Triple Site Community Meeting Summary
San Miguel Elementary School – Multipurpose Room
May 14, 2015

Attendees:

- Melanie Morash, EPA
- Alejandro Diaz, EPA
- Daniel Stralka, EPA
- Enrique Manzanilla, EPA
- Dana Koefoed, Circlepoint
- Caleb Shaffer, EPA
- Lawrence McGuire, Circlepoint
- Rusty Harris-Bishop, EPA
- Rose Condit, CB&I
- David Yogi, EPA
- Soledad Calvino, EPA
- Mathew Plate, EPA
- Suzanne Skadowski, EPA
- Elsa Anaya, EPA

A second community outreach meeting with residents in the Duane/San Miguel Avenue neighborhood was held on May 14, 2015 in the multipurpose room at San Miguel Elementary School from 6:30 – 8:00 pm. The purpose of the meeting was to provide a project update and results from EPA's first round of indoor air sampling results (collected in January 2015). In addition to the project team, 12 community members signed in for the meeting (see attachments at the end of this summary for a copy of the meeting sign in sheets, agenda and handouts).

The meeting was advertised through the distribution of a postcard announcement by area schools sampled (Children's Creative Learning Center, King's Academy, Rainbow School, San Miguel Elementary). Postcards were also mailed to 1,202 property owners and residents located within the project testing area (see attachments at the end of this summary for a copy of the postcard).

The meeting was set up with five information stations. Each was staffed by EPA and/or EPA contractors on hand to provide information and answer questions. Stations included: Vapor Intrusion, Vapor

Intrusion Sampling, Vapor Intrusion Mitigation Options, Health Protective Exposure Levels for TCE in Indoor Air, and Triple Site Indoor Air Sampling Area.

I. Caleb Shaffer led meeting introductions, followed by the topics listed below:

- Brief background of the area, including the companies, Philips Semiconductor (Philips), Advanced Micro Devices (AMD), and Northrop Grumman (Northrop), whose past activities contaminated groundwater in the area and EPA's role to protect the environment
    - Vapor Intrusion – when vapors rise from contaminated groundwater and may accumulate indoors in nearby buildings
- Purpose of Meeting:
    - Provide updates from testing, answer questions and next steps

II. Melanie Morash

- Introduction and acknowledgment of the team
- Results:
    - Is vapor intrusion happening in the neighborhood?
        - Yes
        - Found strong evidence that it is happening, specifically in School Buildings off of Duane Avenue
        - Sampled 4 schools and 54 residences (north of Duane Avenue up to Lakewood/Lakehaven Village area) during first round of sampling

Schools:

- All of the typical classroom-type samples collected at all of the schools sampled (with no changes to the building) came back meeting EPA's most protective and stringent requirements. Samplers were left in classrooms for a typical school day (8-12 hours depending upon the school).
- Now sampling in a new way. Approach has changed based on new information about TCE and how vapor intrusion happens.
- Expanded testing framework, including samples collected underneath buildings (crawl spaces), pathway samples on the floor of suspected entry points, and ventilation-off samples where ventilation is shut off and buildings sealed up as best can be done to allow any vapors to accumulate.
- Elevated levels of TCE vapors were measured in ventilation-off samples in at least 3 of the Montessori School buildings. These findings indicate that when no fresh outdoor air is being provided to the building, vapors from the subsurface are entering and accumulating, having the potential to cause unacceptable exposures. We are acting preemptively to address potential future issues by improving ventilation and designing permanent engineered systems to address the vapor intrusion.
- The first round of sampling at Children's Creative Learning Center found no signs of vapor intrusion. Results of the second round of testing at the school will be known soon.

- Results at San Miguel Elementary and King's Academy were similar to each other. Some of the samples taken showed no evidence of vapor intrusion; others found very low levels of vapor intrusion that are not considered to be a health risk. Results of second samples taken in these buildings will be known soon.
- Elevated results at Montessori School were acted upon immediately. We found a damper had failed in Building L, allowing no fresh air to enter. This problem was fixed immediately and resampled. After we opened the outdoor ventilation, the levels dropped immediately.
- Met with Montessori School staff and parents to provide results.

Households:

- During first sampling event, we reached out to over 400 households in December 2014. Of that number, 100 signed up and sampling appointments were made at 54 homes.
- Samples were taken over a 24-hour period and for 7 to 14 days
- Every home sampled met EPA's most protective and stringent requirements.
- Some homes showed no evidence of vapor intrusion. Other homes showed a low-level of vapor intrusion. Three homes had elevated TCE levels.
- EPA standard is 2 ug/m3. There were no exceedances of the 2 ug/m3 standard.
- The three residences with the highest levels were still below 2 ug/m3.
- We are going back to test these three households again. Homes will be closed-off; HVAC will be turned off so samples can be taken under "worst conditions".

- Next Steps:
  - We have enough information to hold this meeting with the public to convey results and provide additional information.
  - Additional Sampling:
    - Just finished additional sampling at schools.
    - June: Resample the 4 schools again and additional households.
    - Be in the neighborhood throughout 2015 into 2016, with a focus on the Duane Avenue area.
    - Winter: more testing with closed windows and heat off.
    - Continue to work with Philips, AMD, and Northrop to find root cause of contamination and clean up the ground water.
    - Historically groundwater has been pumped out via 54 extraction wells and treated with ultraviolet light and air stripping. A network of 200 active monitoring wells are sampled annually to monitor the TCE plume.
    - The technology used for this method worked well in the 1980's but looking at groundwater data over the past 10+ years, it has now plateaued and reached its limit.
    - AMD and Northrop are using a new groundwater technology involving the use of bacteria that naturally occurs underground to break down the chemicals and reduce concentrations. This technique has proven to be remarkably effective.

    - Continue to schedule internal meetings with these companies so that we can continue to clean up the groundwater.

III. Question & Answer

- Q: What does triple refer to?
- A: Information name as a collective for the three companies. There are three superfund sites.
- Q: Last school sampling was at Rainbow Montessori. From then until now, have you taken more samples and found more findings?
- A: On April 14th we met parents at Rainbow and sent letters home. As soon as we have results for updated information, we always put the information online. Later in April, we did another round of ventilation-on sampling (no changes and put samplers out). All of the typical classroom samples continue to show that they are protective levels. As long as there is fresh air provided, then the levels are protected.
    - I heard you say that those levels were revised. How do we know that these are safe levels, say 5 years from now?
    - TCE it is the most intensively studied chemical in the entire history of the EPA. Process that went into lowering levels to 2 for the short term effects and 0.48 for the long term effects was a 25 year process in the making. TCE is the most peer reviewed chemical in the whole history of the EPA. The level could change again but because it was so widely used there was a lot of effort to study and gather the information to derive these levels.
- Q: What does 2 really mean?
- A: 2 ug/m3 is the level that EPA considers protective for short-term exposure. However, we would not expect to see adverse health effects at 2 ug/m3, because these levels have been set incorporating multiple safety factors.
- Q: What other rooms at Montessori School were of concern?
- A: The music room in Building S (now used as a staff lounge) and the crawlspace in Building L. Levels were elevated when there was no ventilation. When there is ventilation, levels are acceptable. These are preliminary results. We do side by side sampling with Philips and EPA for quality assurance. Anytime we have information we can share and data is validated, we post it onto the website.
    - Building L does not have windows. I asked Montessori and they do not have plans to put in windows. Is EPA looking at this?
    - At some sites where we have sampled with similar investigations (Cupertino, Mountain View, and Santa Clara) we have found that ventilation is part of the solution to vapor intrusion. We are continuing to evaluate and look at long-term solutions such as adding ventilation, windows, etc. At Building L, ventilation is not going to be part of the solution. We are going to look at designing and installing engineering systems underneath the building to prevent the vapors from ever coming up again. Many older buildings need repaired/upgraded systems.
- Q: My home is not in the triple site area but close to it. Can I request sampling?
- A: Yes, anyone can sign up to be sampled. We evaluate it on a case by case basis.
- Q: How much variation might you expect to see going from one room to another?

