

Appendix C

Data Validation

**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:	Orica December Quarterly	Project/Task Number:	43217770
Analytical Laboratory:	ALS Labmark	Batch/Ref. Number(s):	ES0717013 E035346
Date Sampled:	4/12/2007	Sample Type:	Water
Sample Handling, Receipt and Holding Times		Yes/No	Comments
COC completed adequately		Yes	
Samples received intact and chilled		Yes	4.4°C - Ice present
Samples analysed within appropriate holding times per analytical methods.		Yes	

# of Primary Samples	# of QAQC Samples	# of Duplicate Samples	# of Triplicate Samples
16	1	2	1

Blanks**Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)**

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

Laboratory Control Samples (LCS)

Analyte	Comments
	All lab control samples have acceptable results within laboratory control limits

Matrix Spike (MS)

Analyte	Comments
Halogenated Aliphatic Compounds	Matrix spike recovery for Vinyl chloride (133%) in sample BP57_0.600 is greater than the upper control limit (130%)

Trip Spike /Control Trip Spike

Analyte	% R	Comments
n/a		

Duplicates**Laboratory Duplicates**

Halogenated Aliphatic Compounds	Comments
	RPDs for 1.1-dichloroethene (40.3%) and 1.1.2-Trichloroethane (31.1%) exceed LOR based limits

Intra-Laboratory Duplicates

Comments
BP57_06.00 / QC100
BP59_04.00 / QC101
All RPDs are within control limits or results <LOR

Inter-Laboratory Duplicates

Comments
BP57_06.00 / QC300
All RPDs are within control limits or results <LOR

Surrogate Monitoring Compound Analyses

Analyte	Comments
VOC Surrogates	4-Bromofluorobenzene (122%) greater than the upper control limit of 115% in sample BP113_06.00_04/12/07.

Overall Comments

As Stated by ALS, various samples required dilution due to the presence of high levels of contamination.

The outliers for the Laboratory Duplicates are most likely due to high concentrations of contaminants in the samples. Since the order of magnitude is the same for both outliers the result is acceptable and the highest reported concentration will be used for reporting.

The Matrix Spike outlier is unlikely to affect the overall data quality as the sample containing the outlier did not report a detectable amount of Vinyl chloride. Hence over reporting as a result of this outlier did not occur.

Overall this data is acceptable for environmental interpretive use.

Performed By: T. Stanton
Date: 21-Dec-07

Reviewed By: M. James
Date: 02-Jan-08

DATA VALIDATION
RPD Calculations

Sample ID
Date Sampled
Sample Type

BP57_06.00_04/12/07	QC100	QC300
4/12/2007	4/12/2007	4/12/2007
Primary	Secondary	Tertiary

Analyte	LOR1	LOR2	LOR3	Units				Primary vs. Duplicate	Primary vs. Triplicate
1,2-Dichloroethane	1	1	1	µg/L	< 1	1	<5	0.00%	0.00%

Sample ID
Date Sampled
Sample Type

BP59_04.00_04/12/07	QC101
4/12/2007	4/12/2007
Primary	Secondary

Analyte	LOR1	LOR2		Units			Primary vs. Duplicate
1,1-Dichloroethane	1	1		µg/L	3	4	28.57%
1,1-Dichloroethene	1	1		µg/L	1	< 1	0.00%
1,1-Dichloropropylene	1	1		µg/L	2	2	0.00%
1,2-Dichloroethane	1	1		µg/L	17	20	16.22%
Chloroethane	10	10		µg/L	200	230	13.95%
Trichloroethene	1	1		µg/L	5	6	18.18%
Vinyl chloride	10	10		µg/L	10	10	0.00%

**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:	Orica Botany	Project/Task Number:	43217770
Analytical Laboratory:	ALS	Batch/Ref. Number(s):	ES0717016
Date Sampled:	4/12/2007	Sample Type:	Liquid
Sample Handling, Receipt and Holding Times		Yes/No	Comments
COC completed adequately		No	Project number missing
Samples received intact and chilled		Yes	3.4°C - Ice present
Samples analysed within appropriate holding times per analytical methods.		Yes	

