

N00158.AR.000549  
NASJRB WILLOW GROVE  
5090.3a

VALIDATED DATA PACKAGE, FA020500, FA20878, FA20955, FA21055, NAS WILLOW  
GROVE PA  
12/4/2014  
RESOLUTION CONSULTANTS



## Data Validation Report

Project:	NAS JRB Willow Grove, PA	
Laboratory:	Accutest Laboratories	
Job Numbers:	FA20500, FA20878, FA20955 and FA21055	
Analyses/Method:	PFOS and PFOA by Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS)/ EPA Method 537 modified	
Validation Level:	Limited	
Resolution Consultants 60276503.SI.RP		
Project Number:		
Prepared by:	Paula DiMattei/Resolution Consultants	Completed on: 1/26/2014
Reviewed by:	Lori Herberich /Resolution Consultants	
File Name: Willow Grove FA20500_FA20878_FA20955_FA21055_PFOA and PFOA		

### SUMMARY

The samples listed below were collected by Resolution Consultants from the NAS JRB Willow Grove, PA site on December 4, 2014, December 15-19, 2014 and December 22, 2014.

SDG	Sample ID	Matrix/Sample Type
FA20500	EB_12042014 <sup>1</sup>	Equipment blank
	HWSA-26 (140)_12042014 <sup>1</sup>	Groundwater
	HWSA-26 (170)_12042014 <sup>1</sup>	Groundwater
	HWSA-26 (48)_12042014 <sup>1</sup>	Groundwater
	HWSA-26 (60)_12042014 <sup>1</sup>	Groundwater
	HWSA-26 (73)_12042014 <sup>1</sup>	Groundwater
	HWSA-26 (93)_12042014 <sup>1</sup>	Groundwater
FA20878	EB-12172014	Equipment blank
	HWSA-40 (119-140)	Groundwater
	HWSA-40 (30-83)	Groundwater
	HWSA-40 (97-114)	Groundwater
FA20955	DUP (121814)	Field duplicate of HWSA-40 (212-233)
	EB (101914)	Equipment blank
	HWSA-40 (158-179)	Groundwater
	HWSA-40 (212-233)	Groundwater
	HWSA-40 (251-272)	Groundwater
FA21055	HWSA-40(325-346)	Groundwater

<sup>1</sup>The project database identifies the sample ID as it appears on the chain-of-custody appended with the date of sample collection.

Data validation activities were conducted with reference to:

- Accutest Laboratories SOP: Analysis of Perfluorinated Alkyl Acids by LC/MS/MS; MS 014.1, Rev. Date: 05/14
- USEPA Contract Laboratory Program National Functional Guidelines for Chlorinated Dioxin/Furan Data review (USEPA, September 2011);
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008);
- Quality Systems Manual (QSM) for Environmental Laboratories, Version 4.2 (DoD, October 2010); and
- the project-specific Sampling and Analysis Plan.

In the absence of method-specific information, laboratory quality control (QC) limits, project-specific requirements and/or professional judgment were used as appropriate.

## REVIEW ELEMENTS

The data were evaluated based on the following review elements (where applicable to the method):

- ✓ Data completeness (chain-of-custody (COC)/sample integrity)
- ✓ Holding times/sample preservation
- ✓ Initial calibration/initial and continuing calibration verification
- ✓ Laboratory method blanks/equipment blanks
- ✓ Surrogate recoveries
- ✓ Matrix spike (MS) and/or matrix spike duplicate (MSD) results
- ✓ Laboratory control sample (LCS) results
- ✓ Field duplicate results
- ✓ Internal standard results
- ✓ Sample results/reporting issues

The symbol (✓) indicates that no validation qualifiers were applied based on this parameter. NA indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The symbol (X) indicates that a QC nonconformance resulted in the qualification of data. Any QC nonconformance that resulted in the qualification of data is discussed below. In addition, nonconformances or other issues that were noted during validation, but did not result in qualification of data, may be discussed for informational purposes only.

The data appear valid as reported and may be used for decision making purposes. Qualification of the data was not required.

## RESULTS

### Data Completeness/Sample Integrity

The data package was reviewed and found to meet acceptance criteria for completeness:

- The COCs were reviewed for completeness of information relevant to the samples and requested analyses, and for signatures indicating transfer of sample custody.
- The laboratory sample login sheet(s) were reviewed for issues potentially affecting sample integrity, including the condition of sample containers upon receipt at the laboratory.

- Completeness of analyses was verified by comparing the reported results to the COC requests.

### **Holding Times/Sample Preservation**

Sample preservation and preparation/analysis holding times were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

### **Initial Calibration/Initial and Continuing Calibration Verification**

Calibration data were reviewed for conformance with the QC acceptance criteria to ensure that:

- the initial calibration (ICAL) percent relative standard deviation (%RSD) or correlation coefficient (r)/coefficient of determination ( $r^2$ ) method acceptance criteria were met;
- the initial calibration verification standard (ICV) percent recovery acceptance criteria were met; and
- the continuing calibration verification standard (CCV) frequency and method percent recovery criteria were met.

The QC acceptance criteria were met.

### **Laboratory Method Blanks/Equipment Blanks**

Laboratory method blanks and equipment rinse blanks are evaluated as to whether there are contaminants detected above the detection limit (DL). Target compounds were not detected in the laboratory method blanks and equipment blanks associated with the samples in this data set.

### **Surrogate Recoveries**

The surrogate recoveries (%Rs) were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

### **MS/MSD Results**

The MS/MSD %Rs and relative percent differences (RPDs) were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

### **LCS Results**

The LCS %Rs were reviewed for conformance. All QC acceptance criteria were met.

### **Field Duplicate Results**

Field duplicate RPDs were reviewed for conformance with the Resolution Consultants QC criteria of  $\leq 30\%$  for aqueous matrices. These criteria apply if both results were greater than five times the limit of quantitation (LOQ). All field duplicate precision criteria were met.

### **Internal Standard Results**

The internal standard (IS) results were reviewed for conformance with the QC acceptance criteria. All QC acceptance criteria were met.

**Sample Results/Reporting Issues**

If applicable, compounds detected at concentrations less than the limit of quantitation (LOQ) but greater than the detection limit (DL) were qualified by the laboratory as estimated (J). This "J" qualifier was retained during data validation.

**QUALIFICATION ACTIONS**

No sample results were qualified as a result of the validation.