From: Hartman, Jelena@Waterboards
To: "Rachel West"; Turner, Melissa
Cc: Fregien, Susan@Waterboards
Subject: RE: AMR Item 16.4 - Use of non-project spikes
Date: Monday, August 06, 2012 8:20:00 AM
Attachments: image002.png
image003.png
image004.png
image005.png

Good morning, Melissa and Rachel-

One of the outstanding items following our meeting to discuss the AMR and MPUR reviews was to talk with Susan and find out more about the use of non-project spikes for batch completeness.

Susan and I have carefully reviewed the MRP Order, the Coalition's QAPP and the explanation you provided during the meeting. As previously discussed, sample water for matrix spikes is collected with each batch of samples and at a frequency greater than 5% of all samples. Logistically it may not be possible to have all project samples in the same analytical batch. As a result, not all original samples may be in the same analytical batch as the project matrix spike, and some samples may be analyzed in batches that include non-project spikes.

The described practice meets the Program requirements and the Coalition should continue to collect and analyze matrix spikes as has been done. A footnote or a paragraph that more fully explains the analytical constraints and why samples may occasionally be analyzed in a batch with non-project spikes would be sufficient to address the issue in a future report. The review comment will be clarified and the Coalition's compliance with the QC requirements as related to matrix spikes will be highlighted in the next AMR review.

Please let me know if you have any additional thoughts about the non-project matrix spikes, or any questions regarding the review comments.

Thanks,

Jelena

--
Jelena Hartman, PhD
Environmental Scientist
Irrigated Lands Regulatory Program
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114

office: 916.464.4628
fax: 916.464.4780
email: jhartman@waterboards.ca.gov
--

From: Rachel West [mailto:rwest@mlj-llc.com]
Sent: Friday, July 20, 2012 1:05 PM
To: Hartman, Jelena@Waterboards
Cc: Melissa Turner
Subject: Re: ESJWQC 2012 Annual Monitoring Report Amendment-June 15, 2012

Hello Jelena,

This is a great summary of the major points we discussed yesterday. I will use this list along with my notes to add comments & edits in our documents for the 2013 reports.

Thank you!
Rachel

From: Hartman, Jelena@Waterboards
Sent: Friday, July 20, 2012 11:49 AM
To: 'Rachel West'
Cc: Turner, Melissa
Subject: RE: ESJWQC 2012 Annual Monitoring Report Amendment-June 15, 2012

Hi Rachel,

Thank you for sending the updated file, I appreciate the thought and effort you put into this but it was really not necessary to do that. You also posted the full amended report which didn't have any of the numbering issues, and I downloaded a copy for our files several weeks ago.

It was a pleasure to meet you yesterday, and the discussion we had was interesting and very useful for me. As a follow-up to our meeting to talk about the ESJWQC 2012 report reviews, some of the major points are summarized below (Melissa is Cc'd). Please let me know if you have additional comments, ideas or suggestions.

-Jelena

ESJWQC 2012 Report Review Discussion

(1) AMR Item 15 - Quality control samples results

The key questions were

(1) whether positive and negative controls refer to growth in an inoculated and uninoculated (lab blank) sample, respectively, or if the reference is to testing the lot of media for various cultures (fluorescence/no-fluorescence), and

(2) what is required to be reported with batch results (regardless of the analytical requirements per method used).

While it will be good to follow up with the lab and clarify what is recorded on bench sheets, in terms of compliance and reporting it is best to refer to the approved QAPP. The MRP Attachment C* defines accuracy for bacterial analyses as positive and negative cultures. The ESJWQC QAPP lists data quality objectives for precision, completeness and contamination for pathogens; ***accuracy for pathogens is not listed*** (which perhaps answers question ***b*** above).

7. Quality Objectives and Criteria for Measurement Data

7.1. Data quality objectives.

Data quality objectives are listed below and in Tables 5-7.

Measurement or Analyses Type	Applicable Data Quality Objective
Field Measurements	Accuracy, Precision, Completeness
Physical Parameters	Accuracy, Precision, Completeness, Recovery
Toxicity	Precision, Completeness
Pathogens	Precision, Completeness, Contamination
Nutrients	Accuracy, Precision, Completeness, Recovery, Contamination
Metals	Accuracy, Precision, Completeness, Recovery, Contamination
Carbamates	Accuracy, Precision, Completeness, Recovery, Contamination
Organochlorines	Accuracy, Precision, Completeness, Recovery, Contamination
Organophosphates	Accuracy, Precision, Completeness, Recovery, Contamination
Pyrethroids	Accuracy, Precision, Completeness, Recovery, Contamination
Herbicides	Accuracy, Precision, Completeness, Recovery, Contamination

MRP ATTACHMENT C
Appendix B Page 1 of 1

APPENDIX B: SUMMARY TABLE OF QUALITY OBJECTIVES AND CRITERIA FOR MEASUREMENT DATA

Group	Parameter	Element 7 Requirements			
		Accuracy	Precision	Recovery	Completeness
	Bacterial Pathogens	Laboratory positive and negative cultures - proper positive or negative response. Bacterial PT sample --within the stated acceptance criteria.	Rlog within 3.27*mean Rlog (reference is section 9020B of 18th, 19th, or 20th editions of Standard Methods	NA	90%

*A clarification regarding a minor question from yesterday's discussion is that bacterial PT refers to 'performance tests', i.e. positive and negative cultures.

(2) AMR Item 16.2 -Summary of accuracy and precision

Calculating and tabulating the average percent recovery of spikes, average RPD's, and average surrogate would offer more specific information about the data. Reporting a proportion of QC samples within the range of acceptable values meets regulatory requirements, and ***no change is required***.

(3) AMR Item 16.3.1 - Failed QA/QC results

It would be useful for the reader to know that while there may be batches with failed QA/QC results, e.g. ***all 2011 data are usable*** (as defined by the Program).

