# ALS Environmental

## QUALITY CONTROL REPORT

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Client** | : | **COFFEY GEOTECHNICS** | **Laboratory** | : Environmental Division Sydney | **Page** | : | **1 of 19** |
| **Contact** | : | MR STEVE MORTON | **Contact** | : Victor Kedicioglu | | | |
| **Address** | : | UNIT 1/4 DOUGLAS AVENUE TUNCURRY NSW AUSTRALIA 2428 | **Address** | : 277-289 Woodpark Road Smithfield NSW Australia 2164 | **Work order** | : | **ES0712012** |
| | | | | | **Amendment No.** | : | |
| **Project** | : | TUNCD1736AA | **Quote number** | : EN/007/07 | **Date received** | : | **30 Aug 2007** |
| **Order number** | : | - Not provided - | | | **Date issued** | : | **6 Sep 2007** |
| **C-O-C number** | : | 14507 | | | | | |
| **Site** | : | - Not provided - | | | | | |
| **E-mail** | : | steve_morton@coffey.com | **E-mail** | : Victor.Kedicioglu@alsenviro.com | **No. of samples** | | |
| **Telephone** | : | 6555 8554 | **Telephone** | : +61-2-8784 8555 | **Received** | : | 12 |
| **Facsimile** | : | - Not provided - | **Facsimile** | : +61-2-8784 8500 | **Analysed** | : | 12 |

This final report for the ALSE work order reference ES0712012 supersedes any previous reports with this reference.
Results apply to the samples as submitted. All pages of this report have been checked and approved for release.
This report contains the following information:

- Laboratory Duplicates (DUP); Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Samples (LCS); Recovery and Acceptance Limits
- Matrix Spikes (MS); Recovery and Acceptance Limits

*ALSE - Excellence in Analytical Testing*

NATA

WORLD RECOGNISED ACCREDITATION

**NATA Accredited Laboratory - 825**

This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IED 17025

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

| Signatory | Department |
|---|---|
| Ankit Joshi | Inorganics - NATA 825 (10911 - Sydney) |
| Celine Conceicao | Inorganics - NATA 825 (10911 - Sydney) |
| EDWANDY FADJAR | Organics - NATA 825 (10911 - Sydney) |
| Hoa Nguyen | Inorganics - NATA 825 (10911 - Sydney) |
| Pabi Subba | Organics - NATA 825 (10911 - Sydney) |
| PHALAK INTHAKESONE | Inorganics - NATA 825 (10911 - Sydney) |
| PHALAK INTHAKESONE | Organics - NATA 825 (10911 - Sydney) |

ALS Environmental

# Quality Control Report - Laboratory Duplicates (DUP)

The quality control term **Laboratory Duplicate** refers to an intralaboratory split sample randomly selected from the sample batch. Laboratory duplicates provide information on method precision and sample heterogeneity.
- Anonymous - Client Sample IDs refer to samples which are not specifically part of this work order but formed part of the QC process lot. *Abbreviations:* ***LOR*** = *Limit of Reporting,* ***RPD*** = *Relative Percent Difference.*
* Indicates failed QC. The permitted ranges for the RPD of Laboratory Duplicates (relative percent deviation) are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting:- Result < 10 times LOR, no limit - Result between 10 and 20 times LOR, 0% - 50% - Result > 20 times LOR, 0% - 20%

