

# Enthalpy Analytical, Inc. — Services

## Air Quality Laboratory

**Small project? Please call for a quotation.**  
*Ask about discounts for large projects.*

| Method                            | Parameter/Target Analyte(s)   |
|-----------------------------------|---|
| <b>On-site Test Methods</b>       |   |
| ASTM D6348-03                     | Gaseous Compounds by Direct Interface FTIR Spectroscopy   |
| EPA Method 6 or 8                 | On-site Titrations  |
| EPA Method 15 or 16               | Reduced Sulfur Emissions by GC  |
| EPA Method 18                     | Gaseous Organics by GC  |
| EPA Method 308, NCASI 98.01       | On-site Analysis for Methanol   |
| EPA Methods 318, 320, 321         | Direct Interface FTIR Spectroscopy  |
| EPA M26/26A, CTM-027, CTM-13B     | On-site HPLC/IC Analysis  |
| EPA Methods 316, 323, NCASI 98.01 | On-site analysis for Formaldehyde   |
| <b>EPA Test Methods</b>           |   |
| EPA Method 3C                     | Fixed gas Panel - (H <sub>2</sub> , CO, O <sub>2</sub> , N <sub>2</sub> , CH <sub>4</sub> , CO <sub>2</sub> ) |
| EPA Method 5                      | Particulate matter (PM) - (1 filter + 1 rinse)  |
| EPA Method 5A                     | PM from Asphalt Industry  |
| EPA Method 5B                     | Non-Sulfuric acid PM  |
| EPA Method 5F                     | Non-Sulfate PM  |
| EPA Method 6                      | Sulfur dioxide (SO <sub>2</sub> )   |
| EPA Method 8                      | Sulfuric acid (H <sub>2</sub> SO <sub>4</sub> ) mist / Sulfur trioxide (SO <sub>3</sub> ), SO <sub>2</sub>    |
| EPA Method 13B-type               | Total fluoride by ISE or IC - (no distillation)   |
| EPA Method 14A-type               | Total fluoride by ISE or IC - (no distillation)   |
| EPA Method 15-type                | Hydrogen sulfide, Carbonyl sulfide, Carbon disulfide  |
| EPA Method 16-type                | Hydrogen sulfide, Methyl mercaptan, Dimethyl sulfide, Dimethyl disulfide                                      |
| EPA Method 17                     | In-stack particulate matter - (1 filter + 1 rinse)  |
| EPA Method 18                     | Gaseous Organics by GC - (bags, condensates, tubes)   |
| EPA Method 18                     | Methane, Ethane - (bags)  |
| EPA Method 18-type                | Total Hydrocarbons  |
| EPA Method 18-type                | Total Hydrocarbons minus Methane and Ethane   |
| EPA Method 18-type                | C1 - C6 n-Alkanes (hydrocarbons)  |
| EPA Method 24                     | % VOCs, % Water, % Solids, Density  |
| EPA Method 25D                    | VOC of waste sample   |
| EPA Method 26/26A                 | Hydrogen halides (HCl, HF, HBr)   |
| EPA Method 26/26A                 | Halogens (Cl <sub>2</sub> , Br <sub>2</sub> )   |
| EPA Method 26-type                | Anion scan (F, Cl, NO <sub>2</sub> , NO <sub>3</sub> , Br, PO <sub>4</sub> , SO <sub>4</sub> )                |
| EPA Method 26-type                | Anion (F, Cl, NO <sub>2</sub> , NO <sub>3</sub> , Br, PO <sub>4</sub> , SO <sub>4</sub> )                     |
| EPA Method 106                    | Vinyl chloride  |
| EPA Method 201                    | PM10 - (1 filter - 2 rinses)  |
| EPA Method 201A                   | PM2.5 + PM10 - (1 filter + 3 rinses)  |
| EPA Method 202                    | Condensable PM  |
| EPA Method 204F                   | VOC's in liquid input stream - (distillation)   |
| EPA Method 301                    | Field Validation of Pollutant Measurement Methods   |
| EPA Method 305                    | Individual VOC in Liquid Waste Stream   |
| EPA Method 308                    | Methanol  |
| EPA Method 311                    | HAPs in paints & coatings   |
| EPA Method 315                    | PM, Methylene chloride extracted matter (MCEM)  |
| EPA Method 316                    | Formaldehyde  |
| EPA Method 323                    | Formaldehyde  |