# of Primary Samples	# of QAQC Samples	# of Duplicate Samples	# of Triplicate Samples
15	1	1	0

Blanks	
Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)	
Type	Comments
MB, TB	All results were below their respective LOR's and are deemed acceptable.
Laboratory Control Samples (LCS)	
Analyte	Comments
Sulfonated Compounds	Recovery of Carbon Disulfide (126%) is outside the recovery limits (78.6% - 121%)
Halogenated Aliphatic	Recovery of Chloroethane (125%) is outside the recovery limits (79.5% - 119%)
Matrix Spike (MS)	
Analyte	Comments
Halogenated Aliphatic	Recovery of Vinyl Chloride (136%) for sample BP78_09.00_04/12/07 is outside recovery limits (70% - 130%)
Duplicates	
Laboratory Duplicates	Comments
	Laboratory duplicates have acceptable results less than the limits of reporting or RPD's within control limits
Intra-Laboratory Duplicates	Comments
BP73_06.00_04/12/07 & QC200_04/12/07	Intra-Laboratory duplicates have acceptable results less than the limits of reporting or RPD's within control limits
Inter-Laboratory Duplicates	Comments
n/a	
Surrogate Monitoring Compound Analyses	
Analyte	Comments
1,2-Dichloroethane-D4	Recovery of 1,2-Dichloroethane in BP77_04.00_04/12/07 (127%) is outside control limits (80% - 120%)

Overall Comments

The LCS outliers could potentially have resulted in elevated concentrations. However all results were below LOR for Carbon Disulfide so the outlier can be disregarded in this case. The Chloroethane outlier is only 1 of 29 LCS recoveries outside the acceptable range so it can be interpreted as insignificant.

Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.

Surrogate recoveries outside the control limits are unlikely to significantly affect the overall data quality since most of the surrogate recoveries for this compound suite were within the control limits.

The MS outlier was found in a sample for which there was not detection of Vinyl chloride. Hence the outlier can be considered insignificant.

Overall this data is acceptable for environmental interpretive use.

Performed By: D. Buxton Reviewed By: M. James
Date: 20-Dec-07 Date: 21-Dec-07

DATA VALIDATION
RPD Calculations

Sample ID
Date Sampled
Sample Type

BP73_06.00_04/12/07	QC200_04/12/07
12/04/2007	12/04/2007
Primary	Secondary

Analyte	LOR1	LOR2	Units			Primary vs. Duplicate
1,1-Dichloroethane	1	1	µg/L	361	345	4.53%
1,1-Dichloroethene	1	1	µg/L	16	11	37.04%
1,1-Dichloropropylene	1	1	µg/L	4	3	28.57%
1,2-Dichloroethane	1	1	µg/L	29	28	3.51%
cis-1,2-Dichloroethene	1	1	µg/L	49	46	6.32%
trans-1,2-Dichloroethene	1	1	µg/L	1	< 1	0.00%
Trichloroethene	1	1	µg/L	2	2	0.00%
Vinyl chloride	10	10	µg/L	2890	2710	6.43%
Chloroform	1	1	µg/L	2	1	66.67%

**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:	Orica December Quarterly	Project/Task Number:	43217770
Analytical Laboratory:	ALS	Batch/Ref. Number(s):	ES0717107
Date Sampled:	5/12/2007	Sample Type:	Water

Sample Handling, Receipt and Holding Times	Yes/No	Comments
COC completed adequately	Yes	
Samples received intact and chilled	Yes	5.0°C - Ice present
Samples analysed within appropriate holding times per analytical methods.	Yes	

# of Primary Samples	# of QAQC Samples	# of Duplicate Samples	# of Triplicate Samples
9	1	1	1

Blanks
Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)

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

Laboratory Control Samples (LCS)

Analyte	Comments
Sulfonated Compounds	Carbon disulfide was recovered(127%) at greater than the upper control limit.(121%)
Halogenated Aliphatic Compounds	Chloroethane was recovered(76.4%) at less than the lower control limit.(79.5%) 1.1-Dichloropropylene was recovered(75.3%) at less than the lower control limit.(81.8%)

Matrix Spike (MS)

Analyte	Comments
	All Matrix Spikes have acceptable results.

