



Los Angeles Regional Water Quality Control Board

April 13, 2021

Mr. Ryan Smoot, City Manager
City of Lomita
24300 Narbonne Avenue
Lomita, California 90717

Dear Mr. Smoot,

I received your March 9, 2021 letter. Thank you for reaching out to me. In your letter, you indicated the City of Lomita has reviewed the "Vapor Intrusion Response Plan – Interim Summary Report" (Interim Report) for the Skypark Commercial Properties. You expressed concern about the health effects of volatile organic compounds (VOCs) detected in the ambient air samples from this investigation and asked whether these detections are anomalies impacting the City of Lomita and whether action or further investigation is warranted.

Be assured that the ongoing investigation and cleanup of the contamination associated with the Skypark Commercial Properties site remains a high priority for the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board). Within the extent of our regulatory jurisdiction, we are committed to directing the dischargers to investigate and clean up soil, soil vapor and groundwater impacts from VOCs resulting from the release(s) at the Skypark Commercial Properties site that has migrated offsite into the City of Lomita (City). To that end, we have circulated a draft cleanup and abatement order and hope to have it finalized as soon as possible.

Los Angeles Water Board staff and the Office of Environmental Health Hazard Assessment (OEHHA) have also reviewed the Interim Report. OEHHA's conclusions are provided in the attached memorandum (OEHHA Memo). Los Angeles Water Board staff concurs with OEHHA's conclusions. The OEHHA Memo also includes an Appendix regarding benzene toxicology and monitoring data. We hope the City finds the Appendix insightful regarding the ambient air conditions at hand.

The VOCs with detections in ambient (meaning outdoor) air exceeding the residential screening levels used by the Los Angeles Water Board in this phase of the investigation include: benzene, carbon tetrachloride, chloroform, ethylbenzene, 1,2-dichloroethane (1,2-DCA), and 1,4-dichlorobenzene (1,4-DCB). The table below summarizes these

LAWRENCE YEE, CHAIR | RENEE PURDY, EXECUTIVE OFFICER

VOCs and their corresponding ambient air and soil vapor concentrations in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

VOC	Ambient Air Concentration	Soil Vapor (Sub-Slab and/or 5 Feet Below Ground Surface) Concentration
Benzene	0.786 $\mu\text{g}/\text{m}^3$ to 2.17 $\mu\text{g}/\text{m}^3$	0.834 $\mu\text{g}/\text{m}^3$ to 24.3 $\mu\text{g}/\text{m}^3$
Carbon Tetrachloride	0.498 $\mu\text{g}/\text{m}^3$ to 0.731 $\mu\text{g}/\text{m}^3$	1.28 $\mu\text{g}/\text{m}^3$ to 1.54 $\mu\text{g}/\text{m}^3$
Chloroform	0.331 $\mu\text{g}/\text{m}^3$ to 0.352 $\mu\text{g}/\text{m}^3$	Not Detected Above Laboratory Reporting Limits
Ethylbenzene	0.329 $\mu\text{g}/\text{m}^3$ to 2.04 $\mu\text{g}/\text{m}^3$	1.05 $\mu\text{g}/\text{m}^3$ to 108 $\mu\text{g}/\text{m}^3$
1,2-DCA	0.223 $\mu\text{g}/\text{m}^3$	Not Detected Above Laboratory Reporting Limits
1,4-DCB	0.192 $\mu\text{g}/\text{m}^3$ to 5.83 $\mu\text{g}/\text{m}^3$	Not Detected Above Laboratory Reporting Limits

Based on the data, the ranges of detected soil vapor concentrations from these VOCs in the subsurface are unlikely to have contributed significantly to the ambient air VOC concentrations due to attenuation and biodegradation (which the conservative residential screening levels do not take into account). If the soil vapor was a significant source of the VOCs in the ambient air, you would expect to see much higher concentrations in the soil vapor. That was not the case here. In short, the data from the Interim Report do not indicate that offsite migration of the release(s) from the Skypark Commercial Properties is a consequential source of the benzene, carbon tetrachloride, chloroform, ethylbenzene, 1,2-DCA, and 1,4-DCB in the ambient air samples.

Based upon sampling to date at properties in the City of Lomita, the Skypark Commercial Properties site's chemicals of concern - primarily trichloroethene and tetrachloroethene - do not pose vapor intrusion risks from the subsurface.

