Appendix D- Data Quality Objectives, Quality Assurance, Quality Control

The NEPM Guideline on Data Collection, Sample Design and Reporting (Schedule B[2]) (NEPC, 1999) specifies that the nature and quality of the data produced in an investigation will be determined by the Data Quality Objectives (DQOs). The DQO's for this investigation are provided below.

Field Quality Assurance and Quality Control

All work completed on the site will be conducted in accordance with standard environmental sampling protocols. The essential elements for the assurance of quality in the field are presented in the table below.

Essential Elements for Field QA/QC

Action	Description
Use of Experienced Personnel	Field work will be undertaken by Departmental Officers with previous experience in contaminated site assessment, field sampling techniques and health and safety issues.
Record Keeping	Full records of all field activities including water monitoring data and sample collection will be maintained on standard field data sheets.
Sample Collection	New nitrile gloves will be worn during water sampling, and replaced between each sample collection. New sediment sample jars and new water sample containers will be used for each sample.
Sample Labelling	A unique sample number will be used for each sample to clearly specify the sample origin (site, date, sampler) and preservation standards. Sample numbers will be written on laboratory affixed sample labels, which will act as a barrier to prevent contamination of the sample from marker pens.
Chain of Custody	Chain of Custody procedures are required for all sample transfers. Custody sheets should list sample numbers; date of collection and analyses required and be signed by each person transferring and accepting custody.
Sample Storage	The collected water samples will be transferred to approved sampling containers with appropriate preservation as required and then placed in cool storage prior to transfer to a NATA accredited laboratory.

Field Duplicates

In addition to the primary samples, quality control field duplicate (intra-laboratory duplicates) and triplicate (inter-laboratory) samples will be collected to assess aspects of field protocols and laboratory performance and to classify the validity of the laboratory data.

A relative percentage difference (RPD) analysis of primary and duplicate/triplicate samples is used to measure the representativeness and/or precision of duplicate samples. The RPD is calculated from the absolute difference between results of the duplicate pair divided by the mean value of the duplicate pair.

RPD (%) = 100 x (D1-D2) / ((D1+D2) / 2)

where: D1 = primary sample analysis

D2 = duplicate sample analysis

AS 4482.1-2005 *Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil- Non-volatile and Semi-volatile Compounds* (Standards Australia, 2005) states that the typical RPD which can be expected from acceptable field duplicates is < ± 30-50% of the mean concentration of the analyte, where the results are greater than ten times the limit of reporting (LOR).

When using the results from duplicates, the higher result from the duplicate samples should be used as a conservative approach. When the RPD for detected constituents is greater than or equal to 50 percent for nonaqueous matrices (sediments) or greater than or equal to 30 percent for aqueous matrices (water), the representativeness of the sample results must be considered.

Duplicate samples that return a large RPD for high concentrations of analytes when compared with the detection limits are potentially indicative of a problem with sampling methodology and may warrant further investigation and/or training. The converse is true when samples return a large RPD for low concentrations of analytes that are close to the detection limits of the analytical procedures employed. In these situations the large RPD is less indicative of potential methodological problems but does warrant further scrutiny with future sampling efforts.

Rinsate Blanks

Rinsate blanks are generally collected in the field assess the effectiveness of decontamination procedures. As decontamination of equipment was not required for this investigation, rinsate were not required.

Trip Blanks

Analysis of the trip blank focuses on quality control element for volatile sampling. As analysis of volatiles was not within the scope of this investigation, no trip blanks were required.

Laboratory Quality Assurance and Quality Control

The laboratories used in the investigations will be National Association of Testing Authorities (NATA) approved for the analyses required, where applicable. Quality Assurance (QA) procedures adopted by the analytical laboratory will include analysis of blanks, duplicates, laboratory control (QC) samples, matrix spikes and surrogate spikes (for organics).

A description of the laboratory's minimum quality assurance procedures is presented in the table below.