Trip Spike /Control Trip Spike

Analyte	% R	Comments
n/a		

Duplicates

Laboratory Duplicates	Comments
	All lab duplicate results were within the limits of reporting.

Intra-Laboratory Duplicates	Comments
	Duplicate results were less than LOR.

Inter-Laboratory Duplicates	Comments
	Triplicate results were less than LOR.

Surrogate Monitoring Compound Analyses

Analyte	Comments
VOC	WG234_S_05/12/07 recovered 1.2-Dichloroethane-D4 (124%) greater than the upper data quality control limit (120%) BP04_06.00_05/12/07 recovered Toluene-D8 (112%) greater than the upper data quality control limit (110%) BP04_06.00_05/12/07 and BP52_06.00_05/12/07 recovered 4-Bromofluorobenzene (123%) and (119%) greater than the upper data quality control limit (110%)

Overall Comments

Some samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly. The LCS outlier for Carbon Disulfide could have resulted in an over reporting of the concentration. However, there was no detection in any of the samples except for MWF15_I which contained very high levels of Carbon Disulfide (3840µg/L). Due to the high level of contamination found it is unlikely that the LCS outlier has resulted in significant over reporting. The LCS outliers for the Halogenated Aliphatics could result in under reporting of the compounds. There was no detection of either of these compounds. Since there was large amounts of other aliphatic compounds found it is not likely that the LCS outlier has resulted in an under reporting of concentration. The surrogate outliers are not expected to affect the quality of the data as the samples have passed all other QC tests and the results are only marginally outside the control limits.

Performed By: M James Reviewed By: T Stanton
Date: 02-Jan-08 Date: 03-Jan-08

**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:	Orica, December Quarterly	Project/Task Number:	43217770
Analytical Laboratory:	ALS Labmark	Batch/Ref. Number(s):	ES0717112 E035365
Date Sampled:	6/12/2007	Sample Type:	Water

Sample Handling, Receipt and Holding Times	Yes/No	Comments
COC completed adequately	Yes	
Samples received intact and chilled	Yes	CHILLED - Ice Present
Samples analysed within appropriate holding times per analytical methods.	Yes	

# of Primary Samples	# of QAQC Samples	# of Duplicate Samples	# of Triplicate Samples
11	1	1	1

Blanks
Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)

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

Laboratory Control Samples (LCS)

Analyte	Comments
Halogenated Aliphatic	Recovery of Chloroethane (131%) greater than the recovery limits (79.5%-119%). Trichloroflouromethane (125%) is greater then the recovery limits (79.8-120%)

Matrix Spike (MS)

Analyte	Comments
	All matrix spike recoveries are within laboratory control limits

Trip Spike /Control Trip Spike

Analyte	% R	Comments
n/a		

Duplicates

Laboratory Duplicates	Comments
	Laboratory Duplicates (LD) have acceptable results less than the limits of reporting or RPDs within control limits

Intra-Laboratory Duplicates

Duplicates	Comments
WG41S / QC201	The duplicates have acceptable results less than the limits of reporting or RPD's within control limits

Inter-Laboratory Duplicates

Duplicates	Comments
WG41S / QC400	cis-1,2-Dichloroethene recorded a RPD of 30.76%, Vinyl Chloride recorded an RPD of 130.15%.

