



KCI Turbidity Services Guide




Introduction

Protecting water quality is a foundational responsibility on any construction, dewatering, or industrial project—and turbidity monitoring is one of the most effective ways to do it. Turbidity, the cloudiness or haziness caused by tiny suspended particles, is a key indicator of water quality and plays a critical role in maintaining environmental compliance. Whether you're measuring conditions before construction begins, monitoring discharge during active dewatering, or sampling surface waters to assess potential impacts, having a clear, consistent approach ensures your data is accurate, defensible, and actionable.

This guide provides a field-ready workflow designed to help teams carry out turbidity monitoring safely, efficiently, and in alignment with best practices. From understanding the project type to preparing equipment, collecting samples, documenting results, and submitting reports, each step supports reliable decision-making and regulatory confidence. Whether your team is new to turbidity monitoring or experienced in the field, this practical framework will help standardize your process and strengthen environmental performance across projects.

KCI's environmental compliance experts are also available to assist with developing customized sampling plans, training field personnel, and enhancing quality control practices—ensuring you have the tools and support needed to protect water quality and meet regulatory requirements with confidence.



KCI is the consulting partner clients trust to deliver precision, reliability, and excellence in water quality testing by combining technical expertise, rigorous field practices, and unwavering commitment to environmental compliance to ensure every project meets the highest standards of performance and protection.

A Practical Guide to Turbidity Monitoring for Dewatering and Surface Water Projects

1. Identify the Project Type Requiring Turbidity Monitoring

Begin by confirming the exact type of project or activity that calls for turbidity measurement. This information is typically provided by the Project or Service Team and determines sampling requirements.

Common scenarios include:

- Groundwater dewatering
- Surface water monitoring
- Industrial facility discharge
- Construction site stormwater activities

Understanding the project type ensures proper sampling locations and procedural compliance.

2. Prepare Your Equipment

Ensure you are equipped with:

- A calibrated turbidity meter
- A grab pole suitable for the water depth and conditions

Always verify that the turbidity meter has been calibrated according to manufacturer or company standards before beginning the sampling event.

3. Determine Background Turbidity (If Required)

Some projects require documenting a background reading—the natural turbidity level of the water before any project-related disturbance.

This may involve collecting a sample from:

- An upstream location
- A reference point untouched by operations

Background data establishes a baseline for evaluating potential impacts.

4. Begin Completing the Turbidity Log

Before collecting any samples, fill out preliminary sections of the turbidity log, including:

- Turbidity meter model and serial number
- Last calibration date
- Weather conditions or other relevant notes

Accurate documentation creates defensible and reliable reporting.

5. Collect Turbidity Samples at the Assigned Sampling Points

Sampling locations are determined by project-specific requirements and may include:

During Dewatering Operations

- Downstream of the discharge point
- Directly at the point of discharge
- Multiple sampling points if needed for a representative analysis

The consultant should assess the number and placement of sampling locations, and some clients may pre-define them.

Surface Water Monitoring

Use the grab pole to collect a representative sample from the water column:

- Lower the pole deep enough to avoid surface-only readings
- Move the pole in and out to obtain a homogenous sample

This helps ensure that the collected water reflects actual conditions.

6. Prepare the Sample Vial

Once the grab sample is collected:

1. Rinse the vial with the water sample three times to remove any residue.
2. Ensure the vial is clean and free from contaminants.

Proper vial preparation is essential for accurate measurement.

7. Dry and Clean the Vial Exterior

Before placing the vial into the meter:

- Remove all water droplets from the outside
- Wipe away fingerprints or smudges

External moisture or smearing can interfere with the light path and distort results.

8. Align the Vial with the Meter

Insert the sample vial into the turbidity meter:

- Align the arrow on the vial with the arrow on the meter, if applicable
- (Some meters do not require alignment.)

This ensures the reading is taken through the correct optical path.

9. Read the Sample

Close the meter's sampling chamber or lid.

Ensure:

- The meter is on a stable, flat surface
- The chamber is fully closed

Then initiate the reading. The meter will display the turbidity value in NTU (Nephelometric Turbidity Units).

10. Document the Results

Record the turbidity value in the turbidity log.

Be specific and detailed:

- Exact sampling location
- Time of collection
- Any field observations (e.g., color, odor, flow conditions)

Clear documentation supports transparency and compliance.

11. Submit the Turbidity Log

Once all samples and readings are recorded:

- Deliver the turbidity log to the appropriate project contacts
- Follow project-specific communication protocols

Timely submission ensures results can be reviewed and acted upon promptly.

Conclusion

Turbidity monitoring is a critical component of environmental stewardship and regulatory compliance. By following a consistent, systematic process—from preparing equipment to documenting results—field teams can provide reliable data that protects water quality and supports responsible project execution.

If you need help developing customized sampling plans, training field personnel, or enhancing quality control practices, KCI's environmental compliance experts are ready to assist.