- A: Evaluate all of the area to see if there are different levels (floor heaters, crawl spaces, and basement). It is very individual for the home.
- Q: Where were the three homes with the elevated results?
- A: We cannot give out addresses for privacy. One of the homes was on the 600 block of San Miguel, one was on 600 block of San Juan and the third was nearby. This will be the focus of our next testing.

Attachments

(In order)

- Meeting Postcard Announcement
- Meeting Agenda
- Triple Site Fact Sheet (English/Spanish)
- Blank Access Agreement (English/Spanish)
- School Letters (CCLC, King's, Rainbow, San Miguel Elementary)
- Vapor Intrusion: Homes & Schools Poster
- Vapor Intrusion Sampling Poster
- Vapor Intrusion Mitigation Options Poster
- Health Protective Exposure Levels for TCE in Indoor Air Poster
- Triple Site Indoor Air Sampling Area Poster

United States Environmental Protection Agency /
Agencia de Protección Ambiental de los Estados Unidos

The Triple Site / *Sitio Triple Site*

You're invited!

Thursday
May 14th, 2015
6:30 – 8:00 p.m.

¡Estas invitado!

jueves
14 de mayo, 2015
6:30 – 8:00 p.m.

San Miguel Elementary School
Multipurpose Room
777 San Miguel Avenue
Sunnyvale, CA

¡Habrá interpretation en Español!

EPA Contact
Melanie Morash
(415) 972-3050
morash.melanie@epa.gov

Contacto de EPA
Alejandro Diaz
(415) 972-3242
diaz.alejandro@epa.gov

Come to the 2nd Triple Site Community Meeting / *Venga a la 2nda Reunión Comunitaria del Sitio Triple Site*

We'll share the results from the first round of neighborhood indoor air testing and outline our next steps. / *Compartiremos los resultados de la primera vuelta del muestreo del aire interior en la vecindad y resumiremos nuestros próximos pasos.*

Agenda	
6:30	Sign in, Poster Sessions
7:15	Welcome & Introduction – Enrique Manzanilla, EPA Division Director
7:30	Indoor Air Sampling Update – Melanie Morash, EPA Project Manager
7:40	Open Discussion/Question & Answer
8:00	Meeting Adjourn

Orden del día	
6:30	Registro, Sesión de Cartulinas
7:15	Bienvenido e Introducción – Enrique Manzanilla, Director del Programa Superfund
7:30	Actualización del Muestreo del Aire Interior – Melanie Morash, Gerente del Proyecto de la EPA
7:40	Discusión Abierta/Preguntas y Respuestas
8:00	Cierre de Sesión

Website / *Sitio Web*: www.epa.gov/region9/triplesite

United States Environmental Protection Agency, Region 9
75 Hawthorne Street (SFD-7-1)
San Francisco, CA 94105
Attn: Melanie Morash (Triple Site 4/15)

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THE TRIPLE SITE COMMUNITY MEETING

THURSDAY, MAY 14, 2015, 6:30 – 8:00 P.M.

SAN MIGUEL ELEMENTARY SCHOOL
MULTIPURPOSE ROOM
777 SAN MIGUEL AVENUE
SUNNYVALE, CA

AGENDA

6:30 p.m.	**Sign in, Poster Sessions**
7:15 p.m.	**Welcome & Introduction** Enrique Manzanilla, EPA Division Director
7:30 p.m.	**Indoor Air Sampling Update** Melanie Morash, EPA Project Manager
7:40 p.m.	**Open Discussion/Question & Answer**
8:00 p.m.	**Meeting Adjourn**

REUNIÓN COMUNITARIA DEL SITIO TRIPLE SITE

JUEVES, 14 DE MAYO DE 2015, 6:30 – 8:00 P.M.

SAN MIGUEL ELEMENTARY SCHOOL
MULTIPURPOSE ROOM
777 SAN MIGUEL AVENUE
SUNNYVALE, CA

ORDEN DEL DÍA

6:30 p.m.	**Registro, Sesión de Cartulinas**
7:15 p.m.	**Bienvenido e Introducción** Enrique Manzanilla, Director del Programa Superfund
7:30 p.m.	**Actualización del Muestreo del Aire Interior** Melanie Morash, Gerente del Proyecto de la EPA
7:40 p.m.	**Discusión Abierta/Preguntas y Respuestas**
8:00 p.m.	**Cierre de Sesión**

Request for Indoor Air Sampling & Community Meeting

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • December 2014

Triple Site, Sunnyvale, California

The U.S. Environmental Protection Agency (EPA) is requesting permission from certain residents in the Duane/San Miguel Avenue neighborhood to collect indoor air samples this winter. There is no cost to owners or tenants selected for this testing, which EPA would like to conduct within the next few weeks. This sampling is part of a study of the potential for vapor intrusion (a process where vapors from groundwater contamination may migrate into the indoor air). As a precaution, EPA would like permission from owners of residences to test their indoor air to determine if there is a buildup of trichloroethene (TCE).

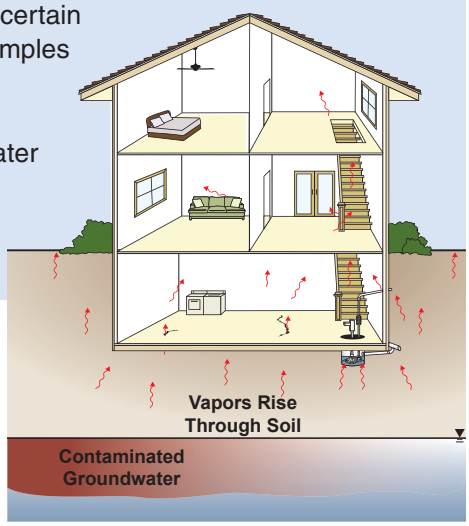


Figure 1: Vapor intrusion into a residence

TCE and Vapor Intrusion

The main chemical of concern in this investigation is TCE. TCE is a type of volatile organic chemical (VOC) which can move as vapors from groundwater through soil under certain conditions. If vapors move under a building it is possible for them to pass through cracks and other openings in the foundation and enter the indoor air (See Figure 1). If this happens, and if the levels of VOCs are high enough and prolonged enough, it may create a health risk.

TCE is present in the groundwater due to historical semiconductor and other electronics manufacturing operations from the early years of Silicon Valley (dating back to the 1960s). Since the 1980s, the parties responsible for the environmental cleanup have been conducting activities to contain and clean up TCE in the shallow groundwater.

What Has Already Been Done?

Indoor air sampling has already been conducted at the Montessori school buildings on Duane Avenue because these buildings are over the highest concentration in groundwater. Results from this testing show that levels of TCE are very low, and protective of children's health. The good news so far is that air testing at homes in another Sunnyvale neighborhood this past year (for a similar TCE cleanup site) showed no evidence of vapor intrusion.

Why Sample Again?

This past year EPA strengthened its protective levels for TCE, due to new information about potential cancer risks related to TCE exposure. New levels that would warrant an accelerated EPA response were also developed for short-term risks, including organ problems in babies whose mothers were exposed during the first trimester of pregnancy.

Note: Your drinking water does not come from groundwater in this area. Neighborhood drinking water comes from the Hetch Hetchy Reservoir in the Sierra Nevada Mountains and meets all state and federal drinking water standards.

Community Meeting

Wednesday, December 10th, 2014
6:30 – 8:00 p.m.

San Miguel Elementary School
Multipurpose Room
777 San Miguel Avenue
Sunnyvale, CA

Agenda

6:30	**Sign in, Poster Sessions**
7:15	Welcome & Introduction – Enrique Manzanilla, EPA Division Director & John Lyons, EPA Asst. Division Director
7:30	Indoor Air Sampling Update – Melanie Morash, EPA Project Manager
7:40	Open Discussion/ Question & Answer
8:00	**Meeting Adjourn**

EPA has learned more about how vapor intrusion can vary throughout the year. This is why EPA is planning to sample at schools and residences this fall and winter to confirm that EPA's health protective levels for TCE exposure are not being exceeded.

The "Triple Site"

Informally known by the collective term "Triple Site", the site includes three groundwater TCE sites – the Advanced Micro Devices 901/902 Thompson Place Superfund Site (AMD 901/902 Site), the Philips (formerly Signetics) Site (Philips Site), and the TRW Microwave Superfund Site (TRW Site).

