



STATE OF NEVADA
Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
Colleen Cripps, Ph.D., Administrator

August 16, 2012

Irwin Kishner
Herman Kishner Trust
252 Convention Center Drive, Ste 12A
Las Vegas, NV 89109

Maryland Square, LLC
c/o Franklin H. Levy
Lawson & Weitzen, LLP
88 Black Falcon Avenue
Boston, MA 02210

Maryland Square Shopping Center, LLC
c/o Tim Swickard
Dongell Lawrence Finney LLP
770 L St., Suite 950
Sacramento, CA 95814

SBIC
c/o Jeffrey T. Oberman
Levin & Oberman
361 N. Canon Dr.
Beverly Hills, CA. 90210

Subject: **Proposal for Changes to the Proposed Pilot Tests – Discontinuation of the Air Sparging and Soil Vapor Extraction Test**
Facility: Al Phillips the Cleaner (former)
3661 S. Maryland Parkway
Las Vegas, Nevada
Facility ID: **H-000086**

Dear Messrs. Kishner, Swickard, Levy and Oberman:

The Nevada Division of Environmental Protection (NDEP) received the letter, “*Proposal for Changes to the Proposed Pilot Tests – Discontinuation of the Air Sparging and Soil Vapor Extraction Test*” prepared by Tetra Tech on behalf of the Herman Kishner Trust (Trust) and Maryland Square Shopping Center, LLC, (MSSC, LLC) dated July 31, 2012 and received electronically on July 31, 2012 and in hard copy on August 3, 2012.

NDEP Comments

The subject letter requests that the pilot testing for the air sparging and soil vapor extraction technology be set aside because of the presence of a laterally extensive and competent layer of caliche located several feet below the water table.

The NDEP agrees that trying to conduct air sparging beneath a laterally extensive and competent 2-foot-thick layer of caliche is problematic. For air sparging to be effective, the short well screen must be placed at a depth to ensure that the lithostatic and hydrostatic pressure is sufficient to drive the injected air out of the well bore and into the surrounding formation. This means that the air sparging wells must be screened approximately 10 feet or more beneath the caliche layer. The water level is found at 29 feet below ground surface (bgs) and the



caliche layer is located at 30 to 33 feet bgs, so the vapor extraction system (these wells are required to have screens above the water table) may not be able to effectively capture the air sparged beneath the caliche. Therefore, sparging beneath the caliche may create fugitive vapors of PCE in the subsurface environment that are not adequately captured by the vapor extraction wells screened above the caliche layer. These fugitive vapors may pose a human health risk. However, if sediments below the caliche layer were dewatered by pumping, the vapor extraction wells could be screened beneath the caliche. If this were the case, air sparging and vapor extraction may be possible without the concern of generating fugitive vapors not captured by the vapor extraction wells.

The presence of low permeability sediments found on the east side of the Boulevard Mall may also diminish the effectiveness of air sparging. Guidance from the U.S. Environmental Protection Agency (EPA) notes that air sparging is generally effective at an intrinsic permeability of more than $1.0E-09 \text{ cm}^2$, moderately effective when the intrinsic permeability is between $1.0E-09$ and $1.0E-10 \text{ cm}^2$, and only marginally effective (to ineffective) when the intrinsic permeability is less than $1.0E-10 \text{ cm}^2$. However, the presence of low permeability sediments alone would not be sufficient reason to eliminate the pilot testing for air sparging and soil vapor extraction.

NDEP Requirements

The NDEP concurs with the discontinuation of the pilot testing for air sparging and soil vapor extraction at this time, under the current hydrogeological conditions. If, however, pumping were used to draw down water levels to beneath the caliche layer, testing for air sparging and/or soil vapor extraction may be requested under the drawdown conditions. This change modifies the approved Corrective Action Plan for Groundwater.

If you have any questions or require additional information regarding this letter, contact me by telephone at (775) 687-9496 or e-mail at msiders@ndep.nv.gov.

Sincerely,



Mary A. Siders, Ph.D.
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Fax (775) 687-8335

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Maryland Square Shopping Center, LLC
Kishner, Swickard, Levy, Oberman
H-000086
August 16, 2012
Page 3 of 3

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