



**ICF International / Laboratory Data Consultants**

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MEMORANDUM

TO: Lisa Hanusiak, Remedial Project Manager  
Site Cleanup Section 3, SFD-7-3

THROUGH: Rose Fong, ESAT Task Order Manager (TOM)  
Quality Assurance (QA) Program, PMD-3

FROM: Doug Lindelof, Data Review Task Manager  
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041  
Technical Direction Form No.: 00105050

DATE: March 30, 2007

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Alhambra
Site Account No.:	09 ES LA01
CERCLIS ID No.:	CAD980818579
Case No.:	None Provided
SDG No.:	05I025
Laboratory:	EMAX Laboratories, Inc. (EMAX)
Analysis:	Hexavalent Chromium
Samples:	4 Groundwater Samples (see Case Summary)
Collection Dates:	September 2, 2005
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES:  Yes  No



## Data Validation Report

Case No.: None Provided  
SDG No.: 05I025  
Site: Alhambra  
Laboratory: EMAX Laboratories, Inc. (EMAX)  
Reviewer: Stan Kott, ESAT/LDC  
Date: March 30, 2007

### I. CASE SUMMARY

#### Sample Information

Samples: MY21E5, MY21E6, MY21E7, and MY21E8

Concentration and Matrix: Low Concentration Groundwater  
Analysis: Hexavalent Chromium  
SOW: EPA Method 218.6  
Collection Date: September 2, 2005  
Sample Receipt Date: September 2, 2005  
Preparation Date: September 2, 2005  
Analysis Date: September 2, 2005

#### Field QC

Field Blanks (FB): Not Provided  
Equipment Blanks (EB): MY21E7  
Background Samples (BG): Not Provided  
Field Duplicates (D1): Not Provided

#### Laboratory QC

Method Blanks: MBLK  
Associated Samples: Samples listed above  
Matrix Spike: MY21E7MS  
Duplicates: MY21E7D

Analysis: Hexavalent Chromium

<u>Analyte</u>	<u>Sample Preparation Date</u>	<u>Analysis Date</u>
Hexavalent Chromium	September 2, 2005	September 2, 2005

#### Sampling Issues

The Chain of Custody (COC) record form did not specify a sample to be used for laboratory quality control (QC). As a result, the laboratory selected sample MY21E7, an equipment blank, and not representative of the environmental sample matrix. The effect on data quality is not known.

#### Additional Comments

**As directed by the EPA TOPO, a Tier 3 data review was performed. A Table 1A is not requested.**

Method 218.6 specifies a hexavalent chromium spike concentration of 100 µg/L for the laboratory control sample (LCS) and matrix spike (MS) samples. The laboratory used a 1.0 µg/L spike concentration for the LCS and MS samples. Since the instrument calibration range is 0 µg/L to 5.0 µg/L and LCS and MS recoveries meet laboratory control limits, no adverse effect on data quality is expected.

Sample MY21E8 was analyzed at a two-fold dilution due to a hexavalent chromium concentration that exceeded the instrument's calibration range. No adverse effect on data quality is expected.

The method specifies the sample pH be adjusted to 9.0 to 9.5 prior to analysis; however, there is no method specific requirement to document the sample pH. The pH of the samples prior to analysis could not be evaluated. The effect on data quality is not known.

This report was prepared in accordance with the following documents:

- X Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- X *Methods For The Determination Of Metals In Environmental Samples*, EPA-600/4-91-010, June 1991; and
- X *USEPA Method 218.6, Determination of Dissolved Hexavalent Chromium in Drinking Water, Groundwater, and Industrial Wastewater Effluents by Ion Chromatography*, Revision 3.3, May 1994.

## II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	<u>Parameter</u>	<u>Acceptable</u>	<u>Comment</u>
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	No	A
	a. Initial		
	b. Initial and Continuing Calibration Verification		
4.	Blanks	Yes	
5.	Laboratory Control Sample (LCS)	Yes	
6.	Duplicate Sample Analysis	Yes	
7.	Matrix Spike Sample Analysis	Yes	
8.	Field Duplicate Sample Analysis	N/A	
9.	Sample Quantitation	Yes	
10.	Overall Assessment	Yes	

N/A = Not Applicable

### III. VALIDITY AND COMMENTS

- A. The following result should be flagged "J+" because the continuing calibration verification (CCV) standard result is outside method QC limits.

X Hexavalent chromium in sample MY21E8

The CCV2 recovery result for hexavalent chromium does not meet the 95-105% criterion for accuracy specified in the method. The recovery for hexavalent chromium is presented below and is based on an ideal recovery of 100%.

Analyte	% Recovery
Hexavalent Chromium (CCV2)	107

Since CCV2 was not reanalyzed as required by the method, results greater than or equal to the reporting limit (RL) are considered quantitatively uncertain. The 7.88 µg/L result reported for hexavalent chromium in MY21E8 may be biased high.

*The inorganic method indicates that the laboratory verify that the instrument is properly calibrated on a continuing basis. Laboratory reagent blank (LRB) and laboratory performance check standards (LPC) are analyzed after every 10 analytical samples to determine the validity of the calibration.*



## TABLE 1B

### DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

- U      The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- J      The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- J+     The result is an estimated quantity, but the result may be biased high.
- J-     The result is an estimated quantity, but the result may be biased low.
- R      The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
- UJ     The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.