Laboratory Quality Assurance

QA Procedure Description	Acceptance Criteria
Laboratory Blanks -refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC type is to monitor potential laboratory contamination.	<PQL
Laboratory Controls- refers to a known, interference free matrix spiked with target analytes or certified reference material. The purpose of this QC type is to monitor method precision and accuracy independent of sample matrix.	Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for semi-volatile organic compounds (SVOC) and speciated phenols is acceptable. Frequency of QC samples 1 in 20. 80% of the compounds tested must fall within the control limits.
Laboratory Duplicates- refers to an intra laboratory split sample randomly selected from the sample batch. Laboratory duplicates provide information on method precision and sample heterogeneity. Relative percentage differences (RPDs) are used to assess	<5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable. Frequency of QC samples 1 in 10.

precision.	
Matrix Spikes- refers to an intra laboratory split sample spiked with a representative set of target analytes. The purpose of this QC type is to monitor potential matrix effects on analyte recoveries. The samples undergo the same extraction and analysis procedures and the results are used to assess the method precision and bias. Spike recoveries are reported as a percent recovery.	Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable. Frequency of QC samples 1 in 20. Assumes that samples are homogeneous and the background analyte level is less than 20% of the spike level (refer to US EPA Method 8000B). Note that there is no requirement for matrix spikes to pass as certain matrices may preclude recovery of spiked compounds. In this case data will be accepted if LCS data meets the acceptance criteria.
Surrogate Spikes- refers to a compound added to a sample aliquot in known amounts before extraction and analysis. The compound should be similar in composition and behaviour to the target analyte but not naturally occurring in the sample. A surrogate is used to monitor the method performance for analysis of organic compounds. Spike recoveries are reported as a percent recovery.	Recoveries for surrogates are test dependent and are based on US EPA Method SW846. Control limits are dynamic and vary for individual tests but are within the criteria described in US EPA Method SW846

All samples should be received by the laboratory in appropriately pre-treated and preserved containers and within specified holding times.

Assessment of Field and Laboratory Quality Assurance and Quality Control

An assessment of the field and laboratory quality control was undertaken, with results compared with the DOQ's defined in previous sections.

Field Quality Assurance and Quality Control

A table of primary, duplicate and triplicate samples is provided in the table below.

Primary, Duplicate and Replicate Samples

Laboratory	Sample Date	Number of water samples primary	Number of sediment samples primary	Total primary	Number of water samples duplicate	Number of sediment samples duplicate	Total duplicate	Number of water samples triplicate	Number of sediment samples triplicate	Total Triplicate	Total samples
ALS	**28/12/2011**	4		**4**	1		**1**				**5**
Labmark	**31/12/2011**	4	4	**8**							**8**
Labmark	**3/01/2012**	4	4	**8**							**8**
Labmark	**5/01/2012**	3	5	**8**							**8**
Envirolab	**5/01/2012**	3		**3**	3		**3**				**6**
Labmark	**9/01/2012**	5	4	**9**							**9**
Envirolab	**9/01/2012**				5		**5**				**5**
NTEL	**11/01/2012**							5		**5**	**5**
Labmark	**11/01/2012**	6	6	**12**							**12**
Envirolab	**11/01/2012**				6		**6**				**6**
Envirolab	**16/01/2012**	5		**5**							**5**
Labmark	**16/01/2012**		4	**4**							**4**
Labmark	**19/01/2012**		4	**4**							**4**
Envirolab	**19/01/2012**	5		**5**							**5**
Labmark	**23/01/2012**		4	**4**							**4**
Envirolab	**23/01/2012**	4		**4**							**4**
Envirolab	**27/01/2012**	6		**6**							**6**
Envirolab	**31/01/2012**	4		**4**							**4**
Envirolab	**2/02/2012**	4		**4**							**4**
NTEL	**2/02/2012**				4		**4**				**4**
Envirolab	**8/02/2012**	4		**4**							**4**
NTEL	**8/02/2012**				4		**4**				**4**
NTEL	**10/02/2012**	4		**4**							**4**
Labmark	**14/02/2012**		5	**5**							**5**
NTEL	**14/02/2012**	5		**5**							**5**
NTEL	**17/02/2012**	4		**4**							**4**
NTEL	**21/02/2012**	4		**4**							**4**
NTEL	**23/02/2012**	4		**4**							**4**
NTEL	**28/02/2012**	4		**4**							**4**
NTEL	**1/03/2012**	4		**4**							**4**
NTEL	**6/03/2012**	3		**3**							**3**
NTEL	**8/03/2012**	4		**4**							**4**
NTEL	**13/03/2012**	3		**3**							**3**
NTEL	**20/03/2012**	4		**4**							**4**
NTEL	**22/03/2012**	3		**3**							**3**
NTEL	**27/03/2012**	3		**3**							**3**
NTEL	**29/03/2012**	3		**3**							**3**
NTEL	**3/04/2012**	3		**3**							**3**
NTEL	**10/04/2012**	3		**3**							**3**

