

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:	December Quarterly 2009	Project/Task Number:	43218116
Primary Laboratory:	ALS	Batch/Ref. Number(s):	ES0918395
Secondary Laboratory:	Labmark		E045948
Date Sampled:	30/11/09 - 01/12/09	Sample Type:	Water

Sample Handling, Receipt and Holding Times	Yes/No	Comments
COC completed adequately	No	Bottle types and quantities not indicated
All requested analysis conducted	Yes	
Samples received intact and chilled	Yes	Random Sample Temp 3.6 ^o C - ice present
Samples analysed within appropriate holding times per analytical methods.	Yes	
Samples volumes sufficient for QC analysis?	Yes	8 extra volumes were provided for laboratory duplicate (LD) and matrix spike (MS).
Are there any non-NATA accredited methods used?	No	
Have chromatograms for positive TPH been supplied?		NA
Laboratory reports signed by an authorised person	Yes	

# of Primary Samples	# of QAQC Samples	# of Duplicate Samples	# of Triplicate Samples
58	2	6	3

Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)	
Type	Comments
MB, TB (TB01, TB02) (ALS)	All blanks have acceptable results less than the limits of reporting.
MB (Labmark)	Method blanks have acceptable results less than the limits of reporting.

Laboratory Control Samples (LCS)	
Analyte	Comments
Sulfonated compounds (ALS)	Recovery of carbon disulfide (75%) less than the lower control limit of 78.6%.
VOCs (ALS)	Recovery of trichlorofluoromethane (78.1%) less than the lower control limit of 79.8%.
	Recovery of 1.1.1.2-tetrachloroethane (80.5%) less than the lower control limit of 82.6%.
	Recovery of trans-1.4-Dichloro-2-butene (62.8%) less than the lower control limit of 63.9%.
	Recovery of cis-1.4-Dichloro-2-butene (67.4%) less than the lower control limit of 69.3%.
VOCs (Labmark)	Recovery of dibromochloromethane (79.0%) less than the lower control limit of 80.4%.
	Laboratory Control Samples recoveries are within laboratory control limits.

Matrix Spike (MS)	
Analyte	Comments
VOCs (ALS)	Matrix spike recoveries are within laboratory control limits.
VOCs (Labmark)	No matrix spike conducted on carbon disulfide and trihalomethanes.
	No matrix spike conducted on inter-laboratory samples.

Trip Spike /Control Trip Spike	
Analyte	Comments
NA	

Duplicates	
Laboratory Duplicates	
Analyte	Comments
Sulfonated compounds (ALS)	Laboratory duplicate RPD for carbon disulfide in WG23S (49%) exceeds LOR based control limits.
VOCs (ALS)	Laboratory duplicates RPDs within acceptable LOR based control limits or results less than LOR.
	All LD analysis was run on URS samples.
VOCs (Labmark)	No LD conducted on inter-laboratory samples.

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Primary Laboratory:	ALS	Batch/Ref. Number(s):	ES0918395
Secondary Laboratory:	Labmark		E045948
Date Sampled:	30/11/09 - 01/12/09	Sample Type:	Water

Intra-Laboratory Duplicates	Comments
Analyte	
SW052 & QC100	Intra-Laboratory duplicates RPDs within acceptable LOR based control limits.
SW046 & QC101	Intra-Laboratory duplicates RPDs within acceptable LOR based control limits.
BP43_01.00_H & QC102	Intra-Laboratory duplicates RPDs within acceptable LOR based control limits.
BP64_02.00_L & QC103	Intra-Laboratory duplicates RPDs within acceptable LOR based control limits.
SW029_L & QC104	Intra-Laboratory duplicates RPDs within acceptable LOR based control limits.
SW031_L & QC105	Intra-Laboratory duplicates RPDs within acceptable LOR based control limits.

Inter-Laboratory Duplicates	Comments
Analyte	
SW052 & QC200	Inter-Laboratory duplicates RPDs within acceptable LOR based control limits.
BP43_01.00_H & QC202	Inter-Laboratory duplicates RPDs within acceptable LOR based control limits.
SW029_L & QC204	Inter-Laboratory duplicates RPDs within acceptable LOR based control limits.

Surrogate Monitoring Compound Analyses	Comments
Analyte	
VOC	<p>Recovery of Toluene-D8 in samples BP114_06.00 (113%), WG231S (111%), BP42_00.50_H (114%), BP115_05.25 (112%), MWF15S (112%), BP01_01.25 (113%), SW046 (114%), SW005 (116%), BP61_04.00 (111%), BP58_06.00 (112%), BP43_00.50_H (110%), BP64_02.00_H (110%), SW031_H (110%), BP01_02.00 (112%), SW062 (119%), SW064 (115%), QC104 (113%), QC105 (112%), TB01 (110%) and TB02 (110%) are greater or equal to the upper control limit of 110%.</p> <p>Recovery of Toluene-D8 in samples BP42_00.10_L (86.1%), BP42_02.00_L (86.7%), BP43_00.50_L (84.8%), SW031_L (87.3%), BP42_00.50_L (85.3%), BP43_00.10_L (86.9%) and QC102 (86.8%) are less than the lower control limit of 88%.</p> <p>Recovery of 4-Bromofluorobenzene in samples BP01_01.25 (116%), SW005 (115%), SW031_H (117%), SW062 (119%) are greater than the upper control limit of 115%.</p> <p>Recovery of 4-Bromofluorobenzene in sample SW031_L (85.8%) is less than the lower control limit of 86%.</p>

Overall Comments

As stated by ALS: Vinyl chloride results for particular samples exceed calibration range, reported from EP074-WF method instead.

As stated by ALS: All positive results have been confirmed by re-analysis.

As stated by ALS: LCS recoveries for some analytes fall outside ALS dynamic control limits. However, they are within the acceptance criteria based on USEPA SW846. No further action is required.

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

The surrogate outliers could potentially lead to under or over reporting of VOCs in this batch. Given that the other surrogate recoveries and other laboratory QC analysis conducted have acceptable results, it is unlikely that these surrogate outliers have significant impact on the overall data quality of this batch.

Data for this batch is considered suitable for environmental interpretative use.

Note: When concentrations are less than LOR for both the primary and secondary results, no RPDs are calculated.