(4) AMR Item 16.4 - Completeness

Completeness goal is met for sites that are dry, and final calculations should reflect that. One option for including dry sites in completeness calculations might be to tabulate the expected number of samples, number of samples at dry sites, collected samples, and analyzed samples, e.g.:

Table 17. ESJWQC environmental sample, field quality, and field parameter counts and percentages

Samples collected from January through December 2011; sorted by method and analyte.

Method	Analyte	Planed Samples (#)	Dry Sites (#)	Env. Samples Collected (#)	Env. Samples Analyzed (#)	Field & Transp. Completeness (%)	Env. and Field QC Samples Analyzed (#)[1]	Field Blanks (#)[1]	Field Blanks (%)	Field Dup. (#)[1]	Field Dup. (%)	Equip. Blank (#)[1]	Equip. Blank (%)	Travel Blank (#)[1]	Travel Blank (%)
EPA 619	Cyanazine	132	10	122	122	100.0%	156	17	10.9%	17	10.9%		NA		NA
EPA 619	Simazine	132	10	122	122	100.0%	156	17	10.9%	17	10.9%		NA		NA
EPA 547M	Glyphosate	77	4	73	64	~~87.6%~~ 88.3%	82	9	11.0%	9	11.0%		NA		NA
EPA 549.2M	Paraquat dichloride	77	4	73	64	~~87.6%~~ 88.3%	82	9	11.0%	9	11.0%		NA		NA

Field & Transport Completeness = (64+4)/77=88.3%
Laboratory Completeness = 64/64=100%
Project Completeness = (64+4)/77=88.3% ⇔ F&T x L=88.3% x 100% = 88.3%

(5) AMR Item 16.4 - Use of non-project spikes

It is clear from the AMR that samples for matrix spike/MSD are collected with each batch of samples (which is greater than the required frequency of 5%). If non-project MS/MSD are occasionally included for batch completeness, a footnote that explains why the use of non-project samples is justified could be added (e.g. matrix variability among project samples versus non-project samples, as discussed at the meeting).

MRP ATTACHMENT C
Page 19 of 31

5.2 Matrix spike and spike duplicate specifications

An MS and MSD set must be prepared in the laboratory using sample water collected specifically by the project and be analyzed within the same analytical batch as the original samples. Certified Reference Materials shall be used to prepare MS. After measurement of the MS/ MSD, the Accuracy and Precision must be calculated and noted on the monitoring report and electronic record.

(6) AMR Item 17 - Method used to obtain flow

Either omit or replace the reference to "ILRP General Procedures Sample Collection for Low Flow or No-Flow Conditions". For sediment sampling the following might be an appropriate reference:

Sediment samples shall be collected with overlying water present at a collection site, or in the absence of overlying water, when the sediment is moist. Analysis results from sediment samples collected in the absence of overlying water should be flagged as potential outlying data points. Sampling of dry sediment shall not be required, however alternative sampling events should be planned to meet the minimum sample collection requirements as outlined in the MRP.

(7) AMR Item 20 - Conclusions and Recommendations

The AMR contains a lot of information, and interpretation of major findings and key messages could serve as an effective conclusions section (without the need to speculate or go beyond what is supported by the data).

(8) MPUR Item I.6 – Evaluation of management practice effectiveness

We agreed that aggregating % exceedances by year doesn't give a straightforward measure for comparing results among years because different subwatersheds may be sampled in various years, some that are in advanced stages of management plan implementation and other subwatersheds that just rotated into high priority status. The same principle applies to the analysis of the proportion of beneficial uses that are protected, as we commented regarding the AMR Table 47.

From: Rachel West [mailto:rwest@mlj-llc.com]
Sent: Friday, July 20, 2012 8:34 AM
To: Hartman, Jelena@Waterboards
Subject: Re: ESJWQC 2012 Annual Monitoring Report Amendment-June 15, 2012

Jelena,

I have attached the updated file for the Precision & Accuracy section amendment from June 15. This file is the one which had the updated table 17 that printed incorrectly as table 1. I have corrected the error in numbering. Sorry about that!

Thanks again for meeting with us yesterday. It was most helpful.

Rachel

On Thu, Jun 14, 2012 at 1:48 PM, Rachel West <rwest@mlj-llc.com> wrote:
Dear Jelena,

Attached are pdf versions of the cover letter and a seperate document containing pages with the requested revisions for the ESJWQC 2012 Annual Monitoring Report (AMR) amendment. Revisions to the ESJWQC AMR include 1) updated verbiage to include a section for Corrective Actions taken for QA/QC results that do not meet acceptance criteria, 2) updated table 17 and verbiage to exclude Lateral 3 along East Taylor Rd from completeness summary tables, and 3) outstanding PUR data (submitted in an addendum to the 2012 AMR on June 1, 2012).

The 2012 AMR amendment has been uploaded to the Regional Board Documents subfolder (12_AMR_ESJWQC) on the MLJ-LLC sharepoint at http://sharepoint.mlj-llc.com/MLJ-DB/database/forms/allitems.aspx If connecting via Internet Explorer: username: ftpuser@aqualab.mlj-llc.com password: Aqua2011! Parry will sign the cover letters and mail it to you.

Please let me know if you have any questions.

Thanks,

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Rachel C. West
Environmental Scientist
Michael L. Johnson LLC
632 Cantrill Drive
Davis, CA 95618

Tel: 530-756-5200
Fax: 530-756-5225
rwest@mlj-llc.com

--
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Rachel C. West
Environmental Scientist
Michael L. Johnson LLC
632 Cantrill Drive
Davis, CA 95618

Tel: 530-756-5200
Fax: 530-756-5225
rwest@mlj-llc.com