

Attachment B

Data Validation Report Form

Client Name: PPG Industries	Project Number: 60238842.NGA.186.RAM
Site Location: Metropolitan Family Health Network Property Site 186 Borings, Jersey City, NJ	Project Manager: Al LoPilato
Laboratory: Accutest, Dayton, NJ	Type of Validation: Full
Laboratory Job No: JB50090 and JB50090R	Date Checked: 10/23/13
Validator: Kristin Rutherford	Peer: Mary Kozik

ITEM	YES	NO	N/A	COMMENTS
Sample results included?	X			
Reporting Limits met project requirements?	X			
Field I.D. included?	X			
Laboratory I.D. included?	X			
Sample matrix included?	X			
Sample receipt temperature 2-6C?	X			
Signed COCs included?	X			
Date of sample collection included?	X			
Date of sample digestion included?	X			
Holding time to digestion met criteria? (Soils -30 days from collection to digestion.)	X			
Date of analysis included?	X			
Holding time to analysis met criteria? (Soils -168 hours from digestion to analysis; Aqueous - 24 hours from collection to analysis.)	X			
Method reference included?	X			
Laboratory Case Narrative included?	X			

Definitions: MDL - Method Detection Limit; %R - Percent Recovery; RL - Reporting Limit; RPD - Relative Percent Difference; RSD - Relative Standard Deviation ;Corr - Correlation Coefficient.

ITEM	YES	NO	N/A	COMMENTS
Initial calibration documentation included in lab package?	X			
1) Blank plus 4 standards (7196A) or blank plus 3 standards (7199)	X			
2) Correlation coefficient of >0.995 (7196A) or >0.999 (7199)	X			
3) Calibrate daily or each time instrument is set up.	X			
Calibration Check Standard (CCS) for 7196A and Quality Control Sample (QCS) for 7199 Included in Lab Package?	X			
1) %R criteria met? (90 - 110%)	X			
2) Correct frequency of one per every 10 samples	X			
3) CCS and QCS from independent source and at mid-level of calibration curve	X			
Calibration Blanks	X			
1) Analyzed prior to initial calibration standards and after each CCS/QCS?	X			
2) Absolute value should not exceed MDL.	X			Hexavalent chromium detected below the MDL; no qualifications.
Method Blank, Field Blanks and/or Equipment Blanks Included in Lab Package?	X			
1) Method blank analyzed with each preparation batch?	X			
2) Absolute value should not exceed MDL.	X			
Eh and pH Data	X			
1) Eh and pH data was included and plotted for all samples?	X			
Soluble Matrix Spike Data Included in Lab Package?	X			
1) Soluble Matrix %R criteria met? (75-125%R).		X		See nonconformance table below.
2) Was the spike concentration 40 mg/Kg or twice the sample concentration?		X		Spiked at 44.4 mg/kg and 44.6 mg/kg; no impact to data.
3) Was a sample spiked at the frequency of 1 per batch or 20 samples?	X			
Insoluble Matrix Spike Data Included in Lab Package?	X			
1) Insoluble Matrix %R criteria met? (75-125%R).		X		See nonconformance table below.
2) Was the spike concentration around 400 to 800 mg/Kg?		X		Spiked at 1020 mg/kg and 968 mg/kg; no impact to data.
3) Was a sample spiked at the frequency of 1 per batch or 20 samples?	X			

ITEM	YES	NO	N/A	COMMENTS
Post Digestion Spike	X			
1) Post Digestion Spike %R criteria met? (85-115%R).	X			
2) Was the spike concentration 40 mg/Kg or twice the sample concentration?	X			
3) Was a sample spiked at the frequency of 1 per batch or 20 samples?	X			
Sample Duplicate Data Included in Lab Package?	X			
1) RPD criteria met? (RPD < 20% if both results are >4x RL or control limit of RL if both results are <4x)		X		See nonconformance table below.
2) Was a sample duplicate run at the frequency of 1 per batch or 20 samples?	X			
Was a Laboratory Control Sample (LCS) Included in Lab Package?	X			
1) %R criteria met? (80-120%R).	X			
2) Was an LCS analyzed at the frequency of 1/batch or 20 samples?	X			
Were any Field Duplicate samples submitted with this SDG?	X			
1) Were Field duplicate RPD criteria met? (RPD<20% for sample results >4x the RL.)		X		See nonconformance table below. No qualification since RPD was acceptable for reported results.
Were all sample quantitation and reporting requirements met?	X			
1) Were all solid samples reported with percent solids >50%?	X			
2) Were any samples analyzed or reported with dilutions?		X		No dilutions.
Miscellaneous Items	X			
1) For soils by 7196A, was the pH within a range of 7.0-8.0?	X			
2) For soils by 7199, was the pH within a range of 9.0-9.5?			X	
3) For aqueous by 7196A, was the pH with a range of 1.5-2.5?	X			
4) For soils (3060A), was the digestion temperature 90-95C for at least 60 minutes?	X			
5) For 7199, was each sample injected twice and was the RPD <20?			X	

