



## Canister Verification Report

**Canister No:** 1304

|                           |                                            |                                  |                            |
|---------------------------|--------------------------------------------|----------------------------------|----------------------------|
| <b>Specified Purpose:</b> | USEPA TO15 (Extended Suite)<br>Ambient Air | <b>Verification Date:</b>        | 19-Sep-2017                |
|                           |                                            | <b>Valid To (At least):</b>      | 17-Oct-2017                |
|                           |                                            | <b>Verification File:</b>        | 170919_13.D                |
| <b>Canister Type:</b>     | Entech Silonite - 'MiniCan'                | <b>Last Stability Check:</b>     | Supplier                   |
| <b>Canister Size:</b>     | 1400mL                                     | <b>Next Check Scheduled:</b>     | 01-Apr-2018                |
| <b>Valve Type:</b>        | QT - Quick Connect                         | <b>Analyst:</b>                  | Dale Sample                |
| <b>Dispatch Pressure:</b> | <0.01 psia                                 | <b>Approved for Dispatch by:</b> | <i>[Signature]</i> 26/9/17 |

### Canister Verification Protocol

Canisters are verified 'fit for purpose' for the requested analyses and applications (if known). For most applications, canisters are verified clean according to the requirements of USEPA method TO15.

Each verification involves a check for contamination, leaks and damage to valves. Stability checks are performed after 5 years or if damage to the canister is suspected, then every two years, within the designated holding time to ensure each canister is capable of holding the target chemicals without significant degradation.

ALS METHOD CODE: EP101

REFERENCE METHOD: Compendium Method TO-15: Determination of Volatile Organic Compounds (VOCs) in air collected in specially-prepared Canisters and analysed by Gas Chromatography/Mass Spectrometry (GC/MS)

ALS METHOD CODE: EP104

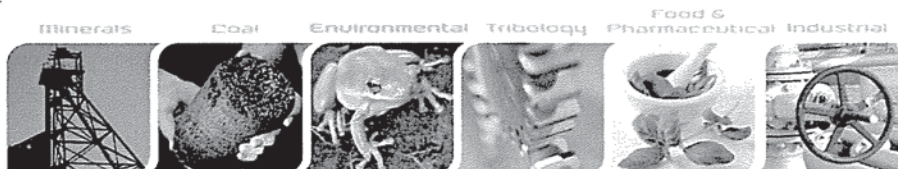
| Target Compound           | Alt. Name                             | Qualifiers | Verification     | Result |
|---------------------------|---------------------------------------|------------|------------------|--------|
|                           |                                       |            | Goal (<)<br>ppbv |        |
| 1,1,1-Trichloroethane     | 1,1,1-TCA / Methyl chloroform         |            | 0.2              | <0.2   |
| 1,1,2,2-Tetrachloroethane | R-130 / Acetylene tetrachloride       |            | 0.2              | <0.2   |
| 1,1,2-Trichloroethane     | Vinyl trichloride                     |            | 0.2              | <0.2   |
| 1,1-Dichloroethane        | Ethylidene chloride                   |            | 0.2              | <0.2   |
| 1,1-Dichloroethene        | 1,1-DCE / Vinylidene chloride         |            | 0.2              | <0.2   |
| 1,2-Dichloroethane        | Ethylene chloride                     |            | 0.2              | <0.2   |
| 1,2,4-Trimethylbenzene    | Pseudocumene                          |            | 0.2              | <0.2   |
| 1,2-Dibromoethane         | EDB / Ethylene dibromide              |            | 0.2              | <0.2   |
| 1,2-Dichlorobenzene       | o-Dichlorobenzene                     |            | 0.2              | <0.2   |
| 1,2-Dichloropropane       | Propylene dichloride                  |            | 0.2              | <0.2   |
| 1,3,5-Trimethylbenzene    | Mesitylene                            |            | 0.2              | <0.2   |
| 1,3-Dichlorobenzene       | m-Dichlorobenzene                     |            | 0.2              | <0.2   |
| 1,4-Dichlorobenzene       | p-Dichlorobenzene                     |            | 0.2              | <0.2   |
| Benzene                   | Cyclohexatriene                       |            | 0.2              | <0.2   |
| Bromomethane              | Methyl bromide                        |            | 0.2              | <0.2   |
| Tetrachloromethane        | Carbon tetrachloride                  |            | 0.2              | <0.2   |
| Chlorobenzene             | Phenyl chloride                       |            | 0.2              | <0.2   |
| Chloroethane              | Ethyl chloride                        |            | 0.2              | <0.2   |
| Chloroform                | Trichloromethane                      |            | 0.2              | <0.2   |
| Chloromethane             | Methyl chloride                       |            | 0.2              | <0.2   |
| cis-1,2-Dichloroethene    | cis-1,2-Dichloroethylene              |            | 0.2              | <0.2   |
| cis-1,3-Dichloropropene   | cis-1,3-Dichloropropylene             |            | 0.2              | <0.2   |
| Ethylbenzene              | Phenyl ethane                         |            | 0.2              | <0.2   |
| Freon 12                  | Dichlorodifluoromethane               |            | 0.2              | <0.2   |
| Freon 11                  | Trichlorofluoromethane                |            | 0.2              | <0.2   |
| Freon 113                 | 1,1,2-Trichloro-1,2,2-trifluoroethane |            | 0.2              | <0.2   |
| Freon 114                 | 1,2-Dichlorotetrafluoroethane         |            | 0.2              | <0.2   |
| Hexachlorobutadiene       | Hexachloro-1,3-Butadiene              |            | 0.2              | <0.2   |

Qualifiers - F: Fails Stability Check, V: Fails Verification

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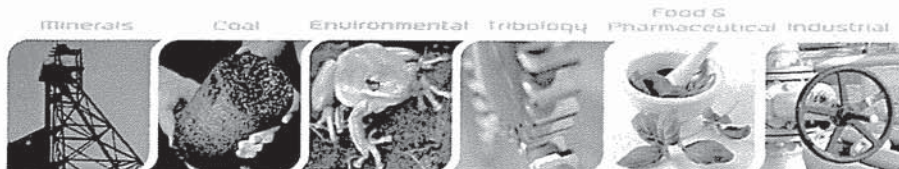
| Target Compound           | Alt. Name                      | Qualifiers | Verification     | Result |
|---------------------------|--------------------------------|------------|------------------|--------|
|                           |                                |            | Goal (<)<br>ppbv |        |
| Dichloromethane           | Methylene chloride             |            | 0.2              | <0.2   |
| m- & p-Xylene             | 1,3 & 1,4 -Dimethylbenzene     |            | 0.4              | <0.4   |
| o-Xylene                  | 1,2-Dimethylbenzene            |            | 0.2              | <0.2   |
| Styrene                   | Vinyl benzene                  |            | 0.2              | <0.2   |
| Tetrachloroethene         | PCE / Perchloroethylene        |            | 0.2              | <0.2   |
| Toluene                   | Methyl Benzene                 |            | 0.2              | <0.2   |
| trans-1,3-Dichloropropene | trans-1,3-Dichloropropylene    |            | 0.2              | <0.2   |
| Trichloroethene           | TCE / Trichloroethylene        |            | 0.2              | <0.2   |
| Vinyl chloride            | Chloroethene                   |            | 0.2              | <0.2   |
| 1,2,4-Trichlorobenzene    |                                |            | 0.2              | <0.2   |
| 1,3-Butadiene             | Biethylene                     |            | 0.2              | <0.2   |
| 1,4-Dioxane               | p-Dioxane                      |            | 0.2              | <0.2   |
| 2,2,4-Trimethylpentane    | Isooctane                      |            | 0.2              | <0.2   |
| 4-Ethyltoluene            | p-Ethyltoluene                 |            | 0.2              | <0.2   |
| Acetone                   | 2-Propanone                    |            | 0.2              | <0.2   |
| Allyl chloride            | 3-Chloropropene                |            | 0.2              | <0.2   |
| Bromodichloromethane      | Dichlorobromomethane           |            | 0.2              | <0.2   |
| Bromoform                 | Tribromomethane                |            | 0.2              | <0.2   |
| Carbon disulfide          | CS2                            |            | 0.2              | <0.2   |
| Cyclohexane               |                                |            | 0.2              | <0.2   |
| Dibromochloromethane      | Chlorodibromoethane            |            | 0.2              | <0.2   |
| Ethyl acetate             | Acetic ester                   |            | 0.2              | <0.2   |
| Isopropyl alcohol         | Isopropanol / 2-Propanol       |            | 0.2              | <0.2   |
| Methyl butyl ketone       | MBK / 2-Hexanone               |            | 0.2              | <0.2   |
| Methyl ethyl ketone       | MEK / 2-Butanone               |            | 0.2              | <0.2   |
| Methyl isobutyl ketone    | MIBK / 4-Methyl-2-pentanone    |            | 0.2              | <0.2   |
| Methyl tert-butyl ether   | MTBE                           |            | 0.2              | <0.2   |
| n-Heptane                 |                                |            | 0.2              | <0.2   |
| n-Hexane                  |                                |            | 0.2              | <0.2   |
| Propene                   | Propylene                      |            | 0.2              | <0.2   |
| Tetrahydrofuran           | THF                            |            | 0.2              | <0.2   |
| trans-1,2-Dichloroethene  | trans-1,2-Dichloroethylene     |            | 0.2              | <0.2   |
| Vinyl acetate             | Acetic acid vinyl ester        |            | 0.2              | <0.2   |
| Bromoethene               | Vinyl bromide                  |            | 0.2              | <0.2   |
| Benzyl chloride           | o-Chlorotoluene                |            | 0.2              | <0.2   |
| Ethanol                   | Ethyl alcohol                  |            | 0.2              | <0.2   |
| Acetonitrile              | Methyl cyanide                 |            | 0.2              | <0.2   |
| Acrolein                  | 2-Propenal                     |            | 0.2              | <0.2   |
| Acrylonitrile             | 2-Propenenitrile               |            | 0.2              | <0.2   |
| tert-Butyl alcohol        | TBA                            |            | 0.2              | <0.2   |
| 2-Chloroprene             | 2-Chloro-1,3-butadiene         |            | 0.2              | <0.2   |
| Diisopropyl Ether         | DIPE                           |            | 0.2              | <0.2   |
| Ethyl tert-butyl ether    | ETBE                           |            | 0.2              | <0.2   |
| tert-Amyl methyl ether    | TAME                           |            | 0.2              | <0.2   |
| Methyl methacrylate       | MMA                            |            | 0.2              | <0.2   |
| 1,1,1,2-Tetrachloroethane | R-130a / Acetylene trichloride |            | 0.2              | <0.2   |
| Isopropylbenzene          | Cumene                         |            | 0.2              | <0.2   |
| 2-Chlorotoluene           | o-Chlorotoluene                |            | 0.2              | <0.2   |
| n-Propylbenzene           | Phenyl propane                 |            | 0.2              | <0.2   |
| tert-Butylbenzene         | 1,1-Dimethylethylbenzene       |            | 0.2              | <0.2   |
| sec-Butylbenzene          | 1-Methylpropylbenzene          |            | 0.2              | <0.2   |
| 2-Isopropyltoluene        | o-Cymene                       |            | 0.2              | <0.2   |
| n-Butylbenzene            | Phenyl butane                  |            | 0.2              | <0.2   |
| Naphthalene               |                                |            | 0.2              | <0.2   |