***Matrix Type: SOIL***

***Laboratory Duplicates (DUP) Report***

| *Laboratory Sample ID* | *Client Sample ID* | *Analyte name* | *LOR* | *Original Result* | *Duplicate Result* | *RPD* |
|---|---|---|---|---|---|---|
| **EA055: Moisture Content** | | | | | | |
| **EA055: Moisture Content - ( QC Lot: 482585 )** | | | | % | % | % |
| ES0711988-015 | Anonymous | Moisture Content (dried @ 103°C) | 1.0 % | 2.2 | 2.8 | 25.4 |
| ES0712012-007 | CS10 | Moisture Content (dried @ 103°C) | 1.0 % | 20.3 | 18.2 | 10.8 |
| **EG005T: Total Metals by ICP-AES** | | | | | | |
| **EG005T: Total Metals by ICP-AES - ( QC Lot: 483448 )** | | | | mg/kg | mg/kg | % |
| ES0712012-003 | CS6 | Arsenic | 5 mg/kg | 9 | 9 | 0.0 |
| | | Cadmium | 1 mg/kg | <1 | <1 | 0.0 |
| | | Chromium | 2 mg/kg | 14 | 10 | 29.3 |
| | | Copper | 5 mg/kg | 43 | 32 | 29.2 |
| | | Lead | 5 mg/kg | 14 | 11 | 26.2 |
| | | Nickel | 2 mg/kg | 66 | 54 | 19.6 |
| | | Zinc | 5 mg/kg | 45 | 26 | 54.5 |
| ES0712027-002 | Anonymous | Arsenic | 5 mg/kg | 11 | 12 | 0.0 |
| | | Cadmium | 1 mg/kg | <1 | <1 | 0.0 |
| | | Chromium | 2 mg/kg | 16 | 17 | 9.7 |
| | | Copper | 5 mg/kg | 49 | 42 | 17.1 |
| | | Lead | 5 mg/kg | 168 | 159 | 5.1 |
| | | Nickel | 2 mg/kg | 3 | 3 | 0.0 |
| | | Zinc | 5 mg/kg | 382 | 343 | 10.8 |
| **EG035T: Total Mercury by FIMS** | | | | | | |
| **EG035T: Total Mercury by FIMS - ( QC Lot: 483449 )** | | | | mg/kg | mg/kg | % |
| ES0712012-003 | CS6 | Mercury | 0.1 mg/kg | 0.6 | 0.1 | 127 |
| ES0712027-002 | Anonymous | Mercury | 0.1 mg/kg | 0.6 | 0.4 | 32.6 |
| **EP068A: Organochlorine Pesticides (OC)** | | | | | | |
| **EP068A: Organochlorine Pesticides (OC) - ( QC Lot: 482588 )** | | | | mg/kg | mg/kg | % |
| ES0712012-004 | CS7 | alpha-BHC | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |

*Matrix Type: SOIL*

*Laboratory Duplicates (DUP) Report*

| Laboratory Sample ID | Client Sample ID | Analyte name | LOR | Original Result | Duplicate Result | RPD |
|---|---|---|---|---|---|---|
| **EP068A: Organochlorine Pesticides (OC) - continued** | | | | | | |
| **EP068A: Organochlorine Pesticides (OC) - ( QC Lot: 482588 ) - continued** | | | | mg/kg | mg/kg | % |
| ES0712012-004 | CS7 | Hexachlorobenzene (HCB) | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | beta-BHC | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | gamma-BHC | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | delta-BHC | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Heptachlor | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Aldrin | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Heptachlor epoxide | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | trans-Chlordane | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | alpha-Endosulfan | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | cis-Chlordane | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Dieldrin | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | 4.4'-DDE | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Endrin | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | beta-Endosulfan | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | 4.4'-DDD | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Endrin aldehyde | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Endosulfan sulfate | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | 4.4'-DDT | 0.2 mg/kg | <0.2 | <0.2 | 0.0 |
| | | Endrin ketone | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Methoxychlor | 0.2 mg/kg | <0.2 | <0.2 | 0.0 |
| **EP068B: Organophosphorus Pesticides (OP)** | | | | | | |
| **EP068B: Organophosphorus Pesticides (OP) - ( QC Lot: 482588 )** | | | | mg/kg | mg/kg | % |
| ES0712012-004 | CS7 | Dichlorvos | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Demeton-S-methyl | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Monocrotophos | 0.2 mg/kg | <0.2 | <0.2 | 0.0 |
| | | Dimethoate | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Diazinon | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Chlorpyrifos-methyl | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Parathion-methyl | 0.2 mg/kg | <0.2 | <0.2 | 0.0 |

