



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 20, 2013

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

Maryland Square Shopping Center, LLC  
c/o Thomas E. Vandenburg  
Dongell Lawrence Finney LLP  
707 Wilshire Blvd, 45th Floor  
Los Angeles, CA 90017

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

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

Subject: **Final Corrective Action Report for Groundwater**

Facility: Al Phillips the Cleaner (former)  
3661 S. Maryland Parkway  
Las Vegas, Nevada  
Facility ID: **H-000086**

Dear Messrs. Kishner, Vandenburg, Levy and Oberman:

The Nevada Division of Environmental Protection (NDEP) has reviewed the **Final Corrective Action Report (CAR) for Groundwater** prepared by Tetra Tech on behalf of the Herman Kishner Trust (Trust) and Maryland Square Shopping Center, LLC (MSSC LLC), dated August 12, 2013 and received that same day via e-mail. Hard copies of the report were received by the NDEP on August 15, 2013.

The CAR provides results of the additional vertical delineation, aquifer testing, pilot testing and the screening-level human health risk assessment (HHRA). In addition, the CAR proposes remediation standards and recommends a remedial alternative.

### NDEP Comments

The NDEP notes that the text in the body of the report has adequately incorporated the NDEP's comments provided in the NDEP's letter dated July 12, 2013. However, the text and tables in **Appendix G** are still inappropriately configured around a remediation goal of 276 micrograms per liter ( $\mu\text{g/L}$ ) for PCE in groundwater. Additionally, the NDEP's use of site-specific geotechnical data from boring SVB-09-08 in the Johnson and Ettinger (J&E) model is mentioned only once, in the last paragraph of Appendix G to the Final CAR for Groundwater.



The NDEP's comparison of groundwater data from well MW-25 and the indoor air datum of 110 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) PCE in a home adjacent to MW-25 is not mentioned in Appendix G and is dismissed in Appendix H, which states that "*a linear relationship between concentrations in groundwater and indoor air may be assumed only when those concentrations represent the same time frame*" so the discussion of NDEP's calculation was "*not added to the report.*" In fact, if the groundwater datum for well MW-25 contemporaneous with the indoor air datum is used, the calculated protective concentration for PCE in groundwater drops from 66  $\mu\text{g}/\text{L}$  to 48  $\mu\text{g}/\text{L}$ . Both of these concentrations lend support to the range of values (22.3 to 146  $\mu\text{g}/\text{L}$ ) from NDEP's calculations using the J&E model, and suggest that the Trust's calculated values (221 to 338  $\mu\text{g}/\text{L}$ ) for PCE in groundwater are too high.

**The NDEP finds that Appendix G does not adequately incorporate and discuss the NDEP's comments and calculations regarding development of the 100  $\mu\text{g}/\text{L}$  remediation standard for groundwater, and instead continues to focus on the 276  $\mu\text{g}/\text{L}$  value for PCE in groundwater, originally proposed by the Trust as the remediation goal for groundwater. Therefore, the NDEP's modeling output using site-specific geotechnical data is included as **Attachment 1** to this letter. For more information on the NDEP's use of site-specific data in the J&E model, the reader is referred to the NDEP's July 12, 2013 letter, Attachment 2, which provided comments on Appendix G.**

## **NDEP Requirements**

Despite the above-noted deficiencies in Appendix G of the Final CAP for Groundwater, the NDEP finds the document adequate. The body of the text is well-written and well-organized, and the other appendices provide good discussions of the performance and results of the vertical delineation, pumping tests and pilot testing.

Based on the information presented in the Final CAP for Groundwater, the NDEP concurs with proposing use of in situ chemical oxidation (ISCO) as the recommended remedy in the Proposed Plan, with contingencies for use of other technologies if ISCO fails to achieve remediation goals for indoor air. A final remedy decision will be made in the Record of Decision, as required by the December 27, 2010 Permanent Injunction.

To clarify, the selection of a remediation goal of 100  $\mu\text{g}/\text{L}$  PCE in groundwater was based on NDEP's J&E modeling using site-specific parameters, as well as calculations based on the maximum PCE concentration measured in indoor air compared to adjacent concentrations in groundwater at well MW-25 and the practical application of the estimated 100  $\mu\text{g}/\text{L}$  PCE boundary, as discussed in the Permanent Injunction (December 27, 2010).

The draft Proposed Plan, which is "*a document used to facilitate public involvement in the remedy selection process*" (U.S. Environmental Protection Agency [EPA], 1999), is due 30 days following approval of the CAR "by NDEP and the Court" per the Permanent Injunction (December 27, 2013). NDEP will coordinate with the Trust in seeking court approval of the CAR and a schedule for preparation of the Proposed Plan.

