

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: EB1321071	Page	: 1 of 5
Client	: MAGNESIUM OXIDE BOARD CORP	Laboratory	: Environmental Division Brisbane
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Project	: VOC TEST	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 29-AUG-2013
Sampler	: ----	Issue Date	: 04-SEP-2013
Order number	: MgO CORP VOC8/13		
Quote number	: ----	No. of samples received	: 1
		No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Snap Lock Bag (EA055-103) CMA - CM40009	29-AUG-2013	----	----	----	02-SEP-2013	12-SEP-2013	✓
EP074D: Fumigants							
Snap Lock Bag (EP074) CMA - CM40009	29-AUG-2013	02-SEP-2013	05-SEP-2013	✓	03-SEP-2013	05-SEP-2013	✓
EP074E: Halogenated Aliphatic Compounds							
Snap Lock Bag (EP074) CMA - CM40009	29-AUG-2013	02-SEP-2013	05-SEP-2013	✓	03-SEP-2013	05-SEP-2013	✓
EP074F: Halogenated Aromatic Compounds							
Snap Lock Bag (EP074) CMA - CM40009	29-AUG-2013	02-SEP-2013	05-SEP-2013	✓	03-SEP-2013	05-SEP-2013	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Snap Lock Bag (EP074) CMA - CM40009	29-AUG-2013	02-SEP-2013	05-SEP-2013	✓	03-SEP-2013	05-SEP-2013	✓
EP074H: Naphthalene							
Snap Lock Bag (EP074) CMA - CM40009	29-AUG-2013	02-SEP-2013	05-SEP-2013	✓	03-SEP-2013	05-SEP-2013	✓
EP074B: Oxygenated Compounds							
Snap Lock Bag (EP074) CMA - CM40009	29-AUG-2013	02-SEP-2013	05-SEP-2013	✓	03-SEP-2013	05-SEP-2013	✓
EP074C: Sulfonated Compounds							
Snap Lock Bag (EP074) CMA - CM40009	29-AUG-2013	02-SEP-2013	05-SEP-2013	✓	03-SEP-2013	05-SEP-2013	✓
EP074G: Trihalomethanes							
Snap Lock Bag (EP074) CMA - CM40009	29-AUG-2013	02-SEP-2013	05-SEP-2013	✓	03-SEP-2013	05-SEP-2013	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(whence) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	2	15	13.3	10.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	1	100.0	10.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Volatile Organic Compounds	EP074	1	1	100.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Volatile Organic Compounds	EP074	1	1	100.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Volatile Organic Compounds	EP074	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 501)

<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.



Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP074E: Halogenated Aliphatic Compounds	3619926-002	----	1.1.2-Trichloroethane	79-00-5	131 %	63-116%	Recovery greater than upper control limit

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Duplicate outliers occur.
- For all matrices, no Matrix Spike outliers occur.

Regular Sample Surrogates

- For all regular sample matrices, no surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- No Quality Control Sample Frequency Outliers exist.