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<b>Subject:</b> DR21-0032 - 517 Shinohara Ln - Soil Vapor Intrusion	<b>Project No:</b> 109458001

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Ninyo & Moore was retained by the City of Chula Vista to review the report titled Soil Vapor Survey and Human Health Risk Screening, Assessor’s Parcel Number 644-040-01, 517 Shinohara Lane, Chula Vista, CA 91911, [Site] prepared by SCS Engineers, dated August 5, 2021, and prepare a Technical Memorandum providing our professional opinion regarding the report relative to the general standard of care followed by environmental consultants performing similar evaluation in San Diego County, comparing analytical results to applicable regulations, and the conclusions and recommendations presented.

## Background

According to the SCS report, the Site consists of an approximately 9.56-acre parcel of vacant, undeveloped land that their client was proposing to purchase and develop for industrial land use. SCS prepared a Phase I Environmental Site Assessment (ESA) report for the Site, which concluded that the documented historical release of volatile organic compounds (VOCs) from the former Omar Rendering facility located at 1886 Auto Park Place, approximately 1,500 feet to the east of the Site, represented a potential recognized environmental condition and recommended performing a soil vapor survey and human health risk screening to assess the possible presence and concentrations of VOCs in the shallow soil vapor beneath the Site.

Based on VOCs detected in groundwater beneath the property to the east of the Site (1670 & 1690 Brandywine Avenue), and west of the former Omar Rendering facility, the main contaminant of potential concern (COPC) was trichloroethene (TCE), a chlorinated solvent, and the potential secondary source of VOCs was thought to be volatilization of these compounds from impacted groundwater that migrated from the Omar Rendering facility, located up-gradient to cross-gradient from the Brandywine Avenue property and the Site. Depth to groundwater beneath the Brandywine Avenue property is reportedly approximately 52 to 76 feet below ground surface.

In July 2021, SCS performed a soil vapor survey, which consisted of dividing the Site into quadrants, the drilling and installation of four soil vapor probes to 5 feet below ground surface, and the collection and analysis of one soil vapor sample from each quadrant, plus one replicate for quality control purposes. Soil vapor samples were analyzed for VOCs by an onsite state-certified, mobile laboratory in general accordance with U.S. Environmental Protection Agency (EPA) Method 8260SV. According the SCS report, soil vapor sampling activities were conducted in general accordance with the Department of Toxic Substances Control (DTSC), Los Angeles Regional Water Quality Control Board (RWQCB), and San Francisco RWQCB Advisory on Active Soil Gas Investigations, dated July 2015.

## **Findings**

The following COPCs were reported by the analytical laboratory to be present in the soil vapor samples analyzed; benzene in three of the five samples, and TCE and m,p-Xylenes in one of the five samples. All other VOCs analyzed for were reported to be below their respective laboratory reporting limits.

Based on the low concentrations of COPCs detected in the soil vapor samples, SCS concluded that it was unlikely the VOCs were from a point-source or significant unauthorized release at the Site, and it was more likely that they migrated beneath the Site from the former Omar Rendering facility or another offsite source.

Since VOCs were reported in soil vapor samples, SCS performed a vapor intrusion risk screening (VIRS) to assess the potential for significant human health risk to future occupants of the proposed industrial Site building due to vapor intrusion into the structure. SCS stated that the VIRS was performed using the screening criteria and slab attenuation factor (i.e., 0.0005 for future commercial/ industrial buildings), as described in DTSC's 2011 Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air. Furthermore, on March 29, 2022, the DTSC Human and Ecological Risk Office released an updated Human Health Risk Assessment (HHRA) Note Number 4, Guidance for Screening Level Human Health Risk Assessments, which recommends the continued use of the screening criteria and slab attenuation factors, as described in DTSC's 2011 Guidance.

In their VIRS, SCS conservatively used the highest soil vapor concentration for each COPC detected (benzene, m,p-Xylenes, and TCE) to estimate vapor intrusion into a future industrial building at the Site. The estimated theoretical indoor air concentrations were then compared to the current screening levels to assess the potential for significant human health risk posed to industrial users from vapor intrusion from these constituents. The resulting values were compared to the DTSC-Modified Screening Levels (DTSC-SLs) provided in DTSC HHRA Note 35, or, for chemicals not listed in HHRA Note 3 (i.e., m,p-Xylenes), the USEPA Regional Screening Levels (RSLs).

SCS concluded that the maximum theoretical concentrations of VOCs in indoor air at the Site are below the commercial/ industrial screening levels and recommended no further action related to soil vapor intrusion.

## **Discussion**

With the provision that the information provided and reviewed is accurate and representative of actual Site conditions, it is our professional opinion that the subject Soil Vapor Survey and Human Health Risk Screening report was prepared in general accordance with the standard of care practiced by environmental consultants performing similar evaluations in San Diego County, and concur with its conclusions and recommendations. Note that the screening criteria and slab attenuation factor used by SCS are those specified in DTSC's 2011 and 2022 Note Number 4 guidance documents. However, other regulatory agencies that could have jurisdiction at the Site (e.g., RWQCB) may specify different screening criteria and/or slab attenuation factors, which could alter the findings and conclusion reached by SCS, as well as our professional opinion.

Furthermore, please be advised that if unidentified contamination or conditions are discovered that may affect human health, safety or water quality, or the Site use is other than commercial/industrial, additional Site assessment, mitigation, and/or land use covenants and environmental restrictions, in accordance with current statutes, regulations, and guidelines, may be required.

## **Limitations**

The environmental services provided by Ninyo & Moore have been conducted in general accordance with current regulatory guidelines and the standard of care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinion(s) presented in this report.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

Our professional opinion is based on an analysis of the referenced report/documents and experience providing similar environmental consulting services in San Diego County. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of humans at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The professional opinion provided herein may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

Ninyo & Moore cannot warrant or guarantee that not finding indicators of any particular hazardous material means that this particular hazardous material or any other hazardous materials do not exist on the site. Additional research, including invasive testing, can reduce the uncertainty, but no techniques now commonly employed can eliminate the uncertainty altogether.