

Appendix E

Data Validation

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Laboratory Report 0803666 - VOC (US EPA method TO-15)

**DATA VALIDATION SUMMARY**

Note: Data validation assesses each analyte in terms of all the data validation variables and only the exceedances and outliers are reported in this form.

Project Name: General Air Emissions **Project/Task Number:** 43217795
Orica
Analytical Laboratory: Air Toxics **Batch/Ref. Number(s):** 0803666A
Date Sampled: 14-20/03/08 **Sample Type:** Surface emissions

Sample Handling, Receipt and Holding Times	Yes/No	Comments
COC completed adequately	No	A signature and date were not provided,
Samples analysed within appropriate holding times per analytical methods.	Yes	

# of Primary Samples	# of Duplicate Samples	# of QA/QC Samples
14	4	1

Blanks**Method Blank (MB), Field Blank (FB),**

Type	Comments
MB	All blanks have acceptable results less than the limits of reporting
FB	Methylene Chloride (15µG/m ³) was detected in the field blank

Laboratory Control Samples (LCS)

Analyte	Comments
	All LCS recoveries are within laboratory control limits

Continuous Calibration Verification (CCV)

Analyte	Comments
	All CCV recoveries are within laboratory control limits

Duplicates

Laboratory Duplicates	Comments
AS_15 AS_15_Duplicate	All laboratory duplicate analyses had results below the LOR or RPD calculations within acceptable LOR based control limits.

Field Duplicates	Comments
AS_12 QC01	RPD recovery for Methylene Chloride (142.9%) and Chloroform (97.4%) exceed control limits
AS_14 QC02	All RPD recoveries are within control limits
AS_11 QC03	All RPD recoveries are within control limits
AS_47 QC04	RPD recovery of Methylene Chloroide (127.7%) exceeds control limits

Surrogate Monitoring Compound Analyses

Analyte	Comments
	Results are acceptable

Overall Comments

Samples AS_05, AS_18 and QC_02 were received with significant vacuum remaining in the canister resulting in elevated LOR.

Due to the high RPD results in the field duplicate analysis the highest results will be used for interpretative purposes. Methylene Chloride was detected in all samples at similar or lower concentrations than in the Field Blank (except AS02 and AS47 which were significantly higher than the field blank) which may indicate contamination is the sampling or analysis method. The results for Methylene Chloride shall be used to be conservative.

This batch is suitable for environmental interpretive analysis

Performed By: Holly Marshall
Date: 24-Apr-08

Reviewed By: Martin Treloar
Date: 28-Apr-08

RPD Calculations
Field Duplicates

Location
Sample ID
Date Sampled
Sample Type

AS_12	AS_12
AS_12	QC_01
17/03/2008	17/03/2008
Primary	Secondary

Analyte	LOR1	LOR2	Units				Primary vs. Duplicate	Compliance
Methylene Chloride	0.4	0.34	ug/m ³	7.2	<	1.2	142.9	FAIL
Chloroform	0.2	0.90	ug/m ³	5.8	<	2.0	97.4	FAIL

< = Analyte not detected, LOR value used for comparison purposes

RPD Calculations
Field Duplicates

Location
Sample ID
Date Sampled
Sample Type

AS_14	AS_14
AS_14	QC02
18/03/2008	18/03/2008
Primary	Secondary

Analyte	LOR1	LOR2	Units				Primary vs. Duplicate	Compliance	
Methylene Chloride	0.98	3.50	ug/m ³	<	1.0	8.2	157.3	Pass	
Trichloroethene	0.76	0.86	ug/m ³		1.3	<	2.7	70.0	Pass
Tetrachloroethene	0.96	0.36	ug/m ³		1.1	<	3.4	102.2	Pass

< = Analyte not detected, LOR value used for comparison purposes

RPD Calculations
Field Duplicates

Location
Sample ID
Date Sampled
Sample Type

AS_11	AS_11
AS_11	QC_03
19/03/2008	19/03/2008
Primary	Secondary

Analyte	LOR1	LOR2	Units			Primary vs. Duplicate	Compliance
Methylene Chloride	1.3	1.30	ug/m ³	7.6	7.7	1.3	Pass
Chloroform	0.89	0.93	ug/m ³	0.9	1.2	29.7	Pass