Surrogate Monitoring Compound Analyses

Analyte	Comments
VOC	1,2-Dichloroethane-D4 was recovered greater than the upper control limits (120%) in BP62_08.00_05/12/07 (125%) Toluene-D8 was recovered at greater than the upper control limits (110%) in WG75I_05/12/07 (118%) and BP62_08.00_05/12/07 (117%) 4-Bromoflourobenezene was recovered at greater than the upper control limits for (115%) in WG75I_05/12/07 (120%) and BP62_08.00_05/12/07 (116%)

Overall Comments

The LCS outliers were only 2 of 29 checks and so these exceedances may not have an effect on the quality of the data. There is a possibility that the surrogate outliers represent an over reporting for these samples. However, most of the QC analysis done for the VOC and most of the surrogate recoveries are within the acceptable limits, therefore this is not likely that the surrogate outliers will significantly affect the quality of the data.

The high levels of concentration of contaminants may have produced duplicate samples that have RPD exceedances. This may be considered acceptable as the results are of the same order of magnitude. The higher value will be used for reporting. Overall this data is acceptable for environmental interpretive use.

Performed By:	T. Stanton	Reviewed By:	M. James
Date:	02-Jan-08	Date:	02-Jan-08

DATA VALIDATION
RPD Calculations

Sample ID
Date Sampled
Sample Type

WG41S_05/12/07	QC201	QC400
12/05/2007	12/05/2007	12/05/2007
Primary	Secondary	Tertiary

Analyte	LOR1	LOR2	LOR3	Units				Primary vs. Duplicate	Primary vs. Triplicate
1,1-Dichloroethane	1	1	5	µg/L	7	7	10	0.00%	39.29%
1,1-Dichloroethene	1	1	5	µg/L	< 1	1	<5	0.00%	0.00%
1,2-Dichloroethane	1	1	5	µg/L	7	9	9	25.00%	25.00%
cis-1,2-Dichloroethene	1	1	5	µg/L	121	134	165	10.20%	30.76%
Tetrachloroethene	1	1	5	µg/L	3	5	<5	50.00%	0.00%
trans-1,2-Dichloroethene	1	1	5	µg/L	196	202	258	3.02%	27.31%
Trichloroethene	1	1	5	µg/L	2	3	<5	40.00%	0.00%
Vinyl chloride	10	10	50	µg/L	520	700	110	29.51%	130.15%
Chloroform	1	1	5	µg/L	2	2	<5	0.00%	0.00%

**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:	Orica December Quarterly	Project/Task Number:	43217770
Analytical Laboratory:	ALS Labmark	Batch/Ref. Number(s):	ES0717200 E035429
Date Sampled:	6/12/2007	Sample Type:	Water

Sample Handling, Receipt and Holding Times	Yes/No	Comments
COC completed adequately	Yes	
Samples received intact and chilled	Yes	3.9°C - Ice present
Samples analysed within appropriate holding times per analytical methods.	Yes	

# of Primary Samples	# of QAQC Samples	# of Duplicate Samples	# of Triplicate Samples
35	1	3	2

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

Laboratory Control Samples (LCS)	
Analyte	Comments
Sulfonated Compounds	Carbon disulfide was recovered(128%) greater than the upper control limit (121%) for one round of testing and and (78.2%) less then the lower control limit (78.6%) in the second round of testing on a different sample.
Halogenated Aliphatic Compounds	Trichloroflouromethane was recovered(76.3%) was less than the lower control limit(79.8%). 1,1-Dichloroethene was recovered(127%) was greater than the uppercontrol limit (123%) Vinyl Chloride was recovered(134%) was greater than the upper control limit (123%)
Trihalomethanes	Bromoform was recovered(129%) was greater than the upper control limit (128%)

Matrix Spike (MS)	
Analyte	Comments
	All matrix spike recoveries are within laboratory control limits

Trip Spike /Control Trip Spike		
Analyte	% R	Comments
n/a		

Duplicates	
Laboratory Duplicates	Comments
	Laboratory Duplicates (LD) have acceptable results less than the limits of reporting or RPDs within control limits

Intra-Laboratory Duplicates	
	Comments
BP42_L_2.0 / QC105	RPD for 1,2-Dichloroethane (130.44%) exceeds the control limits RDP for Vinyl chloride (193.85%) exceeds the control limits

Inter-Laboratory Duplicates	
	Comments
BP42_L_2.0 / QC105 / QC302	RDP for Vinyl chloride (173.33%) exceeds the control limits

Surrogate Monitoring Compound Analyses	
Analyte	Comments
VOC Surrogates	Recovery for 1,2-Dichloroethane-D4 (121%) in sample SW046_06/12/07is greater than the upper control limit (120%) Recovery for 1,2-Dichloroethane-D4 (124%) in sample BP64_L_0.1_06/12/07 is greater than the upper control limit (120%)

Overall Comments

As stated by ALS, some samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.