Performed By:	C. Olmos	Reviewed By:	B. Gomez
Date:	08-Oct-09	Date:	15-Oct-09

DATA VALIDATION
RPD Calculations

December Quarterly 2009
43218116

Location
Sample ID
Date Sampled
Sample Type

SW052_01/12/09	SW052_01/12/09	SW052_01/12/09
SW052_01/12/09	QC100_01/12/09	QC200_01/12/2009
12/01/2009	12/01/2009	12/01/2009
Primary	Secondary	Tertiary

Analyte	LOR1	LOR2	LOR3	Units				Primary vs. Duplicate	Primary vs. Triplicate	Category1	Category2
1,1,1,2NCTetrachloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1,1NCTrichloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1,2,2NCTetrachloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1,2NCTrichloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1NCDichloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1NCDichloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1NCDichloropropylene	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
1,2,3NCTrichloropropane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
1,2NCDibromoNC3NCchloropropene	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
1,2NCDichloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,3NCDichloropropane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Bromomethane	10	10	-	µg/L	< 10	< 10	NC	NC	NC	NC	NC
Carbon Tetrachloride	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
Chloroethane	10	10	50	µg/L	< 10	< 10	< 50	NC	NC	NC	NC
Chloromethane	10	10	50	µg/L	< 10	< 10	< 50	NC	NC	NC	NC
cisNC1,2NCDichloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
cisNC1,4NCDichloroNC2NCbutene	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Dibromomethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Dichlorodifluoromethane	10	10	-	µg/L	< 10	< 10	NC	NC	NC	NC	NC
Dichloromethane	-	-	20	µg/L	NC	NC	< 20	NC	NC	NC	NC
Hexachlorobutadiene	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Iodomethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Methylene chloride	5	5	-	µg/L	< 5	< 5	NC	NC	NC	NC	NC
Pentachloroethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Tetrachloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
transNC1,2NCDichloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
transNC1,4NCDichloroNC2NCbutene	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Trichloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
Trichlorofluoromethane	10	10	-	µg/L	< 10	< 10	NC	NC	NC	NC	NC
Vinyl chloride	10	10	50	µg/L	< 10	< 10	< 50	NC	NC	NC	NC
Carbon disulfide	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
Bromodichloromethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Bromoform	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Chloroform	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
Dibromochloromethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC

Legend:

Pass RPD <= 30%
PassNC1 RPD > 30%, Analysis result < 10 times LOR
PassNC2 RPD <= 50%, Analysis result > 10 times LOR and < 20 times LOR
NC Not calculated

DATA VALIDATION
RPD Calculations

December Quarterly 2009
43218116

Location
Sample ID
Date Sampled
Sample Type

SW046_01/12/09	SW046_01/12/09
SW046_01/12/09	QC101_01/12/09
12/01/2009	12/01/2009
Primary	Secondary

Analyte	LOR1	LOR2	Units			Primary vs. Duplicate	Category1
1,1,1,2-Tetrachloroethane	1	1	µg/L	< 1	< 1	NC	NC
1,1,1-Trichloroethane	1	1	µg/L	< 1	< 1	NC	NC
1,1,2,2-Tetrachloroethane	1	1	µg/L	< 1	< 1	NC	NC
1,1,2-Trichloroethane	1	1	µg/L	1	< 1	0.00%	Pass
1,1-Dichloroethane	1	1	µg/L	< 1	< 1	NC	NC
1,1-Dichloroethene	1	1	µg/L	< 1	< 1	NC	NC
1,1-Dichloropropylene	1	1	µg/L	< 1	< 1	NC	NC
1,2,3-Trichloropropane	1	1	µg/L	< 1	< 1	NC	NC
1,2-Dibromo-3-chloropropane	1	1	µg/L	< 1	< 1	NC	NC
1,2-Dichloroethane	1	1	µg/L	< 1	< 1	NC	NC
1,3-Dichloropropane	1	1	µg/L	< 1	< 1	NC	NC
Bromomethane	10	10	µg/L	< 10	< 10	NC	NC
Carbon Tetrachloride	1	1	µg/L	31	34	9.23%	Pass
Chloroethane	10	10	µg/L	< 10	< 10	NC	NC
Chloromethane	10	10	µg/L	< 10	< 10	NC	NC
cis-1,2-Dichloroethene	1	1	µg/L	32	27	16.95%	Pass
cis-1,4-Dichloro-2-butene	1	1	µg/L	< 1	< 1	NC	NC
Dibromomethane	1	1	µg/L	< 1	< 1	NC	NC
Dichlorodifluoromethane	10	10	µg/L	< 10	< 10	NC	NC
Hexachlorobutadiene	-	-	µg/L	< 1	< 1	NC	NC
Iodomethane	1	1	µg/L	< 1	< 1	NC	NC
Methylene chloride	5	5	µg/L	< 5	< 5	NC	NC
Pentachloroethane	1	1	µg/L	< 1	< 1	NC	NC
Tetrachloroethene	1	1	µg/L	12	11	8.70%	Pass
trans-1,2-Dichloroethene	1	1	µg/L	< 1	< 1	NC	NC
trans-1,4-Dichloro-2-butene	1	1	µg/L	< 1	< 1	NC	NC
Trichloroethene	1	1	µg/L	35	35	0.00%	Pass
Trichlorofluoromethane	10	10	µg/L	< 10	< 10	NC	NC
Vinyl chloride	10	10	µg/L	< 10	< 10	NC	NC
Carbon disulfide	1	1	µg/L	4	4	0.00%	Pass
Bromodichloromethane	1	1	µg/L	< 1	< 1	NC	NC
Bromoform	1	1	µg/L	< 1	< 1	NC	NC
Chloroform	1	1	µg/L	20	17	16.22%	Pass
Dibromochloromethane	1	1	µg/L	< 1	< 1	NC	NC

Legend:

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
NC Not calculated

DATA VALIDATION
RPD Calculations

December Quarterly 2009
43218116

Location
Sample ID
Date Sampled
Sample Type

BP43_01.00_H_01/12/09	BP43_01.00_H_01/12/09	BP43_01.00_H_01/12/09
BP43_01.00_H_01/12/09	QC102_01/12/09	QC202_01/12/2009
12/01/2009	12/01/2009	12/01/2009
Primary	Secondary	Tertiary

