

0068771

SAF-RC-029
Remaining Sites Confirmation Sampling -
Soil
FINAL VALIDATION PACKAGE

COMPLETE COPY OF VALIDATION PACKAGE TO:

Jeanette Duncan (2) H9-02

mjp 02/13/06
INITIAL/DATE

COMMENTS:

SDG K0082 SAF-RC-029

Waste Site: 100-D-7

RECEIVED
FEB 23 2006
EDMC

Date: 8 February 2006
To: Washington Closure Hanford Inc. (technical representative)
From: TechLaw, Inc.
Project: Remaining Sites Confirmation Sampling – Soil – Waste Site 100-D-7
Subject: Volatile - Data Package No. K0082-LLI

INTRODUCTION

This memo presents the results of data validation on Data Package No. K0082 prepared by Lionville Laboratory Inc. (LLI). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation	Method
J10DC3	11/1/05	Soil	C	VOAs by 8260B
J10DC4	11/1/05	Soil	C	VOAs by 8260B
J10DD0	11/1/05	Soil	C	VOAs by 8260B

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan (DOE/RL-96-22, February 2005). Appendices 1 through 5 provide the following information as indicated below:

- Appendix 1. Glossary of Data Reporting Qualifiers
- Appendix 2. Summary of Data Qualification
- Appendix 3. Qualified Data Summary and Annotated Laboratory Reports
- Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
- Appendix 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

· Holding Times

Analytical holding times were assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: Samples must be analyzed within 14 days of the date of sample collection.

If holding times are exceeded, but not by greater than two times the limit, all associated sample results are qualified as estimates and flagged "J" for detects and "UJ" for non-detects. If holding times are exceeded by greater than two times the limit, all associated detectable sample results are qualified as estimates and flagged "J" and all non-detects are rejected and flagged "UR".

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All holding times were met.

· **Method Blanks**

Method blank analyses are conducted to determine the extent of laboratory contamination introduced through sampling, sample preparation and analysis. At least one acceptable method blank analysis must be conducted for every 20 samples. No contaminants should be present in the method blank. Analytical results for analytes present in any sample at less than five times the concentration of that analyte found in the associated blank are qualified as non-detects and flagged "U". Common laboratory contaminants present in samples at less than ten times the concentration of that analyte found in the associated blank are qualified as non-detects. If a sample result is less than the CRQL and is less than five times (or less than ten times for lab contaminants) the highest associated blank result, the sample result value is raised to the CRQL level and qualified as undetected "U".

Due to method blank contamination, all methylene chloride results were qualified as undetected, raised to the RQL and flagged "U".

All other method blank results were acceptable.

Field Blanks

No field blanks were submitted for analysis.

· **Accuracy**

Matrix Spike/Matrix Spike Duplicate & Blank Spike Recoveries

Matrix spike/matrix spike duplicate analyses are used to assess the analytical accuracy of the reported data and the effect of the matrix on the ability to accurately quantify sample concentrations. Matrix spike/matrix spike duplicate analyses are performed in duplicate using five compounds for which percent recoveries must be within a range of 50-150% or within laboratory control limits. If spike recoveries are outside control limits, detected sample results less than five times the spike concentration are qualified as estimates and flagged "J". Undetected sample results with spike recoveries below control limits are qualified as estimates and flagged "UJ". Undetected sample results are not qualified if the spike recovery is above control limits. Sample results greater than five times the spike concentration require no qualification.

All accuracy results were acceptable.

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Surrogate Recovery

The analyses of surrogate compounds provide a measure of performance for individual samples. Matrix-specific surrogate compound recovery control windows have been established by the EPA CLP program. If two surrogates of the same class of compounds (base/neutral or acid) are out of control limits, all associated sample results greater than the contract required quantitation limit (CRQL) are qualified as estimates and flagged "J". Sample results less than the CRQL and below the lower control limit are qualified as estimates and flagged "UJ". Sample results less than the CRQL with recoveries above the upper control limit require no qualification. If a surrogate recovery is less than 10%, detects are qualified as estimates and flagged "J" and nondetects are rejected and flagged "UR".

