



ICF International / Laboratory Data Consultants

Environmental Services Assistance Team, Region 9
1337 South 46th Street, Building 201, Richmond, CA 94804-4698
Phone: (510) 412-2300; Fax: (510) 412-2304.

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.: 00105054

DATE: April 20, 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.:	35637
SDG No.:	Y2TD5
Laboratory:	KAP Technologies, Inc. (KAP)
Analysis:	Trace Volatiles
Samples:	18 Ground Water Samples (see Case Summary)
Collection Date:	August 24, 25, and 28, 2006
Reviewer:	April Martinez, 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

cc: Ray Flores, CLP PO USEPA Region 6
Steve Remaley, CLP PO USEPA Region 9

CLP PO: Attention Action

SAMPLING ISSUES: Yes No

Data Validation Report

Case No.: 35637
SDG No.: Y2TD5
Site: Alhambra
Laboratory: KAP Technologies, Inc.
Reviewer: April Martinez, ESAT/LDC
Date: April 20, 2007

I. CASE SUMMARY

Sample Information

Samples: Y2TD5 through Y2TD8 and Y2TE1 through Y2TF5
Concentration and Matrix: Low Concentration Water
Analysis: Trace Volatiles
SOW: SOM01.1
Collection Date: August 24, 25, and 28, 2006
Sample Receipt Date: August 25, 26, and 29, 2006
Extraction Date: Not Applicable
Analysis Date: August 31, 2006 and September 1, 2006

Field QC

Field Blanks (FB): Y2TE1
Equipment Blanks (EB): Y2TE9 and Y2TF5
Trip Blanks (TB): Not Provided
Background Samples (BG): Not Provided
Field Duplicates (D1): Y2TD7 and Y2TD8
Field Duplicates (D2): Y2TF3 and Y2TF4

Laboratory QC

Method Blanks & Associated Samples:
VBLK07: Y2TD5 through Y2TD8, Y2TE1 through Y2TE3,
Y2TD5MS, Y2TD5MSD
VBLK09: Y2TE4 through Y2TF5, Y2TF2DL
VBLK11: Storage blank VHBLK01

Tables

1A: Analytical Results with Qualifications
1B: Data Qualifier Definitions for Organic Data Review
2: Calibration Summary

CLP PO Action

Nondetected results for 1,4-dioxane in all samples, all method blanks, and storage blank VHBLK01 are qualified as rejected (R) due to very low response factors (<0.01) in initial and continuing calibrations (see Comment A).

CLP PO Attention

Results for acetone, 2-butanone, 2-hexanone, and tertiary butyl alcohol are qualified as estimated (J) due to calibration problems (see Comment B).

Sampling Issues

The laboratory indicated in sample log-in sheets that the cooler temperature indicator bottle was absent from the coolers (see p. 504 and 505 in data package). The SDG Narrative did not indicate how cooler temperatures were recorded.

Additional Comments

Other than a laboratory artifact (approximate retention time of 10.9 minutes), tentatively identified compounds (TICs) were not found in the samples.

The deuterated monitoring compound (DMC) 1,1-dichloroethene-d2 recovery for QC sample Y2TD5MSD (109%) exceeded the QC limit of 55-104% but associated sample results were not qualified because they were nondetects.

The laboratory performed manual integrations on calibrations due to incorrect auto integration. Manual integrations were reviewed and found to be satisfactory and in compliance with proper integration techniques.

This report was prepared in accordance with the following documents:

- X ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services Volatile and Semivolatile Data Packages*;
- X USEPA Contract Laboratory Program Statement of Work for Organics Analysis, *Multi-Media, Multi-Concentration*, SOM01.1, May 2005; and
- X USEPA Contract Laboratory Program National Functional Guidelines for Low Concentration Organic Data Review, June 2001.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	<u>Parameter</u>	<u>Acceptable</u>	<u>Comment</u>
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	No	A, B
4.	Continuing Calibration	No	A, B
5.	Laboratory Blanks	Yes	
6.	Field Blanks	Yes	
7.	Deuterated Monitoring Compounds	Yes	
8.	Matrix Spike/Matrix Spike Duplicates	No	C
9.	Laboratory Control Samples/Duplicates	N/A	
10.	Internal Standards	Yes	
11.	Compound Identification	Yes	
12.	Compound Quantitation	Yes	E
13.	System Performance	Yes	
14.	Field Duplicate Sample Analysis	No	D

N/A = Not Applicable

III. VALIDITY AND COMMENTS

- A. Nondetected results for the following analyte are qualified as rejected due to very low relative response factors (RRFs) in initial and continuing calibrations and are flagged "R" in Table 1A.

X 1,4-Dioxane in all samples, all method blanks, and storage blank VHBLK01

RRFs below 0.01 were reported for 1,4-dioxane in initial and continuing calibrations (see Table 2). Since results are nondetected, false negatives may exist.

The DMC 1,4-dioxane-d8 also had RRFs below 0.01 in initial and continuing calibrations (see Table 2).