Qualifiers - F: Fails Stability Check, V: Fails Verification

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## Canister Verification Report

**Canister No:** 3017

|                           |                                            |                                  |                            |
|---------------------------|--------------------------------------------|----------------------------------|----------------------------|
| <b>Specified Purpose:</b> | USEPA TO15 (Extended Suite)<br>Ambient Air | <b>Verification Date:</b>        | 22-Sep-2017                |
|                           |                                            | <b>Valid To (At least):</b>      | 20-Oct-2017                |
|                           |                                            | <b>Verification File:</b>        | 170921_18.D                |
| <b>Canister Type:</b>     | Entech Silonite - 'MiniCan'                | <b>Last Stability Check:</b>     | Supplier                   |
| <b>Canister Size:</b>     | 1400mL                                     | <b>Next Check Scheduled:</b>     | 01-Apr-2018                |
| <b>Valve Type:</b>        | QT - Quick Connect                         | <b>Analyst:</b>                  | Dale Sample                |
| <b>Dispatch Pressure:</b> | <0.01 psia                                 | <b>Approved for Dispatch by:</b> | <i>[Signature]</i> 26/9/17 |

### Canister Verification Protocol

Canisters are verified 'fit for purpose' for the requested analyses and applications (if known). For most applications, canisters are verified clean according to the requirements of USEPA method TO15.

Each verification involves a check for contamination, leaks and damage to valves. Stability checks are performed after 5 years or if damage to the canister is suspected, then every two years, within the designated holding time to ensure each canister is capable of holding the target chemicals without significant degradation.

ALS METHOD CODE: EP101

REFERENCE METHOD: Compendium Method TO-15: Determination of Volatile Organic Compounds (VOCs) in air collected in specially-prepared Canisters and analysed by Gas Chromatography/Mass Spectrometry (GC/MS)

ALS METHOD CODE: EP104

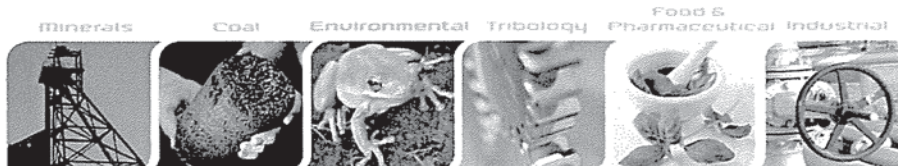
| Target Compound           | Alt. Name                             | Qualifiers | Verification     | Result |
|---------------------------|---------------------------------------|------------|------------------|--------|
|                           |                                       |            | Goal (<)<br>ppbv |        |
| 1,1,1-Trichloroethane     | 1,1,1-TCA / Methyl chloroform         |            | 0.2              | <0.2   |
| 1,1,2,2-Tetrachloroethane | R-130 / Acetylene tetrachloride       |            | 0.2              | <0.2   |
| 1,1,2-Trichloroethane     | Vinyl trichloride                     |            | 0.2              | <0.2   |
| 1,1-Dichloroethane        | Ethylidene chloride                   |            | 0.2              | <0.2   |
| 1,1-Dichloroethene        | 1,1-DCE / Vinylidene chloride         |            | 0.2              | <0.2   |
| 1,2-Dichloroethane        | Ethylene chloride                     |            | 0.2              | <0.2   |
| 1,2,4-Trimethylbenzene    | Pseudocumene                          |            | 0.2              | <0.2   |
| 1,2-Dibromoethane         | EDB / Ethylene dibromide              |            | 0.2              | <0.2   |
| 1,2-Dichlorobenzene       | o-Dichlorobenzene                     |            | 0.2              | <0.2   |
| 1,2-Dichloropropane       | Propylene dichloride                  |            | 0.2              | <0.2   |
| 1,3,5-Trimethylbenzene    | Mesitylene                            |            | 0.2              | <0.2   |
| 1,3-Dichlorobenzene       | m-Dichlorobenzene                     |            | 0.2              | <0.2   |
| 1,4-Dichlorobenzene       | p-Dichlorobenzene                     |            | 0.2              | <0.2   |
| Benzene                   | Cyclohexatriene                       |            | 0.2              | <0.2   |
| Bromomethane              | Methyl bromide                        |            | 0.2              | <0.2   |
| Tetrachloromethane        | Carbon tetrachloride                  |            | 0.2              | <0.2   |
| Chlorobenzene             | Phenyl chloride                       |            | 0.2              | <0.2   |
| Chloroethane              | Ethyl chloride                        |            | 0.2              | <0.2   |
| Chloroform                | Trichloromethane                      |            | 0.2              | <0.2   |
| Chloromethane             | Methyl chloride                       |            | 0.2              | <0.2   |
| cis-1,2-Dichloroethene    | cis-1,2-Dichloroethylene              |            | 0.2              | <0.2   |
| cis-1,3-Dichloropropene   | cis-1,3-Dichloropropylene             |            | 0.2              | <0.2   |
| Ethylbenzene              | Phenyl ethane                         |            | 0.2              | <0.2   |
| Freon 12                  | Dichlorodifluoromethane               |            | 0.2              | <0.2   |
| Freon 11                  | Trichlorofluoromethane                |            | 0.2              | <0.2   |
| Freon 113                 | 1,1,2-Trichloro-1,2,2-trifluoroethane |            | 0.2              | <0.2   |
| Freon 114                 | 1,2-Dichlorotetrafluoroethane         |            | 0.2              | <0.2   |
| Hexachlorobutadiene       | Hexachloro-1,3-Butadiene              |            | 0.2              | <0.2   |

Qualifiers - F: Fails Stability Check, V: Fails Verification

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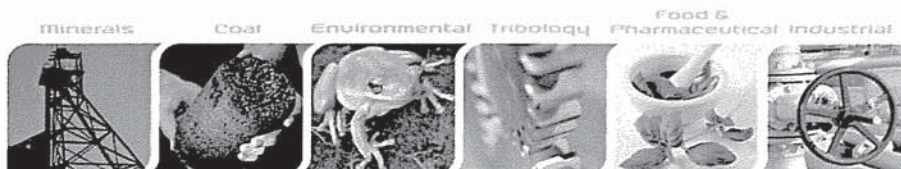
| Target Compound           | Alt. Name                      | Qualifiers | Verification     | Result |
|---------------------------|--------------------------------|------------|------------------|--------|
|                           |                                |            | Goal (<)<br>ppbv |        |
| Dichloromethane           | Methylene chloride             |            | 0.2              | <0.2   |
| m- & p-Xylene             | 1,3 & 1,4 -Dimethylbenzene     |            | 0.4              | <0.4   |
| o-Xylene                  | 1,2-Dimethylbenzene            |            | 0.2              | <0.2   |
| Styrene                   | Vinyl benzene                  |            | 0.2              | <0.2   |
| Tetrachloroethene         | PCE / Perchloroethylene        |            | 0.2              | <0.2   |
| Toluene                   | Methyl Benzene                 |            | 0.2              | <0.2   |
| trans-1,3-Dichloropropene | trans-1,3-Dichloropropylene    |            | 0.2              | <0.2   |
| Trichloroethene           | TCE / Trichloroethylene        |            | 0.2              | <0.2   |
| Vinyl chloride            | Chloroethene                   |            | 0.2              | <0.2   |
| 1,2,4-Trichlorobenzene    |                                |            | 0.2              | <0.2   |
| 1,3-Butadiene             | Biethylene                     |            | 0.2              | <0.2   |
| 1,4-Dioxane               | p-Dioxane                      |            | 0.2              | <0.2   |
| 2,2,4-Trimethylpentane    | Isooctane                      |            | 0.2              | <0.2   |
| 4-Ethyltoluene            | p-Ethyltoluene                 |            | 0.2              | <0.2   |
| Acetone                   | 2-Propanone                    |            | 0.2              | <0.2   |
| Allyl chloride            | 3-Chloropropene                |            | 0.2              | <0.2   |
| Bromodichloromethane      | Dichlorobromomethane           |            | 0.2              | <0.2   |
| Bromoform                 | Tribromomethane                |            | 0.2              | <0.2   |
| Carbon disulfide          | CS2                            |            | 0.2              | <0.2   |
| Cyclohexane               |                                |            | 0.2              | <0.2   |
| Dibromochloromethane      | Chlorodibromoethane            |            | 0.2              | <0.2   |
| Ethyl acetate             | Acetic ester                   |            | 0.2              | <0.2   |
| Isopropyl alcohol         | Isopropanol / 2-Propanol       |            | 0.2              | <0.2   |
| Methyl butyl ketone       | MBK / 2-Hexanone               |            | 0.2              | <0.2   |
| Methyl ethyl ketone       | MEK / 2-Butanone               |            | 0.2              | <0.2   |
| Methyl isobutyl ketone    | MIBK / 4-Methyl-2-pentanone    |            | 0.2              | <0.2   |
| Methyl tert-butyl ether   | MTBE                           |            | 0.2              | <0.2   |
| n-Heptane                 |                                |            | 0.2              | <0.2   |
| n-Hexane                  |                                |            | 0.2              | <0.2   |
| Propene                   | Propylene                      |            | 0.2              | <0.2   |
| Tetrahydrofuran           | THF                            |            | 0.2              | <0.2   |
| trans-1,2-Dichloroethene  | trans-1,2-Dichloroethylene     |            | 0.2              | <0.2   |
| Vinyl acetate             | Acetic acid vinyl ester        |            | 0.2              | <0.2   |
| Bromoethene               | Vinyl bromide                  |            | 0.2              | <0.2   |
| Benzyl chloride           | α-Chlorotoluene                |            | 0.2              | <0.2   |
| Ethanol                   | Ethyl alcohol                  |            | 0.2              | <0.2   |
| Acetonitrile              | Methyl cyanide                 |            | 0.2              | <0.2   |
| Acrolein                  | 2-Propenal                     |            | 0.2              | <0.2   |
| Acrylonitrile             | 2-Propenenitrile               |            | 0.2              | <0.2   |
| tert-Butyl alcohol        | TBA                            |            | 0.2              | <0.2   |
| 2-Chloroprene             | 2-Chloro-1,3-butadiene         |            | 0.2              | <0.2   |
| Diisopropyl Ether         | DIPE                           |            | 0.2              | <0.2   |
| Ethyl tert-butyl ether    | ETBE                           |            | 0.2              | <0.2   |
| tert-Amyl methyl ether    | TAME                           |            | 0.2              | <0.2   |
| Methyl methacrylate       | MMA                            |            | 0.2              | <0.2   |
| 1,1,1,2-Tetrachloroethane | R-130a / Acetylene trichloride |            | 0.2              | <0.2   |
| Isopropylbenzene          | Cumene                         |            | 0.2              | <0.2   |
| 2-Chlorotoluene           | o-Chlorotoluene                |            | 0.2              | <0.2   |
| n-Propylbenzene           | Phenyl propane                 |            | 0.2              | <0.2   |
| tert-Butylbenzene         | 1,1-Dimethylethylbenzene       |            | 0.2              | <0.2   |
| sec-Butylbenzene          | 1-Methylpropylbenzene          |            | 0.2              | <0.2   |
| 2-Isopropyltoluene        | o-Cymene                       |            | 0.2              | <0.2   |
| n-Butylbenzene            | Phenyl butane                  |            | 0.2              | <0.2   |
| Naphthalene               |                                |            | 0.2              | <0.2   |

