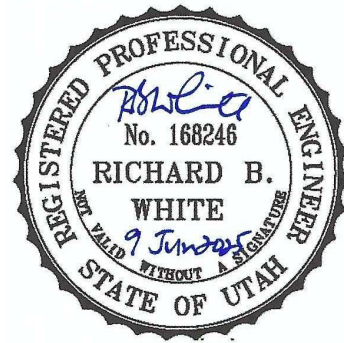

Memorandum

To: Leeds Town

From: Richard B. White

Date: June 9, 2025

Subject: Summary of Environmental Sampling Approach
Implemented at The Cove at Silver Reef



During a meeting on June 4, 2025, the Leeds Planning Commission requested information regarding the approach that was used to select locations for the collection of environmental samples on property being developed as The Cove at Silver Reef. As indicated in the meeting, a total of 292 samples have been collected from the property, with sample locations selected both systematically and judgmentally. The purpose of this memorandum is to summarize that approach.

Systematic Sampling Locations

Systematic sample locations were selected in accordance with guidance provided by the U.S. Environmental Protection Agency (2002). In accordance with USEPA guidance, an initial sample location was selected randomly, and the remaining systematic samples were collected on regular intervals over the property.

Systematic sampling is used to search for areas of contamination and to gather data that are statistically valid. This design provides uniform coverage of a site and has the advantage of randomness combined with good coverage. This is a statistical approach that relies on estimates of the mean and standard deviation of the contaminants of potential concern as well as values known as "decision-error limits." Decision errors may occur if the wrong response action (i.e., cleanup or no cleanup) is chosen because of either sampling design error or measurement error. Therefore, decision-error limits are set to minimize the potential for contaminated materials to still exist onsite after cleanup has occurred. The tolerance for leaving contaminated material in place is set much lower than the tolerance for removing too much uncontaminated material. The following decision-error limits were set for this property when calculating the spacing of the systematic sampling grid:

- 5% tolerance for leaving post-cleanup soil in place when, in fact, concentrations at that particular location exceed the cleanup level.
- 20% tolerance for assuming that soil must be excavated from a particular location when, in fact, the soil at that location meets the established cleanup level and could have been left in place.

For this analysis, the mean and standard deviation of each contaminant of potential concern were estimated from several initial samples collected from both the Big Hill area and the Tecumseh Hill area. Those initial samples were collected primarily from areas of known mining impact (e.g., waste-rock piles, discolored soil, etc.), thus biasing the statistical analysis toward higher concentrations and, therefore, smaller systematic grid spacing (i.e., collecting more systematic samples than otherwise might be required). Based on these analyses, 45 systematic sampling points were established in the Big Hill area on a grid spacing of 290 feet.

In the Tecumseh Hill area, 10 systematic sampling points were established on a grid spacing of 530 feet. The starting points for each grid were selected as a random distance from the southern-most point of each area, with the distance north and east from that point generated using www.random.org.

Judgmental Sampling Locations

Judgmental sampling locations were selected based on visual observations (e.g., obvious areas where mine waste-rock had been deposited, areas adjacent to and downstream from mine head frames, discolored soil, field measurements of radiation levels, etc.). Samples were then collected from these locations in addition to those collected from systematic sampling locations. A representative of the Utah Division of Environmental Response and Remediation (“UDERR”) provided input and recommended many of the judgmental sampling locations. Using this approach, judgmental samples were collected from a total of 73 locations.

Number of Samples Collected

A total of 292 samples have been collected from 128 locations on The Cover at Silver Reef property. The division of those samples between systematic and judgmental locations is as follows:

Systematic samples: 122 samples collected from 55 locations

Judgmental samples: 170 samples collected from 73 locations

Sampling Methods

All samples were collected in accordance with a Quality Assurance Project Plan that was reviewed and approved by UDERR. This consisted of the following general approach:

- Excavate a hole to a depth of at least 18 inches (if possible). If bedrock, cobbles, or boulders were encountered, the hole was excavated to the depth at which resistance was encountered. Excavating equipment was decontaminated prior to the first sample location and between locations to minimize the potential for cross contamination between sample locations.
- Collect soil samples in 6-inch increments using stainless-steel sampling equipment. The sampling equipment was decontaminated prior to the first sample location and between locations by scrubbing in a solution of potable water and phosphate-free detergent, then rinsing with potable water followed by a distilled water rinse, thereby minimizing the potential for cross contamination between samples.
- Place all samples in laboratory-supplied glass jars or in reclosable plastic bags, as directed by the analytical laboratory. All sample containers were labeled with the sample number prior to sample collection.
- Place the samples on ice in an ice chest.
- Complete a chain of custody record for each sample, indicating the sample name, date, and time as well as the number of containers that comprise each sample, the sample matrix, the requested analyses, and blocks for signatures regarding sample control.
- Ship all samples to Utah-certified laboratories for analysis.

Additional information regarding sampling procedures can be found in reports prepared by EarthFax Engineering (2007) and Richard B. White (2024).

References

EarthFax Engineering, Inc. 2007. Phase I Site Characterization Work Plan for the Silver Pointe Site, Leeds, Utah. Project report prepared for Crocker Capital, LLC. Midvale, Utah.

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U.S. Environmental Protection Agency. 2002a. Guidance on Choosing a Sampling Design for Environmental Data Collection. EPA/240/R-02/005. EPA QA/G-5S. Office of Environmental Information. Washington D.C