The Los Angeles Water Board has reached out to the South Coast Air Quality Management District (SCAQMD) regarding the VOC detections in ambient air and will share with the City any information provided by SCAQMD. In that regard, we would like to inform you that a project known as "Torrance Air Quality Monitoring and Notification Project" (Torrance Air), sponsored by SCAQMD, has been providing Torrance residents with near-real time information about pollutant concentrations in ambient air within the Torrance community beginning 2019 and is expected to run through 2021. Access to the

Torrance Air project and data can be found here: <https://www.torranceair.org/>. The detected benzene ambient air concentrations in this phase of the investigation were within the range of concentrations reported as part of the Torrance Air project. The closest air monitoring station is approximately 2.4 miles north of the Skypark Commercial Properties site. The City is also encouraged to contact SCAQMD directly to get more information about air quality in the area.

If you have any questions regarding this letter or would like to discuss anything further, please do not hesitate to contact me at Renee.Purdy@waterboards.ca.gov or Mr. Hugh Marley, one of our Assistant Executive Officers, at Hugh.Marley@waterboards.ca.gov.

Sincerely,

Renee Purdy
Executive Officer

Attachment:

OEHHA's Technical Memorandum

cc:

Carla Dillon (c.dillon@lomitacity.com)
Lety Moreno-Paz (l.paz@lomitacity.com)
Stephen Boggs (sboggs@aqmd.gov)
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Gavin Newsom, Governor
Jared Blumenfeld, Secretary for Environmental Protection
Lauren Zeise, Ph.D., Director

MEMORANDUM

TO: Kevin Lin, P.E., Water Resource Control Engineer
Los Angeles Regional Water Quality Control Board
320 West 4th St., Suite 200
Los Angeles, CA 90013

FROM: Jim Carlisle, DVM
Staff Toxicologist
Air and Site Assessment and Climate Indicators Branch
Office of Environmental Health Hazard Assessment

DATE: April 6, 2021

SUBJECT: REVIEW OF VAPOR INTRUSION RESPONSE PLAN – INTERIM
SUMMARY REPORT, HI-SHEAR CORPORATION, 2600 SKYPARK
DRIVE, TORRANCE, CA
SWRCB # R4-20-018 **OEHHA # 888550-01**

Document Reviewed

Vapor Intrusion Response Plan – Interim Summary Report, Hi-Shear Corporation, 2600 Skypark Drive, Torrance, CA, dated January 7, 2021, prepared by Genesis Engineering & Redevelopment, Inc. (Genesis)

Scope and Limitations of Review

OEHHA did not review the sections dealing with hydrogeology and sources of volatile organic compounds (VOCs).

Site Characterization and Chemicals of Potential Concern (COPCs)

The primary COPCs are trichloroethene (TCE) and tetrachloroethene (PCE). Benzene has also been detected.

According to the report, PCE in soil vapor has been delineated at the 5-foot depth to the east by non-detection in VP-68, VP-69/72, VP-70, VP-71, and VP-73, but requires further delineation to the east, north, and south. At the 15-foot depth, PCE in soil vapor has been delineated to the southeast by low to non-detection concentrations in

VP-69/72, VP-73, VP-74 and VP-77 but requires further delineation to the northeast. TCE is fully delineated.

Soil Vapor Assessment – PCE and TCE

The table in section 8.0 summarizes Genesis' plan regarding the 18 properties sampled to date. OEHHA compared the proposed actions to the VOC detections in the various media as presented in Genesis' Tables 2 through 5. The proposed actions seem appropriate considering the results to date.

Benzene Assessment

Five properties had benzene detected in crawl space samples at concentrations exceeding the indoor air environmental screening level (ESL) (SFRWQCB, 2019). However, the detected concentrations were generally similar to concentrations in ambient air.

Ten properties had benzene in soil gas at concentrations exceeding the soil gas ESL. However, the ESL is conservative because it does not account for biodegradation. Two of the ten properties had indoor air samples; in those cases, the indoor benzene concentrations were similar to ambient concentrations.

Ambient air concentrations measured in the area east of Crenshaw Boulevard were within the range detected in independent regional monitoring (see Appendix). Although benzene in soil gas could contribute to the general ambient air benzene level, it would be a minor contributor since it migrates slowly through the pore spaces in soil and is broken down by microbial action in the soil as it passes through.

Conclusions

- Indoor PCE and TCE have not been detected at levels exceeding indoor screening levels. The follow-up actions proposed by Genesis are consistent with the results to date.
- Although benzene was detected in 2 buildings and 5 crawl spaces, the source is unknown and the levels were not significantly above ambient levels.

