comments that are important. Note if the well is only used on an emergency basis. For emergency wells, note the 5-year sample cycle.

**Table 2-2. Example Source Sample Site Table for a System with One Well**

Source	TCEQ Source ID	Sample Site	Notes
Well 1	G3560046A	Wellhead	

**Table 2-3. Example Source Sample Site Table for a System with Wells, Surface Water, and Purchased Water**

Source	TCEQ Source ID	Sample Site	Notes
Well 1	G2550001A	Wellhead	Emergency (5-yr samples due in 2010)
Well 2	G2550001B	Wellhead	
Raging River	S2550001A	Raw sample tap in SWTP lab	
Purchased water from the City of Aquadulce	P2550001A	Sample station at 123 Elm Street	<u>Aquadulce PWS 2550003</u>

**Table 2-4. Requirements for Source Monitoring Plan: Distribution Sites and Sources Link Table**

<b>Routine Distribution Coliform Sample Site</b>	<b>Entry point that feeds that site</b>	<b>Wells that feed that entry point</b>
List all routine distribution coliform sites. This list should already be in your monitoring plan under the "Distribution" section. If the sites are numbered, include them.	List any entry points that feed each routine distribution coliform site. If that changes under different operating conditions, list all the entry points that might feed that part of the system. If you know that a site gets water from a different entry point in the summer and winter, note that.	List all the wells that feed each entry point. Include emergency and demand wells.

**Table 2-5. Example of Source Monitoring Plan Distribution Sites and Sources Link Table Showing Various Types of Sources and Sites for Ground or Surface Water**

<b>Routine Distribution Coliform Sample Site</b>		<b>Entry Point that feeds that site</b>	<b>Wells that feed that Entry point</b>
1	City Hall	EP001	Well 1 (emergency), Well 2
2	Fire Department		
3	123 Apple Street	EP002	Well 3
4	15401 Querca Street		
5	20 Industrial Park Road	EP003	Purchases treated ground water from Frio WSC (PWS 3210009)
6	456 Fleet Street (Operator's house – Alternate sample site)	EP001	Well 1 (emergency), Well 2

**Table 2-6. Example of Source Monitoring Plan Distribution Sites and Sources Link Table For Figure 2-1, A Community PWS with Two Wells and Seven Coliform Sites**

<b>City of County Seat, Source Monitoring Plan</b>			
<b>Routine Distribution Coliform Sample Site</b>		<b>Well / EP</b>	
		<b>Summer Well 1 (demand)</b>	<b>Winter Well 2 Only</b>
SS-A	Sample Station at 765 FM 4691	Well 1 / Entry Point 1	Well 2 / Entry Point 2
SS-B	Hose bib at NE corner of Court House	Well 2 / Entry Point 2	
SS-C	Sample Station at High School (Bldg 4)	Well 2 / Entry Point 2	
SS-D	Hose bib at SW corner of Middle School	Well 1 / Entry Point 1 or Well 2 / Entry Point 2	
SS-E	Sample Station at 987 S East Avenue	Well 2 / Entry Point 2	
SS-F	(alt) Hose bib at back of roadhouse	Well 1 / Entry Point 1	
SS-G	(alt) Hose bib on side of church	Well 2 / Entry Point 2	