The Triple Site also includes the area of the neighborhood outside these facilities' property boundaries, which has been impacted by TCE-containing groundwater from the three source sites. This area includes the neighborhood around Duane/San Miguel Avenue to just past Highway 101 to the north (Lakehaven Drive), and between the Sunnyvale East Drainage Channel on the west and San Miguel Avenue on the east (see map). Concentrations of TCE in the shallow groundwater in this part of the neighborhood are elevated above the acceptable level of 5 micrograms per liter (ug/L).

What Happens Next

EPA is looking to sample residential units within the sampling area shown below. Please contact Melanie Morash, EPA Project Manager or Alejandro Diaz, EPA Community Involvement Coordinator if you would like your home sampled. Please call (or e-mail) and leave a message with your name, telephone number, mailing address and/or e-mail address and the best time to reach you.

If your home is selected, sampling will be conducted during the colder, winter months and involves placing a sampling device in the home (for example, on a shelf or counter) and in the crawlspace beneath the home over a 24-hour to 2-week period. EPA's goal is to conduct two sampling events spaced several weeks apart and can work with residents on their preferred sampling time. EPA will notify each resident individually of the results within a few weeks after the testing. If levels exceed EPA's health-based screening levels, EPA will present options to each resident as to how to proceed. EPA will also distribute another fact sheet to the neighborhood in early 2015 that summarizes the results of this investigation and next steps for the community.

Who Do I Contact If I Would Like My Home Sampled?

Please contact any of the following if you would like your home sampled:

Melanie Morash
EPA Project Manager
(415) 972-3050
morash.melanie@epa.gov

Alejandro Diaz
EPA Community Involvement Coordinator
(415) 972-3242
diaz.alejandro@epa.gov

Visit EPA's website for more information on the Triple Site: **www.epa.gov/region9/triplesite**

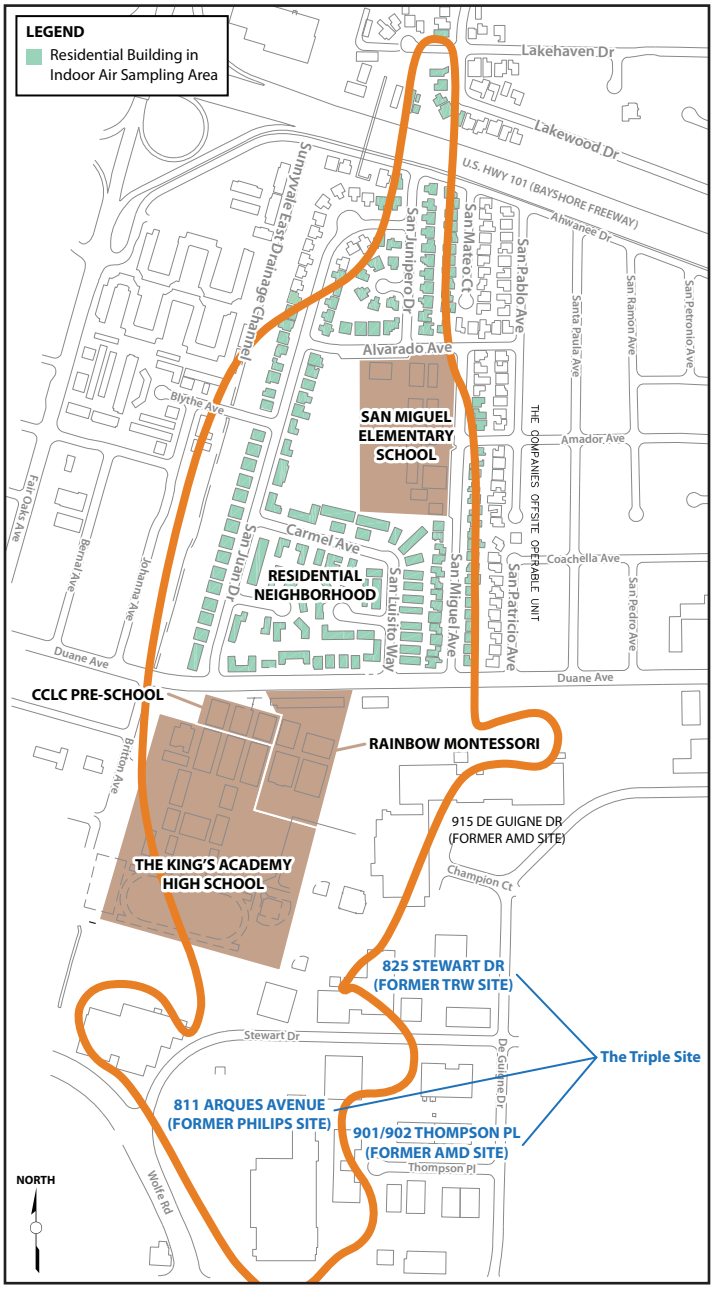


Figure 2: Indoor air sampling area. Approximate extent of TCE contamination above 5 micrograms per liter (µg/L) in shallow groundwater (around 10 ft).

Solicitud Para Obtener Muestras del Aire Interior y Reunión Comunitaria

Agencia de Protección Ambiental de EE.UU. • Región 9 • San Francisco, CA • diciembre 2014

El Sitio Triple, Sunnyvale, California

La Agencia de Protección Ambiental de los EE.UU. (EPA, por sus siglas en inglés) está solicitando permiso de los residentes en la vecindad de Duane/San Miguel Avenue para recolectar muestras del aire interior en este invierno. No hay ningún costo para los propietarios o inquilinos para estas muestras, que la EPA le gustaría llevar a cabo en las próximas semanas. Este muestreo es parte de una investigación de la posibilidad de intrusión de vapores (un proceso en donde los vapores de la contaminación del agua subterránea podrían emigrar hacia el aire interior). Como precaución, la EPA le pide permiso a los propietarios de las residencias para obtener muestras del aire interior para determinar si hay acumulación de tricloroetano (TCE).

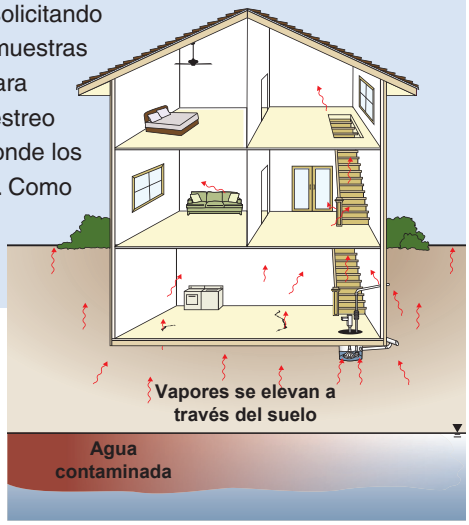


Figura 1: Intrusión de vapores hacia una residencia

Intrusión de Vapores y TCE

El químico de preocupación principal en esta investigación es TCE. TCE es un compuesto orgánico volátil (VOC) que puede ascender como vapores del agua subterránea a través del suelo bajo ciertas condiciones. Si los vapores se mueven bajo un edificio, es posible que pasen a través de las grietas y otras aperturas en los cimentos y entren al aire interior. Si esto sucede, y si los niveles de VOCs son suficientemente altos y prolongados, podrían crear un riesgo para la salud.

TCE está presente en el agua subterránea debido a las fabricación histórica de semiconductores y otros electrónicos desde los primeros años de Silicon Valley (de la década de 1960). Desde la década de los 1980s, las empresas encargadas de limpieza del medio ambiente han llevada a cabo actividades para contener y limpiar TCE en el agua subterránea poco profunda.

Lo que ya se ha hecho

Muestreo del aire interior ya se ha hecho en los edificios escolares Montessori sobre Duane Ave porque estos edificios están localizados sobre las concentraciones más altas en el agua subterránea. Los resultados de estas muestras indican que los niveles de TCE son muy bajos, y protegen la salud infantil. La buena noticia, hasta ahora es que las pruebas del aire en las casas en otro vecindad de Sunnyvale este año pasado (para un sitio similar de limpieza de TCE) no mostró evidencia de intrusión de vapor.