Matrix Spikes

Sample ID	Compound	Analysis Batch	Matrix Spike	% Recovery	Lower Limit	Upper Limit	PDS	PDS Limit
186-MFHT1-2-2.0-2.5	CHROMIUM (HEXAVALENT)	GP75260/GN93231	Soluble	61.5	75	125	85.8	85-115
186-MFHT1-2-2.0-2.5	CHROMIUM (HEXAVALENT)	GP75260/GN93231	Insoluble	99.4	75	125		
186-MFHT1-2-2.0-2.5	CHROMIUM (HEXAVALENT)	GP75278/GN93304	Soluble	60.8	75	125	93.8	85-115
186-MFHT1-2-2.0-2.5	CHROMIUM (HEXAVALENT)	GP75278/GN93304	Insoluble	132	75	125		

Lab Duplicates

Sample ID	Duplicate ID	Compound	Sample Result	Qual	Duplicate Result	Qual	QL	Units	Abs Diff
186-MFHT1-2-2.0-2.5	186-MFHT1-2-2.0-2.5	CHROMIUM (HEXAVALENT)	1.1		1.1		0.44	mg/kg	0
186-MFHT1-2-2.0-2.5	186-MFHT1-2-2.0-2.5	CHROMIUM (HEXAVALENT)	1.4		0.77		0.44	mg/kg	0.63

Field Duplicates

Sample ID	Duplicate ID	Compound	Sample Result	Qual	Duplicate Result	Qual	QL	Units	RPD
186-MFHT1-2.0-2.5	186-MFHT1-2.0-2.5X	CHROMIUM (HEXAVALENT)	4.7		5.6		0.45	mg/kg	17.5
186-MFHT1-2.0-2.5	186-MFHT1-2.0-2.5X	CHROMIUM (HEXAVALENT)	2.5		2.0		0.45	mg/kg	22.2

Percent Solids

Sample ID	Percent Solids (%)	Status
186-MFHT1-2-2.0-2.5	90.8	ok @50%
186-MFHT1-2.0-2.5	89.8	ok @50%
186-MFHT1-2.0-2.5X	88.8	ok @50%
186-MFHT1-3-2.0-2.5	84.9	ok @50%
186-MFHT1-4-2.0-2.5	85.5	ok @50%

SDG#: JB50090
Batch: GN93231
 Cr+6 ICAL 10/15/13
 Soil
 (p. 49 of data pkg)

x - concentration	y - response
0	0
0.01	0.009
0.05	0.044
0.1	0.089
0.3	0.268
0.5	0.446
0.8	0.709
1	0.898

(p. 49 of data pkg)

AECOM Calculated Intercept	-0.0005	OK	Reported intercept	-0.0005
AECOM Slope	0.8939	OK	Reported Slope	0.8939
AECOM Calculated r	0.99997	OK	Reported r	0.99997

LCS calculation

GP75260-B1 pgs. 49

Background Absorbance
 Total absorbance
 Total absorbance - background
 Instrument Concentration
 Sample weight (mg/kg)
 Final Volume (L)
 Dilution Factor

0
 0.787
 0.787
 0.881
 0.0025
 0.1
 1

AECOM Calculated LCS Result (mg/Kg)	35.2	OK	Reported Result (mg/Kg)	35.2
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%R = Found/True*100

p. 24

True Value (mg/kg) 40

AECOM Calculated %R	88.1	OK rounding	Reported %R	88.0
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MS calculation

JB50090-4 [186-MFHT1-2-2.0-2.5] pg. 46

Background reading
 Total absorbance
 Total absorbance - background
 Instrument Concentration
 Sample weight (mg/kg)
 Final Volume (L)
 Percent solids
 Dilution Factor