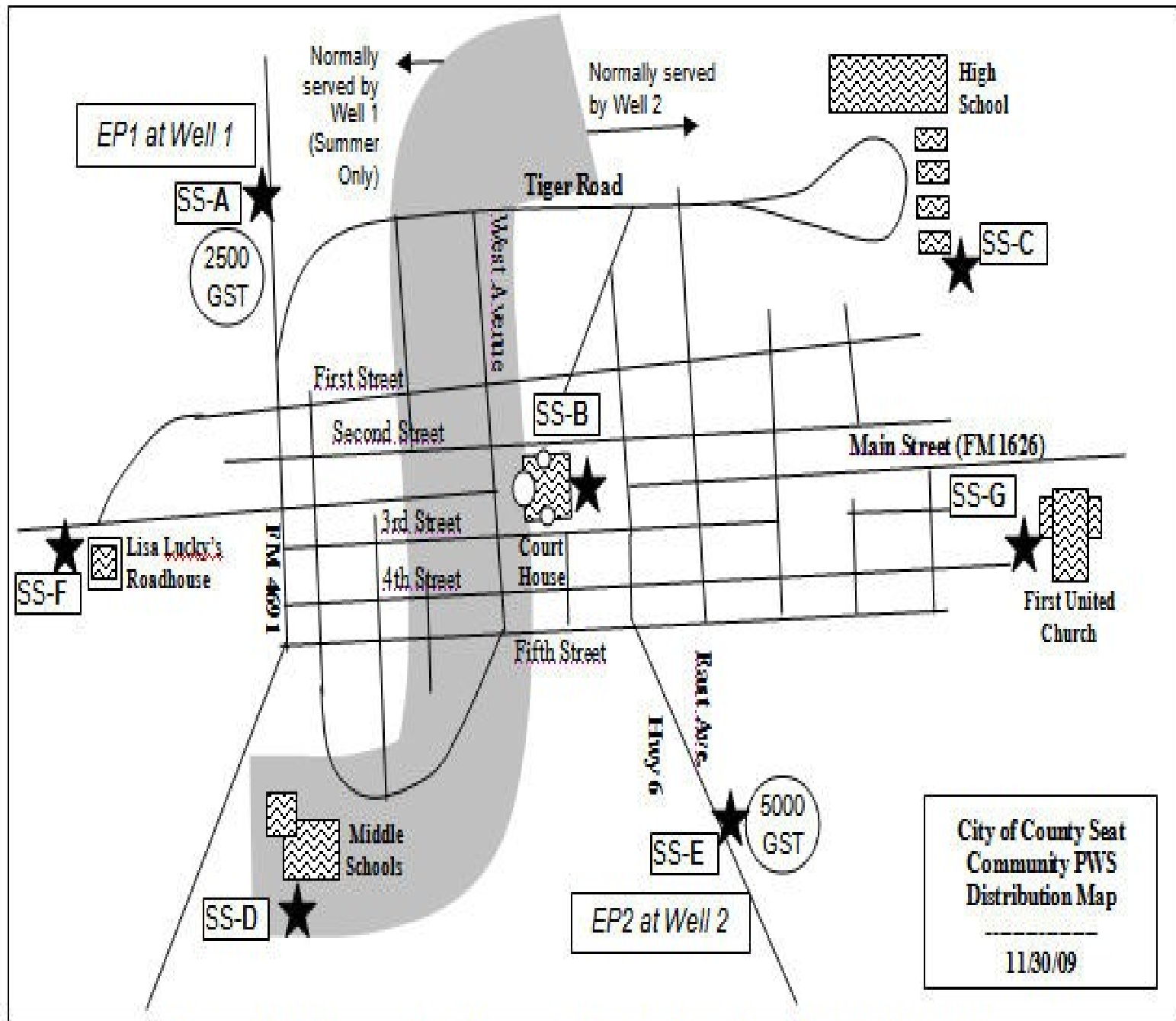


Figure 2-1 Example of Source Monitoring Plan Distribution Map



# Data Required for Triggered Source Monitoring Plan

- Well logs
- Well output (gpm)
- Operational status of well
- Maps
- Sources with raw monitoring requirements
- Tables

## Providers of Ground Water

- Receiver PWS must notify Provider PWS within 24 hours of distribution sample TC+ result
- Providers must collect source sample within 24 hours

## Important Timeframes

- Labs must be aware of the 24-hr source sample requirement
- If GWS request:
  - Invalidations
  - Or review of Distribution Deficiency Reason
- Purchaser of GW with distribution TC+

# **Public Notification (PN)**

**§290.109(g)**

**§290.122**

## 90-Day PN Required

- When a GW PWS fails to:
  - Conduct triggered source water monitoring

**TCEQ**  
**Public Drinking Water Section**  
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