Analyte	LOR1	LOR2	LOR3	Units				Primary vs. Duplicate	Primary vs. Triplicate	Category1	Category2
1,1,1,2-Tetrachloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1,1-Trichloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1,2,2-Tetrachloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1,2-Trichloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1-Dichloroethane	1	1	5	µg/L	6	6	8	0.00%	28.57%	Pass	Pass
1,1-Dichloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1-Dichloropropylene	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
1,2,3-Trichloropropane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
1,2-Dibromo-3-chloropropane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
1,2-Dichloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,3-Dichloropropane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Bromomethane	10	10	-	µg/L	< 10	< 10	NC	NC	NC	NC	NC
Carbon Tetrachloride	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
Chloroethane	10	10	50	µg/L	< 10	< 10	< 50	NC	NC	NC	NC
Chloromethane	10	10	50	µg/L	< 10	< 10	< 50	NC	NC	NC	NC
cis-1,2-Dichloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
cis-1,4-Dichloro-2-butene	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Dibromomethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Dichlorodifluoromethane	10	10	-	µg/L	< 10	< 10	NC	NC	NC	NC	NC
Dichloromethane	-	-	20	µg/L	NC	NC	< 20	NC	NC	NC	NC
Hexachlorobutadiene	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Iodomethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Methylene chloride	5	5	-	µg/L	< 5	< 5	NC	NC	NC	NC	NC
Pentachloroethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Tetrachloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
trans-1,2-Dichloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
trans-1,4-Dichloro-2-butene	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Trichloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
Trichlorofluoromethane	10	10	-	µg/L	< 10	< 10	NC	NC	NC	NC	NC
Vinyl chloride	10	10	50	µg/L	< 10	< 10	< 50	NC	NC	NC	NC
Carbon disulfide	1	1	5	µg/L	3	< 1	< 5	100.00%	50.00%	PassNC1	PassNC1
Bromodichloromethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Bromoform	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Chloroform	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
Dibromochloromethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC

Legend:

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
NC Not calculated

DATA VALIDATION
RPD Calculations

December Quarterly 2009
43218116

Location
Sample ID
Date Sampled
Sample Type

SW029_L_01/12/09	SW029_L_01/12/09	SW029_L_01/12/09
SW029_L_01/12/09	QC104_01/12/09	QC204_01/12/2009
12/01/2009	12/01/2009	12/01/2009
Primary	Secondary	Tertiary

Analyte	LOR1	LOR2	LOR3	Units				Primary vs. Duplicate	Primary vs. Triplicate	Category1	Category2
1,1,1,2-Tetrachloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1,1-Trichloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1,2,2-Tetrachloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1,2-Trichloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1-Dichloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1-Dichloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,1-Dichloropropylene	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
1,2,3-Trichloropropane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
1,2-Dibromo-3-chloropropane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
1,2-Dichloroethane	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
1,3-Dichloropropane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Bromomethane	10	10	-	µg/L	< 10	< 10	NC	NC	NC	NC	NC
Carbon Tetrachloride	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
Chloroethane	10	10	50	µg/L	< 10	< 10	< 50	NC	NC	NC	NC
Chloromethane	10	10	50	µg/L	< 10	< 10	< 50	NC	NC	NC	NC
cis-1,2-Dichloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
cis-1,4-Dichloro-2-butene	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Dibromomethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Dichlorodifluoromethane	10	10	-	µg/L	< 10	< 10	NC	NC	NC	NC	NC
Dichloromethane	-	-	20	µg/L	NC	NC	< 20	NC	NC	NC	NC
Hexachlorobutadiene	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Iodomethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Methylene chloride	5	5	-	µg/L	< 5	< 5	NC	NC	NC	NC	NC
Pentachloroethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Tetrachloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
trans-1,2-Dichloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
trans-1,4-Dichloro-2-butene	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Trichloroethene	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
Trichlorofluoromethane	10	10	-	µg/L	< 10	< 10	NC	NC	NC	NC	NC
Vinyl chloride	10	10	50	µg/L	< 10	< 10	< 50	NC	NC	NC	NC
Carbon disulfide	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
Bromodichloromethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Bromoform	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC
Chloroform	1	1	5	µg/L	< 1	< 1	< 5	NC	NC	NC	NC
Dibromochloromethane	1	1	-	µg/L	< 1	< 1	NC	NC	NC	NC	NC

Legend:

- 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
- NC Not calculated

DATA VALIDATION
RPD Calculations

December Quarterly 2009
43218116

Location
Sample ID
Date Sampled
Sample Type

SW031_L_01/12/09	SW031_L_01/12/09
SW031_L_01/12/09	QC105_01/12/09
12/01/2009	12/01/2009
Primary	Secondary