| EPA Other Test Methods (OTM)              |   |
|---|---|
| OTM 11                                    | Pre-Survey Procedure for Corn Wet-Milling Emissions   |
| OTM 14<br>(formerly Proposed Method 207)  | Isocyanates: 2,4-Toluene diphenyl diisocyanate - (TDI), 2,6-TDI, 4,4-Methylene diphenyl diisocyanate (MDI)    |
| OTM 29 (formerly CTM-033)                 | Hydrogen cyanide  |
| EPA Conditional Test Methods (CTM)        |   |
| CTM-008                                   | Acrylonitrile   |
| CTM-13                                    | SO <sub>2</sub>   |
| CTM-13A, CTM-13B                          | H <sub>2</sub> SO <sub>4</sub> /SO <sub>3</sub> , SO <sub>2</sub>   |
| CTM-027                                   | Ammonia   |
| CTM-027-type                              | Cation Scan (Li, Na, NH <sub>4</sub> , K, Mg, Ca)   |
| CTM-027-type                              | Cations (Li, Na, NH <sub>4</sub> , K, Mg, Ca)   |
| CTM-031                                   | 4,4-MDI   |
| CTM-032                                   | Phenol, o-Cresol, m/p-Cresol  |
| CTM-032 Filter by GC/MS                   | Phenol, o-Cresol, m/p-Cresol  |
| CTM-036                                   | Isocyanates: 2,4-TDI, 2,6-TDI, 4,4-MDI  |
| ASTM Methods                              |   |
| ASTM D1946-90                             | Fixed gas Panel - (H <sub>2</sub> , CO, O <sub>2</sub> , N <sub>2</sub> , CH <sub>4</sub> , CO <sub>2</sub> ) |
| ASTM D1946-90                             | Fixed gases - (H <sub>2</sub> , CO, O <sub>2</sub> , N <sub>2</sub> , CH <sub>4</sub> , CO <sub>2</sub> )     |
| ASTM D3792-79 (Karl Fischer titration)    | % Water   |
| ASTM D6735-01                             | HCl + gaseous Chlorides, HF + gaseous Fluorides   |
| NCASI Methods                             |   |
| NCASI Method CI/SG/Pulp-94.02             | Methanol, Acetone, Acetaldehyde, Methyl ethyl ketone - (condensate + SiGel tube)                              |
| NCASI Method CI/SG/Pulp-94.02             | Formaldehyde - (condensate)   |
| NCASI Method DI/Methanol-94.03            | Methanol  |
| NCASI Method CI/WP-98.01                  | Formaldehyde, Methanol, Phenol  |
| NCASI Method IM/Can/WP-99.02              | Acetaldehyde, Propionaldehyde, Acrolein, Methanol, Phenol - (condensate)                                      |
| NCASI Method IM/Can/WP-99.02              | Formaldehyde - (condensate)   |
| NCASI Method IM/Can/WP-99.02              | Acetaldehyde, Propionaldehyde, Acrolein, Methanol, Phenol, Benzene - (canister)                               |
| NCASI Method IM/Can/WP-99.02              | Terpenes - (canister)   |
| NCASI Method ISS/FP-A105.01               | Acetaldehyde, Propionaldehyde, Acrolein, Formaldehyde   |
| NCASI Method ISS/FP-A105.01               | Methanol, Phenol  |
| NIOSH, State and Specialized Test Methods |   |
| BAAQMD 45                                 | Butanes and Pentanes in Polymeric Materials   |
| BAAQMD ST-1B-type                         | Ammonia   |
| BTU + Molecular Weight Determination      | C1-C6+, Fixed Gases, Processing   |
| CARB Method 430                           | Formaldehyde, Acetaldehyde  |
| CARB Method 421                           | HCl + gaseous Chlorides, HF + gaseous Fluorides   |
| Evaluation of Material Off-Gassing        | VOCs  |
| NIOSH Method 7903                         | Inorganic acids   |
| NIOSH Method 7904 (ISE)                   | Cyanide   |
| NJATM 1                                   | PM (Teflon Beaker Included)   |

## SW-846 Methods

|                          |   |
|--------------------------|---|
| SW-846 Method 0010/8270C | Semi-VOCs - (call for our target analyte list)                        |
| SW-846 Method 8270C-type | Semi-VOCs and Tentatively Identified Compounds (Top 10 Semi-VOC TICs) |
| SW-846 Method 0011/8315A | Formaldehyde  |
| SW-846 Method 0011/8315A | Formaldehyde, Acetaldehyde  |
| SW-846 Method 0011/8315A | Scan of 15 Aldehyde/Ketones - (call for our target analyte list)      |
| SW-846 Method 8315A      | Carbonyl compounds by HPLC  |

## EPA Toxic Organics Methods (TO)

|   |   |
|---|---|
| TO-3  | Benzene, Toluene, Ethyl benzene, Xylenes (BTEX), Total Petroleum Hydrocarbons (TPH) |
| TO-5  | Aldehydes & Ketones - (call for our target analyte list)                            |
| TO-6  | Phosgene  |
| TO-8  | Phenol, o-Cresol, m/p-Cresol  |
| TO-11   | Formaldehyde  |
| TO-12   | Non-Methane Organic Compounds (MNOC)  |
| TO-13A  | Polycyclic Aromatic Hydrocarbons (PAH)  |
| TO-14A (0.10 ppb detection limit)   | VOCs - (call for our target analyte list)   |
| TO-15 Low Level (SCAN - 50 ppbv reporting limit) - Commercial IA, SV and Residential SV | VOCs - (call for our target analyte list)   |
| TO-15 SIM - Residential IA  | VOCs - (call for our target analyte list)   |
| TO-15 Source Sample (100 ppbv detection limit)  | VOCs - (call for our target analyte list)   |
| TO-15 Source Sample (0.20 ppbv detection limit)   | VOCs - (call for our target analyte list)   |
| Compound Identification by GC/MS  | TO-15 target analyte list + Top 10 VOC TICs   |
| Compound Identification by GC/MS  | Top 10 VOC TICs   |