The LCS outliers for Carbon disulfide was recovered once over the control limit, once under and once within. This can be considered insignificant to the use of this data as only one sample was found to have carbon disulfide present. The concentration in this sample was significant and so the LCS recovery is not thought to affect the data.

3 out of 29 Halogenated Aliphatic Compounds were recovered outside the control limits for LCS. Since only 3 were outliers it is not considered that the quality of the data is affected significantly.

The Trihalomethane, bromoform was not detected in any of the samples above LOR so the marginal LCS exceedance can be considered insignificant.

The duplicate RPD outlier for 1,2-Dichloroethane is within 20 times the LOR for this compound and is considered acceptable. The highest reported concentration will be used for reporting

The duplicate and triplicate RPD outliers for Vinyl Chloride in primary sample BP42_L_0.5_06/12/07 are significant. The highest reported concentration (640µg/L) will be used for reporting. All other laboratory duplicates and triplicates for Vinyl Chloride are considered acceptable.

Overall this data is acceptable for environmental interpretive use.

Performed By: T. Stanton
Date: 02-Jan-08

Reviewed By: M. James
Date: 02-Jan-08

DATA VALIDATION
RPD Calculations

Sample ID					BP64_L_0.5_06/12/07	QC103_06/12/07	QC303		
Date Sampled					6/12/2007	6/12/2007	6/12/2007		
Sample Type					Primary	Secondary	Tertiary		
Analyte	LOR1	LOR2	LOR3	Units				Primary vs. Duplicate	Primary vs. Triplicate
1,2-Dichloroethane	1	1	5	µg/L	< 1	1	<5	0.00%	0.00%

Sample ID					SW052_06/12/07	QC104_06/12/07		
Date Sampled					6/12/2007	6/12/2007		
Sample Type					Primary	Secondary		
Analyte	LOR1	LOR2		Units				Primary vs. Duplicate
1,2-Dichloroethane	1	1		µg/L	2	2		0.00%
cis-1,2-Dichloroethene	1	1		µg/L	1	1		0.00%

Sample ID					BP42_L_2.0_06/12/07	QC105_06/12/07	QC302		
Date Sampled					6/12/2007	6/12/2007	6/12/2007		
Sample Type					Primary	Secondary	Tertiary		
Analyte	LOR1	LOR2	LOR3	Units				Primary vs. Duplicate	Primary vs. Triplicate
1,1-Dichloroethane	1	1	5	µg/L	< 1	9	12	160.00%	169.23%
1,2-Dichloroethane	1	1	5	µg/L	4	19	26	130.44%	146.66%
cis-1,2-Dichloroethene	1	1	5	µg/L	1	1	<5	0.00%	133.33%
trans-1,2-Dichloroethene	1	1	5	µg/L	< 1	1	<5	0.00%	0.00%
Vinyl chloride	10	10	50	µg/L	< 10	640	140	193.85%	173.33%
Chloroform	1	1	5	µg/L	< 1	4	5	120.00%	133.33%

**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:	Orica December Quarterly	Project/Task Number:	43217770
Analytical Laboratory:	ALS	Batch/Ref. Number(s):	ES0800886
Date Sampled:	22/01/2008	Sample Type:	Water

Sample Handling, Receipt and Holding Times	Yes/No	Comments
COC completed adequately	Yes	
Samples received intact and chilled	Yes	
Samples analysed within appropriate holding times per analytical methods.	Yes	

