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Response to Comments on Site 1 Long-Term Monitoring Plan

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DATE: August 12, 1998

Responses to EPA, BTAG and WVDEP comments on the Draft Site 1 Long-Term Monitoring Plan are provided below for your review. Please review so we can discuss any questions or concerns you may have during our conference call at 10:00 AM 8/21/98.

EPA COMMENTS

General Comments

1. In order to meet the goal of restoring the aquifers to beneficial use, the detection levels for groundwater analysis must be low enough to allow us to decide that we have reached MCLs. Low level detection also applies to demonstrate that contaminated groundwater is not flowing into surface waters above AWQCs. Please incorporate the low level organic analysis in at least some of the monitoring for both groundwater and surface water.

The detection limits for TCL VOCs will be reduced using EPA Method OLC02 with a detection limit of 1 ug/l. However, if screening indicates total VOC concentrations are too high EPA Method OLM03 will be performed with a detection limit of 10 ug/l. The plan will be changed to reflect this.

2. There may be some uncertainty concerning the levels of contaminants from the treated water discharge and the possibility of the same contaminants discharging from one or more Plant 1 discharge outfalls.

As agreed in the May Partnering Meeting, baseline surface water, sediment and macroinvertebrate sampling will be performed immediately downstream from the outfall upstream of Site 1. Adding this to the sampling scheme shown in Figure 2-2 should provide the baseline data necessary to address this concern.

Specific Comments

Section 1 Introduction

1. Page 1-2. Description and History. Please add a brief discussion of the 16 outfalls for ABL, the program under which they are monitored, the types of analysis, and please include the general locations on Figure 1-2. Also, please indicate on Figure 1-12 and Figure 1-13 the locations of any discharge outfalls that are close to Site 1.

Comment will be incorporated. Dave I will need your help on this.

2. Page 1-3. 3rd bullet, bottom of the page. The selected remedy in the ROD does not indicate the specific flow capacity for the treatment plant.

The bullet will be deleted.

Section 2 Monitoring Strategy

3. Page 2-1. Last Paragraph. Since measurement of water levels is critical during the early stages of pump-and-treat, additional monitoring wells may be needed to effectively document the capture zone and changes in hydraulic head conditions to the system caused by pumping. Because hydraulic conductivity is low in the alluvial aquifer in the area north of the disposal pits, additional monitoring wells may be needed between existing well pairs 1GW12/1GW39 and 1GW9/1GW34 and between 1GW9/1GW34 and 1GW35/1GW36. Please add a brief discussion concerning the possibility of new monitoring wells, especially if there is any change in the planned pumping in the area north of the disposal pits.

The following paragraph has been added following the cited paragraph:

The monitoring well configuration will continually be evaluated along with the extraction well configuration. If appropriate, the monitoring well configuration will be modified by adding new or existing wells or discontinuing monitoring of wells currently included in the system. This is likely to occur if the extraction well configuration is modified.

4. Page 2-2. Top of the Page. Please discuss the possible uncertainty caused by comparing the groundwater levels to one surface water level down gradient (down stream) from the groundwater discharge area. Indicate if there might be a second surface water level measuring point located upgradient (upstream) from Site 1.

The following sentences have been added to the end of the paragraph:

The river monitoring station will be located downstream of Site 1 giving a conservative estimate of the river level when compared with the groundwater level in the extraction wells. If this conservative comparison raises concern over the performance of the system, measurements from the USGS Pinto gauging station upstream of Site 1 will be used to more accurately determine the river level along the site.

5. Page 2-2. Fourth Paragraph. Please indicate that monthly manual monitoring would also be required after any major changes in pumping (i.e. shutting down selected wells in the system) of the extraction system.

The following sentence has been added to the end of the paragraph:

However, monthly manual water-level measurements should be performed if changes to the extraction well configuration are made.

6. Page 2-5. Third Paragraph. Groundwater quality sampling will be more important in the later years (as opposed to groundwater levels, which are more important early on). For this reason, quarterly groundwater quality sampling will prove to be even more important after the second year the system is in operation. The annual evaluation might recommend continued quarterly sampling of appropriate wells for sometime after the first year and for planning purposes, it may be wise to assume that some type of quarterly monitoring should occur for years 3 through 5, although the exact number of wells and their locations can be worked out. The annual evaluation can be used to decide what changes might be required in the frequency of monitoring.

