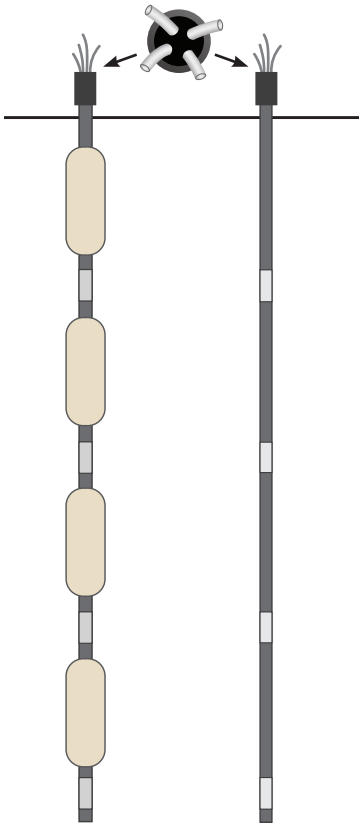
Choosing the Right Monitoring Well

Source: https://health.hawaii.gov/heer/tgm/section-06/

Groundwater. We all recognize it as a necessity and the need to keep watch on its quality and quantity with time. However, how do we effectively monitor something that we can't see? The short answer – choose the right monitoring wells!

As an environmental colleague working in the industry, your goal is our goal – to select a monitoring well that provides detailed information on hydraulic and transport properties and water chemistry from each geological stratigraphy so changes can be identified over time. You're looking for cost-efficient, defensible data that's easy to collect.

Get Quote

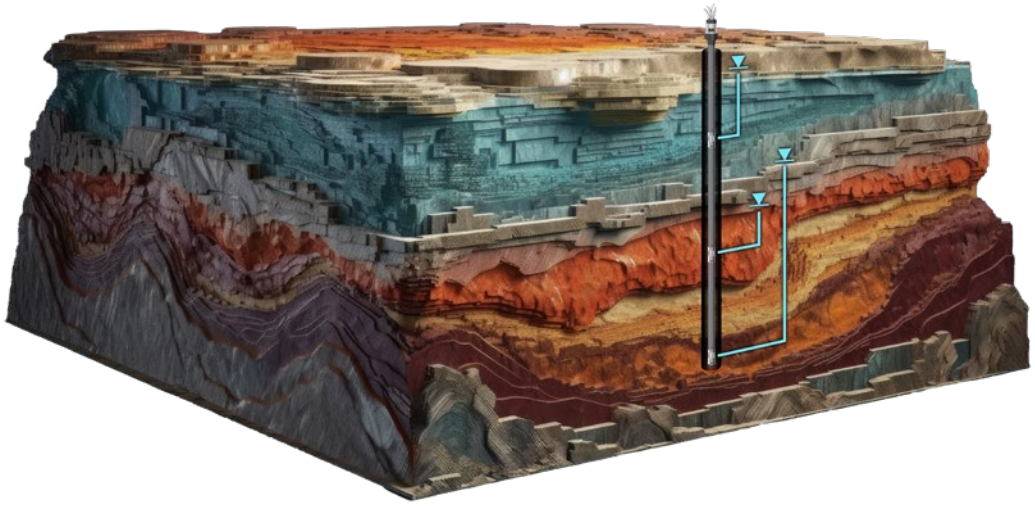


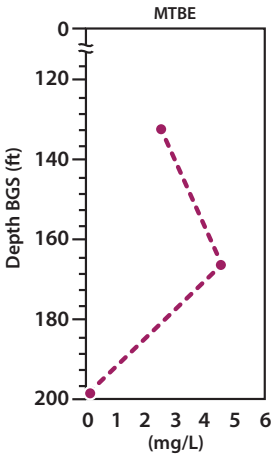
The Multiple Level Well (aka. Multilevel) – what is it?

As pictured, Multilevel monitoring wells use a number of individually isolated short screens to 'capture' water at each specific depth in a single borehole. Each well screen is isolated using sequences of clay seals or borehole Packers so that a representative water level and water sample can be collected from multiple depths in a single borehole.

Reasons for Using a Multiple Level Well.

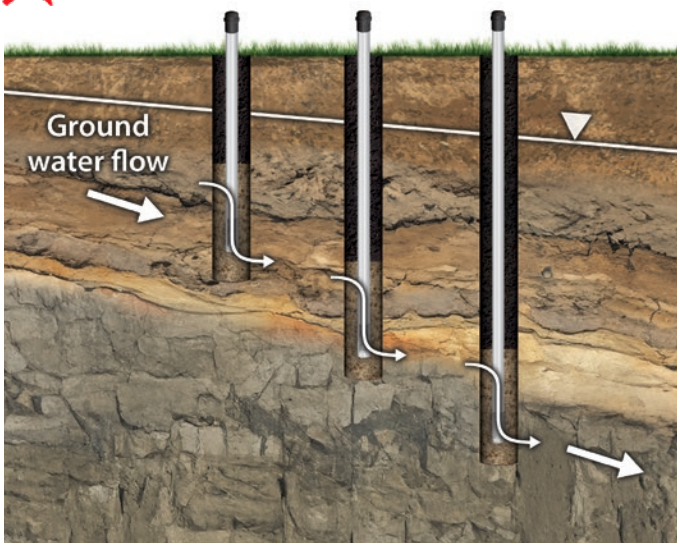
Geology is not always 'homogeneous'. Understanding the vertical differences in water levels and water chemistry across complex geology is key.



