
Results of a Vapor Pin™ Comparative Sampling in California

Craig A. Cox, CPG
Cox-Colvin & Associates, Inc.
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Introduction

This memorandum summarizes the results of comparative sub-slab sampling conducted by H&P Laboratories at a site in California. The purpose of the sampling was to evaluate the suitability of Cox-Colvin's Vapor Pins™ for collecting sub-slab soil gas for the analysis of organic vapors. The investigation compared the results from Vapor Pins™ to those collected from air-stone and Nylaflo™ points set in cement.

Sampling

The investigation took place at an industrial facility in California at which twelve sub-slab sample points constructed from air-stones and Nylaflo™ tubing had been previously installed and tested. Adjacent to each point, stainless-steel Vapor Pins™ were installed and tested. The sampling effort was completed over the course of two days, with the air-stone points sampled on the first day, and the Vapor Pin™ points sampled on the second day. All points passed helium shroud leak testing. Samples were collected into Summa-type canisters and analyzed by H&P Laboratories.

Results

Twelve chlorinated and non-chlorinated compounds were detected by both the air-stone points, and the Vapor Pin™ points. The results of the combined sample events are shown on the attached figures. Each data point on the graphs represents the concentrations for each detected compound from the air-stone sample points (horizontal axis) versus the Vapor Pin™ sample points (vertical axis). Ideally, the air-stone and Vapor Pin™ results would be identical and all of the points would fall along a diagonal line stretching from lower left to upper right. Figure 1 shows a correlation between the air-stone sampler and Vapor Pin™ results resemble the diagonal line, with acetone as an apparent anomaly. Because acetone is a common lab contaminant, its analytical results were removed from the data set prior to a second comparison. The second comparison (Figure 2) reveals a much stronger one-to-one correlation between samples collected using the air-stone points and the Vapor Pin™ points, even though the samples were collected on different dates. These data demonstrate that the air-stone points and the Vapor Pin™ points allow for the collection of similar quality sub-slab vapor samples.

Figure 1. Air-Stone Point vs Vapor Pin

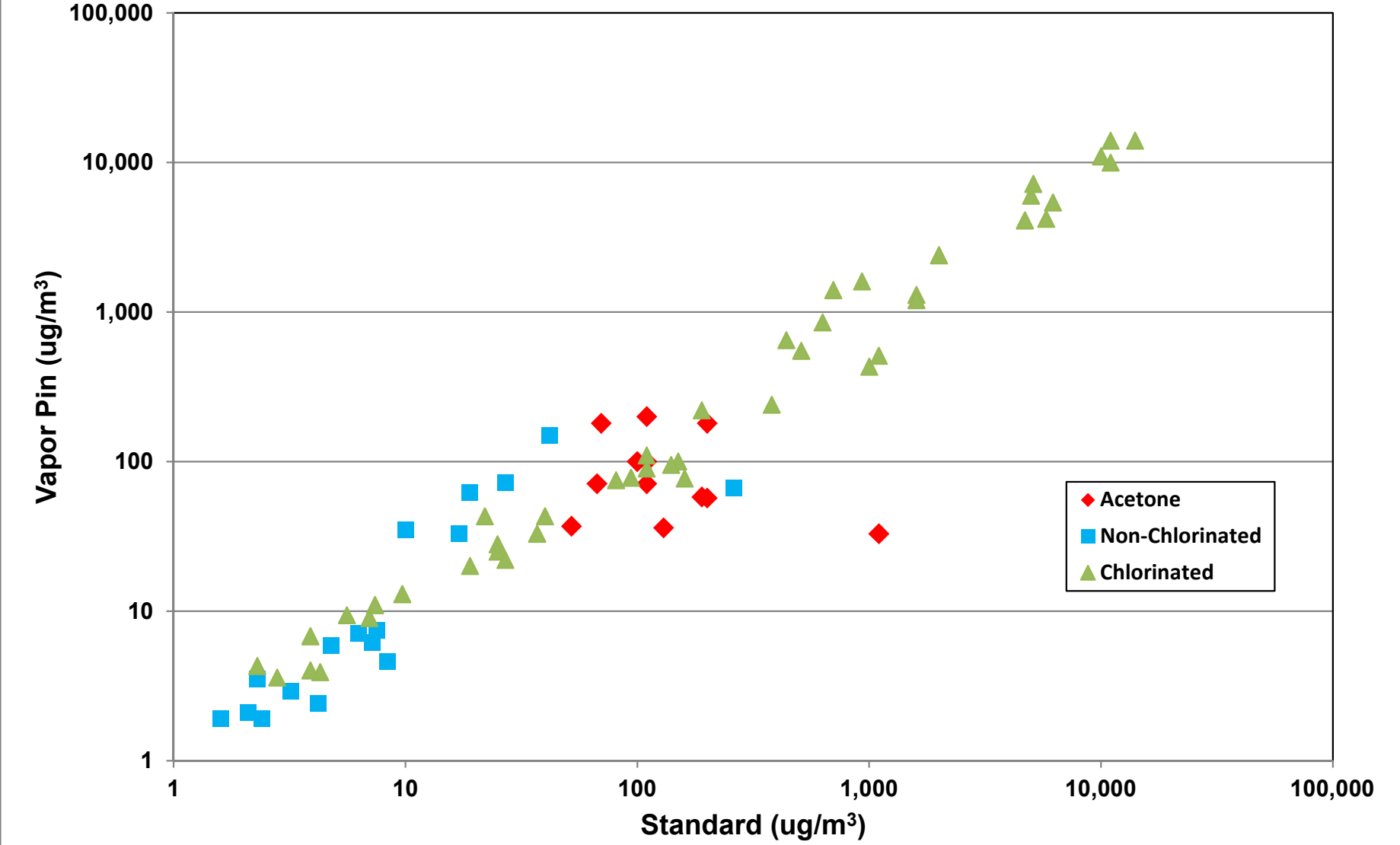


Figure 2. Air-Stone Point vs Vapor Pin