0
 0.413
 0.413
 0.4626
 0.00249
 0.1
 0.908
 50

AECOM Calculated MS Result (mg/Kg)	1023	OK rounding	Reported Result (mg/Kg)	1020
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%R = Found/True*100**JB50090-4 [186-MFHT1-2-2.0-2.5] pg. 46**

True Value (mg/kg) 1020

Native concentration (mg/Kg) 1.1

AECOM%R	100.2	OK rounding	Reported %R	99.4
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Percent Solids**JB50090-4 [186-MFHT1-2-2.0-2.5] pg. 27**

Empty dish weight= 24.26

Wet weight= 30.89

Dry weight= 30.28

AECOM%solids =	90.8	OK	reported %solids=	90.8
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Reporting Limit**JB50090-4 [186-MFHT1-2-2.0-2.5] pg. 46**

Low Standard 0.01

Initial weight (mg/kg) 0.00247

Final volume (L) 0.1

Percent solids 0.908

Dilution Factor 1

Reporting Limit	0.45	OK rounding	Reported RL (mg/Kg)=	0.44
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Sample Calculations**JB50090-4 [186-MFHT1-2-2.0-2.5] pg. 46**

Background reading 0.009

Total absorbance 0.031

Total absorbance - background 0.022

Instrument Response 0.025

Sample weight (mg/kg) 0.00247

Final Volume (L) 0.1

Percent solids 0.908

Dilution Factor 1

AECOM Calculated Result (mg/Kg)	1.1	OK	Reported Result (mg/Kg)	1.1
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SDG#: JB50090R
Batch: GN93304
 Cr+6 ICAL 10/16/13
 Soil
 (p. 53 of data pkg)

x - concentration	y - response
0	0
0.01	0.009
0.05	0.044
0.1	0.091
0.3	0.267
0.5	0.448
0.8	0.701
1	0.901

(p. 53 of data pkg)

AECOM Calculated Intercept	-0.0002	OK	Reported intercept	-0.0002
AECOM Slope	0.8922	OK	Reported Slope	0.8922
AECOM Calculated r	0.99985	OK	Reported r	0.99985

LCS calculation

GP75278-B1 pgs. 53

Background Absorbance	0			
Total absorbance	0.852			
Total absorbance - background	0.852			
Instrument Concentration	0.955			
Sample weight (mg/kg)	0.0025			
Final Volume (L)	0.1			
Dilution Factor	1			
AECOM Calculated LCS Result (mg/Kg)	38.2	OK	Reported Result (mg/Kg)	38.2

%R = Found/True*100

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True Value (mg/kg)	40			
AECOM Calculated %R	95.5	OK	Reported %R	95.5

MS calculation

JB50090-4R [186-MFHT1-2-2.0-2.5] pg. 53

Background reading	0			
Total absorbance	0.511			
Total absorbance - background	0.511			
Instrument Concentration	0.5729			
Sample weight (mg/kg)	0.00247			
Final Volume (L)	0.1			
Percent solids	0.908			
Dilution Factor	50			
AECOM Calculated MS Result (mg/Kg)	1277	OK rounding	Reported Result (mg/Kg)	1280

%R = Found/True*100**JB50090-4R [186-MFHT1-2-2.0-2.5] pg. 24**

True Value (mg/kg)	968			
Native concentration (mg/Kg)	1.4			
AECOM%R	131.8	OK rounding	Reported %R	132.0

Percent Solids**JB50090-4R [186-MFHT1-2-2.0-2.5] pg. 30**

Empty dish weight=	24.26			
Wet weight=	30.89			
Dry weight=	30.28			
AECOM%solids =	90.8	OK	reported %solids=	90.8

Reporting Limit**JB50090-4R [186-MFHT1-2-2.0-2.5] pg. 53**

Low Standard	0.01			
Initial weight (mg/kg)	0.00247			
Final volume (L)	0.1			
Percent solids	0.908			
Dilution Factor	1			
Reporting Limit	0.45	OK rounding	Reported RL (mg/Kg)=	0.44

Sample Calculations**JB50090-4R [186-MFHT1-2-2.0-2.5] pg. 53**

Background reading	0.011			
Total absorbance	0.038			
Total absorbance - background	0.027			
Instrument Response	0.030			
Sample weight (mg/kg)	0.00247			
Final Volume (L)	0.1			
Percent solids	0.908			
Dilution Factor	1			
AECOM Calculated Result (mg/Kg)	1.4	OK	Reported Result (mg/Kg)	1.4