Qualifiers - F: Fails Stability Check, V: Fails Verification

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## Canister Verification Report

**Canister No:** 5050

|                           |                                            |                                  |                  |
|---------------------------|--------------------------------------------|----------------------------------|------------------|
| <b>Specified Purpose:</b> | USEPA TO15 (Extended Suite)<br>Ambient Air | <b>Verification Date:</b>        | 21-Sep-2017      |
|                           |                                            | <b>Valid To (At least):</b>      | 19-Oct-2017      |
|                           |                                            | <b>Verification File:</b>        | 170921_09.D      |
| <b>Canister Type:</b>     | Entech Silonite - 'MiniCan' with plast     | <b>Last Stability Check:</b>     | Supplier         |
| <b>Canister Size:</b>     | 1400mL                                     | <b>Next Check Scheduled:</b>     | 29-Dec-2021      |
| <b>Valve Type:</b>        | QT - Quick Connect                         | <b>Analyst:</b>                  | Dale Sample      |
| <b>Dispatch Pressure:</b> | <0.01 psia                                 | <b>Approved for Dispatch by:</b> | <u>A 26/9/17</u> |

### Canister Verification Protocol

Canisters are verified 'fit for purpose' for the requested analyses and applications (if known). For most applications, canisters are verified clean according to the requirements of USEPA method TO15.

Each verification involves a check for contamination, leaks and damage to valves. Stability checks are performed after 5 years or if damage to the canister is suspected, then every two years, within the designated holding time to ensure each canister is capable of holding the target chemicals without significant degradation.

ALS METHOD CODE: EP101

REFERENCE METHOD: Compendium Method TO-15: Determination of Volatile Organic Compounds (VOCs) in air collected in specially-prepared Canisters and analysed by Gas Chromatography/Mass Spectrometry (GC/MS)

ALS METHOD CODE: EP104

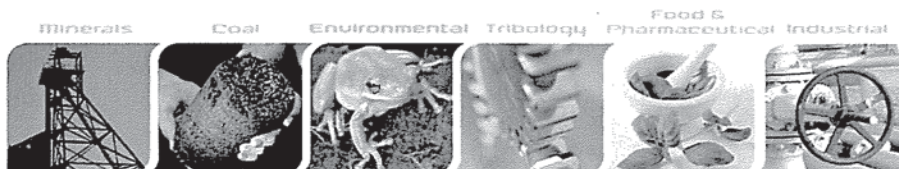
| Target Compound           | Alt. Name                             | Qualifiers | Verification     | Result |
|---------------------------|---------------------------------------|------------|------------------|--------|
|                           |                                       |            | Goal (<)<br>ppbv |        |
| 1,1,1-Trichloroethane     | 1,1,1-TCA / Methyl chloroform         |            | 0.2              | <0.2   |
| 1,1,2,2-Tetrachloroethane | R-130 / Acetylene tetrachloride       |            | 0.2              | <0.2   |
| 1,1,2-Trichloroethane     | Vinyl trichloride                     |            | 0.2              | <0.2   |
| 1,1-Dichloroethane        | Ethylidene chloride                   |            | 0.2              | <0.2   |
| 1,1-Dichloroethene        | 1,1-DCE / Vinylidene chloride         |            | 0.2              | <0.2   |
| 1,2-Dichloroethane        | Ethylene chloride                     |            | 0.2              | <0.2   |
| 1,2,4-Trimethylbenzene    | Pseudocumene                          |            | 0.2              | <0.2   |
| 1,2-Dibromoethane         | EDB / Ethylene dibromide              |            | 0.2              | <0.2   |
| 1,2-Dichlorobenzene       | o-Dichlorobenzene                     |            | 0.2              | <0.2   |
| 1,2-Dichloropropane       | Propylene dichloride                  |            | 0.2              | <0.2   |
| 1,3,5-Trimethylbenzene    | Mesitylene                            |            | 0.2              | <0.2   |
| 1,3-Dichlorobenzene       | m-Dichlorobenzene                     |            | 0.2              | <0.2   |
| 1,4-Dichlorobenzene       | p-Dichlorobenzene                     |            | 0.2              | <0.2   |
| Benzene                   | Cyclohexatriene                       |            | 0.2              | <0.2   |
| Bromomethane              | Methyl bromide                        |            | 0.2              | <0.2   |
| Tetrachloromethane        | Carbon tetrachloride                  |            | 0.2              | <0.2   |
| Chlorobenzene             | Phenyl chloride                       |            | 0.2              | <0.2   |
| Chloroethane              | Ethyl chloride                        |            | 0.2              | <0.2   |
| Chloroform                | Trichloromethane                      |            | 0.2              | <0.2   |
| Chloromethane             | Methyl chloride                       |            | 0.2              | <0.2   |
| cis-1,2-Dichloroethene    | cis-1,2-Dichloroethylene              |            | 0.2              | <0.2   |
| cis-1,3-Dichloropropene   | cis-1,3-Dichloropropylene             |            | 0.2              | <0.2   |
| Ethylbenzene              | Phenyl ethane                         |            | 0.2              | <0.2   |
| Freon 12                  | Dichlorodifluoromethane               |            | 0.2              | <0.2   |
| Freon 11                  | Trichlorofluoromethane                |            | 0.2              | <0.2   |
| Freon 113                 | 1,1,2-Trichloro-1,2,2-trifluoroethane |            | 0.2              | <0.2   |
| Freon 114                 | 1,2-Dichlorotetrafluoroethane         |            | 0.2              | <0.2   |
| Hexachlorobutadiene       | Hexachloro-1,3-Butadiene              |            | 0.2              | <0.2   |