The second sentence in this paragraph has been changed to read:

With concurrence from all parties, sampling frequency may be unchanged or reduced to semiannual, annual or another interval.

7. Page 2-6. Table 2-2. The detection limits for groundwater/surface water on Table 2-2 are high. In order for us to decide that the groundwater is clean in certain areas, the detection levels will have to be below or at the MCLs for those compounds. At least one of the rounds of sampling should analyze organics using Organic Low Concentration (OLC) analysis. These lower detect levels will also assist in detecting and evaluating any risks from possible degradation chemicals, i.e. vinyl chloride.

The detection limits for TCL VOCs will be reduced using EPA Method OLC02 with a detection limit of 1 ug/l. However, if screening indicates total VOC concentrations are too high EPA Method OLM03 will be performed with a detection limit of 10 ug/l.

8. Page 2-8. Second Paragraph. Please indicate the locations for the Plant 1 discharge outfalls on this figure. Also, please indicate the range for river flow stage over which sampling will be allowed. Discuss not sampling within a short time after major rain events or other high water events.

The locations of discharge outfalls will be located on this figure. The following discussion will be added after the second paragraph:

It is important to collect surface water and sediment samples during normal flow conditions. Samples should not be collected if the river is flowing above its banks or if the river is more than two feet below average flow conditions. Flow conditions can be monitored using the transducer located downstream of Site 1.

9. Page 2-9. Second Paragraph. The detection limits for surface water on Table 2-2 are high.

The detection limits for TCL VOCs will be reduced using EPA Method OLC02 with a detection limit of 1 ug/l. However, if screening indicates total VOC concentrations are too high EPA Method OLM03 will be performed with a detection limit of 10 ug/l.

10. Page 2-10. Second Paragraph. There is no discussion about the type of fish that will be monitored for in the study area. Please indicate the most likely type of fish for each proposed free swimming and bottom dwelling group.

The free swimmer fish species monitored will be red breast sunfish and the bottom feeder will be white sucker.

11. Page 2-10. Last Paragraph. Please move the macro invertebrate sampling location selected at the April 7th Partnering Meeting to the new upgradient (i.e. Site 5) location.

Figure 2-2 and the text will be modified in accordance with this agreed upon location.

Section 3 Data Collection, Management, and Interpretation

12. Page 3-1. Seventh Paragraph. Please change Table 3-1 to indicate low level analysis.

The detection limits for TCL VOCs will be reduced in Table 3-1 using EPA Method OLC02 with a detection limit of 1 ug/l. However, if screening indicates total VOC concentrations are too high EPA Method OLM03 will be performed with a detection limit of 10 ug/l.

13. Page 3-2. Second Full Paragraph. Please expand the discussion of the numerical modeling to include how long the system might take to reach steady-state given the proposed pumping rates.

Discussion will be added to estimate the time necessary to approach steady state. This estimate will be made using the Theis equation or the numerical model developed for the site. The time period will likely be approximately one week.

Section 4 Reporting and Notification

14. Page 4-1. First Paragraph. In addition to the annual monitoring report, please plan to present results from each sampling event plus any statistical analysis or trend

evaluation in a brief memorandum to be submitted to the identified distribution list. These reports can be presented electronically.

The following discussion has been added after the first paragraph:

Monthly water-level data, extraction system flow data, discharge monitoring data, and analytical groundwater, surface water and sediment data will be submitted to the EPA and WVDEP more frequently. Piezometric surface maps developed from monthly manual measurements and average daily and monthly extraction well flow data continuously recorded by the plant's PLC will be submitted electronically. Groundwater, surface water and sediment analytical data will be submitted electronically in excel spreadsheets within two weeks after receipt from the laboratory. Discharge monitoring data will be submitted electronically within one week of sampling.

15. Page 4-1. Third Paragraph. Please drop the Corps of Engineers from the submittal for annual reports.

Comment incorporated.

16. Page 4-2. EPA Address. Please change the EPA contact address to:

Mr. Bruce Beach/Code 3HS50
Hazardous Site Cleanup Division
Federal Facilities Branch

Comment incorporated.

16. Page 4-3. Corps of Engineers. Please drop the Corps from the distribution list.

Comment incorporated.