*Laboratory Duplicates (DUP) Report*

*Matrix Type: SOIL*

| Laboratory Sample ID | Client Sample ID | Analyte name | LOR | Original Result | Duplicate Result | RPD |
|---|---|---|---|---|---|---|
| **EP068B: Organophosphorus Pesticides (OP) - continued** | | | | | | |
| **EP068B: Organophosphorus Pesticides (OP) - ( QC Lot: 482588 ) - continued** | | | | mg/kg | mg/kg | % |
| ES0712012-004 | CS7 | Malathion | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Fenthion | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Chlorpyrifos | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Parathion | 0.2 mg/kg | <0.2 | <0.2 | 0.0 |
| | | Pirimphos-ethyl | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Chlorfenvinphos | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Bromophos-ethyl | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Fenamiphos | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Prothiofos | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Ethion | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Carbophenothion | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| | | Methyl Azinphos | 0.05 mg/kg | <0.05 | <0.05 | 0.0 |
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons** | | | | | | |
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - ( QC Lot: 482524 )** | | | | mg/kg | mg/kg | % |
| ES0712005-001 | Anonymous | Naphthalene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Acenaphthylene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Acenaphthene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Fluorene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Phenanthrene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Anthracene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Fluoranthene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Pyrene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Benz(a)anthracene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Chrysene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Benzo(b)fluoranthene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Benzo(k)fluoranthene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Benzo(a)pyrene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Indeno(1,2,3,cd)pyrene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Dibenz(a,h)anthracene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |

*Matrix Type: SOIL*

*Laboratory Duplicates (DUP) Report*

| Laboratory Sample ID | Client Sample ID | Analyte name | LOR | Original Result | Duplicate Result | RPD |
|---|---|---|---|---|---|---|
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - continued** | | | | | | |
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - ( QC Lot: 482524 ) - continued** | | | | mg/kg | mg/kg | % |
| ES0712005-001 | Anonymous | Benzo(g,h,i)perylene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| ES0712012-009 | CS12 | Naphthalene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Acenaphthylene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Acenaphthene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Fluorene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Phenanthrene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Anthracene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Fluoranthene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Pyrene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Benz(a)anthracene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Chrysene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Benzo(b)fluoranthene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Benzo(k)fluoranthene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Benzo(a)pyrene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Indeno(1,2,3,cd)pyrene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Dibenz(a,h)anthracene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Benzo(g,h,i)perylene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | |
| **EP080/071: Total Petroleum Hydrocarbons - ( QC Lot: 482523 )** | | | | mg/kg | mg/kg | % |
| ES0712005-001 | Anonymous | C10 - C14 Fraction | 50 mg/kg | <50 | <50 | 0.0 |
| | | C15 - C28 Fraction | 100 mg/kg | <100 | <100 | 0.0 |
| | | C29 - C36 Fraction | 100 mg/kg | <100 | <100 | 0.0 |
| ES0712012-009 | CS12 | C10 - C14 Fraction | 50 mg/kg | <50 | <50 | 0.0 |
| | | C15 - C28 Fraction | 100 mg/kg | <100 | <100 | 0.0 |
| | | C29 - C36 Fraction | 100 mg/kg | <100 | <100 | 0.0 |
| **EP080/071: Total Petroleum Hydrocarbons - ( QC Lot: 482565 )** | | | | mg/kg | mg/kg | % |
| ES0712012-003 | CS6 | C6 - C9 Fraction | 10 mg/kg | <10 | <10 | 0.0 |
| **EP080: BTEX** | | | | | | |
| **EP080: BTEX - ( QC Lot: 482565 )** | | | | mg/kg | mg/kg | % |

*Matrix Type: SOIL*

*Laboratory Duplicates (DUP) Report*

| Laboratory Sample ID | Client Sample ID | Analyte name | LOR | Original Result | Duplicate Result | RPD |
|---|---|---|---|---|---|---|
| **EP080: BTEX - continued** | | | | | | |
| **EP080: BTEX - ( QC Lot: 482565 ) - continued** | | | | mg/kg | mg/kg | % |
| ES0712012-003 | CS6 | Benzene | 0.2 mg/kg | <0.2 | <0.2 | 0.0 |
| | | Toluene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | Ethylbenzene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | meta- & para-Xylene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |
| | | ortho-Xylene | 0.5 mg/kg | <0.5 | <0.5 | 0.0 |