NTEL	**12/04/2012**	3		**3**							**3**
NTEL	**17/04/2012**	3		**3**							**3**
NTEL	**19/04/2012**	3		**3**							**3**
NTEL	**24/04/2012**	3		**3**							**3**
NTEL	**26/04/2012**	3		**3**							**3**
NTEL	**1/05/2012**	3		**3**							**3**
NTEL	**3/05/2012**	3		**3**							**3**
NTEL	**8/05/2012**	3		**3**							**3**
NTEL	**10/05/2012**	3		**3**	3		**3**				**6**
NTEL	**15/05/2012**	3		**3**	3		**3**				**6**
NTEL	**17/05/2012**	3		**3**	3		**3**				**6**
Enivrolab	**17/05/2012**							3		**3**	**3**
NTEL	**17/07/2012**	5		**5**							**5**

Field Replicate RPDs

Where the calculated RPD of field duplicates and triplicates is greater than 50%, and the results of both samples are greater than 10 times the limit of reporting, the date, sample ID and parameter are provided in the table below.

Field Duplicate and Triplicate RPD Exceedances

Date	Sample ID	Parameter
28/12/11	-	-
5/1/12	Control 4 water intra lab dup	Conductivity
		Total alkalinity
		Total aluminium
	Control 1 water intra lab dup	Conductivity
		Total alkalinity
		Total aluminium
	RP1 water intra lab dup	Filtered cadmium
		Total cobalt
		Filtered cobalt
		Total copper
		Filtered copper
		Total iron
		Total nickel
		Filtered nickel
9/1/12	SW2 water intra lab dup	Total aluminium
	Control 4 water intra lab dup	Conductivity
		Total aluminium

	Control 1 water intra lab dup	Conductivity
		Total alkalinity
		Total aluminium
	SW10 water intra lab dup	Conductivity
		Total alkalinity
		Total aluminium
	RP1 water intra lab dup	Total manganese
11/1/12	SW2 water intra lab dup	Total aluminium
	SW2 water trip	filtered aluminium
	Control 4 intra lab dup	Conductivity
	Control 4 trip	Total aluminium
	Control 1 intra lab dup	Conductivity
		Total alkalinity
		Total aluminium
		Total copper
	Control 1 trip	Total uranium
	SW10 intra lab dup	Conductivity
		Total aluminium
	SW10 trip	Total aluminium
		Filtered iron
		Filtered uranium
	Oolloo crossing intra lab dup	Total aluminium
	Daly River intra lab dup	Total aluminium
	Daly River trip	Total aluminium
		Total iron
2/2/12	Control 4 intra lab dup	Total manganese
	Control 1 intra lab dup	Total manganese
	SW10 intra lab dup	Filtered aluminium
		Total manganese
8/2/12	SW2 water intra lab dup	Filtered aluminium
		Filtered iron
	Control 4 water intra lab dup	Filtered aluminium
		Filtered iron
		Filtered uranium

	Control 1 water intra lab dup	Filtered aluminium
		Filtered iron
	SW10 water intra lab dup	Filtered aluminium
		Filtered iron
10/5/12	SW2 dup	Filtered copper
		Total copper
		Total nickel
17/5/12	SW10 trip	Chelex manganese
	Control 4 dup	Total lead
	SW2 dup	Total lead

Laboratory Quality Assurance and Quality Control

The laboratory quality assessment results are provided in Appendix F. Where the laboratory quality assurance criteria has not been met, the date, criteria and notes are provided in the table below.

Laboratory Assurance Criteria Not Met

Date	Criteria	Note
28/12/11 (ALS)	Holding time compliance	EA005P: pH by PC Titrator- all samples- holding time breach- 2 days overdue
11/1/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
16/1/12 (Envirolab)	Matrix Spike Recovery	Iron- Total 3% recovery
2/2/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
8/2/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
10/2/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
14/2/12 (NTEL)	NATA Accreditation	Chelex Analysis
17/2/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis

21/2/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
23/2/12 (NTEL)	NATA Accreditation	Chelex Analysis
28/2/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
1/3/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
6/3/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
8/3/12 (NTEL)	NATA Accreditation	Chelex Analysis
13/3/12 (NTEL)	NATA Accreditation	Chelex Analysis
20/3/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
22/3/12 (NTEL)	NATA Accreditation	Chelex Analysis
27/3/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
29/3/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
3/4/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
10/4/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
12/4/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis

17/4/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
24/4/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
26/4/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
1/5/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
3/5/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
8/5/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
10/5/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
15/5/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
17/5/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis
17/7/12 (NTEL)	Sample container/preservation	These samples were incorrectly preserved for Mercury analysis. Mercury data is indicative only.
	NATA Accreditation	Chelex Analysis

Summary of Data Useability

An assessment of the field and laboratory quality control information was undertaken to determine the useability of the data in this investigation.