Appendix C Field Sampling Plan (FSP)

1. Table 1 (and Table 8-2 in the QAPP) - The holding time for volatiles in sediment samples is listed as 14 days or 48 hours to preservation. The correct holding time for sediment samples for volatile analysis collected with a trowel or shovel is 14 days.

Comment incorporated.

2. Table 1 shows that fish samples will be wrapped in aluminum foil. The Fish Sample Collection Procedures SOP states that fish samples for organics will be wrapped in aluminum foil and fish samples for inorganics will be sealed in a Teflon baggie. Contact with aluminum foil should be minimized for metals samples, therefore, I recommend using the procedures in the SOP. Table 1 should be revised to include the SOP information.

Comment incorporated. The table will be changed to follow the SOP.

3. Tissue samples analyzed for organics usually include a percent lipid determination. Table 1 does not include this analysis. Explain the rationale for omitting this analysis or add it to Table 1.

This will be added.

4. The surface-water sampling procedures (page 3) show that sample containers with preservatives will be submerged to collect the samples. I recommend collecting the sample, then adding the preservative because the preservative may be washed out of the container and contaminate the stream. Also, if the preservative is washed out the sample will not be properly preserved. The Surface Water Sampling SOP does not describe this procedure.

Comment will be incorporated.

5. The Biota Sampling Section (page 4) should state whether whole fish or fillets will be analyzed.

The section will be modified to indicate fillets will be used.

6. The Field Quality Control Section should also include matrix spike/matrix spike duplicate samples (MS/MSDs.) The selection of MS/MSDs should be made in the field, so enough sample can be collected.

MS/MSDs will be added.

7. The sample labeling system described in the Documentation Section is unacceptable. QC samples and duplicate samples should not be identified to the laboratory, because laboratories often handle known QC samples differently than other field samples. I recommend assigning the next sequential number to these samples.

Comment incorporated.

Standard Operating Procedures

8. The calibration of the Horiba™ U-10 should be checked throughout the sampling day and at the end of the day to verify that the calibration is still valid.

Comment incorporated.

9. The Field Rinse Blank Preparation SOP should include a step for adding the chemical preservative.

Comment incorporated.

Quality Assurance Project Plan

10. Section 3 - Project Organization. This section states that key personnel are presented in the workplan. The workplan was not available for review, therefore, I am unable to assess the adequacy of this element.

This sentence will be deleted.

11. Section 4 - Quality Assurance Objectives. The percent completeness calculation is incorrect. The correct equation is:

$$\text{Completeness} = \frac{\text{Amount of valid data obtained}}{\text{Amount of data expected to be obtained}} \times 100$$

Although the formula is not presented, the discussion given under the subsection - Completeness - agrees with the formula offered.

11. Section 8 - Analytical methods. The Long term Monitoring Plan (page 1-4) states that the contaminant concentrations in ground water will be reduced to below MCLs. The analytical method selected for volatiles does not have reporting limits below the MCL for vinyl chloride. I recommend using a low concentration method to confirm that concentrations are below the MCL for vinyl chloride. The CLP SOW methods proposed for this project have no procedures for preparing tissue samples for analysis. SOPs documenting these preparation procedures should be submitted for review.

The detection limits for TCL VOCs will be reduced using EPA Method OLC02 with a detection limit of 1 ug/l. However, if screening indicates total VOC concentrations are too high EPA Method OLM03 will be performed with a detection limit of 10 ug/l.

The fish tissue preparation will be performed by the laboratory and not in the field. Therefore, no SOP is necessary.

12. The entries in Table 8-2 are not consistent with the entries in Table 1 in the FSP. These tables should have the same entries.

This table will be modified to be consistent with Table 1 in the FSP.

13. Section 9 - Data Reduction, Validation, and Reporting. This section states that calibration records are not part of the data package. Calibration records are needed to validate the data using Region III procedures and should be included in the data package.

Calibration records will be

14. Section 11 - Performance and System Audits. At least one field audit should be scheduled for this project. The Field performance Audit Checklist should include check that the *current* FSP is used at the site.

It is likely that at least one performance system audit will be performed over the duration of monitoring for this site. The checklist will be modified to incorporate the suggestion.

16. Section 13 - Data Assessment Procedures. Data for this project should be validated using the procedures in the *Region III Modifications to the National Functional Guidelines for Data Review* (Organic-1994 and Inorganic-1993.) This section should be revised to include this document.