Reviewed by

Amanda Palumbo, PhD
Staff Toxicologist

Carmen Milanes, M.P.H.
Chief, Climate Indicators and Site Assessment Section

Appendix: Benzene toxicology and monitoring data

Long-term (a year or more) exposure to benzene can cause harmful effects on the bone marrow, resulting in anemia and excessive bleeding. Long-term exposure can also affect the immune system, increasing the chance for infection. The Agency for Toxic Substances and Disease Registry (ATSDR) has set “Minimal Risk Levels” of 19.2 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for exposures lasting from 1 to 14 days, and 9.6 $\mu\text{g}/\text{m}^3$ for longer exposure periods. These are levels that are believed to be without risk for adverse health effects.

The International Agency for Research on Cancer (IARC) classifies benzene as “carcinogenic to humans,” based on sufficient evidence that benzene causes acute myeloid leukemia. IARC also notes that benzene exposure has been linked with acute lymphocytic leukemia, chronic lymphocytic leukemia, multiple myeloma, and non-Hodgkins lymphoma.

For non-carcinogenic effects associated with residential exposures DTSC (2020) estimates a safe continuously breathed concentration of 3 $\mu\text{g}/\text{m}^3$. OEHHA estimates an upper-bound lifetime risk of 86 cases of cancer per million persons exposed continuously to a concentration of 3 $\mu\text{g}/\text{m}^3$ for 26 years (including infancy and childhood). The DTSC screening level for carcinogenic effects is 0.097 $\mu\text{g}/\text{m}^3$, corresponding to a risk of 1 case of cancer per million exposed persons.

For occupational exposures, DTSC estimates a safe concentration for non-carcinogenic effects of 13 $\mu\text{g}/\text{m}^3$ breathed for 40 hours per week, 50 weeks per year. The DTSC screening level for carcinogenic effects is 0.42 $\mu\text{g}/\text{m}^3$, corresponding to a risk of 1 case of cancer per million workers exposed for 40 hours per week, 50 weeks per year for 25 years.

The South Coast Air Quality Management District (SCAQMD, 2009) conducted an air monitoring study in 2009 to compare the concentrations of benzene (and other air pollutants) at 2 locations near the 710 freeway and in Del Amo at a distance from the 710. There was no consistent difference between the three monitoring locations. In the winter, benzene concentrations ranged from 0.032 to 10.6 $\mu\text{g}/\text{m}^3$ with the highest concentrations generally in the morning. In the summer, benzene concentrations ranged from 0.224 to 3.14 $\mu\text{g}/\text{m}^3$ with the highest concentrations generally in the morning.

An ongoing air quality monitoring project by SCAQMD (SCAQMD, 2021) shows that so far in 2021, benzene concentrations south of the Torrance Refinery (the closest monitor to Lomita) ranged from below detection limit (approximately 0.9 $\mu\text{g}/\text{m}^3$) to 9.3 $\mu\text{g}/\text{m}^3$.

References

SFBRWQCB (San Francisco Bay Regional Water Quality Control Board) 2019. Environmental Screening Levels. Rev 2.

DTSC 2020 Human Health Risk Assessment (HHRA) Note Number 3, DTSC-Modified Screening Levels (DTSC-SLs) California Department of Toxic Substances Control (DTSC), Human And Ecological Risk Office (Hero): June 2020

SCAQMD 2021. South Coast Air Quality Management District, Torrance Air: Air Quality Management Project, available on-line at <https://www.torranceair.org/monitors.html>
<https://www.torranceair.org/monitors.html>

SCAQMD 2009, South Coast Air Quality Management District, Ambient Concentrations Of Criteria And Air Toxic Pollutants In Close Proximity To A Freeway With Heavy-Duty Diesel Traffic, Final Report April 2012, Available on-line at <http://www.aqmd.gov/docs/default-source/air-quality/air-quality-monitoring-studies/near-roadway-study.pdf?sfvrsn=2>

Agency for Toxic Substances and Disease Registry, Toxicological Profile for Benzene, available on-line at <https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=40&tid=14>

International Agency for Research on Cancer, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 120, Benzene, available on-line at <https://publications.iarc.fr/Book-And-Report-Series/Iarc-Monographs-On-The-Identification-Of-Carcinogenic-Hazards-To-Humans/Benzene-2018>