# of Primary Samples	# of QAQC Samples	# of Duplicate Samples	# of Triplicate Samples
10	0	1	0

Blanks
Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)

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

Laboratory Control Samples (LCS)

Analyte	Comments
Halogenated Aliphatic Compounds	Recovery of Trichlorofluoromethane (123%) exceeds upper control limit (120%) Recovery of trans-1,2-Dichloroethene (121%) exceeds upper control limit (120%) Recovery of 1,1-Dichloroethane (123%) exceeds upper control limit (120%) Recovery of cis-1,2-Dichloroethene (121%) exceeds upper control limit (120%) Recovery of Hexachlorobutadiene (61.8%) is less than the lower control limit (69.3%)

Matrix Spike (MS)

Analyte	Comments
	All matrix spike recoveries are within laboratory control limits

Trip Spike /Control Trip Spike

Analyte	% R	Comments
N/A		

Duplicates

Laboratory Duplicates	Comments
	Laboratory Duplicates (LD) have acceptable results less than the limits of reporting or RPDs within control limits

Intra-Laboratory Duplicates

	Comments
SW028_L_22-1-08 / QC101_22-1-08	Intra-Laboratory Duplicates have acceptable results less than the limits of reporting or RPDs within control limits

Inter-Laboratory Duplicates

	Comments
N/A	

Surrogate Monitoring Compound Analyses

Analyte	Comments
VOC Surrogates	Recovery of 1,2-Dichloroethane-D4 (121%) in SW048_H_22-1-08 exceeds upper control limit (120%) Recovery of Toluene-D8 in QC101_22-1-08 (87.4%) is less than lower control limit (88%) and recovery in SW031_L_22-1-08 (110%) exceeds upper control limit (110%)

Overall Comments

The five LCS recoveries outside of control limits are marginal and will not affect overall data quality
The three surrogate recoveries outside of control limits are marginal and will not affect overall data quality
Overall this data is acceptable for environmental interpretive use.

Performed By: H. Marshall
Date: 06-Feb-08

Reviewed By: B. Stuart
Date: 29-Feb-08

DATA VALIDATION
RPD Calculations

Sample ID				SW028_L_22-1-08	QC101_22-1-08	
Date Sampled				22/01/2008	22/01/2008	
Sample Type				Primary	Secondary	
Analyte						
	LOR1	LOR2	Units			Primary vs. Duplicate
All Analytes				< LOR	< LOR	0.00%

**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:	Orica December Quarterly	Project/Task Number:	43217770
Analytical Laboratory:	ALS	Batch/Ref. Number(s):	ES0801301
Date Sampled:	31/01/2008	Sample Type:	Water

Sample Handling, Receipt and Holding Times	Yes/No	Comments
COC completed adequately	Yes	
Samples received intact and chilled	Yes	3.6°C
Samples analysed within appropriate holding times per analytical methods.	Yes	

# of Primary Samples	# of QAQC Samples	# of Duplicate Samples	# of Triplicate Samples
36	1	2	0

Blanks
Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)

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

Laboratory Control Samples (LCS)

Analyte	Comments
Halogenated Aliphatic Compounds	Recovery of 1,3-Dichloropropane (83.4%) is below the lower control limit (84.1%) Recovery of 1,1,2,2-Tetrachloroethane (78.7%) is below the lower control limit (79.3%) Recovery of Hexachlorobutadiene (129%) equals the upper control limit (129%)

Matrix Spike (MS)

Analyte	Comments
	All matrix spike recoveries are within laboratory control limits

Trip Spike /Control Trip Spike

Analyte	% R	Comments
N/A		

Duplicates

Laboratory Duplicates	Comments
	Laboratory Duplicates (LD) have acceptable results less than the limits of reporting or RPDs within control limits