*Matrix Type: WATER*

*Laboratory Duplicates (DUP) Report*

| Laboratory Sample ID | Client Sample ID | Analyte name | LOR | Original Result | Duplicate Result | RPD |
|---|---|---|---|---|---|---|
| **EA005: pH** | | | | | | |
| **EA005: pH - ( QC Lot: 482649 )** | | | | pH Unit | pH Unit | % |
| ES0711993-001 | Anonymous | pH Value | 0.01 pH Unit | 7.50 | 7.53 | 0.4 |
| **EA010P: Conductivity by PC Titrator** | | | | | | |
| **EA010P: Conductivity by PC Titrator - ( QC Lot: 483047 )** | | | | µS/cm | µS/cm | % |
| ES0711987-001 | Anonymous | Electrical Conductivity @ 25°C | 1 µS/cm | 142 | 142 | 0.0 |
| ES0712006-001 | Anonymous | Electrical Conductivity @ 25°C | 1 µS/cm | 82 | 82 | 0.0 |
| **EG020F: Dissolved Metals by ICP-MS** | | | | | | |
| **EG020F: Dissolved Metals by ICP-MS - ( QC Lot: 484077 )** | | | | mg/L | mg/L | % |
| EP0703856-007 | Anonymous | Arsenic | 0.001 mg/L | <0.001 | <0.001 | 0.0 |
| | | Cadmium | 0.0001 mg/L | <0.0001 | <0.0001 | 0.0 |
| | | Chromium | 0.001 mg/L | <0.001 | <0.001 | 0.0 |
| | | Copper | 0.001 mg/L | 0.002 | 0.002 | 0.0 |
| | | Lead | 0.001 mg/L | <0.001 | <0.001 | 0.0 |
| | | Nickel | 0.001 mg/L | <0.001 | <0.001 | 0.0 |
| | | Zinc | 0.005 mg/L | <0.005 | <0.005 | 0.0 |
| ES0712012-001 | BH1 | Arsenic | 0.001 mg/L | 0.001 | 0.002 | 0.0 |
| | | Cadmium | 0.0001 mg/L | <0.0001 | <0.0001 | 0.0 |
| | | Chromium | 0.001 mg/L | <0.001 | <0.001 | 0.0 |
| | | Copper | 0.001 mg/L | 0.002 | 0.002 | 0.0 |
| | | Lead | 0.001 mg/L | <0.001 | <0.001 | 0.0 |
| | | Nickel | 0.001 mg/L | 0.002 | 0.002 | 0.0 |

*Laboratory Duplicates (DUP) Report*

*Matrix Type: WATER*

| Laboratory Sample ID | Client Sample ID | Analyte name | LOR | Original Result | Duplicate Result | RPD |
|---|---|---|---|---|---|---|
| **EG020F: Dissolved Metals by ICP-MS - continued** | | | | | | |
| **EG020F: Dissolved Metals by ICP-MS - ( QC Lot: 484077 ) - continued** | | | | mg/L | mg/L | % |
| ES0712012-001 | BH1 | Zinc | 0.005 mg/L | 0.011 | 0.011 | 0.0 |
| **EG035F: Dissolved Mercury by FIMS** | | | | | | |
| **EG035F: Dissolved Mercury by FIMS - ( QC Lot: 482928 )** | | | | mg/L | mg/L | % |
| ES0712012-001 | BH1 | Mercury | 0.0001 mg/L | <0.0001 | <0.0001 | 0.0 |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | |
| **EP080/071: Total Petroleum Hydrocarbons - ( QC Lot: 482984 )** | | | | µg/L | µg/L | % |
| EP0703803-003 | Anonymous | C10 - C14 Fraction | 50 µg/L | <50 | <50 | 0.0 |
| | | C15 - C28 Fraction | 100 µg/L | <100 | <100 | 0.0 |
| | | C29 - C36 Fraction | 50 µg/L | <50 | <50 | 0.0 |
| **EP080/071: Total Petroleum Hydrocarbons - ( QC Lot: 483057 )** | | | | µg/L | µg/L | % |
| ES0712003-006 | Anonymous | C6 - C9 Fraction | 20 µg/L | <20 | <20 | 0.0 |
| ES0712027-016 | Anonymous | C6 - C9 Fraction | 20 µg/L | <20 | <20 | 0.0 |
| **EP080: BTEX** | | | | | | |
| **EP080: BTEX - ( QC Lot: 483057 )** | | | | µg/L | µg/L | % |
| ES0712003-006 | Anonymous | Benzene | 1 µg/L | <1 | <1 | 0.0 |
| | | Toluene | 2 µg/L | <2 | <2 | 0.0 |
| | | Ethylbenzene | 2 µg/L | <2 | <2 | 0.0 |
| | | meta- & para-Xylene | 2 µg/L | <2 | <2 | 0.0 |
| | | ortho-Xylene | 2 µg/L | <2 | <2 | 0.0 |
| ES0712027-016 | Anonymous | Benzene | 1 µg/L | <1 | <1 | 0.0 |
| | | Toluene | 2 µg/L | <2 | <2 | 0.0 |
| | | Ethylbenzene | 2 µg/L | <2 | <2 | 0.0 |
| | | meta- & para-Xylene | 2 µg/L | <2 | <2 | 0.0 |
| | | ortho-Xylene | 2 µg/L | <2 | <2 | 0.0 |