< = Analyte not detected, LOR value used for comparison purposes

RPD Calculations
Field Duplicates

Location
Sample ID
Date Sampled
Sample Type

AS_47	AS_47
AS_47	QC_04
20/03/2008	20/03/2008
Primary	Secondary

Analyte	LOR1	LOR2	Units			Primary vs. Duplicate	Compliance
Methylene Chloride	0.88	34.00	ug/m ³	1500.0	6800.0	127.7	FAIL
Hexachlorobutadiene	110	260.00	ug/m ³	230.0	< 260.0	12.2	Pass

< = Analyte not detected, LOR value used for comparison purposes

RPD Calculations
Laboratory Duplicates

Location
Sample ID
Date Sampled
Sample Type

AS_15	AS_15
AS_15	AS_15_Duplicate
18/03/2008	18/03/2008
Primary	Secondary

Analyte	LOR1	LOR2	Units			Primary vs. Duplicate	Compliance
Methylene Chloride	1.4	1.4	(15µG/m ³)	8.80	10.00	12.8	Pass
Tetrachloroethene	1.3	1.3	(15µG/m ³)	1.90	1.90	0.0	Pass

< = Analyte not detected, LOR value used for comparison purposes

Appendix E

Data Validation

Laboratory Report 0805088 – VOC (US EPA method TO-15)

**DATA VALIDATION SUMMARY**

Note: Data validation assesses each analyte in terms of all the data validation variables and only the exceedances and outliers are reported in this form.

Project Name:	General Air Emissions Orica	Project/Task Number:	43217795
Analytical Laboratory:	Air Toxics	Batch/Ref. Number(s):	0805088
Date Sampled:	1/05/2008	Sample Type:	Soil Gas

Sample Handling, Receipt and Holding Times	Yes/No	Comments
COC completed adequately	No	Information on tag and COC was inconsistent.
Samples analysed within appropriate holding times per analytical methods.	Yes	
# of Primary Samples		# of Duplicate Samples
1		0

Blanks**Laboratory Blank (Lab Blank)**

Type	Comments
Lab Blank	All blanks have acceptable results less than the limits of reporting

Laboratory Control Samples (LCS)

Analyte	Comments
	All LCS recoveries are within laboratory control limits

Continuous Calibration Verification (CCV)

Analyte	Comments
	CCV was not carried out with this batch

Duplicates

Laboratory Duplicates	Comments
	No laboratory duplicates were performed.

Field Duplicates

Field Duplicates	Comments
	No Field Duplicated conducted on this batch

Surrogate Monitoring Compound Analyses

Analyte	Comments
	Surrogates were within laboratory control limits.

Overall Comments

This batch is suitable for environmental interpretive analysis

Performed By:	Stephen Bowly	Reviewed By:	Stephen Bowly
Date:	19-Jun-08	Date:	19-Jun-08

Appendix E

Data Validation

Laboratory Report 0803666 - TPH (US EPA method TO-12)

**DATA VALIDATION SUMMARY**

Note: Data validation assesses each analyte in terms of all the data validation variables and only the exceedances and outliers are reported in this form.

Project Name: General Air Emissions **Project/Task Number:** 43217795
Orica
Analytical Laboratory: Air Toxics **Batch/Ref. Number(s):** 0803666B
Date Sampled: 20/03/2008 **Sample Type:** Surface emissions

Sample Handling, Receipt and Holding Times	Yes/No	Comments
COC completed adequately	No	A signature and date were not provided
Samples analysed within appropriate holding times per analytical methods.	Yes	

# of Primary Samples	# of Duplicate Samples
2	0

Blanks
Method Blank (MB), Field Blank (FB),

Type	Comments
MB	All blanks have acceptable results less than the limits of reporting

Laboratory Control Samples (LCS)

Analyte	Comments
	All LCS recoveries are within laboratory control limits

Continuous Calibration Verification (CCV)

Analyte	Comments
	CCV was not carried out with this batch

Duplicates

Laboratory Duplicates	Comments
AS_02 AS_02_Duplicate	All laboratory duplicate analyses had results below the LOR or RPD calculations within acceptable LOR based control limits.