A summary of the assessment is provided in the table below.

Data Useability

Note: The Chelex method is a useful measure in determining weakly complexed or free metal fraction that is more useful than a dissolved measurement in relation to potential bioavailability for cadmium, cobalt, copper, nickel, lead and zinc (pers. comm. Dr Graeme Batley, 7 September 2012).

While the laboratory reported on the results of the Chelex method for other metals and metalloids, these results are considered either not-applicable or low reliability (in the case of arsenic, iron, aluminium and manganese).

Date	Field QA/QC	Lab QA/QC	Comment	Useability
28/12/11	RPD's for toxicants within acceptable limits	pH holding time breach	Field pH obtained in-situ	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation.
3/1/12	-	Within acceptance criteria		DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation.
5/1/12	RPD's for toxicants with an exceedance of the TV within acceptable limits except for RP1 inter-lab dup filtered cadmium, cobalt, copper and nickel		RP1 sample heterogeneity may be attributed to sampling methodology. Sample's were obtained from a small trickle over the RP1 spillway. Duplicate samples from Envirolab, which were generally higher concentrations were used in the interpretation of the ecotoxicological results, therefore adding conservativeness.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation.
9/1/12	RPD's for toxicants with an exceedance of the TV within acceptable limits, except for SW10 inter lab dup filtered manganese	Within acceptance criteria	SW10 heterogeneity for filtered manganese.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for SW10 filtered manganese.
11/1/12	RPD's for toxicants with an exceedance of the TV within acceptable limits	Incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.

16/1/12	-	Iron- low recovery	Iron is not a toxicant of concern, and therefore the data for this analyte was not assessed.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for iron.
19/1/12	-	Within acceptance criteria		DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation.
23/1/12	-	Within acceptance criteria		DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation.
27/1/12	-	Within acceptance criteria		DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation.
31/1/12	-	Within acceptance criteria		DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation.
2/2/12	RPD's for toxicants with an exceedance of the TV within acceptable limits	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
8/2/12	RPD's for toxicants with an exceedance of the TV within acceptable limits	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.

10/2/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
14/2/12	-	NATA Chelex	NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation.
17/2/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
21/2/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
23/2/12	-	NATA Chelex	NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation.

28/2/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
1/3/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
6/3/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
8/3/12	-	NATA Chelex	NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation.
13/3/12	-	NATA Chelex	NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation.

20/3/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
22/3/12	-	NATA Chelex	NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation.
27/3/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
29/3/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
3/4/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.

10/4/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
12/4/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
17/4/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
24/4/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.

26/4/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
1/5/12	-	NATA Chelex. Incorrect container for mercury. Total iron spike recovery inappropriate.	NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status. If the sample concentration is greater than 10 times the spike concentration the spike is deemed to be inappropriate, reporting ISC.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury, and total iron.
3/5/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.
8/5/12	-	NATA Chelex. Incorrect container for mercury. Total aluminium and total iron spike recovery inappropriate.	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status. If the sample concentration is greater than 10 times the spike concentration the spike is deemed to be inappropriate, reporting ISC.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury, total aluminium and total iron.

10/5/12	RPD's for toxicants with an exceedance of the TV within acceptable limits.	NATA Chelex. Incorrect container for mercury. Total aluminium and total iron spike recovery inappropriate.	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status. If the sample concentration is greater than 10 times the spike concentration the spike is deemed to be inappropriate, reporting ISC.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury, total aluminium and total iron.
15/5/12	RPD's for toxicants with an exceedance of the TV within acceptable limits.	NATA Chelex. Incorrect container for mercury. Total aluminium and total iron spike recovery inappropriate.	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status. If the sample concentration is greater than 10 times the spike concentration the spike is deemed to be inappropriate, reporting ISC.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, total aluminium and total iron.
17/5/12	RPD's for toxicants with an exceedance of the TV within acceptable limits.	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.

17/7/12	-	NATA Chelex and incorrect container for mercury	Mercury is not a toxicant of concern, and therefore the data for this analyte was not assessed. NTEL performs all analysis to NATA standards, regardless of current endorsement, application for endorsement or unendorsed status.	DLPE considers that the analytical data is acceptably reliable for the purpose of the investigation, with reduced reliability for mercury.