It was agreed in the May Partnering Meeting that all of the data would not require validation. Therefore, this section will be modified to read:

All data validation will be performed by a subcontractor... However, only baseline data will be validated along with any data used in assessing risks or to determine whether the MCLs have been achieved in areas of the groundwater plume.

The validation will follow the Region III Modifications.

17. When the laboratory is selected, it should submit a Statement of Qualifications, recent (less than six-months old) performance evaluation sample results for applicable analyses, and copies of current laboratory certifications.

Comment incorporated.

BTAG Comments

This memorandum is in response to your request to review the "Long-term Monitoring Plan for the Groundwater, Surface Water, Sediment, and Biota in the North Branch of the Potomac River" at the subject site located in Rocket Center, West Virginia. Overall, the BTAG believes that the monitoring plan is insufficient regarding the number of locations, types of samples, data analysis, and overall design. Some details regarding the biological sample collection and processing are lacking, as well as the specifics on the biological data analysis. Additionally, monitoring objectives are unclear and performance criteria are nonexistent in the plan. The following comments are submitted on behalf of FWS and EPA members.

General Comments

Monitoring Objectives

There appears to be more than one monitoring objective and when combined with the potential for multiple sources and non-site related contamination to be found in the area of interest (North Branch Potomac River), the entire sampling design is of questionable merit. For example, on page 1-4 it states that, "fish and macroinvertebrates will be monitored to demonstrate whether the discharge from the treatment plant has a negative impact on biota or human health through fish ingestion." Sampling site designation is crucial to meet this objective. At a minimum, an immediate upstream and downstream sample station must be included, as well as sampling within the treated effluent. Additionally, collected fish samples must be analyzed as both fillets and whole bodies to meet the above objective of assessing human health and environmental risk.

There are two objectives of the biota sampling 1) demonstrate whether the discharge from the treatment plant has a negative impact on biota or 2) human health through fish ingestion. These objectives are required by the state as indicated in Appendix A. Macroinvertebrate sampling will be more useful in demonstrating the first objective. In addition, the EPA has required the fish tissue sampling at contaminated groundwater discharge areas to evaluate whether there is a risk to human health though fish ingestion from groundwater discharge. Only fillets will be analyzed for this purpose. An additional macroinvertebrate, sediment and surface water sample location will be added immediately downstream from outfall . This is shown on Figure 2-2.

Another objective of the sampling is found at the bottom of page 1-3: "to ensure the RAOs are being met." The only RAO pertaining to this objective would be to "prevent or minimize off-site migration of contamination originating from Site 1." In that regard, this second objective is quite different from the first, and would require a different set of sampling locations (e.g., those outfall and groundwater discharge areas that have potential to facilitate movement of contaminants from Site 1 to the River. In review of a previous BTAG memorandum (dated 7/26/96) it was indicated that the Plant 1 drainage system (i.e., SWMU 27A) terminates with 16 outfalls to the North Branch of the Potomac River. The discharge from these outfalls may greatly influence the sampling results of the proposed sampling plan and their individual contributions should be assessed prior to selecting monitoring locations.

Selection of monitoring stations without consideration of the various discharge areas (both groundwater and surface water) will result in data that will be of limited use in terms of identifying which source area may be responsible for the impairment. The BTAG recommends that these two main objectives be considered separately, and although some data may be utilized for accomplishing both objectives, the design of each investigation should remain independent.

This is the objective of the groundwater, surface water and sediment sampling. An additional surface water and sediment sampling location will be added immediately downstream from outfall as shown in Figure 2-2.

Data Analysis and Performance Criteria

In addition to the multiple objectives, details on the data analysis and performance criteria are generally lacking. Despite the requested details in a letter from WVDEP describing WETT methods and measurement criteria (Appendix A), the subject sampling plan did not describe how that data would be analyzed and interpreted. For example, as shown in Appendix A, WVDEP requested that a fishery and macroinvertebrate survey, as well as fish tissue residue analysis proposal be generated and submitted for approval. The current plan should at a minimum, include the type of diversity index and statistical analysis that will be used to determine if an effect is occurring. Particular attention should be placed upon the small sample size and consequential power limitations of any statistical analyses. Finally, provisions for addressing potential problems (i.e., what will be done if an adverse effect is detected) should be included in the subject plan.