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](mailto:msiders@ndep.nv.gov)

Sincerely,



Mary A. Siders, Ph.D.  
Bureau of Corrective Actions  
Fax (775) 687-8335

Enc (1)

ec: Greg Lovato, Bureau Chief, Bureau of Corrective Actions, NDEP, Carson City, NV  
Scott Smale, Supervisor, BCA, NDEP, Carson City, NV  
Todd Croft, Supervisor, BCA, NDEP, Las Vegas, NV  
Wayne Klomp, State of Nevada, Office of the Attorney General, 100 N. Carson Street, Carson City, NV  
Ebrahim Juma, Assistant Planning Manager [ejuma@cleanwaterteam.com](mailto:ejuma@cleanwaterteam.com)  
Joseph R. Leedy, Principal Planner [jleedy@cleanwaterteam.com](mailto:jleedy@cleanwaterteam.com)  
Dennis Campbell, Southern Nevada Health District [campbell@snhdmail.org](mailto:campbell@snhdmail.org)  
Michael Houghtaling, P.E., Senior Engineer, Clark County Department of Development Services, 4701 Russell Rd, Las Vegas, NV 89118 [mhoughta@co.clark.nv.us](mailto:mhoughta@co.clark.nv.us)  
Lynne S. Stella, Manager of Environmental Services, General Growth Properties, Inc., 110 N. Wacker Drive, Chicago, IL 60606 [lynne.stella@ggp.com](mailto:lynne.stella@ggp.com)  
Ric Jimenez, General Manager, The Boulevard Mall, 3528 S. Maryland Parkway, Las Vegas, NV 89169 [ric.jimenez@ggp.com](mailto:ric.jimenez@ggp.com)  
Jeffrey R. Diver, P.C., 2S741 Crimson King Lane, Glen Ellyn, IL 60137 [JeffDiver@comcast.net](mailto:JeffDiver@comcast.net)  
David B. Kuhlman, Procopio, Cory, Hargreaves & Savitch LLP, [david.kuhlman@procopio.com](mailto:david.kuhlman@procopio.com)  
Robert G. Russell, Procopio, Cory, Hargreaves & Savitch LLP, 525 B Street, Suite 2200, San Diego, CA 92101 [bob.russell@procopio.com](mailto:bob.russell@procopio.com)  
Steven J. Parsons, Law Offices of Steven J. Parsons, 7201 W. Lake Mead Blvd., Suite 108, Las Vegas, Nevada 89128-8354 [steve@sjplawyer.com](mailto:steve@sjplawyer.com)  
Paul G. Roberts, Vice President and General Counsel, The Interface Group [proberts@tigmass.com](mailto:proberts@tigmass.com)  
Jerry Tidball, Key Golf Management, Las Vegas National Golf Club [kjmjerry@yahoo.com](mailto:kjmjerry@yahoo.com)  
Coy Wood, General Manager, Las Vegas National Golf Course [coy@lasvegasnational.com](mailto:coy@lasvegasnational.com)  
Tamara Williams, Clark County Community Liaison, 3900 Cambridge Suite #111, Las Vegas, NV 89119 [TGW@ClarkCountyNV.gov](mailto:TGW@ClarkCountyNV.gov)  
Peter Krasnoff, P.E., WEST, Inc., 711 Grand Avenue, Suite 220, San Rafael, CA 94901 [peterk@westenvironmental.com](mailto:peterk@westenvironmental.com)  
Lisa Medve, P.E., Tetra Tech, 518 17<sup>th</sup> Street, Suite 900, Denver, CO 80202 [lisa.medve@tetrattech.com](mailto:lisa.medve@tetrattech.com)  
James Elliot, P.G., Tetra Tech, 5383 Hollister Ave., Suite 130, Santa Barbara, CA 93111 [james.elliott@tetrattech.com](mailto:james.elliott@tetrattech.com)  
Steve Bradley, CEM, Tetra Tech, 1230 Columbia Street, Suite 1000, San Diego, CA 92101 [steve.bradley@tetrattech.com](mailto:steve.bradley@tetrattech.com)

Maryland Square Shopping Center, LLC  
Kishner, Vandenburg, Levy and Oberman  
H-000086  
August 20, 2013  
Page 4 of 4

Andrew Stuart, Senior Project Manager, ATC Associates, 2925 E. Patrick Lane, Suite M, Las Vegas, NV 89120  
[andrew.stuart@atcassociates.com](mailto:andrew.stuart@atcassociates.com)

cc: (w/o enc)

Joe Blagg, Project Manager, Diversified Real Estate Group, 4255 Dean Martin Rd, Ste J, Las Vegas, NV 89103

John Griffin, Kaempfer Crowell, 510 W Fourth St., Carson City NV 89703.