¿Por qué es necesario hacer más muestreos?

Este último año la EPA fortaleció los niveles de protección para TCE, esto fue debido a nueva información sobre los posibles riesgos de cáncer relacionados con la exposición de TCE. Los nuevos niveles que justificarían una repuesta acelerada por la EPA también fueron desarrollados para riesgos a corto plazo, incluyendo problemas de órganos en los bebés cuyas madres fueron expuestas durante el primer trimestre de embarazo.

Nota: Su agua potable no es afectado por esta contaminación. El agua potable para la vecindad proviene de la Presa Hetch Hetchy en las Montañas Sierra Nevada y cumplen con todos los estándares estatales y federales para el agua potable.

Reunión Comunitaria

miércoles, 10 de diciembre de 2014
6:30 – 8:30 pm

San Miguel Elementary School
Multipurpose Room
777 San Miguel Avenue
Sunnyvale, CA

Agenda

6:30	**Registro y Sesiones de Póster**
7:15	Bienvenido e introducciones – Enrique Manzanilla, Director de la División; John Lyons, Director Asistente de la División
7:30	Actualización del Muestreo – Melanie Morash, Gerente del Proyecto de la EPA
7:40	Discusión Abierta/Preguntas y Respuestas
8:00	**Clausura de la Reunión**

La EPA ha aprendido más sobre cómo la intrusión de vapores podría variar durante el año. Esta es la razón porque la EPA está planeando tomar muestras en las escuelas y residencias durante este invierno para confirmar que no sobrepasan los nuevos niveles más bajos para exposición de TCE.

El "Triple Site"

El sitio informalmente conocido por el termino colectivo "Triple Site" incluye tres sitios de contaminación de TCE en el agua subterránea – El Sitio Superfund Advanced Micro Devices 901/902 Thompson Place (Sitio AMD 901/902), el Sitio Philips (previamente Signetics), y el Sitio TRW Microwave (Sitio TRW).

El Sitio también incluye el área de la vecindad fuera de las fronteras de las instalaciones, que han sidos contaminados por TCE en el agua subterránea por estos sitios fuentes. Esta área incluye la vecindad cerca de Duane/San Miguel Avenue al límite de la carretera 101 al norte, dentro del Canal de Drenaje del este de Sunnyvale en de la Avenida Santa Paula en el este (ver figura 2). Concentraciones de TCE en la vecindad están elevados sobre el nivel aceptable de 5 microgramos por litro (ug/L).

Próximos Pasos

La EPA está buscando recolectar muestras en unidades residenciales dentro las áreas de muestreo indicados abajo. Por favor comunicase con Alejandro Díaz, Coordinador de Participación Comunitaria de la EPA si usted desea que su hogar sea muestreado. Por favor llame (o mande correo electrónico) y deje un mensaje con tu nombre, número de teléfono, dirección de correo y/o correo electrónico y el horario más conveniente para comunicarse con usted.

Si su es seleccionada, el muestreo será durante los meses más fríos de inverno e incluye colocar un aparato para en tu casa (por ejemplo, en un armario o sobre una mesa) y en el semisótano debajo de tu casa por un periodo de 24 horas a 2 semanas. La meta es de conducir dos eventos de muestreo separados por varias semanas y se puede trabajar con los residentes en sus horarios preferidos. La EPA notificará cada residente individualmente con los resultados entre unas semanas después de tomar las muestras. Si los niveles sobre pasan los niveles de evaluación basados en la salud, la EPA presentara opciones a cada residente en como remediarlo. La EPA tambien hará otra hoja informativa para la comunidad en los principios del 2015 para resmir los primeros resultados de esta ivestigación y los proximos eventos de mustreo para la comunidad.

¿Con quién me puedo contactar si gustaría tener mi casa incluido el muestreo?

Por favor comunicase con cualquiera de los siguientes contactos si desea tener su hogar muestreado:

Alejandro Díaz
(hispanohablante)
Coordinador de Participación Comunitaria de la EPA
(415) 972-3242
diaz.alejandro@epa.gov

Melanie Morash
EPA Gerente de Proyecto
(415) 972-3050
morash.melanie@epa.gov

Visita el sitio web de la EPA (en inglés) para más información en el Sito Triple: **www.epa.gov/region9/triplesite**

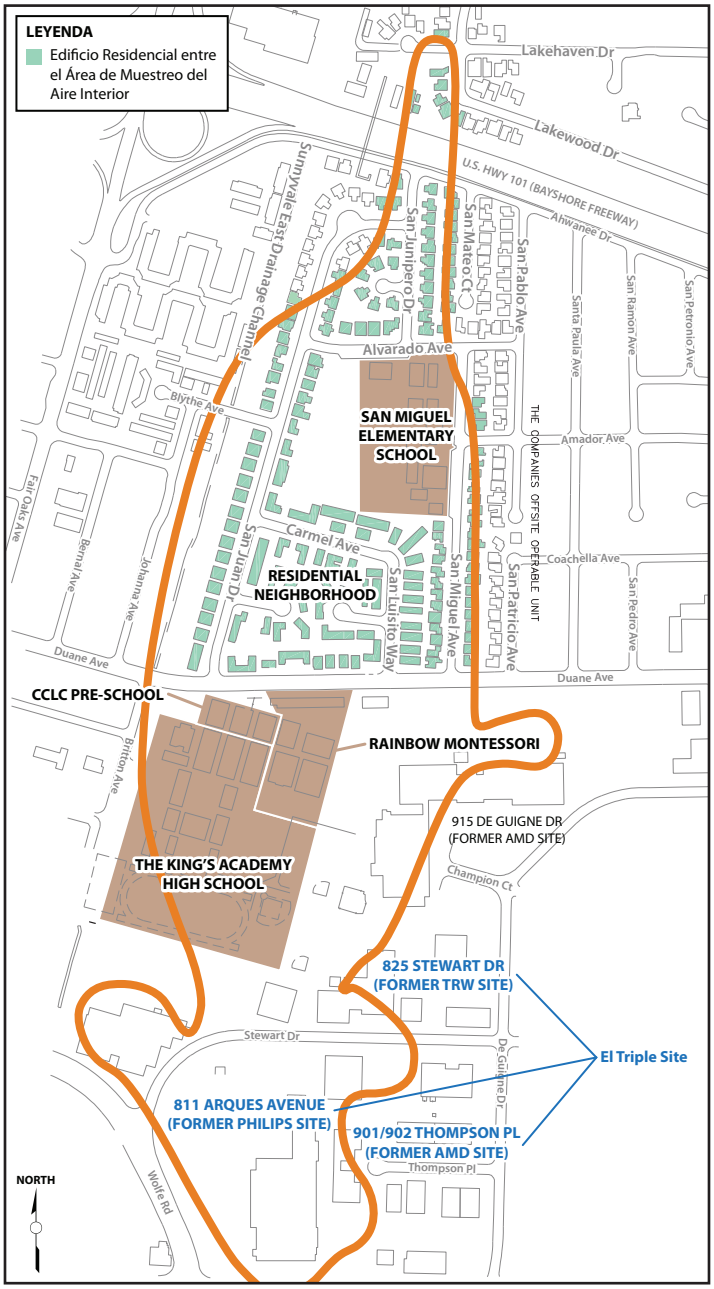


Figura 2: Área de Muestras del Aire Interior y la extensión aproximada de la contaminación TCE sobre 5 ug/L en el agua subterránea poco profundo (alrededor de 10 pies).

SAMPLING ACCESS AGREEMENT

This Sampling Access Agreement ("Agreement") is entered into on this _____ day of _____ 2015, between _____ ("Owner") and the U.S. Environmental Protection Agency ("EPA").

Terms and Conditions

1. Access. Owner grants EPA and its designated agents, contractors, and representatives access to the property located at _____ in Sunnyvale, California (the "Property"), for the purpose of obtaining indoor air samples as part of EPA's indoor air quality investigations in Sunnyvale, California. Access to the Property will be at such times and locations and along such routes as are acceptable to Owner for the sole purpose of conducting indoor air sampling. All sampling conducted under this Agreement shall be without cost to Owner. No other activities shall be conducted without the consent of Owner.