All surrogate results were acceptable.

• **Precision**

Matrix Spike/Matrix Spike Duplicate Samples

Matrix spike (MS)/matrix spike duplicate (MSD) results provide matrix-specific information on the precision of the method for specific target compound classes. Precision is expressed by the relative percent difference (RPD) between the recoveries of duplicate matrix spike analyses performed on a sample. Samples results must be within RPD limits of +/-30%. If RPD values are out of specification and the sample concentration is less than five times the spike concentration, all associated detected sample results are qualified as estimates and flagged "J". If RPD values are out of specification and the sample concentration is greater than five times the spike concentration, no qualification is required.

All precision results were acceptable.

Field Duplicate Samples

No field duplicates were submitted for analysis.

• **Analytical Detection Levels**

Reported analytical detection levels are compared against the required quantitation limits (RQL's) to ensure that laboratory detection levels meet the required criteria. All analytes met the RQL.

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· **Completeness**

Data package No. K0082 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

Due to method blank contamination, all methylene chloride results were qualified as undetected, raised to the RQL and flagged "U".

REFERENCES

BHI, MRB-SBB-A23665, *Validation Statement of Work*, Bechtel Hanford Incorporated, September 5, 1997.

DOE/RL-96-22, Rev. 4, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, February 2005.

Appendix 1

Glossary of Data Reporting Qualifiers

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Qualifiers which may be applied by data validators in compliance with the BHI validation SOW are as follows:

- U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the same quantitation limit corrected for sample dilution and moisture content by the laboratory.
- UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.
- J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.
- R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.
- UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.
- NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).
- N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications usable for decision-making purposes).

Appendix 2

Summary of Data Qualification

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VOLATILE ORGANIC DATA QUALIFICATION SUMMARY*

SDG: K0082	REVIEWER:	Project: 100-D-7	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Methylene chloride	U at RQL	All	Blank contamination

* - The Qualified Data Summary Table includes laboratory applied "U" qualifiers not specifically identified here. The laboratory applied "U" qualifiers are included to minimize misinterpretation of results contained in the table.

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Appendix 3

Qualified Data Summary and Annotated Laboratory Reports

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Project: WASHINGTON CLOSURE HANFORD									
Laboratory: LLI									
Case:		SDG: K0082							
Sample Number		J10DC3		J10DC3		J10DC4		J10DD0	
Remarks		Re-prep							
Sample Date		11/1/05		11/1/05		11/1/05		11/1/05	
Analysis Date		11/11/05		11/12/05		11/11/05		11/11/05	
VOA	RQL	Result	Q	Result	Q	Result	Q	Result	Q
Chloromethane	10	10	U	10	U	10	U	10	U
Bromomethane	10	10	U	10	U	10	U	10	U
Vinyl Chloride	10	10	U	10	U	10	U	10	U
Chloroethane	10	10	U	10	U	10	U	10	U
Methylene Chloride	10	10	U	10	U	10	U	10	U
Acetone	10	4		4		2		2	
Carbon Disulfide	10	5	U	5	U	5	U	5	U
1,1-Dichloroethene	10	5	U	5	U	5	U	5	U
1,1-Dichloroethane	10	5	U	5	U	5	U	5	U
1,2-Dichloroethene (total)	10	5	U	5	U	5	U	5	U
Chloroform	10	5	U	5	U	5	U	5	U
1,2-Dichloroethane	10	5	U	5	U	5	U	5	U
2-Butanone	10	10	U	10	U	10	U	10	U
1,1,1-Trichloroethane	10	5	U	5	U	5	U	5	U
Carbon Tetrachloride	10	5	U	5	U	5	U	5	U
Bromodichloromethane	10	5	U	5	U	5	U	5	U
1,2-Dichloropropane	10	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene	10	5	U	5	U	5	U	5	U
Trichloroethene	10	5	U	5	U	5	U	5	U
Dibromochloromethane	10	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	10	5	U	5	U	5	U	5	U
Benzene	10	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene	10	5	U	5	U	5	U	5	U
Bromoform	10	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone	10	10	U	10	U	10	U	10	U
2-Hexanone	10	10	U	10	U	10	U	10	U
Tetrachloroethene	10	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	10	5	U	5	U	5	U	5	U
Toluene	10	5	U	5	U	5	U	5	U
Chlorobenzene	10	5	U	5	U	5	U	5	U
Ethylbenzene	10	5	U	5	U	5	U	5	U
Styrene	10	5	U	5	U	5	U	5	U
Xylene	10	5	U	5	U	5	U	5	U
cis-1,2-Dichloroethene	10	5	U	5	U	5	U	5	U
trans-1,2-Dichloroethene	10	5	U	5	U	5	U	5	U