Analyte	LOR1	LOR2	Units			Primary vs. Duplicate	Category1
1,1,1,2-Tetrachloroethane	1	1	µg/L	< 1	< 1	NC	NC
1,1,1-Trichloroethane	1	1	µg/L	< 1	< 1	NC	NC
1,1,2,2-Tetrachloroethane	1	1	µg/L	< 1	< 1	NC	NC
1,1,2-Trichloroethane	1	1	µg/L	< 1	< 1	NC	NC
1,1-Dichloroethane	1	1	µg/L	< 1	< 1	NC	NC
1,1-Dichloroethene	1	1	µg/L	< 1	< 1	NC	NC
1,1-Dichloropropylene	1	1	µg/L	< 1	< 1	NC	NC
1,2,3-Trichloropropane	1	1	µg/L	< 1	< 1	NC	NC
1,2-Dibromo-3-chloropropane	1	1	µg/L	< 1	< 1	NC	NC
1,2-Dichloroethane	1	1	µg/L	< 1	< 1	NC	NC
1,3-Dichloropropane	1	1	µg/L	< 1	< 1	NC	NC
Bromomethane	10	10	µg/L	< 10	< 10	NC	NC
Carbon Tetrachloride	1	1	µg/L	< 1	< 1	NC	NC
Chloroethane	10	10	µg/L	< 10	< 10	NC	NC
Chloromethane	10	10	µg/L	< 10	< 10	NC	NC
cis-1,2-Dichloroethene	1	1	µg/L	3	3	0.00%	Pass
cis-1,4-Dichloro-2-butene	1	1	µg/L	< 1	< 1	NC	NC
Dibromomethane	1	1	µg/L	< 1	< 1	NC	NC
Dichlorodifluoromethane	10	10	µg/L	< 10	< 10	NC	NC
Hexachlorobutadiene	-	-	µg/L	< 1	< 1	NC	NC
Iodomethane	1	1	µg/L	< 1	< 1	NC	NC
Methylene chloride	5	5	µg/L	< 5	< 5	NC	NC
Pentachloroethane	1	1	µg/L	< 1	< 1	NC	NC
Tetrachloroethene	1	1	µg/L	< 1	< 1	NC	NC
trans-1,2-Dichloroethene	1	1	µg/L	< 1	< 1	NC	NC
trans-1,4-Dichloro-2-butene	1	1	µg/L	< 1	< 1	NC	NC
Trichloroethene	1	1	µg/L	< 1	< 1	NC	NC
Trichlorofluoromethane	10	10	µg/L	< 10	< 10	NC	NC
Vinyl chloride	10	10	µg/L	< 10	< 10	NC	NC
Carbon disulfide	1	1	µg/L	< 1	< 1	NC	NC
Bromodichloromethane	1	1	µg/L	< 1	< 1	NC	NC
Bromoform	1	1	µg/L	< 1	< 1	NC	NC
Chloroform	1	1	µg/L	< 1	< 1	NC	NC
Dibromochloromethane	1	1	µg/L	< 1	< 1	NC	NC

Legend:

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
NC Not calculated



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:	December Quarterly 2009	Project/Task Number:	43218116
Primary Laboratory:	ALS	Batch/Ref. Number(s):	ES0918587
Secondary Laboratory:	NA		
Date Sampled:	02-03/12/09	Sample Type:	Water

Sample Handling, Receipt and Holding Times	Yes/No	Comments	
COC completed adequately	No	Bottle types not indicated	
		Sample WG234S was not analysed due to field oversight.	
		QC206 was originally intended to be a triplicate sample but analysed at the primary lab because it was not indicated to be forwarded to Labmark on the COC.	
All requested analysis conducted	Yes		
Samples received intact and chilled	Yes	Random Sample Temp 3.6°C - ice present	
Samples analysed within appropriate holding times per analytical methods.	Yes		
Samples volumes sufficient for QC analysis?	Yes	4 extra volumes were provided for laboratory duplicate (LD) and matrix spike (MS).	
Are there any non-NATA accredited methods used?	No		
Have chromatograms for positive TPH been supplied?		NA	
Laboratory reports signed by an authorised person	Yes		
# of Primary Samples	# of QAQC Samples	# of Duplicate Samples	# of Triplicate Samples
15	1	1	0

Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)	
Type	Comments
MB, TB (TB03) (ALS)	All blanks have acceptable results less than the limits of reporting.

Laboratory Control Samples (LCS)	
Analyte	Comments
Sulfonated compounds	Recovery of carbon disulfide (70.9%) less than the lower control limit of 78.6%.
VOCs	Recovery of 1.1-Dichloropropylene (78.8% and 81.3%) less than the lower control limit of 81.8%.
	Recovery of 1.1.2-Trichloroethane (82.0%) less than the lower control limit of 83.3%.
	Recovery of 1.1.1.2-tetrachloroethane (80.3%) less than the lower control limit of 82.6%.
	Recovery of Pentachloroethane (69.6%) less than the lower control limit of 74.8%.
Trihalomethanes	Recovery of Chloroform (80.8%) less than the lower control limit of 81.5%.

Matrix Spike (MS)	
Analyte	Comments
ALS	Matrix spike recoveries are within laboratory control limits.
	No matrix spike conducted on carbon disulfide and trihalomethanes.

Trip Spike /Control Trip Spike	
Analyte	Comments
NA	



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.

Duplicates			
Laboratory Duplicates		Comments	
Analyte			
Sulfonated compounds		Laboratory duplicate RPD for carbon disulfide in WG154D (22.7%) exceeds the LOR based control limits.	
VOCs		Laboratory duplicates RPDs within acceptable LOR based control limits or results less than LOR.	
		All LD analysis was run on URS samples.	
Intra-Laboratory Duplicates		Comments	
Analyte			
BP89_06.00_ & QC106/QC206		Intra-Laboratory duplicates RPDs within acceptable LOR based control limits.	
Inter-Laboratory Duplicates		Comments	
Analyte			
NA			
Surrogate Monitoring Compound Analyses		Comments	
Analyte			
VOC		Recovery of Toluene-D8 in samples BP89_06.00 (111%) and QC106 (113%) are greater than the upper control limit of 110%.	
Overall Comments			
<p>As stated by ALS: Vinyl chloride results for particular samples exceed calibration range, reported from EP074-WF method instead.</p> <p>As stated by ALS: All positive results have been confirmed by re-analysis.</p> <p>As stated by ALS: LCS recoveries for some analytes fall outside ALS dynamic control limits. However, they are within the acceptance criteria based on USEPA SW846. No further action is required.</p> <p>As stated by ALS: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.</p> <p>The laboratory duplicate RPD exceedance is considered not to significantly affect the overall data quality of this batch as the results are in the same order of magnitude.</p> <p>The surrogate outliers could potentially lead to over reporting of VOCs in this batch. Given that the other surrogates and other laboratory QC analysis conducted have acceptable results, it is unlikely that these surrogate outliers have significant effect on the overall quality of this batch.</p> <p>Data for this batch is considered suitable for environmental interpretative use.</p> <p>Note: When concentrations are less than LOR for both the primary and secondary results, no RPDs are calculated.</p>			
Performed By:	C. Olmos	Reviewed By:	B. Gomez
Date:	04-Jan-10	Date:	05-Jan-10