# Quality Control Report - Method Blank (MB) and Laboratory Control Samples (LCS)

The quality control term Method / Laboratory Blank 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. The quality control term Laboratory Control Sample (LCS) 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. Dynamic Recovery Limits are based on statistical evaluation of actual laboratory data. Flagged outliers on control limits for inorganics tests may be within the NEPM specified data quality objective of recoveries in the range of 70 to 130%. Where this occurs, no corrective action is taken. Abbreviations: LOR = Limit of reporting.

***Matrix Type: SOIL***

***Method Blank (MB) and Laboratory Control Samples (LCS) Report***

| | | Method blank result | Actual Results | | Recovery Limits | |
|---|---|---|---|---|---|---|
| | | | Spike concentration | Spike Recovery | Dynamic Recovery Limits | |
| Analyte name | LOR | | | LCS | Low | High |
| **EG005T: Total Metals by ICP-AES** | | | | | | |
| **EG005T: Total Metals by ICP-AES - ( QC Lot: 483448 )** | | mg/kg | mg/kg | % | % | % |
| Arsenic | 5 mg/kg | ---- | 13.1 | 105 | 86.6 | 123 |
| | 5 mg/kg | <5 | ---- | ---- | ---- | ---- |
| Cadmium | 1 mg/kg | ---- | 2.76 | 102 | 79.9 | 120 |
| | 1 mg/kg | <1 | ---- | ---- | ---- | ---- |
| Chromium | 2 mg/kg | ---- | 60.9 | 101 | 87.1 | 119 |
| | 2 mg/kg | <2 | ---- | ---- | ---- | ---- |
| Copper | 5 mg/kg | ---- | 54.7 | 106 | 85.2 | 117 |
| | 5 mg/kg | <5 | ---- | ---- | ---- | ---- |
| Lead | 5 mg/kg | <5 | ---- | ---- | ---- | ---- |
| | 5 mg/kg | ---- | 55.2 | 98.6 | 82.1 | 117 |
| Nickel | 2 mg/kg | <2 | ---- | ---- | ---- | ---- |
| | 2 mg/kg | ---- | 54.8 | 105 | 88 | 122 |
| Zinc | 5 mg/kg | ---- | 104 | 99.6 | 79 | 116 |
| | 5 mg/kg | <5 | ---- | ---- | ---- | ---- |
| **EG035T: Total Mercury by FIMS** | | | | | | |
| **EG035T: Total Mercury by FIMS - ( QC Lot: 483449 )** | | mg/kg | mg/kg | % | % | % |
| Mercury | 0.1 mg/kg | ---- | 1.4 | 100 | 73.7 | 108 |
| | 0.1 mg/kg | <0.1 | ---- | ---- | ---- | ---- |
| **EP068A: Organochlorine Pesticides (OC)** | | | | | | |
| **EP068A: Organochlorine Pesticides (OC) - ( QC Lot: 482588 )** | | mg/kg | mg/kg | % | % | % |
| 4.4'-DDD | 0.05 mg/kg | ---- | 0.25 | 91.4 | 65.3 | 116 |
| | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| 4.4'-DDE | 0.05 mg/kg | ---- | 0.25 | 87.2 | 67.5 | 114 |
| | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |