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Laboratory applied non-detect qualifiers "U" have been included in this table to minimize mis-interpretation of results. All other qualifiers shown were applied during validation.

Lionville Laboratory, Inc.

Volatiles by GC/MS, HSL List

Report Date: 11/17/05 10:55

RFW Batch Number: 0511L617

Client: TNUHANFORD RC-029 K0082 Work Order: 11343606001 Page: 1a

	Cust ID:	J10DC3	J10DC3	J10DC4	J10DD0	J10DD0	J10DD0
Sample	RFW#:	001	001	002	003	003 MS	003 MSD
Information	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	0.980	0.980	0.943	1.00	0.926	0.877
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
		REPREP					
	Toluene-d8	108 %	113 %	100 %	103 %	107 %	106 %
Surrogate	Bromofluorobenzene	110 %	120 %	100 %	101 %	110 %	108 %
Recovery	1,2-Dichloroethane-d4	126 %	125 %	118 %	124 %	124 %	116 %
		=====fl=====fl=====fl=====fl=====fl=====fl=====fl=====					
	Chloromethane	10 U	10 U	10 U	10 U	94 %	99 %
	Bromomethane	10 U	10 U	10 U	10 U	119 %	110 %
	Vinyl Chloride	10 U	10 U	10 U	10 U	99 %	100 %
	Chloroethane	10 U	10 U	10 U	10 U	149 %	116 %
	Methylene Chloride	10 7/7 U	10 7/7 U	10 7/7 U	10 7/7 U	94 %	89 %
	Acetone	4 J	4 J	2 J	2 J	152 %	156 %
	Carbon Disulfide	5 U	5 U	5 U	5 U	127 %	118 %
	1,1-Dichloroethene	5 U	5 U	5 U	5 U	110 %	105 %
	1,1-Dichloroethane	5 U	5 U	5 U	5 U	111 %	107 %
	1,2-Dichloroethene (total)	5 U	5 U	5 U	5 U	103 %	98 %
	Chloroform	5 U	5 U	5 U	5 U	113 %	106 %
	1,2-Dichloroethane	5 U	5 U	5 U	5 U	124 %	117 %
	2-Butanone	10 U	10 U	10 U	10 U	122 %	133 %
	1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	117 %	111 %
	Carbon Tetrachloride	5 U	5 U	5 U	5 U	119 %	114 %
	Bromodichloromethane	5 U	5 U	5 U	5 U	114 %	110 %
	1,2-Dichloropropane	5 U	5 U	5 U	5 U	108 %	105 %
	cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U	104 %	106 %
	Trichloroethene	5 U	5 U	5 U	5 U	127 %	121 %
	Dibromochloromethane	5 U	5 U	5 U	5 U	107 %	105 %
	1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	102 %	103 %
	Benzene	5 U	5 U	5 U	5 U	109 %	102 %
	Trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	109 %	109 %
	Bromoform	5 U	5 U	5 U	5 U	114 %	112 %
	4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	126 %	134 %
	2-Hexanone	10 U	10 U	10 U	10 U	105 %	127 %
	Tetrachloroethene	5 U	5 U	5 U	5 U	104 %	105 %
	1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	98 %	94 %
	Toluene	5 U	2 J	5 U	5 U	105 %	105 %

*= Outside of EPA CLP QC limits.