Qualifiers - F: Fails Stability Check, V: Fails Verification

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| Target Compound           | Alt. Name                      | Qualifiers | Verification     | Result |
|---------------------------|--------------------------------|------------|------------------|--------|
|                           |                                |            | Goal (<)<br>ppbv |        |
| Dichloromethane           | Methylene chloride             |            | 0.2              | <0.2   |
| m- & p-Xylene             | 1,3 & 1,4 -Dimethylbenzene     |            | 0.4              | <0.4   |
| o-Xylene                  | 1,2-Dimethylbenzene            |            | 0.2              | <0.2   |
| Styrene                   | Vinyl benzene                  |            | 0.2              | <0.2   |
| Tetrachloroethene         | PCE / Perchloroethylene        |            | 0.2              | <0.2   |
| Toluene                   | Methyl Benzene                 |            | 0.2              | <0.2   |
| trans-1,3-Dichloropropene | trans-1,3-Dichloropropylene    |            | 0.2              | <0.2   |
| Trichloroethene           | TCE / Trichloroethylene        |            | 0.2              | <0.2   |
| Vinyl chloride            | Chloroethene                   |            | 0.2              | <0.2   |
| 1,2,4-Trichlorobenzene    |                                |            | 0.2              | <0.2   |
| 1,3-Butadiene             | Biethylene                     |            | 0.2              | <0.2   |
| 1,4-Dioxane               | p-Dioxane                      |            | 0.2              | <0.2   |
| 2,2,4-Trimethylpentane    | Isooctane                      |            | 0.2              | <0.2   |
| 4-Ethyltoluene            | p-Ethyltoluene                 |            | 0.2              | <0.2   |
| Acetone                   | 2-Propanone                    |            | 0.2              | <0.2   |
| Allyl chloride            | 3-Chloropropene                |            | 0.2              | <0.2   |
| Bromodichloromethane      | Dichlorobromomethane           |            | 0.2              | <0.2   |
| Bromoform                 | Tribromomethane                |            | 0.2              | <0.2   |
| Carbon disulfide          | CS2                            |            | 0.2              | <0.2   |
| Cyclohexane               |                                |            | 0.2              | <0.2   |
| Dibromochloromethane      | Chlorodibromoethane            |            | 0.2              | <0.2   |
| Ethyl acetate             | Acetic ester                   |            | 0.2              | <0.2   |
| Isopropyl alcohol         | Isopropanol / 2-Propanol       |            | 0.2              | <0.2   |
| Methyl butyl ketone       | MBK / 2-Hexanone               |            | 0.2              | <0.2   |
| Methyl ethyl ketone       | MEK / 2-Butanone               |            | 0.2              | <0.2   |
| Methyl isobutyl ketone    | MIBK / 4-Methyl-2-pentanone    |            | 0.2              | <0.2   |
| Methyl tert-butyl ether   | MTBE                           |            | 0.2              | <0.2   |
| n-Heptane                 |                                |            | 0.2              | <0.2   |
| n-Hexane                  |                                |            | 0.2              | <0.2   |
| Propene                   | Propylene                      |            | 0.2              | <0.2   |
| Tetrahydrofuran           | THF                            |            | 0.2              | <0.2   |
| trans-1,2-Dichloroethene  | trans-1,2-Dichloroethylene     |            | 0.2              | <0.2   |
| Vinyl acetate             | Acetic acid vinyl ester        |            | 0.2              | <0.2   |
| Bromoethene               | Vinyl bromide                  |            | 0.2              | <0.2   |
| Benzyl chloride           | α-Chlorotoluene                |            | 0.2              | <0.2   |
| Ethanol                   | Ethyl alcohol                  |            | 0.2              | <0.2   |
| Acetonitrile              | Methyl cyanide                 |            | 0.2              | <0.2   |
| Acrolein                  | 2-Propenal                     |            | 0.2              | <0.2   |
| Acrylonitrile             | 2-Propenenitrile               |            | 0.2              | <0.2   |
| tert-Butyl alcohol        | TBA                            |            | 0.2              | <0.2   |
| 2-Chloroprene             | 2-Chloro-1,3-butadiene         |            | 0.2              | <0.2   |
| Diisopropyl Ether         | DIPE                           |            | 0.2              | <0.2   |
| Ethyl tert-butyl ether    | ETBE                           |            | 0.2              | <0.2   |
| tert-Amyl methyl ether    | TAME                           |            | 0.2              | <0.2   |
| Methyl methacrylate       | MMA                            |            | 0.2              | <0.2   |
| 1,1,1,2-Tetrachloroethane | R-130a / Acetylene trichloride |            | 0.2              | <0.2   |
| Isopropylbenzene          | Cumene                         |            | 0.2              | <0.2   |
| 2-Chlorotoluene           | o-Chlorotoluene                |            | 0.2              | <0.2   |
| n-Propylbenzene           | Phenyl propane                 |            | 0.2              | <0.2   |
| tert-Butylbenzene         | 1,1-Dimethylethylbenzene       |            | 0.2              | <0.2   |
| sec-Butylbenzene          | 1-Methylpropylbenzene          |            | 0.2              | <0.2   |
| 2-Isopropyltoluene        | o-Cymene                       |            | 0.2              | <0.2   |
| n-Butylbenzene            | Phenyl butane                  |            | 0.2              | <0.2   |
| Naphthalene               |                                |            | 0.2              | <0.2   |

Qualifiers - F: Fails Stability Check, V: Fails Verification

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## Canister Verification Report

**Canister No:** 5053

|                           |                                            |                                  |                   |
|---------------------------|--------------------------------------------|----------------------------------|-------------------|
| <b>Specified Purpose:</b> | USEPA TO15 (Extended Suite)<br>Ambient Air | <b>Verification Date:</b>        | 22-Sep-2017       |
|                           |                                            | <b>Valid To (At least):</b>      | 20-Oct-2017       |
|                           |                                            | <b>Verification File:</b>        | 170921_25.D       |
| <b>Canister Type:</b>     | Entech Silonite - 'MiniCan' with plast     | <b>Last Stability Check:</b>     | Supplier          |
| <b>Canister Size:</b>     | 1400mL                                     | <b>Next Check Scheduled:</b>     | 29-Dec-2021       |
| <b>Valve Type:</b>        | QT - Quick Connect                         | <b>Analyst:</b>                  | Dale Sample       |
| <b>Dispatch Pressure:</b> | <0.01 psia                                 | <b>Approved for Dispatch by:</b> | <i>ds 26/9/17</i> |

### Canister Verification Protocol

Canisters are verified 'fit for purpose' for the requested analyses and applications (if known). For most applications, canisters are verified clean according to the requirements of USEPA method TO15.

Each verification involves a check for contamination, leaks and damage to valves. Stability checks are performed after 5 years or if damage to the canister is suspected, then every two years, within the designated holding time to ensure each canister is capable of holding the target chemicals without significant degradation.

ALS METHOD CODE: EP101

REFERENCE METHOD: Compendium Method TO-15: Determination of Volatile Organic Compounds (VOCs) in air collected in specially-prepared Canisters and analysed by Gas Chromatography/Mass Spectrometry (GC/MS)

ALS METHOD CODE: EP104

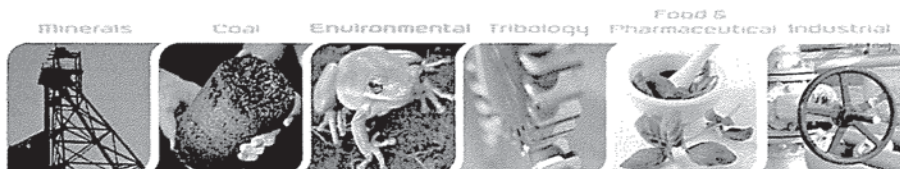
| Target Compound           | Alt. Name                             | Qualifiers | Verification     | Result |
|---------------------------|---------------------------------------|------------|------------------|--------|
|                           |                                       |            | Goal (<)<br>ppbv |        |
| 1,1,1-Trichloroethane     | 1,1,1-TCA / Methyl chloroform         |            | 0.2              | <0.2   |
| 1,1,2,2-Tetrachloroethane | R-130 / Acetylene tetrachloride       |            | 0.2              | <0.2   |
| 1,1,2-Trichloroethane     | Vinyl trichloride                     |            | 0.2              | <0.2   |
| 1,1-Dichloroethane        | Ethylidene chloride                   |            | 0.2              | <0.2   |
| 1,1-Dichloroethene        | 1,1-DCE / Vinylidene chloride         |            | 0.2              | <0.2   |
| 1,2-Dichloroethane        | Ethylene chloride                     |            | 0.2              | <0.2   |
| 1,2,4-Trimethylbenzene    | Pseudocumene                          |            | 0.2              | <0.2   |
| 1,2-Dibromoethane         | EDB / Ethylene dibromide              |            | 0.2              | <0.2   |
| 1,2-Dichlorobenzene       | o-Dichlorobenzene                     |            | 0.2              | <0.2   |
| 1,2-Dichloropropane       | Propylene dichloride                  |            | 0.2              | <0.2   |
| 1,3,5-Trimethylbenzene    | Mesitylene                            |            | 0.2              | <0.2   |
| 1,3-Dichlorobenzene       | m-Dichlorobenzene                     |            | 0.2              | <0.2   |
| 1,4-Dichlorobenzene       | p-Dichlorobenzene                     |            | 0.2              | <0.2   |
| Benzene                   | Cyclohexatriene                       |            | 0.2              | <0.2   |
| Bromomethane              | Methyl bromide                        |            | 0.2              | <0.2   |
| Tetrachloromethane        | Carbon tetrachloride                  |            | 0.2              | <0.2   |
| Chlorobenzene             | Phenyl chloride                       |            | 0.2              | <0.2   |
| Chloroethane              | Ethyl chloride                        |            | 0.2              | <0.2   |
| Chloroform                | Trichloromethane                      |            | 0.2              | <0.2   |
| Chloromethane             | Methyl chloride                       |            | 0.2              | <0.2   |
| cis-1,2-Dichloroethene    | cis-1,2-Dichloroethylene              |            | 0.2              | <0.2   |
| cis-1,3-Dichloropropene   | cis-1,3-Dichloropropylene             |            | 0.2              | <0.2   |
| Ethylbenzene              | Phenyl ethane                         |            | 0.2              | <0.2   |
| Freon 12                  | Dichlorodifluoromethane               |            | 0.2              | <0.2   |
| Freon 11                  | Trichlorofluoromethane                |            | 0.2              | <0.2   |
| Freon 113                 | 1,1,2-Trichloro-1,2,2-trifluoroethane |            | 0.2              | <0.2   |
| Freon 114                 | 1,2-Dichlorotetrafluoroethane         |            | 0.2              | <0.2   |
| Hexachlorobutadiene       | Hexachloro-1,3-Butadiene              |            | 0.2              | <0.2   |

