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MOE Clarification Notification

MOE CLARIFICATION ON FIELD AND ANALYTICAL REQUIREMENTS CITED IN THE JUNE 30th POSTING OF THE ANALYTICAL PROTOCOLS

TAKEN FROM MOE TAG MEETING ON AUGUST 5, 2011

The Analytical Protocols and Regulation 179/11 are now written into law under Part XV.1 of the Environmental Protection Act. As such, further changes to the regulation(s) or the Analytical Protocols document as a result of the August 5, 2011 TAG meeting will not be allowed until the next election. However, the MOE intends to issue a Memorandum of Clarification to address the issues raised during this meeting.

The following is a summary of clarifications provided by the MOE that will appear whole, or in part, in their upcoming memorandum.

VOC/F1/BTEX Sampling Protocol for Soils

Issue: Protocols Glossary of Terms - "Field Preserve: ….samples must be preserved with specific preservatives for that parameter group within 24 hours of sampling…"

Clarification: This is a requirement specific to metals in filtered groundwater samples. Discrete soils collected for VOCs/F1/BTEX must be immediately (at the time of sampling) preserved in methanol or collected using hermetic sampling devices.

Note: This change will affect how field screening is performed. Soil vapour measurements (or other screening techniques) will have to be performed immediately for the purpose of selecting samples to be methanol preserved and submitted for lab analysis. Otherwise, all samples for VOCs/F1/BTEX must be methanol preserved and screening/selection performed at a later time. The latter process will ultimately lead to over-sampling thereby increasing the number of preserved soils not submitted for analysis. Unfortunately, Paracel Laboratories will be forced to begin charging for methanol preservation kits to offset supplies and disposal charges.

Bromomethane (VOC test group 1.1.10): The intent of the sampling footnote was to allow the option of processing bromomethane in soil and sediment as part of the VOC group **OR** as a separate test. As such, bromomethane is only required to be analyzed with the other VOC compounds in soil and sediment **when requested.**

Freezing as a Preservation Option for VOCs/F1/BTEX

Soils collected using hermetic devices may be frozen within 48 hours of sample collection to extend the holding time to 6 days. There is an ASTM reference provided in the protocols but the onus is on the lab to verify that there are no significant losses (defined as >10%) of VOCs over the 6 days using this technique. Paracel is not currently accepting frozen samples at this time as this verification process has not been completed.

Hold Time for Methanol Preserved Soil - VOCs/F1/BTEX

Methanol preserved soils have a hold time of 14 days from time of collection. This hold time can be extended to 40 days provided the methanol is removed from the soil within 14 days of sample collection.

Sample Container and Hold Time for 1,4-Dioxane in Soil

Since 1,4-dioxane is not readily degraded in soil, sample collection in a jar will be allowed if processing the sample in accordance with the SVOC method. Otherwise samples are collected using methanol or bisulfate field preservation if analyzed by the VOC method. Holding time for either method is 14 days.

Lab QC

F1 RDL: This is listed in the Protocols as 25 ug/L. It was 100 ug/L. The most stringent F1 standard is 420 ug/L so it doesn't make sense to have a prescriptive MDL lower than the original 100 ug/L. This is clearly an error. The MOE will provide this clarification.

PHCs Table 5-6 - QC Section of Protocols: An error was observed for the LCS recovery for soil - it reads 80-120% and should be, as a minimum, the same as water at 60-140%. This cannot be changed but the MOE will provide clarification.

Duplicates: Where whole bottle extractions are performed (PCBs, PAHs, F2-F4, etc.), labs must provide additional containers to support lab QC such as duplicates and matrix spikes. There may be situations where poor well recoveries will not allow for these additional volumes to be collected for submission to the lab.

Note: As per page 68 of the Protocols which states "…because water analyses are "whole bottle" tests, sample duplicates are field duplicates, subject to sampling variability. The duplicate acceptance limits contained in the following tables (QC Tables) are based on homogeneous samples. If samples are visibly non-homogeneous, repeat analysis in not required." This logic also applies to lab spikes where whole bottle extractions are performed.

Field QC

Blanks: The Protocols and regulation state "trip blanks" are required for water samples collected for VOC analysis. QPs may also want to consider field blanks for VOCs as well as trip blanks and field blanks for metals. For methanol preserved soils, QPs may want to consider performing both trip and field blanks. Labs should consider performing a "leak confirmation" test by weighing one unopened vial per submission (submitted by client). This can be performed as an internal QC sample in conjunction with the supplies verification program **OR** on the trip blank submitted by the QP.