W 2/7/06

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	Cust ID:	J10DC3	J10DC3	J10DC4	J10DD0	J10DD0	J10DD0
	RFW#:	001	001	002	003	003 MS	003 MSD
			REPREP				
Chlorobenzene		5 U	5 U	5 U	5 U	100 %	100 %
Ethylbenzene		5 U	5 U	5 U	5 U	102 %	103 %
Styrene		5 U	5 U	5 U	5 U	107 %	104 %
Xylene (total)		5 U	5 U	5 U	5 U	104 %	103 %
M&P Xylene		5 U	5 U	5 U	5 U	103 %	102 %
O-Xylene		5 U	5 U	5 U	5 U	106 %	104 %
cis-1,2-Dichloroethene		5 U	5 U	5 U	5 U	102 %	95 %
trans-1,2-Dichloroethene		5 U	5 U	5 U	5 U	104 %	100 %

*= Outside of EPA CLP QC limits.

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Cust ID: VBLKIE VBLKIE BS VBLKIF VBLKIF BS

RFW#: 05LVG319-MB1 05LVG319-MB1 05LVG321-MB1 05LVG321-MB1

Chlorobenzene	5	U	88	%	5	U	96	%
Ethylbenzene	5	U	91	%	5	U	97	%
Styrene	5	U	94	%	5	U	102	%
Xylene (total)	5	U	93	%	5	U	99	%
M&P Xylene	5	U	92	%	5	U	98	%
O-Xylene	5	U	94	%	5	U	102	%
cis-1,2-Dichloroethene	5	U	85	%	5	U	94	%
trans-1,2-Dichloroethene	5	U	90	%	5	U	96	%

*= Outside of EPA CLP QC limits.

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Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

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Case Narrative

Client: TNU-HANFORD RC-029
LVL #: 0511L617
SDG/SAF # K0082/RC-029

W.O. #: 11343-606-001-9999-00
Date Received: 11-03-2005

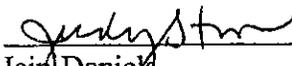
GC/MS VOLATILE

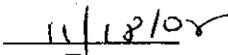
Three (3) soil samples were collected on 11-01-2005.

The samples and their associated QC samples were analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8260B for TCL volatile target compounds on 11-11,12-2005.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
2. Samples were analyzed within required holding time.
3. Non-target compounds were not detected in the sample.
4. All surrogate recoveries were within acceptance criteria.
5. All matrix spike recoveries were within acceptance criteria.
6. All blank spike recoveries were within acceptance criteria.
7. The method blanks contained the common laboratory contaminant Methylene Chloride at levels less than the CRQL.
8. Internal standard area criteria were not met for samples J10DC3 and J10DD0. The analysis of associated matrix spike samples fulfills the reanalysis requirement of sample J10DD0. Other out of criteria samples were reanalyzed on 11-12-2005 and reported.
9. Manual integrations are performed according to SOP QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").
10. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
11. "I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."


Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated


Date

som\group\data\voal\tnu-hanford\0511-617.doc
The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 1 2 pages.