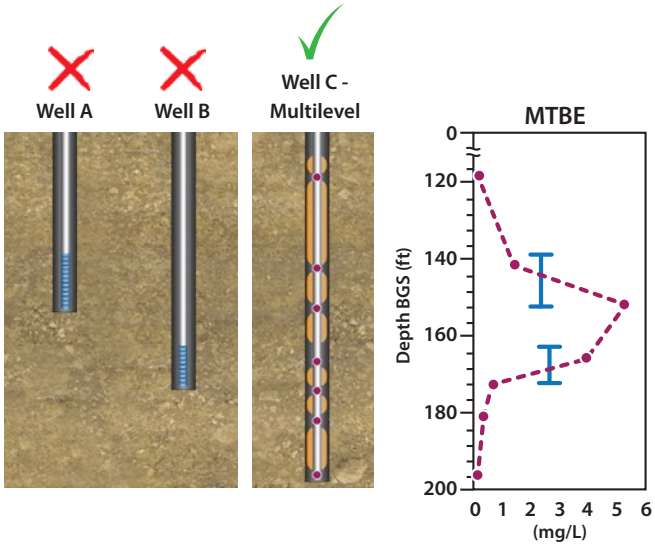


Why Use Multilevel Groundwater Monitoring Wells?

✗ **Well Cluster - Not Ideal**

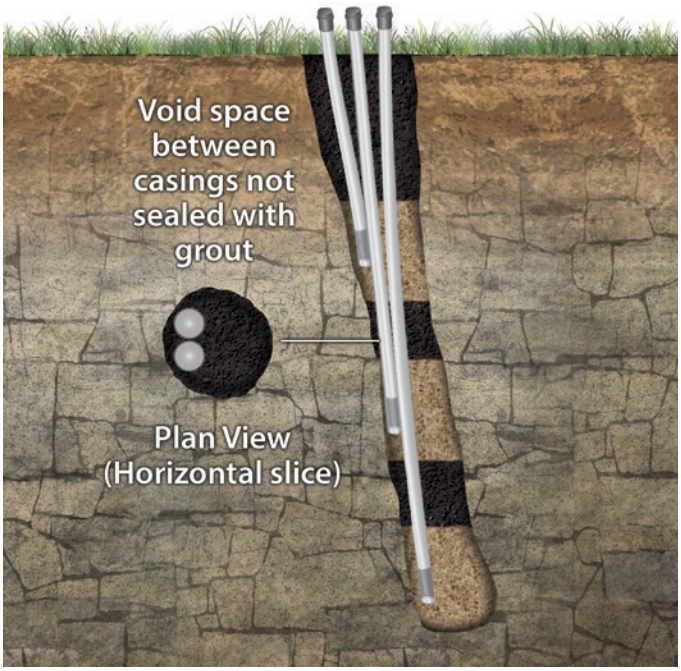


Installing well clusters can create 'short-circuit' pathways for water levels and chemistry across over-lapping sand packs.



Long-screen wells can 'over-estimate' a contaminate thickness and 'under-estimate' the maximum concentration.

✗ **Nested Wells - Not Ideal**

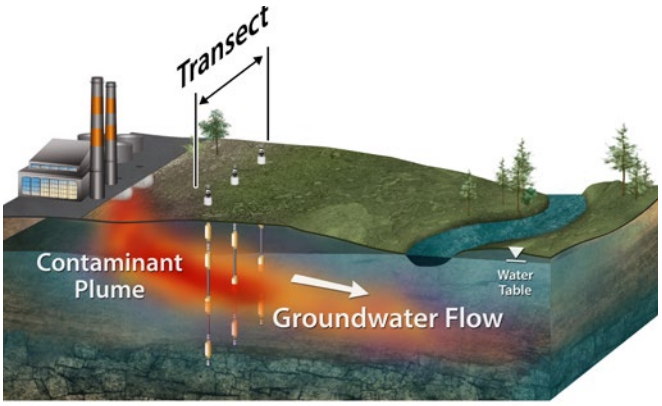


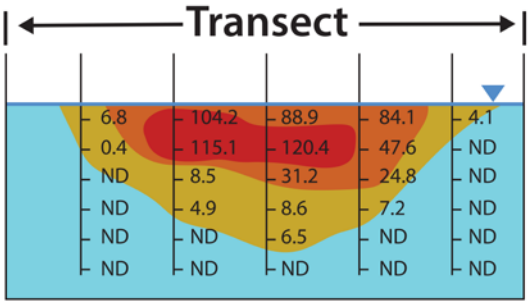
Nested wells can also present biased chemistry and water levels at poorly sealed zones.

Why Use Multilevel Groundwater Monitoring Wells?

Multiple Level Wells Provide High Resolution Data

Creating 'transects' across zones of interest provides depth discrete data that can be compared 'seasonally' through various geological strata.





Multilevels Provide Three Dimensional Groundwater Data

Multiple Level Well Case Study Examples

[Planting 51 Trees Speeds Up Toluene Cleanup Efforts]

[High-Resolution Groundwater Data Proves Value Of CMT Systems In Botlek Area]

[Extensive Groundwater Monitoring Program At Refinery In Australia]

[Waterloo Multilevel Systems Help Characterize Plume In Landfill Expansion Project]

[19 CMT Multilevel Systems Successfully Installed In Challenging Geology]

[Flexible CMT System Adapted To Measure Submarine Groundwater]

[CMT Used To Measure Mass Flux At A Complex Site]

[CMT Ideal For Chlorinated Solvent Assessment]

[CMT Defines Vertical Gradients And Contamination At A UK Landfill Site]

[CMT System The Clear Choice For A German Air Force Base]

[CMT Bentonite Packers Used By AECL]

[Waterloo Multilevel Network Being Used To Characterize And Develop Remediation Strategy]

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