DATA VALIDATION
RPD Calculations

December Quarterly 2009
43218116

Location
Sample ID
Date Sampled
Sample Type

BP89_06.00_02/12/09	BP89_06.00_02/12/09	BP89_06.00_02/12/09
BP89_06.00_02/12/09	QC106_02/12/09	QC206_02/12/09
12/02/2009	12/02/2009	12/02/2009
Primary	Secondary1	Secondary2

Analyte	LOR1	LOR2	Units				Primary vs. Duplicate1	Primary vs. Duplicate2	Category1	Category2
1,1,1,2-Tetrachloroethane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
1,1,1-Trichloroethane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
1,1,2,2-Tetrachloroethane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
1,1,2-Trichloroethane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
1,1-Dichloroethane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
1,1-Dichloroethene	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
1,1-Dichloropropylene	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
1,2,3-Trichloropropane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
1,2-Dibromo-3-chloropropane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
1,2-Dichloroethane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
1,3-Dichloropropane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
Bromomethane	10	10	µg/L	< 10	< 10	< 10	NC	NC	NC	NC
Carbon Tetrachloride	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
Chloroethane	10	10	µg/L	< 10	< 10	< 10	NC	NC	NC	NC
Chloromethane	10	10	µg/L	< 10	< 10	< 10	NC	NC	NC	NC
cis-1,2-Dichloroethene	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
cis-1,4-Dichloro-2-butene	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
Dibromomethane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
Dichlorodifluoromethane	10	10	µg/L	< 10	< 10	< 10	NC	NC	NC	NC
Hexachlorobutadiene	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
Iodomethane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
Methylene chloride	5	5	µg/L	< 5	< 5	< 5	NC	NC	NC	NC
Pentachloroethane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
Tetrachloroethene	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
trans-1,2-Dichloroethene	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
trans-1,4-Dichloro-2-butene	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
Trichloroethene	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
Trichlorofluoromethane	10	10	µg/L	< 10	< 10	< 10	NC	NC	NC	NC
Vinyl chloride	1	10	µg/L	< 1	< 10	< 10	NC	NC	NC	NC
Carbon disulfide	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
Bromodichloromethane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
Bromoform	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
Chloroform	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC
Dibromochloromethane	1	1	µg/L	< 1	< 1	< 1	NC	NC	NC	NC

Legend:

Pass RPD <= 30%
PassNC1 RPD > 30%, Analysis result < 10 times LOR
PassNC2 RPD <= 50%, Analysis result > 10 times LOR and < 20 times LOR
NC Not calculated



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:	December Quarterly 2009	Project/Task Number:	43218116
Primary Laboratory:	ALS	Batch/Ref. Number(s):	ES0918864
Secondary Laboratory:	NA		
Date Sampled:	9/12/2009	Sample Type:	Water

Sample Handling, Receipt and Holding Times	Yes/No	Comments	
COC completed adequately	No	Bottle types and quantities not indicated.	
All requested analysis conducted	Yes		
Samples received intact and chilled	Yes	Random Sample Temp 6.0°C - ice present*	
Samples analysed within appropriate holding times per analytical methods.	Yes		
Samples volumes sufficient for QC analysis?	Yes	1 extra volume was provided for laboratory duplicate (LD)	
Are there any non-NATA accredited methods used?	No		
Have chromatograms for positive TPH been supplied?		NA	
Laboratory reports signed by an authorised person	Yes		
# of Primary Samples	# of QAQC Samples	# of Duplicate Samples	# of Triplicate Samples
3	1	1	0

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

Type	Comments
MB, TB (TB05) (ALS)	All blanks have acceptable results less than the limits of reporting.

Laboratory Control Samples (LCS)

Analyte	Comments
	Laboratory Control Samples are within laboratory control limits.

Matrix Spike (MS)

Analyte	Comments
	Matrix spike recoveries are within laboratory control limits.
	No matrix spike conducted on carbon disulfide and trihalomethanes.

Trip Spike /Control Trip Spike

Analyte	Comments
NA	

**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.

Duplications		Comments	
Laboratory Duplicates		Comments	
Analyte			
	Laboratory duplicates RPDs within acceptable LOR based control limits or results less than LOR.		
	All LD analysis was run on URS samples.		
Intra-Laboratory Duplicates		Comments	
Analyte			
BP59_04.00 & QC107	Intra-Laboratory duplicates RPDs within acceptable LOR based control limits.		
Inter-Laboratory Duplicates		Comments	
Analyte			
NA			
Surrogate Monitoring Compound Analyses		Comments	
Analyte			
VOC	Recovery of Toluene-D8 in samples BP59_04.00 (112%), BP59_12.00 (110%) and QC107 (113%) are greater than or equal to the upper control limit of 110%.		
	Recovery of 4-Bromofluorobenzene in sample BP89_12.00 (117%) are greater than the upper control limit of 115%.		
Overall Comments			
As stated by ALS: All results have been confirmed by re-analysis.			
As stated by ALS: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.			
* Attempt to chill was noted on SRN.			
The surrogate outliers could potentially lead to over reporting of VOCs in this batch. Given that the other surrogates and other laboratory QC analysis conducted have acceptable results, it is unlikely that these surrogate outliers have significant effect on the overall quality of this batch.			
Data for this batch is considered suitable for environmental interpretative use.			
Note: When concentrations are less than LOR for both the primary and secondary results, no RPDs are calculated.			
Performed By:	C. Olmos	Reviewed By:	B. Gomez
Date:	05-Jan-09	Date:	12-Jan-10

DATA VALIDATION
RPD Calculations

December Quarterly 2009
43218116

Location
Sample ID
Date Sampled
Sample Type

BP59_04.00_09/12/09	BP59_04.00_09/12/09
BP59_04.00_09/12/09	QC107_09/12/09
12/09/2009	12/09/2009
Primary	Secondary