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Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					RC-029-008		Page 1 of 1					
Collector STANKOVICH/HUDSON		Company Contact Mike Stankovich		Telephone No. 531-7620		Project Coordinator KESSNER, JH		Price Code 8C		Data Turnaround 15 Days				
Project Designation Remaining Sites Confirmation Sampling - Soil		Sampling Location 100-D-7-44A : 1 TEST TRENCH 2			SAF No. RC-029		Air Quality <input type="checkbox"/>							
Ice Chest No. ERC-03-105 / ERC-02-009		Field Logbook No. EL-1578-7		COA C10DR16700		Method of Shipment Fed Ex								
Shipped To EBERLINE SERVICES / LIONVILLE		Offsite Property No. A060103			Bill of Lading/Air Bill No. See OSPC									
POSSIBLE SAMPLE HAZARDS/REMARKS Non Rad Special Handling and/or Storage Cool 40C				Preservation		None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	
				Type of Container			G/P	G/P	aG	aG	aG	G	G	
				No. of Container(s)		1	1	1	1	1	1	1	1	
				Volume		1000mL	250mL	120mL	250mL	250mL	250mL	60mL	250mL	
SAMPLE ANALYSIS				See item (1) in Special Instructions.		See item (2) in Special Instructions.		Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Chloro-Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1	
				Sample No.	Matrix *	Sample Date	Sample Time							
J40DC2	SOIL BH	11/1/05												
J10DC3	SOIL	11/1/05	81245 1345	X	X	X	X	X	X	X	X	X		
J10DC4	SOIL	11/1/05	81255 1355	X	X	X	X	X	X	X	X	X		
J10DD0	SOIL	11/1/05	81305 1405	X	X	X	X	X	X	X	X	X		
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *		
Relinquished By/Removed From Bill Hudson		Date/Time 11/1/05 1615		Received By/Stored In 3728 BDG ZB		Date/Time 11/1/05 1615		(1) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add on (Americium-241); Americium-241; Gross Alpha & Gross Beta; Nickel-63; Isotopic Plutonium (Plutonium-238, Plutonium-239/240); Strontium-90,90 - Total Sr; Technetium-99; Isotopic Uranium (Uranium-233/234; Uranium-235, Uranium-238); Total Uranium (2) ICP Metals - 6010TR (SW846) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)				S=Soil SB=Sediment SD=Soil/d SI=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Time WI=Wipe L=Liquid V=Vegetation X=Other		
Relinquished By/Removed From D. Stankovich		Date/Time 11/2/05 1400		Received By/Stored In D. Stankovich		Date/Time 11/2/05 1400								
Relinquished By/Removed From Fed Ex		Date/Time 11-3-05 10900		Received By/Stored In Fed Ex		Date/Time 11-3-05 10900								
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time								
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time								
LABORATORY SECTION	Received By		Title				Date/Time							
FINAL SAMPLE DISPOSITION	Disposal Method		Disposed By				Date/Time							

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Appendix 5

Data Validation Supporting Documentation

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GC/MS ORGANIC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	<u>C</u>	D	E
PROJECT:	100-D-7		DATA PACKAGE: K0087		
VALIDATOR:	TLI	LAB:	LLI	DATE: 2/2/06	
			SDG:	K0087	
ANALYSES PERFORMED					
<u>SW-846 8260</u>		SW-846 8260 (TCLP)	SW-846 8270		SW-846 8270 (TCLP)
SAMPLES/MATRIX					
J10DC3 J10DC4 J10DD0					
J10DC3 reprep					
Soil					

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? Yes No N/A

Comments: _____

2. INSTRUMENT TUNING AND CALIBRATION (Levels D and E)

GC/MS tuning/performance check acceptable? Yes No N/A
 Initial calibrations acceptable? Yes No N/A
 Continuing calibrations acceptable? Yes No N/A
 Standards traceable? Yes No N/A
 Standards expired? Yes No N/A
 Calculation check acceptable? Yes No N/A

Comments: _____

GC/MS ORGANIC DATA VALIDATION CHECKLIST

3. BLANKS (Levels B, C, D, and E)

Calibration blanks analyzed? (Levels D, E) Yes No N/A
 Calibration blank results acceptable? (Levels D, E)..... Yes No N/A
 Laboratory blanks analyzed?..... Yes No N/A
 Laboratory blank results acceptable? Yes No N/A
 Field/trip blanks analyzed? (Levels C, D, E) Yes No N/A
 Field/trip blank results acceptable? (Levels C, D, E)..... Yes No N/A
 Transcription/calculation errors? (Levels D, E) Yes No N/A
 Comments: methylene chloride - U at RQL all