2. Non-Interference. EPA's indoor air sampling work will at all times be conducted in such a way as to minimize interference with the Owner's use and enjoyment of the Property. EPA will at all times keep the Property free from accumulations of materials.

3. Restoration. When EPA's indoor air sampling work has finished, EPA shall remove any and all materials brought onto the Property by EPA.

4. Termination. This Agreement will terminate when EPA has completed the indoor air sampling activities.

5. Warranty. Owner warrants and represents that he/she: (a) is the owner of the Property and has the authority to enter into this Agreement to grant access to EPA to perform indoor air sampling work; (b) will refrain from using common sources of TCE during the sampling period; and (c) will not move, tamper with, or damage sampling equipment.

6. Choice of Laws. This Agreement shall be governed by and interpreted in accordance with federal law and, where appropriate, the laws of the State of California.

7. Entire Agreement. This Agreement constitutes the entire agreement of the parties and may not be amended or modified, except in writing and signed by the parties.

OWNER

Signature:_____
Name:_____
Date:_____
Telephone:_____
E-mail:_____
Mailing Address:_____
_____
_____

EPA

Signature:_____
Name:_____
Title:_____
Date:_____

ACUERDO DE ACCESO DE MUESTREO

Este Acuerdo de Acceso de Muestreo ("Acuerdo") se introduce en este _____ día de _____ 2015, entre _____ ("Propietario") y la Agencia de Protección Ambiental del EE.UU. ("EPA").

Términos y Condiciones

1. Acceso. Propietario otorga a la EPA y sus agentes, contratistas, y representantes designados acceso a la propiedad ubicado en _____ en Sunnyvale, California (la "Propiedad"), para el propósito de la obtener muestras del aire interior como parte de las investigaciones de la calidad del aire interior de la EPA en Sunnyvale, California. Acceso a la propiedad será en las fechas y lugares y por las vías que sean aceptables para el propietario con el único propósito de llevar a cabo el muestreo del aire interior. Todo el muestreo llevado a cabo bajo este Acuerdo se hará sino costo alguno para el Propietario. Ninguna otra actividad se llevara a cabo sin el permiso del Propietario.

2. No-Interferencia. Trabajos de muestreo del aire interior de la EPA en todo momento se harán de tal manera que se minimice la interferencia con el uso y gozar por el Propietario de la Propiedad. La EPA en todo momento mantendrá la Propiedad libre de cualquier acumulación de materiales.

3. Restauración. Cuando se termina el trabajo del muestreo la EPA deberá eliminar cualquiera y todos los materiales traídos a la Propiedad por la EPA.

4. Terminación. Este Acuerdo terminara cuando la EPA ha completado las actividades de muestreo del aire interior.

5. Garantía. Propietario garantiza y representa que él/ella: es el propietario(a) de la Propiedad y que tiene autorización para entrar en este Acuerdo para otorgar acceso a la EPA para realizar trabajos de muestreo del aire interior; (b) se abstengan de utilizar fuentes comunes de TCE durante el periodo de muestreo; y (c) no se moverá, manipulara, o dañara el equipo de muestreo.

6. Elección de Leyes. Este Acuerdo se regirá e interpretara de conformidad con las leyes federales y, cuando aplicable, las leyes del estado de California.

7. Acuerdo Completo. Este acuerdo constituye el Acuerdo completo por los partidos y no podrá ser enmendado o modificado, excepto por escrito y firmado por las partidos.

PROPIETARIO

Firma:_____
Nombre:_____
Fecha:_____
Teléfono:_____
E-Mail:_____
Domicilio: _____
_____
_____

U.S. EPA

Firma:_____
Nombre:_____
Titulo:_____
Fecha:_____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY • REGION IX
75 Hawthorne Street • San Francisco, CA 94105

March 2015

Children's Creative Learning Center
Sunnyvale, California

Dear Parents and Community Members:

We are sending this third letter to update you with the results of the trichloroethene (TCE) indoor air testing that was conducted by the U.S. Environmental Protection Agency (EPA) at your school this past January and February, associated with the long-term groundwater cleanup at the "Triple Site." **EPA is working diligently to ensure the community is being protected from any chemicals related to the Triple Site. The good news is that in this sampling round all of the samples collected at your school showed very low concentrations which do not pose a health risk.**

The Children's Creative Learning Center (CCLC) Sampling Results

None of the CCLC samples showed any evidence of vapor intrusion and fully meet EPA's requirements for protecting children's health. All of the sample results were similar to the very low levels measured in outdoor air (and which are typical for a South Bay city).

Background on EPA Investigation

As you may know, EPA has been investigating the potential for vapor intrusion – a process where vapors from groundwater contamination may migrate into the indoor air – at schools and residences in the Duane/San Miguel Avenue neighborhood. Indoor air sampling has been conducted every year for the past 10 years at the Rainbow Montessori Child Development Center (Rainbow Montessori) to confirm that levels meet EPA's requirements for protecting children's health.

However, because we have learned more about how vapor intrusion can vary over time, EPA recently lowered its screening levels for TCE in indoor air to make them more protective. In addition, EPA has developed a more comprehensive testing approach. EPA took more air samples at Rainbow Montessori, The King's Academy, CCLC and San Miguel Elementary School this past winter, as well as at 54 households in the neighborhood, to make sure that the new, lower levels for TCE are not being exceeded. The first round of sampling was conducted during the winter months, when we expect the concentrations of TCE in indoor air to be at their highest.

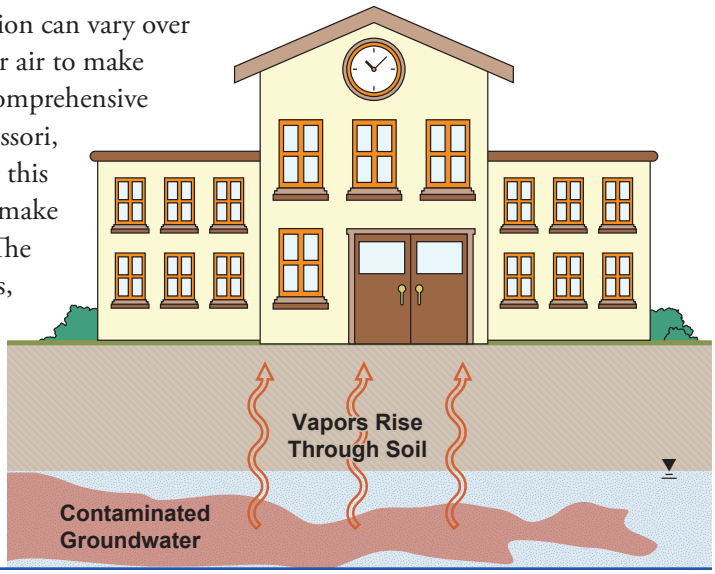


Figure: Vapor intrusion into a building

EPA considers the safe range of concentrations of TCE to be below 2.0 micrograms per cubic meter ($\mu g/m^3$) for "residential use," which assumes a 24-hour-per-day/7-day-per-week exposure. These levels are very conservative for school occupancy, where exposures times are much less.

TCE and Vapor Intrusion

The main chemical of concern in this area of Sunnyvale is TCE. TCE can move as a vapor from groundwater up through soil under certain conditions. If vapors move under a building it is possible for them to pass through cracks and other openings in the foundation and enter the indoor air. If this happens, and if the levels are high enough and prolonged enough, it might create a health risk.

Note: Your drinking water is not affected by this contamination. Drinking water in this area of Sunnyvale comes from the Hetch Hetchy Reservoir in the Sierra Nevada Mountains and meets all state and federal drinking water standards.

Next Steps

EPA will coordinate ventilation inspections with a Heating, Ventilation and Air Conditioning (HVAC) Specialist at each school to ensure that each system is functioning correctly and bringing fresh outdoor air into each classroom. **We are confident that supplying outdoor air to the classrooms will maintain the air quality for the children and teachers.** More sampling events at schools and homes are planned to better understand the vapor intrusion and help us decide whether additional monitoring and mitigation systems are needed as precautionary measures to further reduce risk.