Qualifiers - F: Fails Stability Check, V: Fails Verification

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| Target Compound           | Alt. Name                      | Qualifiers | Verification     | Result |
|---------------------------|--------------------------------|------------|------------------|--------|
|                           |                                |            | Goal (<)<br>ppbv |        |
| Dichloromethane           | Methylene chloride             |            | 0.2              | <0.2   |
| m- & p-Xylene             | 1,3 & 1,4 -Dimethylbenzene     |            | 0.4              | <0.4   |
| o-Xylene                  | 1,2-Dimethylbenzene            |            | 0.2              | <0.2   |
| Styrene                   | Vinyl benzene                  |            | 0.2              | <0.2   |
| Tetrachloroethene         | PCE / Perchloroethylene        |            | 0.2              | <0.2   |
| Toluene                   | Methyl Benzene                 |            | 0.2              | <0.2   |
| trans-1,3-Dichloropropene | trans-1,3-Dichloropropylene    |            | 0.2              | <0.2   |
| Trichloroethene           | TCE / Trichloroethylene        |            | 0.2              | <0.2   |
| Vinyl chloride            | Chloroethene                   |            | 0.2              | <0.2   |
| 1,2,4-Trichlorobenzene    |                                |            | 0.2              | <0.2   |
| 1,3-Butadiene             | Biethylene                     |            | 0.2              | <0.2   |
| 1,4-Dioxane               | p-Dioxane                      |            | 0.2              | <0.2   |
| 2,2,4-Trimethylpentane    | Isooctane                      |            | 0.2              | <0.2   |
| 4-Ethyltoluene            | p-Ethyltoluene                 |            | 0.2              | <0.2   |
| Acetone                   | 2-Propanone                    |            | 0.2              | <0.2   |
| Allyl chloride            | 3-Chloropropene                |            | 0.2              | <0.2   |
| Bromodichloromethane      | Dichlorobromomethane           |            | 0.2              | <0.2   |
| Bromoform                 | Tribromomethane                |            | 0.2              | <0.2   |
| Carbon disulfide          | CS2                            |            | 0.2              | <0.2   |
| Cyclohexane               |                                |            | 0.2              | <0.2   |
| Dibromochloromethane      | Chlorodibromoethane            |            | 0.2              | <0.2   |
| Ethyl acetate             | Acetic ester                   |            | 0.2              | <0.2   |
| Isopropyl alcohol         | Isopropanol / 2-Propanol       |            | 0.2              | <0.2   |
| Methyl butyl ketone       | MBK / 2-Hexanone               |            | 0.2              | <0.2   |
| Methyl ethyl ketone       | MEK / 2-Butanone               |            | 0.2              | <0.2   |
| Methyl isobutyl ketone    | MIBK / 4-Methyl-2-pentanone    |            | 0.2              | <0.2   |
| Methyl tert-butyl ether   | MTBE                           |            | 0.2              | <0.2   |
| n-Heptane                 |                                |            | 0.2              | <0.2   |
| n-Hexane                  |                                |            | 0.2              | <0.2   |
| Propene                   | Propylene                      |            | 0.2              | <0.2   |
| Tetrahydrofuran           | THF                            |            | 0.2              | <0.2   |
| trans-1,2-Dichloroethene  | trans-1,2-Dichloroethylene     |            | 0.2              | <0.2   |
| Vinyl acetate             | Acetic acid vinyl ester        |            | 0.2              | <0.2   |
| Bromoethene               | Vinyl bromide                  |            | 0.2              | <0.2   |
| Benzyl chloride           | α-Chlorotoluene                |            | 0.2              | <0.2   |
| Ethanol                   | Ethyl alcohol                  |            | 0.2              | <0.2   |
| Acetonitrile              | Methyl cyanide                 |            | 0.2              | <0.2   |
| Acrolein                  | 2-Propenal                     |            | 0.2              | <0.2   |
| Acrylonitrile             | 2-Propenenitrile               |            | 0.2              | <0.2   |
| tert-Butyl alcohol        | TBA                            |            | 0.2              | <0.2   |
| 2-Chloroprene             | 2-Chloro-1,3-butadiene         |            | 0.2              | <0.2   |
| Diisopropyl Ether         | DIPE                           |            | 0.2              | <0.2   |
| Ethyl tert-butyl ether    | ETBE                           |            | 0.2              | <0.2   |
| tert-Amyl methyl ether    | TAME                           |            | 0.2              | <0.2   |
| Methyl methacrylate       | MMA                            |            | 0.2              | <0.2   |
| 1,1,1,2-Tetrachloroethane | R-130a / Acetylene trichloride |            | 0.2              | <0.2   |
| Isopropylbenzene          | Cumene                         |            | 0.2              | <0.2   |
| 2-Chlorotoluene           | o-Chlorotoluene                |            | 0.2              | <0.2   |
| n-Propylbenzene           | Phenyl propane                 |            | 0.2              | <0.2   |
| tert-Butylbenzene         | 1,1-Dimethylethylbenzene       |            | 0.2              | <0.2   |
| sec-Butylbenzene          | 1-Methylpropylbenzene          |            | 0.2              | <0.2   |
| 2-Isopropyltoluene        | o-Cymene                       |            | 0.2              | <0.2   |
| n-Butylbenzene            | Phenyl butane                  |            | 0.2              | <0.2   |
| Naphthalene               |                                |            | 0.2              | <0.2   |

Qualifiers - F: Fails Stability Check, V: Fails Verification

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## Sampler Verification Report

**Sampler No:** 100

**Specified Purpose:** USEPA TO15 (Extended Suite) **Verification Date:** 19-Sep-2017  
**LORs Required:** Ambient Air **Valid To (At least):** 17-Oct-2017  
**Sampler Type:** Soil Gas - Duplicate **Verification File:** 170919\_14.D

**Gauge Pressure on Dispatch:\*** -28 Hg **Analyst:** Dale Sample  
 (1Hg = 3.39 kPa) 26/9/17

**Checked by:**

**Approved for Dispatch by:**

*Gauge pressure is indicative only - Pressure varies with Atmospheric Pressure and may change in transit.*

### Sampler Verification Protocol

Samplers are generally verified 'fit for purpose' for the requested analyses and applications. For most applications, samplers are verified clean according to the requirements of USEPA method TO15.

Each verification involves a check for contamination, leaks and damage to fittings.

ALS METHOD CODE: EP101

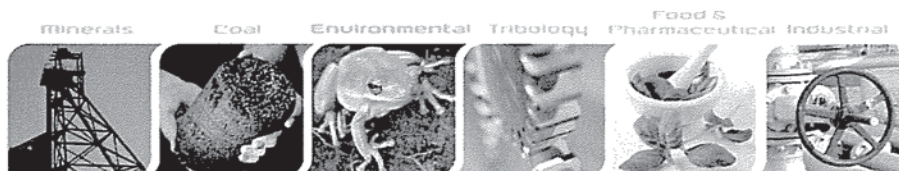
REFERENCE METHOD: Compendium Method TO-15: Determination of Volatile Organic Compounds (VOCs) in air collected in specially-prepared Canisters and analysed by Gas Chromatography/Mass Spectrometry (GC/MS)  
<http://www.epa.gov/ttn/amtic/files/ambient/airtox/to-15r.pdf>

| Target Compound           | Alt. Name                             | Verified to<br>ppbv | Result<br>ppbv |
|---------------------------|---------------------------------------|---------------------|----------------|
| 1,1,1-Trichloroethane     | 1,1,1-TCA / Methyl chloroform         | 0.2                 | <0.2           |
| 1,1,2,2-Tetrachloroethane | R-130 / Acetylene tetrachloride       | 0.2                 | <0.2           |
| 1,1,2-Trichloroethane     | Vinyl trichloride                     | 0.2                 | <0.2           |
| 1,1-Dichloroethane        | Ethylidene chloride                   | 0.2                 | <0.2           |
| 1,1-Dichloroethene        | 1,1-DCE / Vinylidene chloride         | 0.2                 | <0.2           |
| 1,2-Dichloroethane        | Ethylene chloride                     | 0.2                 | <0.2           |
| 1,2,4-Trimethylbenzene    | Pseudocumene                          | 0.2                 | <0.2           |
| 1,2-Dibromoethane         | EDB / Ethylene dibromide              | 0.2                 | <0.2           |
| 1,2-Dichlorobenzene       | o-Dichlorobenzene                     | 0.2                 | <0.2           |
| 1,2-Dichloropropane       | Propylene dichloride                  | 0.2                 | <0.2           |
| 1,3,5-Trimethylbenzene    | Mesitylene                            | 0.2                 | <0.2           |
| 1,3-Dichlorobenzene       | m-Dichlorobenzene                     | 0.2                 | <0.2           |
| 1,4-Dichlorobenzene       | p-Dichlorobenzene                     | 0.2                 | <0.2           |
| Benzene                   | Cyclohexatriene                       | 0.2                 | <0.2           |
| Bromomethane              | Methyl bromide                        | 0.2                 | <0.2           |
| Tetrachloromethane        | Carbon tetrachloride                  | 0.2                 | <0.2           |
| Chlorobenzene             | Phenyl chloride                       | 0.2                 | <0.2           |
| Chloroethane              | Ethyl chloride                        | 0.2                 | <0.2           |
| Chloroform                | Trichloromethane                      | 0.2                 | <0.2           |
| Chloromethane             | Methyl chloride                       | 0.2                 | <0.2           |
| cis-1,2-Dichloroethene    | cis-1,2-Dichloroethylene              | 0.2                 | <0.2           |
| cis-1,3-Dichloropropene   | cis-1,3-Dichloropropylene             | 0.2                 | <0.2           |
| Ethylbenzene              | Phenyl ethane                         | 0.2                 | <0.2           |
| Freon 12                  | Dichlorodifluoromethane               | 0.2                 | <0.2           |
| Freon 11                  | Trichlorofluoromethane                | 0.2                 | <0.2           |
| Freon 113                 | 1,1,2-Trichloro-1,1,2-trifluoroethane | 0.2                 | <0.2           |
| Freon 114                 | 1,2-Dichlorotetrafluoroethane         | 0.2                 | <0.2           |
| Hexachlorobutadiene       | Hexachloro-1,3-Butadiene              | 0.2                 | <0.2           |