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

- B. Results for the following analytes are qualified as estimated due to low RRFs in initial and continuing calibrations and are flagged "J" in Table 1A.

X Acetone, 2-butanone, 2-hexanone, and tertiary butyl alcohol in all samples, all method blanks, and storage blank VHBLK01

Average RRFs below 0.05 were reported for acetone, 2-butanone, and tert-butyl alcohol in initial calibrations (see Table 2). RRFs were below the 0.05 validation criterion for acetone, 2-butanone, 2-hexanone, and tert-butyl alcohol in continuing calibrations (see Table 2). Since results are nondetected, false negatives may exist.

- C. Matrix spike/matrix spike duplicate recoveries for toluene in QC samples Y2TD5MS and Y2TD5MSD did not meet the criteria for accuracy specified in the SOW, as shown below.

<u>Analyte</u>	Y2TD5MS <u>% Recovery</u>	Y2TD5MSD <u>% Recovery</u>	QC limit <u>% Recovery</u>
Toluene	128	132	76-125

Results obtained may indicate poor laboratory technique or matrix effects which may interfere with analysis. No adverse effect on data quality is expected since toluene is not detected in the samples.

Matrix spike sample analysis provides information about the effect of the sample matrix on sample preparation and measurement.

- D. In the analysis of the field duplicate pairs, the following outlier was reported.

<u>Analyte</u>	Y2TF3 (D2) <u>Conc., µg/L</u>	Y2TF4 (D2) <u>Conc., µg/L</u>	<u>RPD (<25%)</u>
Trichloroethene	1.3	1.9	37.5

The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix or poor sampling or laboratory technique.

- E. Sample Y2TF2 was reanalyzed at a 2-fold dilution due to a high level of trichloroethene that exceeded the calibration range. The result for trichloroethene is reported from the diluted analysis in Table 1A; results for all other analytes are reported from the undiluted analysis.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," January 2005.

- U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
- L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- J The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
- R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

Table 2
Calibration Summary

Case No.: 35637
 SDG No.: Y2TD5
 Site: Alhambra
 Laboratory: KAP Technologies, Inc.
 Reviewer: April Martinez, ESAT/LDC
 Date: April 20, 2007

RELATIVE RESPONSE FACTORS

	<u>RRF</u>	<u>RRF</u>	<u>RRF</u>
Analysis date:	08/30/06	08/31/06	08/31/06
Analysis time:	09:20-	10:29	17:19
GC/MS I.D.:	A-5973	A-5973	A-5973
<u>Analyte</u>	<u>Init.</u>	<u>Cont.</u>	<u>Cont.</u>
Acetone	0.014	0.013	0.013
2-Butanone	0.044	0.045	0.044
1,4-Dioxane	0.002	0.002	0.002
2-Hexanone	-----	0.041	0.042
tert-Butyl Alcohol	0.016	0.016	0.015
2-Butanone-d5	0.016	0.018	0.020
2-Hexanone-d5	0.014	0.014	0.014
1,4-Dioxane-d8	0.002	0.001	0.001

	<u>RRF</u>	<u>RRF</u>	<u>RRF</u>	<u>RRF</u>
Analysis date:	09/01/06	09/01/06	09/01/06	09/02/06
Analysis time:	07:17	18:33	19:52	02:39
GC/MS I.D.:	A-5973	A-5973	A-5973	A-5973
<u>Analyte</u>	<u>Cont.</u>	<u>Cont.</u>	<u>Cont.</u>	<u>Cont.</u>
Acetone	0.014	0.012	0.010	0.012
2-Butanone	0.039	0.040	0.033	0.038
1,4-Dioxane	0.002	0.002	0.002	0.002
2-Hexanone	0.040	0.036	0.030	0.036
tert-Butyl Alcohol	0.017	0.012	0.012	0.013
2-Butanone-d5	0.020	0.013	0.018	0.018
2-Hexanone-d5	0.014	0.009	0.013	0.013
1,4-Dioxane-d8	0.002	0.001	0.001	0.001

ASSOCIATED SAMPLES AND METHOD BLANKS

Initial 08/30/06: All samples, all method blanks, storage blank VHBLK01
Cont., 08/31/06 (10:29): Y2TD5 through Y2TD8, Y2TE1 through Y2TE3, Y2TD5MS,
Y2TD5MSD; method blank VBLK07
Cont., 08/31/06 (17:19): Y2TD5 through Y2TD8, Y2TE1 through Y2TE3, Y2TD5MS,
Y2TD5MSD; method blank VBLK07
Cont., 09/01/06 (07:17): Y2TE4 through Y2TF5, Y2TF2DL; method blank VBLK09
Cont., 09/01/06 (18:33): Y2TE4 through Y2TF5, Y2TF2DL; method blank VBLK09
Cont., 09/01/06 (19:52): Storage blank VHBLK01, method blank VBLK11
Cont., 09/02/06 (02:39): Storage blank VHBLK01, method blank VBLK11.