## Filter Preparation and Sampling Media

|  |  |
|--|--|
| EPA Methods 5, 5A, 5B, 5F, 17, 305   | Filter tare - (Enthalpy provided filter in plastic Petri)                                  |
| NJATM 1  | Filter tare - (Enthalpy provided filter in glass Petri)                                    |
| EPA Method 202   | PTFE Filter preparation with Hexane extraction (Enthalpy provided filter in plastic Petri) |
| CTM-031, CTM-036 filters   | 1-(2-pyridyl)piperazine (1,2-PP) coated  |
| Tedlar® bags 4 liters  | Bags (BD12)  |
| Tedlar® bags 8 liters  | Bags (BD1218)  |
| Tube - Silica gel, specially cleaned (7mm x 110mm, 400mg/200mg)                    | Adsorbent Tubes (226-10-03)  |
| Tube - Silica gel, H <sub>2</sub> SO <sub>4</sub> coated (6mm x 70mm, 200mg/100mg) | Adsorbent Tubes (226-10-06)  |
| Tube - Coconut Charcoal (10 mm x 110mm, 800mg/200mg)                               | Adsorbent Tubes (226-16)   |
| Tube - Coconut Charcoal (10 mm x 160mm, 1800mg/200mg)                              | Adsorbent Tubes (226-16-02)  |
| Tube - Silica gel (10 mm x 110mm, 1040/260mg)                                      | Adsorbent Tubes (226-22)   |
| Tube - XAD-2 (8mm x 110mm, 400/200mg)  | Adsorbent Tubes (226-30-06)  |
| Tube - Anasorb 747 (10 mm x 110mm, 800mg/200mg)                                    | Adsorbent Tubes (226-84)   |
| Tube - XAD-7, H <sub>3</sub> PO <sub>4</sub> coated (6mm x 70mm, 80/40mg)          | Adsorbent Tubes (226-98)   |
| Tube - Silica gel, DNPH coated (6mm x 110mm, 300mg/150mg)                          | Adsorbent Tubes (226-119)  |
| SW-846 Method 0010 Traps   | 50 grams of Blank Checked XAD-2 Resin  |
| TO-13A   | PUF media preparation (Client provides sleeve)   |

## Sampling Reagents

|   |  |
|---|--|
| SW-846 Method 0011 & CARB 430 impinger reagents | 2,4-Dinitrophenylhydrazine (DNPH) impinger reagent |
| OTM 14<br>(formerly Proposed Method 207)        | 1-(2-pyridyl)piperazine (1,2-PP)/Toluene           |
| CTM-031, CTM-036 rinse reagent                  | Acetonitrile/DMSO                                  |
| OTM 29 reagent                                  | Pb acetate, 6N NaOH                                |
| NCASI Method ISS/FP-A105.01 impinger reagent    | o-benzylhydroxylamine (BHA) reagent                |

## Sampling Canisters & Equipment

|   |                                   |
|---|-----------------------------------|
| Sampling canisters (SUMMA)  | 1.4L, 3L, 6L Canisters            |
| Sample flow controller  | Critical Orifice without Gauge    |
| Canister sampler  | Ambient Air Controller with Gauge |
| 500 cc fuel gas bombs   | Sulfinert coated                  |
| EPA Method 18 - sampling system rental  | Co-located Sampling System        |
| Leadership in Energy and Environmental Design (LEED Certification Sampling System | analysis not included             |

## Turnaround Schedule

|  |   |
|--|---|
| Standard turnaround time (TAT)<br>10 business days | Standard rate for most methods                              |
| Expedited TAT - 5 business days                    | 1.75 X multiplier, exceptions for certain methods           |
| Expedited TAT - 2 business days                    | 2 X (call for availability), exceptions for certain methods |
| Expedited TAT - 1 business days                    | 3 X (call for availability), exceptions for certain methods |
| Expedited TAT - day of receipt                     | 4 X (call for availability), exceptions for certain methods |
| Weekend analysis                                   | \$40 additional per sample                                  |

## Order Minimums and Shipping Information

3 sample or \$300/analytical method minimum applies to most projects. Shipping is additional on all spike, reagent and equipment rental requests. Enthalpy is pleased to ship using customer Federal Express accounts avoiding the 20% surcharge applied to all shipments on Enthalpy's account. Saturday delivery is available - call for instructions.



Air Quality Laboratory

800-1 Capitola Drive • Durham, NC 27713  
 www.enthalpy.com • 919.850.4392 • Fax: 919.850.9012

For more information, contact:

**Bryan Tyler (ext. 250)**  
 bryan.tyler@enthalpy.com

**Jon Escobedo (ext. 300)**  
 jon.escobedo@enthalpy.com

**Ashley Miller (ext. 282)**  
 ashley.miller@enthalpy.com