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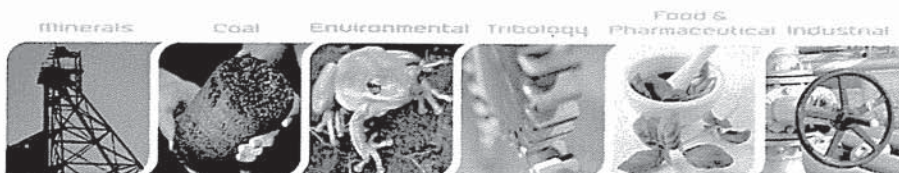


| Target Compound           | Alt. Name                      | Verified to<br>ppbv | Result<br>ppbv |
|---------------------------|--------------------------------|---------------------|----------------|
| Dichloromethane           | Methylene chloride             | 0.2                 | <0.2           |
| m- & p-Xylene             | 1,3 & 1,4 -Dimethylbenzene     | 0.4                 | <0.4           |
| o-Xylene                  | 1,2-Dimethylbenzene            | 0.2                 | <0.2           |
| Styrene                   | Vinyl benzene                  | 0.2                 | <0.2           |
| Tetrachloroethene         | PCE / Perchloroethylene        | 0.2                 | <0.2           |
| Toluene                   | Methyl Benzene                 | 0.2                 | <0.2           |
| trans-1,3-Dichloropropene | trans-1,3-Dichloropropylene    | 0.2                 | <0.2           |
| Trichloroethene           | TCE / Trichloroethylene        | 0.2                 | <0.2           |
| Vinyl chloride            | Chloroethene                   | 0.2                 | <0.2           |
| 1,2,4-Trichlorobenzene    |                                | 0.2                 | <0.2           |
| 1,3-Butadiene             | Biethylene                     | 0.2                 | <0.2           |
| 1,4-Dioxane               | p-Dioxane                      | 0.2                 | <0.2           |
| 2,2,4-Trimethylpentane    | Isooctane                      | 0.2                 | <0.2           |
| 4-Ethyltoluene            | p-Ethyltoluene                 | 0.2                 | <0.2           |
| Acetone                   | 2-Propanone                    | 0.2                 | <0.2           |
| Allyl chloride            | 3-Chloropropene                | 0.2                 | <0.2           |
| Bromodichloromethane      | Dichlorobromomethane           | 0.2                 | <0.2           |
| Bromoform                 | Tribromomethane                | 0.2                 | <0.2           |
| Carbon disulfide          | CS <sub>2</sub>                | 0.2                 | <0.2           |
| Cyclohexane               |                                | 0.2                 | <0.2           |
| Dibromochloromethane      | Chlorodibromoethane            | 0.2                 | <0.2           |
| Ethyl acetate             | Acetic ester                   | 0.2                 | <0.2           |
| Isopropyl alcohol         | Isopropanol / 2-Propanol       | 0.2                 | <0.2           |
| Methyl butyl ketone       | MBK / 2-Hexanone               | 0.2                 | <0.2           |
| Methyl ethyl ketone       | MEK / 2-Butanone               | 0.2                 | <0.2           |
| Methyl isobutyl ketone    | MIBK / 4-Methyl-2-pentanone    | 0.2                 | <0.2           |
| Methyl tert-butyl ether   | MTBE                           | 0.2                 | <0.2           |
| n-Heptane                 |                                | 0.2                 | <0.2           |
| n-Hexane                  |                                | 0.2                 | <0.2           |
| Propene                   | Propylene                      | 0.2                 | <0.2           |
| Tetrahydrofuran           | THF                            | 0.2                 | <0.2           |
| trans-1,2-Dichloroethene  | trans-1,2-Dichloroethylene     | 0.2                 | <0.2           |
| Vinyl acetate             | Acetic acid vinyl ester        | 0.2                 | <0.2           |
| Bromoethene               | Vinyl bromide                  | 0.2                 | <0.2           |
| Benzyl chloride           | α-Chlorotoluene                | 0.2                 | <0.2           |
| Ethanol                   | Ethyl alcohol                  | 0.2                 | <0.2           |
| Acetonitrile              | Methyl cyanide                 | 0.2                 | <0.2           |
| Acrolein                  | 2-Propenal                     | 0.2                 | <0.2           |
| Acrylonitrile             | 2-Propenenitrile               | 0.2                 | <0.2           |
| tert-Butyl alcohol        | TBA                            | 0.2                 | <0.2           |
| 2-Chloroprene             | 2-Chloro-1,3-butadiene         | 0.2                 | <0.2           |
| Diisopropyl Ether         | DIPE                           | 0.2                 | <0.2           |
| Ethyl tert-butyl ether    | ETBE                           | 0.2                 | <0.2           |
| tert-Amyl methyl ether    | TAME                           | 0.2                 | <0.2           |
| Methyl methacrylate       | MMA                            | 0.2                 | <0.2           |
| 1,1,1,2-Tetrachloroethane | R-130a / Acetylene trichloride | 0.2                 | <0.2           |
| Isopropylbenzene          | Cumene                         | 0.2                 | <0.2           |
| 2-Chlorotoluene           | o-Chlorotoluene                | 0.2                 | <0.2           |
| n-Propylbenzene           | Phenyl propane                 | 0.2                 | <0.2           |
| tert-Butylbenzene         | 1,1-Dimethylethylbenzene       | 0.2                 | <0.2           |
| sec-Butylbenzene          | 1-Methylpropylbenzene          | 0.2                 | <0.2           |
| 2-Isopropyltoluene        | o-Cymene                       | 0.2                 | <0.2           |
| n-Butylbenzene            | Phenyl butane                  | 0.2                 | <0.2           |
| Naphthalene               |                                | 0.2                 | <0.2           |

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## Sampler Verification Report

**Sampler No:** 004

**Specified Purpose:** USEPA TO15 (Extended Suite) **Verification Date:** 20-Sep-2017  
**LORs Required:** Ambient Air **Valid To (At least):** 18-Oct-2017  
**Sampler Type:** Soil Gas - Compact **Verification File:** 170919\_19.D

**Gauge Pressure on Dispatch:** \*

(1Hg = 3.39 kPa)

**Checked by:**

**Analyst:**

**Dale Sample**

**Approved for Dispatch by:**

*Gauge pressure is indicative only - Pressure varies with Atmospheric Pressure and may change in transit.*

### Sampler Verification Protocol

Samplers are generally verified 'fit for purpose' for the requested analyses and applications. For most applications, samplers are verified clean according to the requirements of USEPA method TO15.

Each verification involves a check for contamination, leaks and damage to fittings.

ALS METHOD CODE: EP101

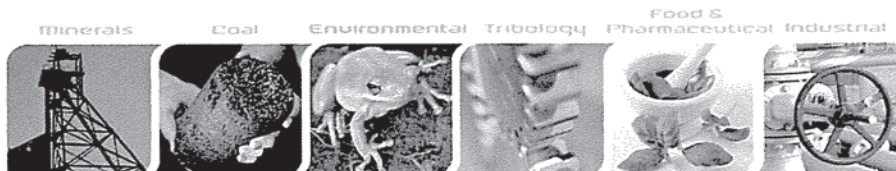
REFERENCE METHOD: Compendium Method TO-15: Determination of Volatile Organic Compounds (VOCs) in air collected in specially-prepared Canisters and analysed by Gas Chromatography/Mass Spectrometry (GC/MS)  
<http://www.epa.gov/ttn/amtic/files/ambient/airtox/to-15r.pdf>

| Target Compound           | Alt. Name                             | Verified to<br>ppbv | Result<br>ppbv |
|---------------------------|---------------------------------------|---------------------|----------------|
| 1,1,1-Trichloroethane     | 1,1,1-TCA / Methyl chloroform         | 0.2                 | <0.2           |
| 1,1,2,2-Tetrachloroethane | R-130 / Acetylene tetrachloride       | 0.2                 | <0.2           |
| 1,1,2-Trichloroethane     | Vinyl trichloride                     | 0.2                 | <0.2           |
| 1,1-Dichloroethane        | Ethylidene chloride                   | 0.2                 | <0.2           |
| 1,1-Dichloroethene        | 1,1-DCE / Vinylidene chloride         | 0.2                 | <0.2           |
| 1,2-Dichloroethane        | Ethylene chloride                     | 0.2                 | <0.2           |
| 1,2,4-Trimethylbenzene    | Pseudocumene                          | 0.2                 | <0.2           |
| 1,2-Dibromoethane         | EDB / Ethylene dibromide              | 0.2                 | <0.2           |
| 1,2-Dichlorobenzene       | o-Dichlorobenzene                     | 0.2                 | <0.2           |
| 1,2-Dichloropropane       | Propylene dichloride                  | 0.2                 | <0.2           |
| 1,3,5-Trimethylbenzene    | Mesitylene                            | 0.2                 | <0.2           |
| 1,3-Dichlorobenzene       | m-Dichlorobenzene                     | 0.2                 | <0.2           |
| 1,4-Dichlorobenzene       | p-Dichlorobenzene                     | 0.2                 | <0.2           |
| Benzene                   | Cyclohexatriene                       | 0.2                 | <0.2           |
| Bromomethane              | Methyl bromide                        | 0.2                 | <0.2           |
| Tetrachloromethane        | Carbon tetrachloride                  | 0.2                 | <0.2           |
| Chlorobenzene             | Phenyl chloride                       | 0.2                 | <0.2           |
| Chloroethane              | Ethyl chloride                        | 0.2                 | <0.2           |
| Chloroform                | Trichloromethane                      | 0.2                 | <0.2           |
| Chloromethane             | Methyl chloride                       | 0.2                 | <0.2           |
| cis-1,2-Dichloroethene    | cis-1,2-Dichloroethylene              | 0.2                 | <0.2           |
| cis-1,3-Dichloropropene   | cis-1,3-Dichloropropylene             | 0.2                 | <0.2           |
| Ethylbenzene              | Phenyl ethane                         | 0.2                 | <0.2           |
| Freon 12                  | Dichlorodifluoromethane               | 0.2                 | <0.2           |
| Freon 11                  | Trichlorofluoromethane                | 0.2                 | <0.2           |
| Freon 113                 | 1,1,2-Trichloro-1,1,2-trifluoroethane | 0.2                 | <0.2           |
| Freon 114                 | 1,2-Dichlorotetrafluoroethane         | 0.2                 | <0.2           |
| Hexachlorobutadiene       | Hexachloro-1,3-Butadiene              | 0.2                 | <0.2           |

