



Subsurface Vapor Intrusion to Indoor Air

Columbia Analytical Services, Inc. has the analytical expertise and project management capabilities to support a variety of soil vapor intrusion and indoor air investigations. Subsurface vapor intrusion has become a topic of particular interest due to factors including:



- Increased recognition of vapor intrusion as an important exposure pathway and greater emphasis on the remediation of contaminated sites that introduce harmful substances into indoor air
- The recent publication of key state and federal Vapor intrusion Guidance documents.

Our air quality laboratory acknowledges the sensitive nature of these projects and takes every effort to ensure each individual project is handled properly. With meticulous attention to detail, our laboratory will review, approve, and provide information for your Quality Assurance Project Plan (QAPP) and/or site specific work plan.

Qualifications

Columbia Analytical project managers have years of experience assisting clients with indoor air and soil vapor investigations. Laboratory personnel are familiar with the industry regulations and challenges our clients face and understand the issues that often govern such investigations. Columbia Analytical is accredited by both the National Environmental Laboratory Accreditation Program (NELAP) and the American Industrial Hygiene Association (AIHA), as well as several other local, state, and DoD programs. Please contact the laboratory for our most up to date certification information.

Sampling Equipment

With an inventory of nearly 3000 canisters of various sizes, along with flow controllers, critical orifice assemblies, duplicate tees, Teflon tubing, and Swagelok fittings, the laboratory offers appropriate sampling media for any site specific vapor intrusion investigation. Even in cases of short notice, Columbia Analytical has the capacity to respond to most analytical needs rapidly. The laboratory offers cost effective, batch-certified Summa canisters for soil gas surveys; these canisters can be fit with critical orifices for time integrated sampling. Columbia Analytical also offers individually-certified equipment (canisters, precisely calibrated flow controllers, and analog pressure gauges) when indoor air evaluations require ultra low level analysis in the part per trillion range (pptV).

One key practice that our laboratory follows is the segregation of canisters and associated equipment into Ambient (“low”) level and Source (“higher”) level distinctions. Our ambient equipment is used only for low level (e.g. indoor air, ambient air) projects—never for soil vapor sampling, SVE system monitoring, or other higher level applications. This practice adds another layer of quality assurance and peace of mind to indoor air sampling projects where low reporting limits are needed.



Methods and Procedures

Most current guidance documents recommend the use of EPA Methods TO-15 or TO-17 for the analysis of volatile organic compounds (VOCs) in vapor intrusion samples. Columbia Analytical will work closely with you to set up your project prior to sampling, such that all your data quality objectives are met.

The laboratory provides analytical approaches and reporting limits suitable for both soil vapor and indoor air projects. For the analysis of indoor air samples, Columbia Analyticals’ highly trained analysts can perform EPA Method TO-15 in Selective Ion Monitoring (SIM) mode to provide results in parts per trillion levels for client-specific compound lists.

Soil Gas Tracers

Several state guidance documents recommend the practice of leak testing your soil vapor well with a tracer compound when collecting soil vapor samples, to ensure that the well has been constructed and sealed correctly. Columbia Analytical can support analysis of common tracer compounds such as helium, sulfur hexafluoride (SF₆), and other VOCs as needed. Please contact the laboratory for more details about the pros and cons of each tracer compound.

Columbia Analytical has provided the highest quality data along with superior customer service and project management to its clients since its establishment in 1988.

Please contact our Simi Valley laboratory directly with questions concerning specific projects or if you would like to schedule a Brown Bag Presentation for your office.

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