Please do not hesitate to contact me at (415) 972-3050 or by e-mail to *morash.melanie@epa.gov* if you have any questions. You may also contact EPA's Community Involvement Coordinator, Alejandro Diaz, at (415) 972-3242 or by e-mail to *diaz.alejandro@epa.gov*. EPA also has a website for the project: **www.epa.gov/region9/triplesite** which has additional information.

Sincerely,

Melanie Morash

Melanie Morash, Project Manager

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY • REGION IX
75 Hawthorne Street • San Francisco, CA 94105

March 2015

The King's Academy
Sunnyvale, California

Dear Parents and Community Members:

We are sending this letter to update you with the results of the trichloroethene (TCE) indoor air testing that was conducted by the U.S. Environmental Protection Agency (EPA) at your school this past January and February, associated with the long-term groundwater cleanup at the "Triple Site." **EPA is working diligently to ensure the community is being protected from any chemicals related to the Triple Site. The good news is that in this sampling round the majority of samples showed very low concentrations which do not pose a health risk.**

The King's Academy Sampling Results

All of the samples collected from The King's Academy fully met EPA's requirements for protecting children's health. TCE was detected in some samples at concentrations higher than outdoor air (which is around 0.2 micrograms per cubic meter or $\mu g/m^3$, typical for a South Bay city). The maximum concentration was detected in a sample collected from a crawlspace beneath a portable classroom, which measured 1.1 $\mu g/m^3$. However, samples collected from inside the portable classroom itself were similar to outdoor air.

Background on EPA Investigation

As you may know, EPA has been investigating the potential for vapor intrusion – a process where vapors from groundwater contamination may migrate into the indoor air – at schools and residences in the Duane/San Miguel Avenue neighborhood. Indoor air sampling has been conducted every year for the past 10 years at the Rainbow Montessori Child Development Center (Rainbow Montessori) to confirm that levels meet EPA's requirements for protecting children's health.

However, because we have learned more about how vapor intrusion can vary over time, EPA recently lowered its screening levels for TCE in indoor air to make them more protective. In addition, EPA has developed a more comprehensive testing approach. EPA took more air samples at Rainbow Montessori, The King's Academy, Children's Creative Learning Center and San Miguel Elementary School this past winter, as well as at 54 households in the neighborhood, to make sure that the new, lower levels for TCE are not being exceeded. The first round of sampling was conducted during the winter months, when we expect the concentrations of TCE in indoor air to be at their highest.

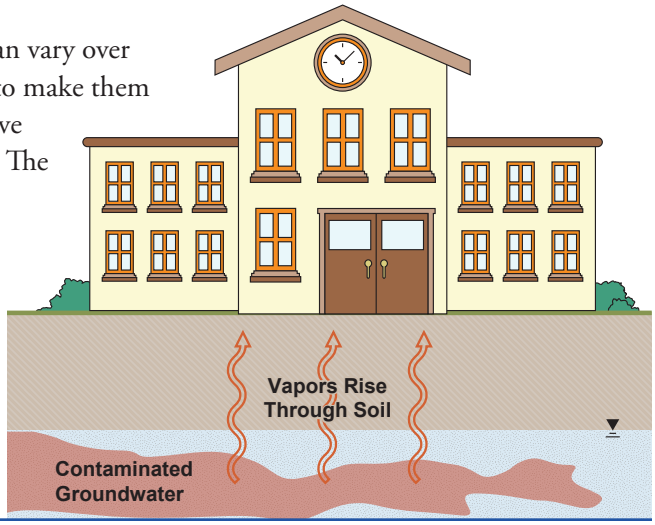


Figure: Vapor intrusion into a building

EPA considers the safe range of concentrations of TCE to be below 2.0 µg/m^3 for "residential use," which assumes a 24-hour-per-day/7-day-per-week exposure. These levels are very conservative for school occupancy, where exposures times are much less.

TCE and Vapor Intrusion

The main chemical of concern in this area of Sunnyvale is TCE. TCE can move as a vapor from groundwater up through soil under certain conditions. If vapors move under a building it is possible for them to pass through cracks and other openings in the foundation and enter the indoor air. If this happens, and if the levels are high enough and prolonged enough, it might create a health risk.

Note: Your drinking water is not affected by this contamination. Drinking water in this area of Sunnyvale comes from the Hetch Hetchy Reservoir in the Sierra Nevada Mountains and meets all state and federal drinking water standards.

Next Steps

EPA will coordinate ventilation inspections with a Heating, Ventilation and Air Conditioning (HVAC) Specialist at each school to ensure that each system is functioning correctly and bringing fresh outdoor air into each classroom. **We are confident that supplying outdoor air to the classrooms will maintain the air quality for the children and teachers.** More sampling events at schools and homes are planned to better understand the vapor intrusion and help us decide whether additional monitoring and mitigation systems are needed as precautionary measures to further reduce risk.

Please do not hesitate to contact me at (415) 972-3050 or by e-mail to *morash.melanie@epa.gov* if you have any questions. You may also contact EPA's Community Involvement Coordinator, Alejandro Diaz, at (415) 972-3242 or by e-mail to *diaz.alejandro@epa.gov*. EPA also has a website for the project: **www.epa.gov/region9/triplesite** which has additional information.

Sincerely,

Melanie Morash

Melanie Morash, Project Manager

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY • REGION IX
75 Hawthorne Street • San Francisco, CA 94105

March 2015

Rainbow Montessori Child Development Center
Sunnyvale, California

Dear Parents and Community Members:

We are sending this letter to update you with the results of the trichloroethene (TCE) indoor air testing that was conducted by the U.S. Environmental Protection Agency (EPA) at your school this past January and February, associated with the long-term groundwater cleanup at the "Triple Site."

EPA is working diligently to ensure the community is being protected from any chemicals related to the Triple Site. In this past sampling round, some results showed evidence of chemicals in indoor air, indicating that the phenomenon called vapor intrusion is likely occurring. We're continuing to investigate to better understand the problem and make sure that no cleaning products or other chemicals being stored indoors are interfering with our sampling.

The good news is that the majority of samples showed very low concentrations which do not pose a health risk, and we acted quickly to respond to one sample that was elevated – promptly lowering the levels by fixing the ventilation system.

EPA and the Rainbow Montessori staff would also like to invite parents to an informational meeting to learn more about the air testing and meet the EPA staff who are directly involved in the project. This meeting will be held on Tuesday, April 14th at 6:15 p.m. in the Building L Auditorium at the Rainbow Montessori campus.

Rainbow Montessori Sampling Results

As expected, the majority of the locations sampled at Rainbow Montessori showed low concentrations of TCE which do not pose a health risk. Only one room, the Building L auditorium, has occasionally shown concentrations that are unexpectedly high. We discovered a ventilation issue and worked to address it to promptly lower levels in the short term. In the long term, our work will continue to ensure that a permanent, reliable solution is maintained. We are also investigating further to determine whether some of the TCE detected in indoor air is coming from an indoor source (such as a cleaning chemical or consumer product).

In the small auditorium in Building L, one seven-day sample showed an elevated level of TCE (16 micrograms per cubic meter or µg/m^3). However, shorter duration samples taken in the same room (1-hour, 8-hour, and 12-hour), all showed acceptable TCE concentrations. Because the results of the seven-day sample were so unlike the other samples taken in the same room, a second round of samples was collected and analyzed. These second round samples all showed acceptable concentrations, similar to the shorter duration samples in the first round. Nevertheless, EPA conducted a third round of sampling in the auditorium to be safe. The third sampling event (seven-day) showed slightly elevated levels of TCE (2.4 to 2.8 µg/m^3).

Samples were also taken in the crawlspace below Building L, as well as in all of the other buildings. The crawlspace sample from Building L was the only other sample showing a heightened concentration above EPA's acceptable range – measuring 6.2 µg/m^3. Though the crawlspace is not easily accessible, the elevated results indicate that vapors are present, and **to be fully protective a mitigation system is being designed for this building** – a "crawlspace venting system."