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| Target Compound           | Alt. Name                      | Verified to<br>ppbv | Result<br>ppbv |
|---------------------------|--------------------------------|---------------------|----------------|
| Dichloromethane           | Methylene chloride             | 0.2                 | <0.2           |
| m -& p-Xylene             | 1,3 & 1,4 -Dimethylbenzene     | 0.4                 | <0.4           |
| o-Xylene                  | 1,2-Dimethylbenzene            | 0.2                 | <0.2           |
| Styrene                   | Vinyl benzene                  | 0.2                 | <0.2           |
| Tetrachloroethene         | PCE / Perchloroethylene        | 0.2                 | <0.2           |
| Toluene                   | Methyl Benzene                 | 0.2                 | <0.2           |
| trans-1,3-Dichloropropene | trans-1,3-Dichloropropylene    | 0.2                 | <0.2           |
| Trichloroethene           | TCE / Trichloroethylene        | 0.2                 | <0.2           |
| Vinyl chloride            | Chloroethene                   | 0.2                 | <0.2           |
| 1,2,4-Trichlorobenzene    |                                | 0.2                 | <0.2           |
| 1,3-Butadiene             | Biethylene                     | 0.2                 | <0.2           |
| 1,4-Dioxane               | p-Dioxane                      | 0.2                 | <0.2           |
| 2,2,4-Trimethylpentane    | Isooctane                      | 0.2                 | <0.2           |
| 4-Ethyltoluene            | p-Ethyltoluene                 | 0.2                 | <0.2           |
| Acetone                   | 2-Propanone                    | 0.2                 | <0.2           |
| Allyl chloride            | 3-Chloropropene                | 0.2                 | <0.2           |
| Bromodichloromethane      | Dichlorobromomethane           | 0.2                 | <0.2           |
| Bromoform                 | Tribromomethane                | 0.2                 | <0.2           |
| Carbon disulfide          | CS <sub>2</sub>                | 0.2                 | <0.2           |
| Cyclohexane               |                                | 0.2                 | <0.2           |
| Dibromochloromethane      | Chlorodibromoethane            | 0.2                 | <0.2           |
| Ethyl acetate             | Acetic ester                   | 0.2                 | <0.2           |
| Isopropyl alcohol         | Isopropanol / 2-Propanol       | 0.2                 | <0.2           |
| Methyl butyl ketone       | MBK / 2-Hexanone               | 0.2                 | <0.2           |
| Methyl ethyl ketone       | MEK / 2-Butanone               | 0.2                 | <0.2           |
| Methyl isobutyl ketone    | MIBK / 4-Methyl-2-pentanone    | 0.2                 | <0.2           |
| Methyl tert-butyl ether   | MTBE                           | 0.2                 | <0.2           |
| n-Heptane                 |                                | 0.2                 | <0.2           |
| n-Hexane                  |                                | 0.2                 | <0.2           |
| Propene                   | Propylene                      | 0.2                 | <0.2           |
| Tetrahydrofuran           | THF                            | 0.2                 | <0.2           |
| trans-1,2-Dichloroethene  | trans-1,2-Dichloroethylene     | 0.2                 | <0.2           |
| Vinyl acetate             | Acetic acid vinyl ester        | 0.2                 | <0.2           |
| Bromoethene               | Vinyl bromide                  | 0.2                 | <0.2           |
| Benzyl chloride           | α-Chlorotoluene                | 0.2                 | <0.2           |
| Ethanol                   | Ethyl alcohol                  | 0.2                 | <0.2           |
| Acetonitrile              | Methyl cyanide                 | 0.2                 | <0.2           |
| Acrolein                  | 2-Propenal                     | 0.2                 | <0.2           |
| Acrylonitrile             | 2-Propenenitrile               | 0.2                 | <0.2           |
| tert-Butyl alcohol        | TBA                            | 0.2                 | <0.2           |
| 2-Chloroprene             | 2-Chloro-1,3-butadiene         | 0.2                 | <0.2           |
| Diisopropyl Ether         | DIPE                           | 0.2                 | <0.2           |
| Ethyl tert-butyl ether    | ETBE                           | 0.2                 | <0.2           |
| tert-Amyl methyl ether    | TAME                           | 0.2                 | <0.2           |
| Methyl methacrylate       | MMA                            | 0.2                 | <0.2           |
| 1,1,1,2-Tetrachloroethane | R-130a / Acetylene trichloride | 0.2                 | <0.2           |
| Isopropylbenzene          | Cumene                         | 0.2                 | <0.2           |
| 2-Chlorotoluene           | o-Chlorotoluene                | 0.2                 | <0.2           |
| n-Propylbenzene           | Phenyl propane                 | 0.2                 | <0.2           |
| tert-Butylbenzene         | 1,1-Dimethylethylbenzene       | 0.2                 | <0.2           |
| sec-Butylbenzene          | 1-Methylpropylbenzene          | 0.2                 | <0.2           |
| 2-Isopropyltoluene        | o-Cymene                       | 0.2                 | <0.2           |
| n-Butylbenzene            | Phenyl butane                  | 0.2                 | <0.2           |
| Naphthalene               |                                | 0.2                 | <0.2           |

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## Sampler Verification Report

**Sampler No:** 011

**Specified Purpose:** USEPA TO15 (Extended Suite) **Verification Date:** 22-Sep-2017  
**LORs Required:** Ambient Air **Valid To (At least):** 20-Oct-2017  
**Sampler Type:** Soil Gas - Compact **Verification File:** 170922\_13.D

**Gauge Pressure on Dispatch:** \* 29 kg

(1Hg = 3.39 kPa)

**Checked by:** 26/9/12

**Analyst:**

**Dale Sample**

**Approved for Dispatch by:** 18 26/9/12

*Gauge pressure is indicative only - Pressure varies with Atmospheric Pressure and may change in transit.*

### Sampler Verification Protocol

Samplers are generally verified 'fit for purpose' for the requested analyses and applications. For most applications, samplers are verified clean according to the requirements of USEPA method TO15.

Each verification involves a check for contamination, leaks and damage to fittings.

**ALS METHOD CODE:** EP101

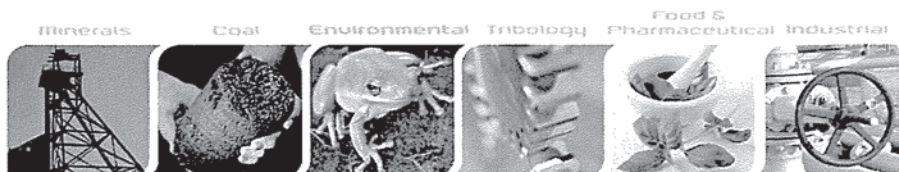
**REFERENCE METHOD:** Compendium Method TO-15: Determination of Volatile Organic Compounds (VOCs) in air collected in specially-prepared Canisters and analysed by Gas Chromatography/Mass Spectrometry (GC/MS)  
<http://www.epa.gov/ttn/amtic/files/ambient/airtox/to-15r.pdf>

| Target Compound           | Alt. Name                             | Verified to<br>ppbv | Result<br>ppbv |
|---------------------------|---------------------------------------|---------------------|----------------|
| 1,1,1-Trichloroethane     | 1,1,1-TCA / Methyl chloroform         | 0.2                 | <0.2           |
| 1,1,2,2-Tetrachloroethane | R-130 / Acetylene tetrachloride       | 0.2                 | <0.2           |
| 1,1,2-Trichloroethane     | Vinyl trichloride                     | 0.2                 | <0.2           |
| 1,1-Dichloroethane        | Ethylidene chloride                   | 0.2                 | <0.2           |
| 1,1-Dichloroethene        | 1,1-DCE / Vinylidene chloride         | 0.2                 | <0.2           |
| 1,2-Dichloroethane        | Ethylene chloride                     | 0.2                 | <0.2           |
| 1,2,4-Trimethylbenzene    | Pseudocumene                          | 0.2                 | <0.2           |
| 1,2-Dibromoethane         | EDB / Ethylene dibromide              | 0.2                 | <0.2           |
| 1,2-Dichlorobenzene       | o-Dichlorobenzene                     | 0.2                 | <0.2           |
| 1,2-Dichloropropane       | Propylene dichloride                  | 0.2                 | <0.2           |
| 1,3,5-Trimethylbenzene    | Mesitylene                            | 0.2                 | <0.2           |
| 1,3-Dichlorobenzene       | m-Dichlorobenzene                     | 0.2                 | <0.2           |
| 1,4-Dichlorobenzene       | p-Dichlorobenzene                     | 0.2                 | <0.2           |
| Benzene                   | Cyclohexatriene                       | 0.2                 | <0.2           |
| Bromomethane              | Methyl bromide                        | 0.2                 | <0.2           |
| Tetrachloromethane        | Carbon tetrachloride                  | 0.2                 | <0.2           |
| Chlorobenzene             | Phenyl chloride                       | 0.2                 | <0.2           |
| Chloroethane              | Ethyl chloride                        | 0.2                 | <0.2           |
| Chloroform                | Trichloromethane                      | 0.2                 | <0.2           |
| Chloromethane             | Methyl chloride                       | 0.2                 | <0.2           |
| cis-1,2-Dichloroethene    | cis-1,2-Dichloroethylene              | 0.2                 | <0.2           |
| cis-1,3-Dichloropropene   | cis-1,3-Dichloropropylene             | 0.2                 | <0.2           |
| Ethylbenzene              | Phenyl ethane                         | 0.2                 | <0.2           |
| Freon 12                  | Dichlorodifluoromethane               | 0.2                 | <0.2           |
| Freon 11                  | Trichlorofluoromethane                | 0.2                 | <0.2           |
| Freon 113                 | 1,1,2-Trichloro-1,1,2-trifluoroethane | 0.2                 | <0.2           |
| Freon 114                 | 1,2-Dichlorotetrafluoroethane         | 0.2                 | <0.2           |
| Hexachlorobutadiene       | Hexachloro-1,3-Butadiene              | 0.2                 | <0.2           |