Field Duplicates	Comments
	No Field Duplicated conducted on this batch

Surrogate Monitoring Compound Analyses

Analyte	Comments
	No surrogate monitoring conducted on this batch

Overall Comments
This batch is suitable for environmental interpretive analysis

Performed By: Holly Marshall
Date: 24-Apr-08

Reviewed By: Martin Treloar
Date: 28-Apr-08

RPD Calculations
Laboratory Duplicates

Location
Sample ID
Date Sampled
Sample Type

AS_02	AS_02
AS_02	AS_02_Duplicate
20/03/2008	20/03/2008
Primary	Secondary

Analyte	LOR1	LOR2	Units				Primary vs. Duplicate	Compliance	
C6 Hydrocarbons ref. to Heptane	0.02	0.02	ppmv		0.046		0.038	19.0	Pass
C9 Hydrocarbons ref. to Heptane	0.02	0.02	ppmv		0.057		0.048	17.1	Pass
C12+ Hydrocarbons ref. to Heptane	0.02	0.02	ppmv		0.038		0.032	17.1	Pass
NMEOC ref. to Heptane (MW=100)	0.02	0.02	ppmv		0.170		0.140	19.4	Pass

< = Analyte not detected, LOR value used for comparison purposes

Appendix E

Data Validation

Laboratory Report 0803666 - PAH (US EPA method TO-13)

**DATA VALIDATION SUMMARY**

Note: Data validation assesses each analyte in terms of all the data validation variables and only the exceedances and outliers are reported in this form.

Project Name: General Air Emissions **Project/Task Number:** 43217795
Orica
Analytical Laboratory: Air Toxics **Batch/Ref. Number(s):** 0803666C
Date Sampled: 20/03/2008 **Sample Type:** Surface emissions

Sample Handling, Receipt and Holding Times	Yes/No	Comments
COC completed adequately	No	A temperature blank was included with the shipment, temperature measured and was not within 4±2 degrees. A signature and date were not provided
Samples analysed within appropriate holding times per analytical methods.	No	Samples were received outside the recommended hold time of 7 days

# of Primary Samples	# of Duplicate Samples
2	1

Blanks	
Method Blank (MB), Field Blank (FB),	
Type	Comments
MB	All blanks have acceptable results less than the limits of reporting

Laboratory Control Samples (LCS)	
Analyte	Comments
	All LCS recoveries are within laboratory control limits

Continuous Calibration Varification (CCV)	
Analyte	Comments
	No CCV conducted on this batch

Duplicates	
Laboratory Duplicates	Comments
PUF_AS_02 PUF_AS_02_Duplicate	All laboratory duplicate analyses had results below the LOR or RPD calculations within acceptable LOR based control limits.

Field Duplicates	
	Comments
PUF_AS_02 PUF_QC_01	All RPD recoveries are within control limits

Surrogate Monitoring Compound Analyses	
Analyte	Comments
	Results are acceptable

Overall Comments
This batch is suitable for environmental interpretive analysis

Performed By: Holly Marshall Reviewed By: Stephen Bowly
Date: 24-Apr-08 Date: 24-Apr-08

RPD Calculations
Field Duplicates

Location
Sample ID
Date Sampled
Sample Type

PUF_AS_02	PUF_AS_02
PUF_AS_02	PUF_AS_02_Duplicate
20/03/2008	20/03/2008
Primary	Secondary

Analyte	LOR1	LOR2	Units				Primary vs. Duplicate	Compliance
Hexachloroethane	1	1	µg	13.0	<	12.0	8.0	Pass
Hexachlorobutadiene	1	1	µg	95.0	<	82.0	14.7	Pass

< = Analyte not detected, LOR value used for comparison purposes

RPD Calculations
Laboratory Duplicates

Location
Sample ID
Date Sampled
Sample Type

PUF_AS_02	PUF_AS_02
PUF_AS_02	PUF_AS_02_Duplicate
20/03/2008	20/03/2008
Primary	Secondary

Analyte	LOR1	LOR2	Units			Primary vs. Duplicate	Compliance
Hexachloroethane	1	1	µg	13.00	14.00	7.4	Pass
Hexachlorobutadiene	1	1	µg	95.00	93.00	2.1	Pass

< = Analyte not detected, LOR value used for comparison purposes