Analyte	LOR1	LOR2	Units			Primary vs. Duplicate	Category1
1,1,1,2-Tetrachloroethane	1	1	µg/L	< 1	< 1	-	-
1,1,1-Trichloroethane	1	1	µg/L	< 1	< 1	-	-
1,1,2,2-Tetrachloroethane	1	1	µg/L	< 1	< 1	-	-
1,1,2-Trichloroethane	1	1	µg/L	< 1	< 1	-	-
1,1-Dichloroethane	1	1	µg/L	4	4	0.00%	Pass
1,1-Dichloroethene	1	1	µg/L	< 1	< 1	-	-
1,1-Dichloropropylene	1	1	µg/L	< 1	< 1	-	-
1,2,3-Trichloropropane	1	1	µg/L	< 1	< 1	-	-
1,2-Dibromo-3-chloropropane	1	1	µg/L	< 1	< 1	-	-
1,2-Dichloroethane	1	1	µg/L	13	12	8.00%	Pass
1,3-Dichloropropane	1	1	µg/L	< 1	< 1	-	-
Bromomethane	10	10	µg/L	< 10	< 10	-	-
Carbon Tetrachloride	1	1	µg/L	< 1	< 1	-	-
Chloroethane	10	10	µg/L	< 10	< 10	-	-
Chloromethane	10	10	µg/L	< 10	< 10	-	-
cis-1,2-Dichloroethene	1	1	µg/L	2	< 1	66.67%	Pass-1
cis-1,4-Dichloro-2-butene	1	1	µg/L	< 1	< 1	-	-
Dibromomethane	1	1	µg/L	< 1	< 1	-	-
Dichlorodifluoromethane	10	10	µg/L	< 10	< 10	-	-
Hexachlorobutadiene	1	1	µg/L	< 1	< 1	-	-
Iodomethane	1	1	µg/L	< 1	< 1	-	-
Methylene chloride	5	5	µg/L	< 5	< 5	-	-
Pentachloroethane	1	1	µg/L	< 1	< 1	-	-
Tetrachloroethene	1	1	µg/L	< 1	< 1	-	-
trans-1,2-Dichloroethene	1	1	µg/L	< 1	< 1	-	-
trans-1,4-Dichloro-2-butene	1	1	µg/L	< 1	< 1	-	-
Trichloroethene	1	1	µg/L	3	3	0.00%	Pass
Trichlorofluoromethane	10	10	µg/L	< 10	< 10	-	-
Vinyl chloride	1	10	µg/L	< 1	< 10	-	-
Carbon disulfide	1	1	µg/L	< 1	< 1	-	-
Bromodichloromethane	1	1	µg/L	< 1	< 1	-	-
Bromoform	1	1	µg/L	< 1	< 1	-	-
Chloroform	1	1	µg/L	< 1	< 1	-	-
Dibromochloromethane	1	1	µg/L	< 1	< 1	-	-

Legend:

Pass	RPD <= 30%
PassNC1	RPD > 30%, Analysis result < 10 times LOR
PassNC2	RPD <= 50%, Analysis result > 10 times LOR and < 20 times LOR
NC	Not calculated

**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:	December Quarterly 2009	Project/Task Number:	43218116
Primary Laboratory:	ALS	Batch/Ref. Number(s):	ES1000317
Secondary Laboratory:	N/A		
Date Sampled:	7/01/2010	Sample Type:	Water

Sample Handling, Receipt and Holding Times	Yes/No	Comments
COC completed adequately	Yes	
All requested analysis conducted	Yes	
Samples received intact and chilled	Yes	Random sample temp 5.6°C (ice present)
Samples analysed within appropriate holding times per analytical methods.	Yes	
Samples volumes sufficient for QC analysis?	No	No extra volume provided for LD or MS analysis
Are there any non-NATA accredited methods used?	No	
Have chromatograms for positive TPH been supplied?		NA
Laboratory reports signed by an authorised person	Yes	

# of Primary Samples	# of QAQC	# of FD	# of FT
1	1	1	1

Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)	
Type	Comments
MB (ALS and LabMark), TB (Tripblank 06)	All blanks had acceptable concentrations less then the limits of reporting.

Laboratory Control Samples (LCS)	
Analyte	Comments
All analytes (ALS & LabMark)	LCS recoveries were within the acceptable control limits.

Matrix Spike (MS)	
Analyte	Comments
VOCs (ALS)	MS recoveries were within the acceptable control limits. No MS analysis conducted for carbon disulfide and trihalomethanes.
VOCs (Labmark)	No MS analysis conducted.

Trip Spike /Control Trip Spike	
Analyte	Comments
N/A	

**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:	December Quarterly 2009	Project/Task Number:	43218116
Primary Laboratory:	ALS	Batch/Ref. Number(s):	ES1000317
Secondary Laboratory:	N/A		
Date Sampled:	7/01/2010	Sample Type:	Water

Duplicates

Laboratory Duplicates	Comments
Analyte	
All analytes (ALS)	LD recoveries were within the acceptable control limits.
VOCs (Labmark)	No LD analysis conducted.

Intra-Laboratory Duplicates

Intra-Laboratory Duplicates	Comments
Analyte	
WC 234S & QC108	RPDs were acceptable and were within the accepted RPD control limits.

Inter-Laboratory Duplicates

Inter-Laboratory Duplicates	Comments
Analyte	
WC234S & QC208	RPDs for cis-1,2-Dichloroethene (45.16%) exceeds RPD control limits.

Surrogate Monitoring Compound Analyses

Surrogate Monitoring Compound Analyses	Comments
Analyte	
VOCs	Recovery of Toluene-D8 in samples WC 234S (113%) and TRIPBLANK 06 (114%) are greater than the upper control limit of 110%.

Overall Comments

WC234S is sample WG234S. Misnamed by laboratory.
RPD exceedance for between primary and triplicate samples for cis-1,2-Dichloroethene is not considered to significantly affect the overall data quality of this batch. The results are within the same order of magnitude and as a conservative measure, the highest result will be used in the analysis of data.
The surrogate outliers are not considered to adversely affect the overall data quality of this batch since the results of the other QC analysis conducted for this batch are acceptable.

This batch is considered to be acceptable for environmental interpretative use.

Note: When concentrations are less than LOR for both the primary and secondary results, no RPDs are calculated.