*Matrix Type: SOIL*

***Method Blank (MB) and Laboratory Control Samples (LCS) Report***

| *Analyte name* | *LOR* | *Method blank result* | *Actual Results* | | *Recovery Limits* | |
|---|---|---|---|---|---|---|
| | | | *Spike concentration* | *Spike Recovery* | *Dynamic Recovery Limits* | |
| | | | | *LCS* | *Low* | *High* |
| **EP068A: Organochlorine Pesticides (OC) - continued** | | | | | | |
| **EP068A: Organochlorine Pesticides (OC) - ( QC Lot: 482588 ) - continued** | | mg/kg | mg/kg | % | % | % |
| 4.4'-DDT | 0.2 mg/kg | ---- | 0.25 | 100 | 58.4 | 127 |
| | 0.2 mg/kg | <0.2 | ---- | ---- | ---- | ---- |
| Aldrin | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 94.9 | 67 | 113 |
| alpha-BHC | 0.05 mg/kg | ---- | 0.25 | 98.8 | 60.8 | 116 |
| | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| alpha-Endosulfan | 0.05 mg/kg | ---- | 0.25 | 87.5 | 65.8 | 116 |
| | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| beta-BHC | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 89.6 | 59.8 | 117 |
| beta-Endosulfan | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 88.9 | 66.1 | 117 |
| cis-Chlordane | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 91.1 | 57.3 | 120 |
| delta-BHC | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 99.8 | 65.8 | 114 |
| Dieldrin | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 95.5 | 67.4 | 116 |
| Endosulfan sulfate | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 97.0 | 63.6 | 119 |
| Endrin | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 111 | 63 | 121 |
| Endrin aldehyde | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 65.9 | 57.3 | 115 |
| Endrin ketone | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 106 | 63.6 | 117 |
| gamma-BHC | 0.05 mg/kg | ---- | 0.25 | 104 | 59.8 | 118 |
| | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Heptachlor | 0.05 mg/kg | ---- | 0.25 | 114 | 65.6 | 115 |
| | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |

*Matrix Type: SOIL*

***Method Blank (MB) and Laboratory Control Samples (LCS) Report***

| *Analyte name* | *LOR* | *Method blank result* | *Actual Results* | | *Recovery Limits* | |
|---|---|---|---|---|---|---|
| | | | *Spike concentration* | *Spike Recovery* | *Dynamic Recovery Limits* | |
| | | | | *LCS* | *Low* | *High* |
| **EP068A: Organochlorine Pesticides (OC) - continued** | | | | | | |
| **EP068A: Organochlorine Pesticides (OC) - ( QC Lot: 482588 ) - continued** | | mg/kg | mg/kg | % | % | % |
| Heptachlor epoxide | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 100 | 65.6 | 113 |
| Hexachlorobenzene (HCB) | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 94.7 | 59.4 | 115 |
| Methoxychlor | 0.2 mg/kg | <0.2 | ---- | ---- | ---- | ---- |
| | 0.2 mg/kg | ---- | 0.25 | 83.2 | 50.4 | 132 |
| trans-Chlordane | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 90.0 | 60.7 | 113 |
| **EP068B: Organophosphorus Pesticides (OP)** | | | | | | |
| **EP068B: Organophosphorus Pesticides (OP) - ( QC Lot: 482588 )** | | mg/kg | mg/kg | % | % | % |
| Methyl Azinphos | 0.05 mg/kg | ---- | 0.25 | 53.3 | 29.8 | 137 |
| | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Bromophos-ethyl | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 104 | 64.3 | 114 |
| Carbophenothion | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 95.9 | 59.5 | 119 |
| Chlorfenvinphos | 0.05 mg/kg | ---- | 0.25 | 110 | 61.4 | 123 |
| | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Chlorpyrifos | 0.05 mg/kg | ---- | 0.25 | 102 | 64.2 | 111 |
| | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Chlorpyrifos-methyl | 0.05 mg/kg | ---- | 0.25 | 101 | 65.1 | 111 |
| | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Demeton-S-methyl | 0.05 mg/kg | ---- | 0.25 | 83.2 | 10.1 | 159 |
| | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Diazinon | 0.05 mg/kg | ---- | 0.25 | 101 | 64.9 | 111 |
| | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| Dichlorvos | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 54.0 | 25.5 | 124 |
| Dimethoate | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 95.9 | 48.6 | 126 |