Field Duplicates: Both the regulation and the MOE's Plain Language document on performing Phase Two assessments require 1 duplicate for every 10 samples submitted.

Note: Other than trip blanks for VOCs (water) and 1/10 for field duplicates there are no other field QC requirements listed in either the regulation or the Plain Language document. The MOE is looking into updating the 2006 Draft Sampling Guidance Document to include detailed instructions on field activities.

Field Filtration

Regulation 179/11 revoked paragraph 4, Section 8 of Schedule 8 (Reg. 511/09) which was the requirement for field filtration for metals. The MOE revoked this clause because it was added to the Analytical Protocols Document. Some QPs may have misinterpreted this as a removal of the requirement to field filter for metals. With the exception of methyl mercury, samples collected for metals must be field filtered prior to preservation as per the Protocols. The derivation of metals standards is based on dissolved metals.

Note: Page 47 of the Protocols states "Unfiltered samples can be filtered and preserved at the laboratory provided that analysis not commence for at least 16 hours after preservation. This deviation must be noted on the C of A." Basically, QPs must field filter for metals otherwise the deviation will be noted/flagged on the report.

Chloride in Soil Error

Section 3.1.2.3 Chloride (water extractables) cites an extraction ratio of 1:2 (w/v) in error. This should be a ratio of 1:10 (w/v).

48 Hour Drying Time for Soils

Page 20, section 2.1.1, (2) of the Protocols states “For other inorganic soil and sediment tests, samples are air or oven dried at a temperature of </= 60C to prevent the potential loss of volatile analytes, for a minimum of 48 hours or until no visible moisture remains.” Clarification of “until no visible moisture remains” will be “until the soil or sediment is free-flowing during disaggregation.” Most soils take much less than 48 hours to air dry. The use of convection drying systems can dramatically reduce drying times.

Requirement to Report All Analytes Within a Test Group

This requirement is only for data used directly on a RSC filing. It is not required on Reg 153 sites where samples are collected and submitted as a result of remedial, post remedial, or monitoring activities. It is also not required where QPs are involved in delineation investigations for specific contaminants of concern. In summary, the onus is on the QP to identify the RSC reporting requirements on the COC. This could be done through the use of a separate check box for “RSC Filing” on the COC. That would differential RSC data from any other data in accordance with Reg 153.

Hexavalent Chromium Preservation for Waters

The Protocols section 3.1.2.6 states the addition of ammonium sulfate buffer solution as preservative to obtain a pH of 9.3 to 9.7 as specified in USEPA Method 218.6 or Standard Method 3500-Cr (2009). Labs do not have to verify that samples are preserved within this pH range as it is a method design based on a nominal volume of preservative.

Accreditation

Labs are required to retain accreditation for all analytes listed within a parameter group. This includes the additional VOC and metal compounds added to the 2011 Standards. Labs in the process of seeking accreditation for the additional compounds but waiting for CALA/SCC PTs, audits, or approval, can apply for MOE Director’s Approval. This application should include all validation data and rational. Director’s Approval can be granted as an interim measure while awaiting formal accreditation recognition.

Sampling Guidance Document for Performing Phase Two ESAs

August 18, 2001: The MOE has confirmed that the Association of Professional Geoscientists of Ontario (APGO) has recently posted their Brownfields guidance document titled *Guidance for Environmental Site Assessments under Regulation 153/04 (as amended), April 2011*, and is now available on their web site:

http://www.apgo.net/files/APGO_Brownfields_Guidance_Document.pdf

The document provides instructions on how to carry out field activities for Phase Two ESAs including soil and groundwater sampling.

Sampling and Analysis Requirements for Fraction Organic Carbon (FOC)

This is not a clarification but a statement of fact regarding the sampling and testing requirements for FOC in soil as it pertains to Reg 511/09, Table 4 - ***Requirements for Modified Generic Risk Assessments***. The following requirements are only required if performing a modified generic risk assessment in support of a Record of Site Condition.

FOC - Water Table to Soil Surface: Soil samples (non-anthropogenic) from at least four continuous borehole cores must be collected between the water table and soil surface. A minimum of one composite soil sample for each sampling location is required for FOC testing. Each soil sample for FOC determination shall be analyzed in triplicate. The FOC value used for the Phase Two property shall be the mean of all soil samples analyzed for FOC.

FOC - in Upper 0.5 m: same as above only the stipulation for triplicate analysis in not there.