Jan Greben, 125 E. De La Guerra St, Ste 203, Santa Barbara, CA 93101-7204

Alexander Robertson, 32121 Lindero Canyon Rd, Ste 200, Westlake Village, CA 91361

Jan Villaire, Coordinator, Environmental Compliance, Safety & Environmental Services, 1700 Galleria Drive, Bldg C, Henderson, NV 89014

Glenn D. Phillips, The Travelers Companies, Inc., SLCU-Suite 160, 4650 Westway Park Blvd., Houston Texas 77041

DATA ENTRY SHEET

NJ-GW-ADV-JAN2013  
USEPA Version 3.1; 02/04

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES  **OR**

Reset to

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES

NOTE: SEE SPECIAL INSTRUCTIONS FOR METHYLENE CHLORIDE, TRICHLOROETHENE, AND VINYL CHLORIDE ON RESULTS PAGE

ENTER Initial groundwater conc.,  $C_w$  ( $\mu\text{g/L}$ )

127184

Chemical

Tetrachloroethylene

MORE ↓

ENTER Average soil/ groundwater temperature, $T_s$ ( $^{\circ}\text{C}$ )	ENTER Depth below grade to bottom of enclosed space floor, $L_f$ (cm)	ENTER Depth below grade to water table, $L_{WT}$ (cm)	ENTER Thickness of soil stratum A, $h_A$ (cm)	ENTER Thickness of soil stratum B, $h_B$ (cm)	ENTER Thickness of soil stratum C, $h_C$ (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, $k_v$ ( $\text{cm}^2$ )
24	15	367	150	217	0	B	LS	C		

MORE ↓

ENTER Stratum A SCS soil type Lookup Soil	ENTER Stratum A soil dry bulk density, $\rho_b^A$ ( $\text{g/cm}^3$ )	ENTER Stratum A soil total porosity, $n^A$ (unitless)	ENTER Stratum A soil water-filled porosity, $\theta_w^A$ ( $\text{cm}^3/\text{cm}^3$ )	ENTER Stratum B SCS soil type Lookup Soil Parameters	ENTER Stratum B soil dry bulk density, $\rho_b^B$ ( $\text{g/cm}^3$ )	ENTER Stratum B soil total porosity, $n^B$ (unitless)	ENTER Stratum B soil water-filled porosity, $\theta_w^B$ ( $\text{cm}^3/\text{cm}^3$ )	ENTER Stratum C SCS soil type Lookup Soil Parameters	ENTER Stratum C soil dry bulk density, $\rho_b^C$ ( $\text{g/cm}^3$ )	ENTER Stratum C soil total porosity, $n^C$ (unitless)	ENTER Stratum C soil water-filled porosity, $\theta_w^C$ ( $\text{cm}^3/\text{cm}^3$ )
C	1.43	0.459	0.215	LS	1.62	0.39	0.076		1.5	0.43	0.167

MORE ↓

ENTER Enclosed space floor thickness, $L_{crack}$ (cm)	ENTER Soil-bldg. pressure differential, $\Delta P$ ( $\text{g/cm-s}^2$ )	ENTER Enclosed space floor length, $L_B$ (cm)	ENTER Enclosed space floor width, $W_B$ (cm)	ENTER Enclosed space height, $H_B$ (cm)	ENTER Floor-wall seam crack width, $w$ (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate $Q_{soil}$ (L/m)
10	40	1000	1000	244	0.1	0.25	5

MORE ↓

ENTER Averaging time for carcinogens, $AT_C$ (yrs)	ENTER Averaging time for noncarcinogens, $AT_{NC}$ (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	30	30	350	1.0E-06	1

END

Used to calculate risk-based groundwater concentration.

NDP Comment letter, August 20, 2013

ATTACHMENT 1

RESULTS SHEET

RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

Indoor exposure groundwater conc., carcinogen ( $\mu\text{g/L}$ )	Indoor exposure groundwater conc., noncarcinogen ( $\mu\text{g/L}$ )	Risk-based indoor exposure groundwater conc., ( $\mu\text{g/L}$ )	Pure component water solubility, S ( $\mu\text{g/L}$ )	Final indoor exposure groundwater conc., ( $\mu\text{g/L}$ )
6.28E+01	2.80E+02	6.28E+01	2.06E+05	6.28E+01

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

SCROLL DOWN TO "END"

END

The PCE concentration in groundwater that is predicted to be protective of residential indoor air (i.e.,  $< 9.4 \mu\text{g}/\text{m}^3$ ) was calculated here, using geotechnical data for soil samples collected from a boring adjacent to well MW-18 (URS, 2007). Sample SVB-09-08 had a water-filled porosity of 7.9%; this most closely matches + J+E model value for a loamy sand (LS, 7.6%). The NDEP used this soil type as the type at the water table (water levels in MW-18 have fluctuated from 8.71 to to 13.8 ft bgs). The average temperature and average water levels were input to the J+E model. The resulting health-protective level was determined to be 63  $\mu\text{g/L}$  PCE.