*Matrix Type: SOIL*

*Method Blank (MB) and Laboratory Control Samples (LCS) Report*

| Analyte name | LOR | Method blank result | Actual Results: Spike concentration | Actual Results: Spike Recovery LCS | Recovery Limits: Dynamic Recovery Limits Low | Recovery Limits: Dynamic Recovery Limits High |
|---|---|---|---|---|---|---|
| **EP068B: Organophosphorus Pesticides (OP) - continued** | | | | | | |
| **EP068B: Organophosphorus Pesticides (OP) - ( QC Lot: 482588 ) - continued** | | mg/kg | mg/kg | % | % | % |
| Ethion | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 108 | 62 | 116 |
| Fenamiphos | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 90.1 | 45.5 | 128 |
| Fenthion | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 99.6 | 64.7 | 110 |
| Malathion | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 109 | 60.4 | 127 |
| Monocrotophos | 0.2 mg/kg | ---- | 0.25 | 21.8 | 2.88 | 149 |
| | 0.2 mg/kg | <0.2 | ---- | ---- | ---- | ---- |
| Parathion | 0.2 mg/kg | <0.2 | ---- | ---- | ---- | ---- |
| | 0.2 mg/kg | ---- | 0.25 | 99.3 | 60 | 116 |
| Parathion-methyl | 0.2 mg/kg | ---- | 0.25 | 96.0 | 61.4 | 113 |
| | 0.2 mg/kg | <0.2 | ---- | ---- | ---- | ---- |
| Pirimphos-ethyl | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 102 | 64.8 | 111 |
| Prothiofos | 0.05 mg/kg | <0.05 | ---- | ---- | ---- | ---- |
| | 0.05 mg/kg | ---- | 0.25 | 105 | 65.4 | 111 |
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons** | | | | | | |
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - ( QC Lot: 482524 )** | | mg/kg | mg/kg | % | % | % |
| Acenaphthene | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| | 0.5 mg/kg | ---- | 4 | 96.9 | 81.5 | 112 |
| Acenaphthylene | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| | 0.5 mg/kg | ---- | 4 | 104 | 79.6 | 113 |
| Anthracene | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| | 0.5 mg/kg | ---- | 4 | 106 | 81.1 | 112 |
| Benz(a)anthracene | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| | 0.5 mg/kg | ---- | 4 | 91.8 | 77.2 | 112 |
| Benzo(a)pyrene | 0.5 mg/kg | ---- | 4 | 92.7 | 76.4 | 113 |
| | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |

*Matrix Type: SOIL*

*Method Blank (MB) and Laboratory Control Samples (LCS) Report*

| *Analyte name* | *LOR* | *Method blank result* | *Actual Results* | | *Recovery Limits* | |
|---|---|---|---|---|---|---|
| | | | *Spike concentration* | *Spike Recovery* | *Dynamic Recovery Limits* | |
| | | | | *LCS* | *Low* | *High* |
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - continued** | | | | | | |
| **EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - ( QC Lot: 482524 ) - continued** | | mg/kg | mg/kg | % | % | % |
| Benzo(b)fluoranthene | 0.5 mg/kg | ---- | 4 | 93.8 | 71.8 | 118 |
| | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| Benzo(g,h,i)perylene | 0.5 mg/kg | ---- | 4 | 97.0 | 72.4 | 114 |
| | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| Benzo(k)fluoranthene | 0.5 mg/kg | ---- | 4 | 109 | 74.2 | 117 |
| | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| Chrysene | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| | 0.5 mg/kg | ---- | 4 | 106 | 79.8 | 114 |
| Dibenz(a,h)anthracene | 0.5 mg/kg | ---- | 4 | 88.4 | 71.7 | 113 |
| | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| Fluoranthene | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| | 0.5 mg/kg | ---- | 4 | 107 | 78.8 | 113 |
| Fluorene | 0.5 mg/kg | ---- | 4 | 99.2 | 79.9 | 112 |
| | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| Indeno(1,2,3,cd)pyrene | 0.5 mg/kg | ---- | 4 | 82.8 | 71 | 113 |
| | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| Naphthalene | 0.5 mg/kg | ---- | 4 | 105 | 81.9 | 113 |
| | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| Phenanthrene | 0.5 mg/kg | ---- | 4 | 96.2 | 79.4 | 114 |
| | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| Pyrene | 0.5 mg/kg | <0.5 | ---- | ---- | ---- | ---- |
| | 0.5 mg/kg | ---- | 4 | 107 | 78.9 | 113 |
| **EP080/071: Total Petroleum Hydrocarbons** | | | | | | |
| **EP080/071: Total Petroleum Hydrocarbons - ( QC Lot: 482523 )** | | mg/kg | mg/kg | % | % | % |
| C10 - C14 Fraction | 50 mg/kg | <50 | ---- | ---- | ---- | ---- |
| | 50 mg/kg | ---- | 200 | 95.0 | 75.2 | 116 |
| C15 - C28 Fraction | 100 mg/kg | ---- | 200 | 86.0 | 75.3 | 113 |
| | 100 mg/kg | <100 | ---- | ---- | ---- | ---- |
| C29 - C36 Fraction | 100 mg/kg | <100 | ---- | ---- | ---- | ---- |
| | 100 mg/kg | ---- | 200 | 85.0 | 72.6 | 117 |