Intra-Laboratory Duplicates

	Comments
BP64_H_2.00_31/01/08 & QC100_31/01/08	Intra-Laboratory Duplicates for this QC comparison have acceptable results less than the limits of reporting or RPDs within control limits
BP42_H_2.00_31/01/08 & QC200_31/01/08	RPD result of 1,2-Dichloroethane (32.85%) exceeds RPD control limits All other Intra-Laboratory Duplicates for this QC comparison have acceptable results less than the limits of reporting or RPDs within control limits

Inter-Laboratory Duplicates

	Comments
N/A	No Inter-Laboratory Duplicates completed

Surrogate Monitoring Compound Analyses

Analyte	Comments
EP074S(SIM): VOC Surrogates	Recovery of 1,2-Dichloroethane-D4 (122%) in BP65_H_0.10_31/01/08(122%), BP_L_0.10_31/01/08(121%), BP65_L_0.10_31/01/08(121%) & BP66_L_0.10_31/01/08(123%) exceeds upper control limit (120%)
EP074S: VOC Surrogates	Recovery of 1,2-Dichloroethane-D4 in BP65_L_0.50_31/01/08(122%), BP64_L_2.00_31/01/08(121%) & BP65_H_2.00_31/01/08(125%) exceeds upper control limit (120%)

Overall Comments

The three LCS recoveries outside of control limits are marginal and will not affect overall data quality
The Intra-Laboratory RPD outlier for 1,2-Dichloroethane is likely due to high concentrations of contaminants in the samples. Both samples are of identical order of magnitude and as such the result is acceptable, with the highest reported concentration will be used for reporting.
The seven Surrogate recoveries outside of control limits are marginal and will not affect overall data quality
Overall this data is acceptable for environmental interpretive use.

Performed By: D. Mallinson Reviewed By: B. Stuart
Date: 08-Feb-08 Date: 29-Feb-08

DATA VALIDATION
RPD Calculations

Location				BP42_H_2.00_31/01/08	BP42_H_2.00_31/01/08		
Sample ID				BP42_H_2.00_31/01/08	QC200_31/01/08		
Date Sampled				31/01/2008	31/01/2008		
Sample Type				Primary	Secondary		
Analyte							
	LOR1	LOR2	Units			Primary vs. Duplicate	Category1
1,1-Dichloroethane	1	1	µg/L	15	19	23.53%	Pass
1,2-Dichloroethane	1	1	µg/L	12	14	15.39%	Pass
cis-1,2-Dichloroethene	1	1	µg/L	1	2	66.67%	Pass-1
trans-1,2-Dichloroethene	1	1	µg/L	7	7	0.00%	Pass
Vinyl chloride	10	10	µg/L	80	100	22.22%	Pass
Chloroform	1	1	µg/L	4	4	0.00%	Pass

Location				BP64_H_2.00_31/01/08	BP64_H_2.00_31/01/08		
Sample ID				BP64_H_2.00_31/01/08	QC100_31/01/08		
Date Sampled				31/01/2008	31/01/2008		
Sample Type				Primary	Secondary		
Analyte							
	LOR1	LOR2	Units			Primary vs. Duplicate	Category1
1,1,2,2-Tetrachloroethane	1	1	µg/L	3	2	40.00%	Pass-1
1,1,2-Trichloroethane	1	1	µg/L	46	39	16.47%	Pass
1,1-Dichloroethane	1	1	µg/L	10	9	10.53%	Pass
1,1-Dichloroethene	1	1	µg/L	17	17	0.00%	Pass
1,2-Dichloroethane	1	1	µg/L	319	229	32.85%	Fail
cis-1,2-Dichloroethene	1	1	µg/L	113	98	14.22%	Pass
trans-1,2-Dichloroethene	1	1	µg/L	13	12	8.00%	Pass
Trichloroethene	1	1	µg/L	38	35	8.22%	Pass
Vinyl chloride	10	10	µg/L	210	220	4.65%	Pass
Chloroform	1	1	µg/L	16	15	6.45%	Pass

Pass RPD <= 30%
Pass-1 RPD > 30%, Analysis result < 10 times LOR
Pass-2 RPD <= 50%, Analysis result > 10 times LOR and < 20 times LOR