_____ no FB

4. ACCURACY (Levels C, D, and E)

Surrogates/system monitoring compounds analyzed?..... Yes No N/A
 Surrogate/system monitoring compound recoveries acceptable?..... Yes No N/A
 Surrogates traceable? (Levels D, E)..... Yes No N/A
 Surrogates expired? (Levels D, E) Yes No N/A
 MS/MSD samples analyzed? Yes No N/A
 MS/MSD results acceptable? Yes No N/A
 MS/MSD standards NIST traceable? (Levels D, E)..... Yes No N/A
 MS/MSD standards? (Levels D, E) Yes No N/A
 LCS/BSS samples analyzed? Yes No N/A
 LCS/BSS results acceptable? Yes No N/A
 Standards traceable? (Levels D, E) Yes No N/A
 Standards expired? (Levels D, E)..... Yes No N/A
 Transcription/calculation errors? (Levels D, E) Yes No N/A
 Performance audit sample(s) analyzed?..... Yes No N/A
 Performance audit sample results acceptable? Yes No N/A

Comments: no PAS

GC/MS ORGANIC DATA VALIDATION CHECKLIST

5. PRECISION (Levels C, D, and E)

MS/MSD samples analyzed? Yes No N/A
MS/MSD RPD values acceptable? Yes No N/A
MS/MSD standards NIST traceable? (Levels D, E) Yes No N/A
MS/MSD standards expired? (Levels D, E) Yes No N/A
Field duplicate RPD values acceptable? Yes No N/A
Field split RPD values acceptable? Yes No N/A
Transcription/calculation errors? (Levels D, E) Yes No N/A
Comments: _____

6. SYSTEM PERFORMANCE (Levels D and E)

Internal standards analyzed? Yes No N/A
Internal standard areas acceptable? Yes No N/A
Internal standard retention times acceptable? Yes No N/A
Standards traceable? Yes No N/A
Standards expired? Yes No N/A
Transcription/calculation errors? Yes No N/A
Comments: _____

7. HOLDING TIMES (all levels)

Samples properly preserved? Yes No N/A
Sample holding times acceptable? Yes No N/A
Comments: _____

GC/MS ORGANIC DATA VALIDATION CHECKLIST

8. COMPOUND IDENTIFICATION, QUANTITATION, AND DETECTION LIMITS (all levels)

Compound identification acceptable? (Levels D, E).....	Yes	No	N/A
Compound quantitation acceptable? (Levels D, E).....	Yes	No	N/A
Results reported for all requested analyses?.....	Yes	No	N/A
Results supported in the raw data? (Levels D, E).....	Yes	No	N/A
Samples properly prepared? (Levels D, E).....	Yes	No	N/A
Laboratory properly identified and coded all TIC? (Levels D, E).....	Yes	No	N/A
Detection limits meet RDL?.....	Yes	No	N/A
Transcription/calculation errors? (Levels D, E).....	Yes	No	N/A

Comments: _____

9. SAMPLE CLEANUP (Levels D and E)

GPC cleanup performed?	Yes	No	N/A
GPC check performed?	Yes	No	N/A
GPC check recoveries acceptable?.....	Yes	No	N/A
GPC calibration performed?.....	Yes	No	N/A
GPC calibration check performed?	Yes	No	N/A
GPC calibration check retention times acceptable?	Yes	No	N/A
Check/calibration materials traceable?.....	Yes	No	N/A
Check/calibration materials Expired?.....	Yes	No	N/A
Analytical batch QC given similar cleanup?	Yes	No	N/A
Transcription/Calculation Errors?	Yes	No	N/A

Comments: _____