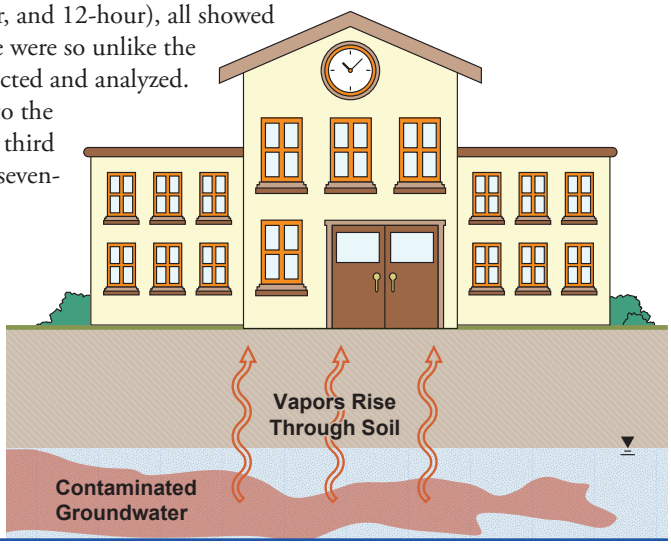


Figure: Vapor intrusion into a building

Two other samples showed levels that were acceptable in terms of health risks, although towards the upper end of EPA's safe range – a classroom sample in Building H (1.5 µg/m^3) and a crawlspace sample beneath Building V (1.9 µg/m^3). Additional samples will be taken in these locations and others to better understand the potential for these levels to vary over time, and whether mitigation systems in these buildings would be appropriate to further reduce risk.

Ventilation Issue

Due to the one elevated sample in the auditorium, we immediately initiated a series of response actions. We discovered that a malfunctioning actuator in the rooftop ventilation system was stuck in the "closed" position, so no fresh air was being brought into the building by the ventilation system. Repairs to the system were made and follow-up sampling confirmed that TCE levels were promptly lowered to 0.2 µg/m^3, which is the same as typical levels of TCE in outdoor air. **EPA believes that there was not a significant exposure to students or teachers because the auditorium was used infrequently and when it was used, for only short periods of time.** These shorter periods would be better represented by the shorter duration samples, all of which met EPA's requirements for protecting children's health.

Background on EPA Investigation

As you may know, EPA has been investigating the potential for vapor intrusion – a process where vapors from groundwater contamination may migrate into the indoor air – at schools and residences in the Duane/San Miguel Avenue neighborhood. Indoor air sampling has been conducted every year for the past 10 years at Rainbow Montessori to confirm that levels meet EPA's requirements for protecting children's health.

However, because we have learned more about how vapor intrusion can vary over time, EPA recently lowered its screening levels for TCE in indoor air to make them more protective. In addition, EPA has developed a more comprehensive testing approach. EPA took more air samples at Rainbow Montessori, The King's Academy, Children's Creative Learning Center and San Miguel Elementary School this past winter, as well as at 54 households in the neighborhood, to make sure that the new, lower levels for TCE are not being exceeded. The first round of sampling was conducted during the winter months, when we expect the concentrations of TCE in indoor air to be at their highest.

EPA considers the safe range of concentrations of TCE to be below 2.0 µg/m^3 for "residential use," which assumes a 24-hour-per-day/7-day-per-week exposure. These levels are very conservative for school occupancy, where exposures times are much less.

TCE and Vapor Intrusion

The main chemical of concern in this area of Sunnyvale is TCE. TCE can move as a vapor from groundwater up through soil under certain conditions. If vapors move under a building, it is possible for them to pass through cracks and other openings in the foundation and enter the indoor air. If this happens, and if the levels are high enough and prolonged enough, it might create a health risk.

Note: Your drinking water is not affected by this contamination. Drinking water in this area of Sunnyvale comes from the Hetch Hetchy Reservoir in the Sierra Nevada Mountains and meets all state and federal drinking water standards.

Next Steps

In the next few weeks EPA will coordinate ventilation inspections with a Heating, Ventilation and Air Conditioning (HVAC) Specialist to ensure that each system is functioning correctly and bringing fresh outdoor air into each classroom. **We are confident that supplying outdoor air to the classrooms will maintain the air quality for the children and teachers.** More sampling events at schools and homes are planned to better understand the vapor intrusion and help us decide whether additional monitoring and mitigation systems are needed as precautionary measures to further reduce risk.

Please do not hesitate to contact me at (415) 972-3050 or by e-mail to *morash.melanie@epa.gov* if you have any questions. You may also contact EPA's Community Involvement Coordinator, Alejandro Diaz, at (415) 972-3242 or by e-mail to *diaz.alejandro@epa.gov*. EPA also has a website for the project: **www.epa.gov/region9/triplesite** which has additional information.

Sincerely,

Melanie Morash

Melanie Morash, Project Manager

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY • REGION IX
75 Hawthorne Street • San Francisco, CA 94105

March 2015

San Miguel Elementary School
Sunnyvale, California

Dear Parents and Community Members:

We are sending this third letter to update you with the results of the trichloroethene (TCE) indoor air testing that was conducted by the U.S. Environmental Protection Agency (EPA) at your school this past January and February, associated with the long-term groundwater cleanup at the "Triple Site." **EPA is working diligently to ensure the community is being protected from any chemicals related to the Triple Site. The good news is that in this sampling round the majority of samples showed very low concentrations which do not pose a health risk.**

San Miguel Elementary School Sampling Results

All of the samples collected from San Miguel Elementary fully met EPA's requirements for protecting children's health. TCE was detected in some samples at concentrations higher than outdoor air (which is around 0.2 micrograms per cubic meter or $\mu g/m^3$, typical for a South Bay city). The maximum concentration was detected in a sample collected from a crawlspace beneath the California Young World portable classroom, which measured 1.3 $\mu g/m^3$. However, samples collected from inside the portable classroom itself were similar to outdoor air.

Background on EPA Investigation

As you may know, EPA has been investigating the potential for vapor intrusion – a process where vapors from groundwater contamination may migrate into the indoor air – at schools and residences in the Duane/San Miguel Avenue neighborhood. Indoor air sampling has been conducted every year for the past 10 years at the Rainbow Montessori Child Development Center (Rainbow Montessori), which continues to confirm that levels meet EPA's requirements for protecting children's health.

However, because we have learned more about how vapor intrusion can vary over time, EPA recently lowered its screening levels for TCE in indoor air to make them more protective. In addition, EPA has developed a more comprehensive testing approach. EPA took more air samples at Rainbow Montessori, The King's Academy, Children's Creative Learning Center and San Miguel Elementary School this past winter, as well as at 54 households in the neighborhood, to make sure that the new, lower levels for TCE are not being exceeded. The first round of sampling was conducted during the winter months, when we expect the concentrations of TCE in indoor air to be at their highest.

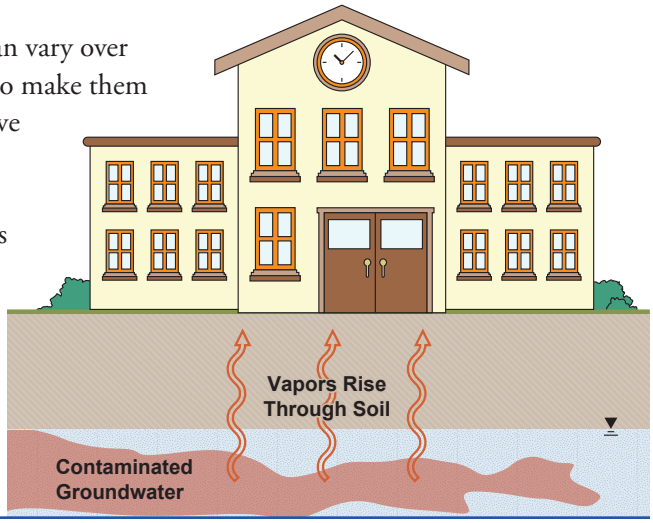


Figure: Vapor intrusion into a building

Again, the majority of school samples showed very low concentrations which do not pose a health risk, with the exception of one sample (out of more than 100 total) that was unexpectedly high – collected from Rainbow Montessori's Building L auditorium. EPA has sent a letter similar to this one to Rainbow Montessori parents, with more information about the testing results in Building L. EPA discovered a ventilation issue at this building and worked to address it to promptly lower levels in the short term. To be fully protective in the long term a mitigation system is being designed for this building, and we are continuing to investigate further to better understand the problem.