Performed By:	Sian Smith	Reviewed By:	B Gomez
Date:	20.01.10	Date:	27-Jan-10

DATA VALIDATION
RPD Calculations

December Quarterly 2009
43218116

Location
Sample ID
Date Sampled
Sample Type

WC 234S_07/01/10	WC 234S_07/01/10	WC 234S_07/01/10
WC 234S_07/01/10	QC 108_07/01/10	QC208
1/07/2010	1/07/2010	1/07/2010
Primary	Secondary	Tertiary

Analyte	LOR1	LOR2	LOR3	Units				Primary vs. Duplicate	Primary vs. Triplicate	Category1	Category2
1,1,1,2-Tetrachloroethane	1	1	5	µg/L	< 1	< 1	<5	-	-	-	-
1,1,1-Trichloroethane	1	1	5	µg/L	< 1	< 1	<5	-	-	-	-
1,1,2,2-Tetrachloroethane	1	1	5	µg/L	< 1	< 1	<5	-	-	-	-
1,1,2-Trichloroethane	1	1	5	µg/L	< 1	< 1	<5	-	-	-	-
1,1-Dichloroethane	1	1	5	µg/L	2	2	<5	0.00%	85.71%	Pass	Pass-1
1,1-Dichloroethene	1	1	5	µg/L	2	2	<5	0.00%	85.71%	Pass	Pass-1
1,1-Dichloropropylene	1	1	-	µg/L	< 1	< 1	-	-	-	-	-
1,2,3-Trichloropropane	1	1	-	µg/L	< 1	< 1	-	-	-	-	-
1,2-Dibromo-3-chloropropane	1	1	-	µg/L	< 1	< 1	-	-	-	-	-
1,2-Dichloroethane	1	1	5	µg/L	162	173	175	6.57%	7.72%	Pass	-
1,3-Dichloropropane	1	1	-	µg/L	< 1	< 1	-	-	-	-	-
Bromodichloromethane	1	1	-	µg/L	< 1	< 1	-	-	-	-	-
Bromoform	1	1	-	µg/L	< 1	< 1	-	-	-	-	-
Bromomethane	10	10	-	µg/L	< 10	< 10	-	-	-	-	-
Carbon disulfide	1	1	5	µg/L	< 1	< 1	<5	-	-	-	-
Carbon Tetrachloride	1	1	5	µg/L	< 1	< 1	<5	-	-	-	-
Chloroethane	10	10	50	µg/L	< 10	< 10	<50	-	-	-	-
Chloroform	1	1	5	µg/L	3	2	<5	40.00%	50.00%	Pass-1	Pass-1
Chloromethane	10	10	50	µg/L	< 10	< 10	<50	-	-	-	-
cis-1,2-Dichloroethene	1	1	5	µg/L	38	36	24	5.41%	45.16%	Pass	Fail
cis-1,4-Dichloro-2-butene	1	1	-	µg/L	< 1	< 1	-	-	-	-	-
Dibromochloromethane	1	1	-	µg/L	< 1	< 1	-	-	-	-	-
Dibromomethane	1	1	5	µg/L	< 1	< 1	<5	-	-	-	-
Dichloromethane	-	-	20	µg/L	-	-	<20	-	-	-	-
Dichlorodifluoromethane	10	10	-	µg/L	< 10	< 10	-	-	-	-	-
Hexachlorobutadiene	1	1	-	µg/L	< 1	< 1	-	-	-	-	-
Iodomethane	1	1	-	µg/L	< 1	< 1	-	-	-	-	-
Methylene chloride	5	5	-	µg/L	< 5	< 5	-	-	-	-	-
Pentachloroethane	1	1	-	µg/L	< 1	< 1	-	-	-	-	-
Tetrachloroethene	1	1	5	µg/L	< 1	< 1	<5	-	-	-	-
trans-1,2-Dichloroethene	1	1	5	µg/L	3	2	<5	40.00%	50.00%	Pass-1	Pass-1
trans-1,4-Dichloro-2-butene	1	1	-	µg/L	< 1	< 1	-	-	-	-	-
Trichloroethene	1	1	5	µg/L	9	9	8	0.00%	11.76%	Pass	Pass
Trichlorofluoromethane	10	10	-	µg/L	< 10	< 10	-	-	-	-	-
Vinyl chloride	1	10	50	µg/L	< 1	< 10	<50	-	-	-	-

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



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:	December Quarterly 2009 Orica	Project/Task Number:	43218116
Primary Laboratory:	ALS	Batch/Ref. Number(s):	ES1002528
Secondary Laboratory:	LabMark		E046885
Date Sampled:	11/02/2010	Sample Type:	Water

Sample Handling, Receipt and Holding Times	Yes/No	Comments	
COC completed adequately	No	Bottle types and quantities not indicated.	
All requested analysis conducted	Yes		
Samples received intact and chilled	Yes	Temperature upon receipt: 5.4 ⁰ C - ice present (ALS)	
Samples analysed within appropriate holding times per analytical methods.	Yes		
Samples volumes sufficient for QC analysis?	Yes	Extra sample volume was provided for laboratory duplicate (LD) analysis	
Are there any non-NATA accredited methods used?	No		
Have chromatograms for positive TPH been supplied?		NA	
Laboratory reports signed by an authorised person	Yes		
# of Primary Samples	# of QAQC Samples	# of Duplicate Samples	# of Triplicate Samples
3	0	1	1

Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)	
Type	Comments
MB (ALS)	MB has acceptable results less than the limits of reporting for ALS batch.
MB (LabMark)	MB has acceptable results less than the limits of reporting for LabMark batch.

Laboratory Control Samples (LCS)	
Analyte	Comments
ALS	LCS has acceptable results within the acceptable control limits
LabMark	LCS has acceptable results within the acceptable control limits

Matrix Spike (MS)	
Analyte	Comments
ALS	MS recovery for vinyl chloride in BP01_00.75 and recoveries for 1,1-Dichloroethene and Trichloroethene in BP01_01.25 were within laboratory control limits. MS recoveries were not conducted on carbon disulfide and trihalomethanes.
LabMark	MS recovery tests were not conducted.