The diversity index planned is Shannons Diversity Index. The statistical analysis will be determined once the Rapid Bioassessment is done following the Rapid Bioassessment Protocols for use in Streams and Rivers (EPA/44/4-89-001).

Specific Comments

Page 2-8 and 2-9: Surface Water and Sediment Sampling Locations

Two upstream "background" sampling locations are proposed. The term "background" must be carefully considered in light of the sampling objective. Are these background samples clearly upstream of any potential site-related discharge area?

These sample locations are downstream of Site 5 and other outfalls. However, they are representative of river water and sediment immediately upstream from Site 1. This is the only method for determining what impact Site 1 related releases may be having on the river.

Page 2-10: Biota

Despite the stated reference to the WVDEP WETT requirements with the effluent (Appendix A), there was no mention of how that testing would be conducted nor how the results of that test would be used in the overall monitoring design.

It appears that the fish tissue data will be used for assessing the human health risks via consumption. Why are the details of an ecological risk assessment not discussed? Why is fish and wildlife health not being discussed and provisions for assessing such absent from the monitoring plan? If the time and expense will be expended to collect and analyze

sediment, surface water, and fish tissue, an effort should be undertaken to determine the degree of ecological risk.

Page 2-10: Baseline Human Health Assessment

It is unclear how the fish will be composited. It is recommended that a minimum of five individuals of the same species be used as the minimum number for a composite sample. Composite samples of fillets and composite samples of whole bodies should be analyzed for each of the two targeted species.

Composite samples will be analyzed. The whole fish samples will be sent to the laboratory where fish will be filleted and composited (liquified). Depending on the number of fish available (caught) a minimum of two fish will be composited for each analyses with a goal of five.

The use of free-ranging fish as discrete samples to assess point-source effluent bioaccumulation may be problematic as proposed. What assurance or consideration is given to the fact that fish may travel freely throughout the 4,000 foot stretch of River included in this monitoring plan? It is imperative that the background biota collection locations be far enough upstream from the site to not expect migration of biota from downstream contaminated areas. How will one ascertain if the contaminant bioaccumulation relates to the discharge effluent, groundwater discharge, or surface water runoff from contaminated soils? This entire issue relates back to the dual objectives and needs to be carefully considered and resolved.

It is well understood that one can not confirm that fish samples are representative of the sample location. However, this was required by EPA and WVDEP. Selecting the red breast sunfish as the free swimmer species will help to lessen this concern since this is a nesting species. The fish data will be limited for this reason.

Page 2-10: Benthic Macroinvertebrate Community Surveys

In addition to the use of Hester-Dendy artificial substrate samplers, it is recommended that benthic macroinvertebrates be collected via kick nets or some other method to adequately represent the existing macroinvertebrate community. Using a multi habitat sampling approach will better address the question of whether or not contaminant-related impacts are present. Data from each sampling method should be processed and analyzed separately. The EPA Rapid Bioassessment Protocols (EPA 1989) have widely been accepted and utilized for this monitoring purpose at Superfund sites. The BTAG recommends these protocols for macroinvertebrate collections and habitat quantification. The BTAG recommends that all organisms be collected and identified from each sample, not just a portion. Finally, the measurement criteria, community metrics, and statistical analyses should be proposed well in advance of the data collections to ensure that the collected data can be used to accomplish the stated objective of the sampling effort.

The majority of the reach of the river along the sampling area is mostly calm with few riffle areas. For this reason Hester-Dendy artificial substrate samplers are proposed. If Hester-Dendy artificial substrate samplers are unsuccessful in collecting macroinvertebrate samples kick nets will be used.

Page 3-1: Table 3-1, Summary of Analyses

This table shows that sediment, surface water and groundwater will be restricted to analysis of TAL metals and TCL volatiles. As in a previous memorandum (dated 7/26/96) it is again recommended that sample analysis also include a PCB / pesticide scan and semi-VOC analysis for all collected samples. These two scans are extremely important in determining potential direct toxicity (PAHs) and bioaccumulation potential (PCBs and pesticide) to aquatic biota. Additionally, sediment samples should be analyzed for TOC and grain size, and fish analyses should include percent lipid determinations.