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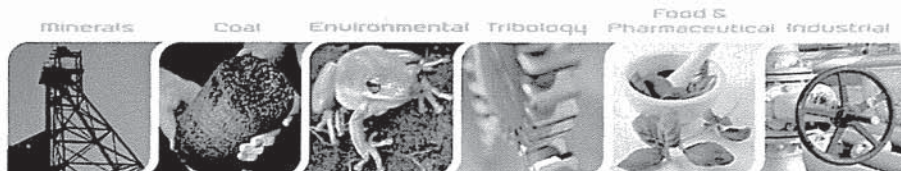


| Target Compound           | Alt. Name                      | Verified to<br>ppbv | Result<br>ppbv |
|---------------------------|--------------------------------|---------------------|----------------|
| Dichloromethane           | Methylene chloride             | 0.2                 | <0.2           |
| m -& p-Xylene             | 1,3 & 1,4 -Dimethylbenzene     | 0.4                 | <0.4           |
| o-Xylene                  | 1,2-Dimethylbenzene            | 0.2                 | <0.2           |
| Styrene                   | Vinyl benzene                  | 0.2                 | <0.2           |
| Tetrachloroethene         | PCE / Perchloroethylene        | 0.2                 | <0.2           |
| Toluene                   | Methyl Benzene                 | 0.2                 | <0.2           |
| trans-1,3-Dichloropropene | trans-1,3-Dichloropropylene    | 0.2                 | <0.2           |
| Trichloroethene           | TCE / Trichloroethylene        | 0.2                 | <0.2           |
| Vinyl chloride            | Chloroethene                   | 0.2                 | <0.2           |
| 1,2,4-Trichlorobenzene    |                                | 0.2                 | <0.2           |
| 1,3-Butadiene             | Biethylene                     | 0.2                 | <0.2           |
| 1,4-Dioxane               | p-Dioxane                      | 0.2                 | <0.2           |
| 2,2,4-Trimethylpentane    | Isooctane                      | 0.2                 | <0.2           |
| 4-Ethyltoluene            | p-Ethyltoluene                 | 0.2                 | <0.2           |
| Acetone                   | 2-Propanone                    | 0.2                 | <0.2           |
| Allyl chloride            | 3-Chloropropene                | 0.2                 | <0.2           |
| Bromodichloromethane      | Dichlorobromomethane           | 0.2                 | <0.2           |
| Bromoform                 | Tribromomethane                | 0.2                 | <0.2           |
| Carbon disulfide          | CS2                            | 0.2                 | <0.2           |
| Cyclohexane               |                                | 0.2                 | <0.2           |
| Dibromochloromethane      | Chlorodibromoethane            | 0.2                 | <0.2           |
| Ethyl acetate             | Acetic ester                   | 0.2                 | <0.2           |
| Isopropyl alcohol         | Isopropanol / 2-Propanol       | 0.2                 | <0.2           |
| Methyl butyl ketone       | MBK / 2-Hexanone               | 0.2                 | <0.2           |
| Methyl ethyl ketone       | MEK / 2-Butanone               | 0.2                 | <0.2           |
| Methyl isobutyl ketone    | MIBK / 4-Methyl-2-pentanone    | 0.2                 | <0.2           |
| Methyl tert-butyl ether   | MTBE                           | 0.2                 | <0.2           |
| n-Heptane                 |                                | 0.2                 | <0.2           |
| n-Hexane                  |                                | 0.2                 | <0.2           |
| Propene                   | Propylene                      | 0.2                 | <0.2           |
| Tetrahydrofuran           | THF                            | 0.2                 | <0.2           |
| trans-1,2-Dichloroethene  | trans-1,2-Dichloroethylene     | 0.2                 | <0.2           |
| Vinyl acetate             | Acetic acid vinyl ester        | 0.2                 | <0.2           |
| Bromoethene               | Vinyl bromide                  | 0.2                 | <0.2           |
| Benzyl chloride           | α-Chlorotoluene                | 0.2                 | <0.2           |
| Ethanol                   | Ethyl alcohol                  | 0.2                 | <0.2           |
| Acetonitrile              | Methyl cyanide                 | 0.2                 | <0.2           |
| Acrolein                  | 2-Propenal                     | 0.2                 | <0.2           |
| Acrylonitrile             | 2-Propenenitrile               | 0.2                 | <0.2           |
| tert-Butyl alcohol        | TBA                            | 0.2                 | <0.2           |
| 2-Chloroprene             | 2-Chloro-1,3-butadiene         | 0.2                 | <0.2           |
| Diisopropyl Ether         | DIPE                           | 0.2                 | <0.2           |
| Ethyl tert-butyl ether    | ETBE                           | 0.2                 | <0.2           |
| tert-Amyl methyl ether    | TAME                           | 0.2                 | <0.2           |
| Methyl methacrylate       | MMA                            | 0.2                 | <0.2           |
| 1,1,1,2-Tetrachloroethane | R-130a / Acetylene trichloride | 0.2                 | <0.2           |
| Isopropylbenzene          | Cumene                         | 0.2                 | <0.2           |
| 2-Chlorotoluene           | o-Chlorotoluene                | 0.2                 | <0.2           |
| n-Propylbenzene           | Phenyl propane                 | 0.2                 | <0.2           |
| tert-Butylbenzene         | 1,1-Dimethylethylbenzene       | 0.2                 | <0.2           |
| sec-Butylbenzene          | 1-Methylpropylbenzene          | 0.2                 | <0.2           |
| 2-Isopropyltoluene        | o-Cymene                       | 0.2                 | <0.2           |
| n-Butylbenzene            | Phenyl butane                  | 0.2                 | <0.2           |
| Naphthalene               |                                | 0.2                 | <0.2           |

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## Sampler Verification Report

**Sampler No: 041**

**Specified Purpose:** USEPA TO15 (Extended Suite) **Verification Date:** 22-Sep-2017  
**LORs Required:** Ambient Air **Valid To (At least):** 20-Oct-2017  
**Sampler Type:** Soil Gas - Compact **Verification File:** 170922\_05.D

**Gauge Pressure on Dispatch:**\* - 3048 **Analyst:** Dale Sample

(1Hg = 3.39 kPa)

**Checked by:** JS 26/9/17

**Approved for Dispatch by:** JS 26/9/17

*Gauge pressure is indicative only - Pressure varies with Atmospheric Pressure and may change in transit.*

### Sampler Verification Protocol

Samplers are generally verified 'fit for purpose' for the requested analyses and applications. For most applications, samplers are verified clean according to the requirements of USEPA method TO15.

Each verification involves a check for contamination, leaks and damage to fittings.

ALS METHOD CODE: EP101

REFERENCE METHOD: Compendium Method TO-15: Determination of Volatile Organic Compounds (VOCs) in air collected in specially-prepared Canisters and analysed by Gas Chromatography/Mass Spectrometry (GC/MS)

<http://www.epa.gov/ttn/amtic/files/ambient/airtox/to-15r.pdf>

| Target Compound           | Alt. Name                             | Verified to<br>ppbv | Result<br>ppbv |
|---------------------------|---------------------------------------|---------------------|----------------|
| 1,1,1-Trichloroethane     | 1,1,1-TCA / Methyl chloroform         | 0.2                 | <0.2           |
| 1,1,2,2-Tetrachloroethane | R-130 / Acetylene tetrachloride       | 0.2                 | <0.2           |
| 1,1,2-Trichloroethane     | Vinyl trichloride                     | 0.2                 | <0.2           |
| 1,1-Dichloroethane        | Ethylidene chloride                   | 0.2                 | <0.2           |
| 1,1-Dichloroethene        | 1,1-DCE / Vinylidene chloride         | 0.2                 | <0.2           |
| 1,2-Dichloroethane        | Ethylene chloride                     | 0.2                 | <0.2           |
| 1,2,4-Trimethylbenzene    | Pseudocumene                          | 0.2                 | <0.2           |
| 1,2-Dibromoethane         | EDB / Ethylene dibromide              | 0.2                 | <0.2           |
| 1,2-Dichlorobenzene       | o-Dichlorobenzene                     | 0.2                 | <0.2           |
| 1,2-Dichloropropane       | Propylene dichloride                  | 0.2                 | <0.2           |
| 1,3,5-Trimethylbenzene    | Mesitylene                            | 0.2                 | <0.2           |
| 1,3-Dichlorobenzene       | m-Dichlorobenzene                     | 0.2                 | <0.2           |
| 1,4-Dichlorobenzene       | p-Dichlorobenzene                     | 0.2                 | <0.2           |
| Benzene                   | Cyclohexatriene                       | 0.2                 | <0.2           |
| Bromomethane              | Methyl bromide                        | 0.2                 | <0.2           |
| Tetrachloromethane        | Carbon tetrachloride                  | 0.2                 | <0.2           |
| Chlorobenzene             | Phenyl chloride                       | 0.2                 | <0.2           |
| Chloroethane              | Ethyl chloride                        | 0.2                 | <0.2           |
| Chloroform                | Trichloromethane                      | 0.2                 | <0.2           |
| Chloromethane             | Methyl chloride                       | 0.2                 | <0.2           |
| cis-1,2-Dichloroethene    | cis-1,2-Dichloroethylene              | 0.2                 | <0.2           |
| cis-1,3-Dichloropropene   | cis-1,3-Dichloropropylene             | 0.2                 | <0.2           |
| Ethylbenzene              | Phenyl ethane                         | 0.2                 | <0.2           |
| Freon 12                  | Dichlorodifluoromethane               | 0.2                 | <0.2           |
| Freon 11                  | Trichlorofluoromethane                | 0.2                 | <0.2           |
| Freon 113                 | 1,1,2-Trichloro-1,1,2-trifluoroethane | 0.2                 | <0.2           |
| Freon 114                 | 1,2-Dichlorotetrafluoroethane         | 0.2                 | <0.2           |
| Hexachlorobutadiene       | Hexachloro-1,3-Butadiene              | 0.2                 | <0.2           |

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