Trip Spike /Control Trip Spike	
Analyte	Comments
NA	Trip Spike was not prepared

**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:	December Quarterly 2009 Orica	Project/Task Number:	43218116
Primary Laboratory:	ALS	Batch/Ref. Number(s):	ES1002528
Secondary Laboratory:	LabMark		E046885
Date Sampled:	11/02/2010	Sample Type:	Water

Duplicates		Comments	
Laboratory Duplicates		Comments	
Analyte			
ALS	Laboratory duplicates were conducted on URS samples and the RPDs were within acceptable LOR based control limits or results less than LOR.		
LabMark	All LD analysis was run for the triplicate batch.		
Intra-Laboratory Duplicates		Comments	
Analyte			
BP01_00.75 & QC01	Intra-Laboratory duplicates RPDs within acceptable LOR based control limits.		
Inter-Laboratory Duplicates		Comments	
Analyte			
BP01_00.75 & QC02	Inter-Laboratory duplicates RPDs within acceptable LOR based control limits.		
Surrogate Monitoring Compound Analyses		Comments	
Analyte			
ALS	Recovery for Toluene-D8 in sample QC01 (116%) was greater than the upper control limit of 110%.		
LabMark	Recoveries were within the acceptable control limits.		

Overall Comments

As stated by ALS: All results have been confirmed by re-analysis.

The surrogate outlier for toluene-D8 in sample QC01 could potentially lead to over reporting of VOCs in the sample. It was most likely due to matrix interference. As the sample passed other surrogate recovery tests, it is unlikely that the surrogate outlier has affected the overall data quality of this batch.

Data for this batch is considered suitable for environmental interpretative use.

Note: When concentrations are less than LOR for both the primary and secondary results, no RPDs are calculated.

Performed By:	K.Ye	Reviewed By:	B. Gomez
Date:	25-Feb-10	Date:	25-Feb-10

DATA VALIDATION
RPD Calculations

December Quarterly 2009
43218116

Location
Sample ID
Date Sampled
Sample Type

BP01_00.75		
BP01_00.75_11/02/10	QC01_11/02/10	QC02_11/02/10
11/02/2010	11/02/2010	11/02/2010
Primary	Secondary	Secondary

Analyte	LOR1	LOR2	LOR3	Units				Primary vs. Duplicate	Primary vs. Triplicate	Category1	Category2
1,1,1,2-Tetrachloroethane	1	1	5	µg/L	< 1	< 1	<5	NC	NC	Pass	Pass
1,1,1-Trichloroethane	1	1	5	µg/L	< 1	< 1	<5	NC	NC	Pass	Pass
1,1,2,2-Tetrachloroethane	1	1	5	µg/L	4	4	6	0.00%	20.00%	Pass	Pass
1,1,2-Trichloroethane	1	1	5	µg/L	< 1	< 1	<5	NC	NC	Pass	Pass
1,1-Dichloroethane	1	1	5	µg/L	<1	<1	<5	NC	NC	Pass	Pass
1,1-Dichloroethene	1	1	5	µg/L	< 1	< 1	<5	NC	NC	Pass	Pass
1,1-Dichloropropylene	1	1	-	µg/L	< 1	< 1	-	NC	NC	Pass	Pass
1,2,3-Trichloropropane	1	1	-	µg/L	< 1	< 1	-	NC	NC	Pass	Pass
1,2-Dibromo-3-chloropropane	1	1	-	µg/L	< 1	< 1	-	NC	NC	Pass	Pass
1,2-Dichloroethane	1	1	5	µg/L	4	4	<5	0.00%	22.22%	Pass	Pass
1,3-Dichloropropane	1	1	-	µg/L	< 1	< 1	-	NC	NC	Pass	Pass
Bromomethane	10	10	-	µg/L	< 10	< 10	-	NC	NC	Pass	Pass
Carbon Tetrachloride	1	1	5	µg/L	< 1	< 1	<5	NC	NC	Pass	Pass
Chloroethane	10	10	50	µg/L	< 10	< 10	<50	NC	NC	Pass	Pass
Chloromethane	10	10	50	µg/L	< 10	< 10	<50	NC	NC	Pass	Pass
cis-1,2-Dichloroethene	1	1	5	µg/L	1	1	<5	0.00%	NC	Pass	Pass
cis-1,4-Dichloro-2-butene	1	1	-	µg/L	< 1	< 1	-	NC	NC	Pass	Pass
Dibromomethane	1	1	-	µg/L	< 1	< 1	-	NC	NC	Pass	Pass
Dichlorodifluoromethane	10	10	-	µg/L	< 10	< 10	-	NC	NC	Pass	Pass
Hexachlorobutadiene	1	1	-	µg/L	< 1	< 1	-	NC	NC	Pass	Pass
Iodomethane	1	1	-	µg/L	< 1	< 1	-	NC	NC	Pass	Pass
Methylene chloride	5	5	20	µg/L	< 5	< 5	<20	NC	NC	Pass	Pass
Pentachloroethane	1	1	-	µg/L	< 1	< 1	-	NC	NC	Pass	Pass
Tetrachloroethene	1	1	5	µg/L	< 1	< 1	<5	NC	NC	Pass	Pass
trans-1,2-Dichloroethene	1	1	5	µg/L	< 1	< 1	<5	NC	NC	Pass	Pass
trans-1,4-Dichloro-2-butene	1	1	-	µg/L	< 1	< 1	-	NC	NC	Pass	Pass
Trichloroethene	1	1	5	µg/L	30	24	33	22.22%	9.52%	Pass	Pass
Trichlorofluoromethane	10	10	-	µg/L	< 10	< 10	-	NC	NC	Pass	Pass
Vinyl chloride	10	10	50	µg/L	<10	<10	<50	NC	NC	Pass	Pass
Vinyl chloride (SIM)	1	1	-	µg/L	< 1	-	-	NC	NC	Pass	Pass
Carbon disulfide	1	1	5	µg/L	< 1	< 1	<5	NC	NC	Pass	Pass
Bromodichloromethane	1	1	-	µg/L	< 1	< 1	< 1	NC	NC	Pass	Pass
Bromoform	1	1	-	µg/L	< 1	< 1	< 1	NC	NC	Pass	Pass
Chloroform	1	1	5	µg/L	1	< 1	<5	0.00%	NC	Pass	Pass
Dibromochloromethane	1	1	-	µg/L	< 1	< 1	< 1	NC	NC	Pass	Pass

Legend:

Pass	RPD <= 30%
PassNC1	RPD > 30%, Analysis result < 10 times LOR
PassNC2	RPD <= 50%, Analysis result > 10 times LOR and < 20 times LOR
NC	Not Calculated
-	Not Analysed