All sediment samples will be analyzed for TCL VOCs and SVOCs and TAL inorganics. If future soil sampling at the site indicates the presence of PCBs then sediment sample analyses will include PCBs.

Page 3-3: Evaluation of Surface-Water and Sediment Data

It is stated in the proposed monitoring plan that analytical data "will be compared to baseline data and risk-based criteria, such as screening levels and environmental effects quotients (EEQs)." This implies that some level of an ecological risk assessment will be completed. In that regard, The BTAG recommends that the current EPA ecological risk assessment guidance (EPA 1997) be used, which includes a discussion of the proper selection of a background location and prohibits the use of such data in the ecological risk screening process.

This guidance will be considered in evaluating risk to human health through fish ingestion.

Field Sampling Plan

According to this section of the monitoring proposal, fish will be collected with backpack electroshockers. The BTAG questions whether this sampling method will be suitable to collect a representative fish sample a large river. At a minimum, alternatives such as bank generators, tow boats or an electrofishing boat should be available, if needed.

Backpack electroshockers are not appropriate for this application and samples will be collected using an electrofishing boat with the MD DNR's assistance.

Finally, at least two previous memoranda to you indicated the need and desire for members of the BTAG to visit the site and observe the drainage patterns and habitat for fish and wildlife resources. Based upon the above comments, it should be clear that until such arrangements can be made, the BTAG can not assist in properly refining objectives and resolving the obvious design flaws contained in this monitoring plan. As you are aware, since several site and drainage outfalls discharge to the North Branch of the Potomac River, this overall monitoring plan is perhaps one of the most important site deliverables that the BTAG will review. Therefore, we would greatly appreciate your assistance in resolving the above issues so that meaningful data can be generated and that the monitoring plan can be used to justify and/or support remedial decisions made at this site. Thank you for the opportunity to review this monitoring plan. If you have any questions or want to set up a site visit, please contact me at any time.

The Navy understands this comment is directed to EPA staff. However, the Navy welcomes BTAG representatives to come and visit the site to gain a hands on understanding of the site conditions. Mark Roberts site visit on 7/16/98 was helpful in resolving many of these comments.

WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION COMMENTS

1. Purpose and Scope, page 1-1: Modify the reference for Site 1. Site 1 is the current burning ground not the former burning ground.

Comment incorporated.

2. Summary of Previous Investigations, page 1-3: The reference to the groundwater treatment plant should state a treatment flow from 175 to 300 gpm.

This sentence will be deleted since it was not specified in the ROD. See EPA specific comment 2 p. 1-3.

3. Monitoring Strategy, Groundwater, page 2-1: Please include **where practicable** at the end of the sentence, "the other primary goal is to restore the maximum areal extent of both aquifers to beneficial use as potential drinking water sources."

Comment incorporated.

4. Groundwater Sampling Frequency and Duration, page 2-5: Remove the last sentence of the third paragraph.

Comment incorporated.

5. Surface Water, page 2-8: The discussion should also state, "surface samples shall only be collected during normal flow conditions."

See response to EPA specific comment 8, p.2-8.

6. Biota, page 2-10: Identify the fish species to be sampled. In our discussions we agreed bottom feeders and game fish will be collected and analyzed.

The fish species collected include the red breast sunfish (free swimmer) and the white sucker (bottom feeder).

7. Benthic Macro Invertebrate Community Surveys, page 2-10 and figure 2-2: Please include the new (relocated) sampling location agreed upon in the 7 April meeting.

Comment incorporated.

8. Evaluation of Groundwater Quality Data, page 3-3: see comment number 3.

Comment incorporated.

9. Reporting and Notification page 4-1 and 4-2: The States identification "West Virginia Department of Commerce, Labor, and Environmental Protection" should be the "Bureau of the Environment/The Division of Environmental Protection/Office of Waste Management/Superfund Section."

- The EPA's identification should read:
 - Mr. Bruce Beach/Code 3HS50
 - Hazardous Site Cleanup Division
 - Federal Facilities Branch

Comment incorporated.

10. The Final Long-Term Monitoring Plan should present provisions to utilize a low level detection for groundwater/surface water below or equal to MCLs.

The detection limits for TCL VOCs will be reduced using EPA Method OLC02 with a detection limit of 1 ug/l. However, if screening indicates total VOC concentrations are too high EPA Method OLM03 will be performed with a detection limit of 10 ug/l.