EPA considers the safe range of concentrations of TCE to be below 2.0 $\mu g/m^3$ for "residential use," which assumes a 24-hour-per-day/7-day-per-week exposure. These levels are very conservative for school occupancy, where exposures times are much less.

TCE and Vapor Intrusion

The main chemical of concern in this area of Sunnyvale is TCE. TCE can move as a vapor from groundwater up through soil under certain conditions. If vapors move under a building it is possible for them to pass through cracks and other openings in the foundation and enter the indoor air. If this happens, and if the levels are high enough and prolonged enough, it might create a health risk.

Note: Your drinking water is not affected by this contamination. Drinking water in this area of Sunnyvale comes from the Hetch Hetchy Reservoir in the Sierra Nevada Mountains and meets all state and federal drinking water standards.

Next Steps

EPA will coordinate ventilation inspections with a Heating, Ventilation and Air Conditioning (HVAC) Specialist at each school to ensure that each system is functioning correctly and bringing fresh outdoor air into each classroom. **We are confident that supplying outdoor air to the classrooms will maintain the air quality for the children and teachers.** More sampling events at schools and homes are planned to better understand the vapor intrusion and help us decide whether additional monitoring and mitigation systems are needed as precautionary measures to further reduce risk.

Please do not hesitate to contact me at (415) 972-3050 or by e-mail to *morash.melanie@epa.gov* if you have any questions. You may also contact EPA's Community Involvement Coordinator, Alejandro Diaz, at (415) 972-3242 or by e-mail to *diaz.alejandro@epa.gov*. EPA also has a website for the project: **www.epa.gov/region9/triplesite** which has additional information.

Sincerely,

Melanie Morash

Melanie Morash, Project Manager

AGENICA DE PROTECCIÓN AMBIENTAL DE LOS ESTADOS UNIDOS • REGIÓN IX

75 Hawthorne Street • San Francisco, CA 94105

marzo 2015

Escuela San Miguel Elementary
Sunnyvale, California

Estimados Padres y Miembros de la Comunidad:

Estamos mandando esta tercera carta para actualizarte con los resultados del muestreo de tricloroetano (TCE, por sus siglas en inglés) realizado por la Agencia de Protección Ambiental de los Estados Unidos (EPA) en su escuela este pasado enero y febrero, asociado con la limpieza a largo plazo del agua subterránea en el Sitio "Triple Site." **La EPA está trabajando fuerte para asegurar que la comunidad está siendo protegida de posibles químicos relacionados con el Triple Site. Las buenas noticias es que en esta vuelta de muestreo, la mayoría de las muestras demuestran concentraciones muy bajas que no presentan riesgos a la salud.**

Resultados de las Muestras de la Escuela San Miguel Elementary

Todos los resultados recolectados de la escuela San Miguel Elementary completamente cumplen con los estándares de la EPA para proteger la salud de los niños. Sin embargo, algunos de los resultados fueron más altos que los del aire libre (que es cerca de 0.2 microgramos por metro al cubo o $\mu g/m^3$, nivel típico por una ciudad del Sur de la Bahía). El nivel más alto fue de un semisótano debajo del salón California Young World, que fue a 1.3 $\mu g/m^3$. Sin embargo, los resultados dentro del salón portátil fueron similares al aire libre.

Antecedentes de la Investigación de la EPA

Como podrían saber, la EPA ha estado investigando el potencial para la intrusión de vapor – un proceso en donde vapor de contaminación del agua subterránea podría emigrar hacia el aire interior – en escuelas y residencias en las vecindades Duane/ San Miguel Avenue. Muestreo del aire interior ha ocurrido cada año por los últimos 10 años en el Rainbow Montessori Child Development Center (Rainbow Montessori), y continúa a confirmar que los niveles protegen la salud de los niños.

Sin embargo, por que hemos aprendido más sobre como la intrusión de vapor puede variar al pasar del tiempo, la EPA ha fortalecido los niveles de protección para TCE y ha desarrollado métodos de muestreo más comprensivos. La EPA tomo más muestras del aire en las escuelas Rainbow Montessori, The Kings Academy, Children's Creative Learning Center y San Miguel Elementary y también en 54 residencias en la vecindad este pasado invierno para asegurar que no sobrepasan los nuevos, niveles más bajos de TCE. La primera fase de muestreo fue durante el invierno, durante la época que esperamos que los niveles estarían más elevados.

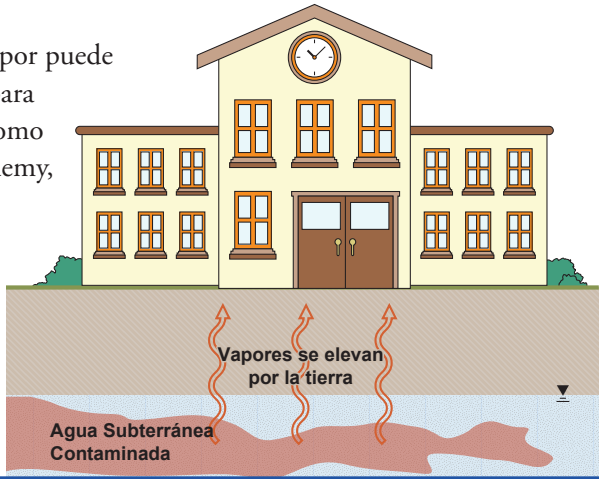


Figura: La intrusión de vapores en un edificio

De nuevo, la mayoría de las muestras de la escuela demostraron que hay concentraciones muy bajas que no presentan riesgos a la salud, con la excepción de una de las muestras (de más de 100 en total) que fue inesperadamente alto. Esta muestra fue recolectada del auditorio Building L de la escuela Rainbow Montessori. La EPA ha mandado una carta similar a esta a los padres de la escuela Montessori, con más información sobre los resultados del muestreo en el auditorio Building L. La EPA se dio cuenta de un problema de ventilación en este edificio y trabajo para abordar y bajar los niveles de inmediato. Para proteger completamente a largo plazo, se construirá un sistema de limpieza para este edificio y seguiremos a investigar más para mejor entender el problema.

La EPA considera que el rango de concentraciones consideradas seguras para TCE es debajo de 2.0 $\mu g/m^3$ para "uso residencial," que asume una exposición de 24 horas por día/7 días de la semana. Estos niveles son muy conservadores para una escuela, donde tiempo de exposición sería mucho menos.

TCE e Intrusión de Vapor

El químico de preocupación principal en esta área de Sunnyvale es TCE. TCE puede moverse como un vapor a través del agua subterránea y por la tierra bajo ciertas condiciones. Si vapores se mueven hacia debajo de un edificio, es posible que pasen por grietas y otras aperturas en los cimientos para entrar en el aire del interior. Si esto pasa, y si los niveles están suficientemente elevados y prolongados, podrían causar un riesgo a la salud.

Nota: Su agua potable no es afectado por esta contaminación. El agua potable de este parte de Sunnyvale viene de la Presa Hetch Hetchy en las montañas Sierra Nevada y cumplen con todos los estándares estatales y federales.

Próximos Pasos

La EPA coordinara inspecciones de ventilación con especialistas de Calefacción, Ventilación y de Aire Acondicionado (HVAC) en cada escuela para asegurarse que cada sistema está funcionando correctamente y ventilando con aire fresco de afuera en cada clase. **Estamos confiados en que proveer aire libre a los salones escolares mantendrá una buena calidad de aire para los niños y maestros.** Mas eventos de muestreo están planeados para escuelas y residencias para mejor entender la intrusión de vapores y para ayudarnos decidir si monitoreo adicional y sistemas de ventilación son medidas de precaución necesarias para reducir riesgo.

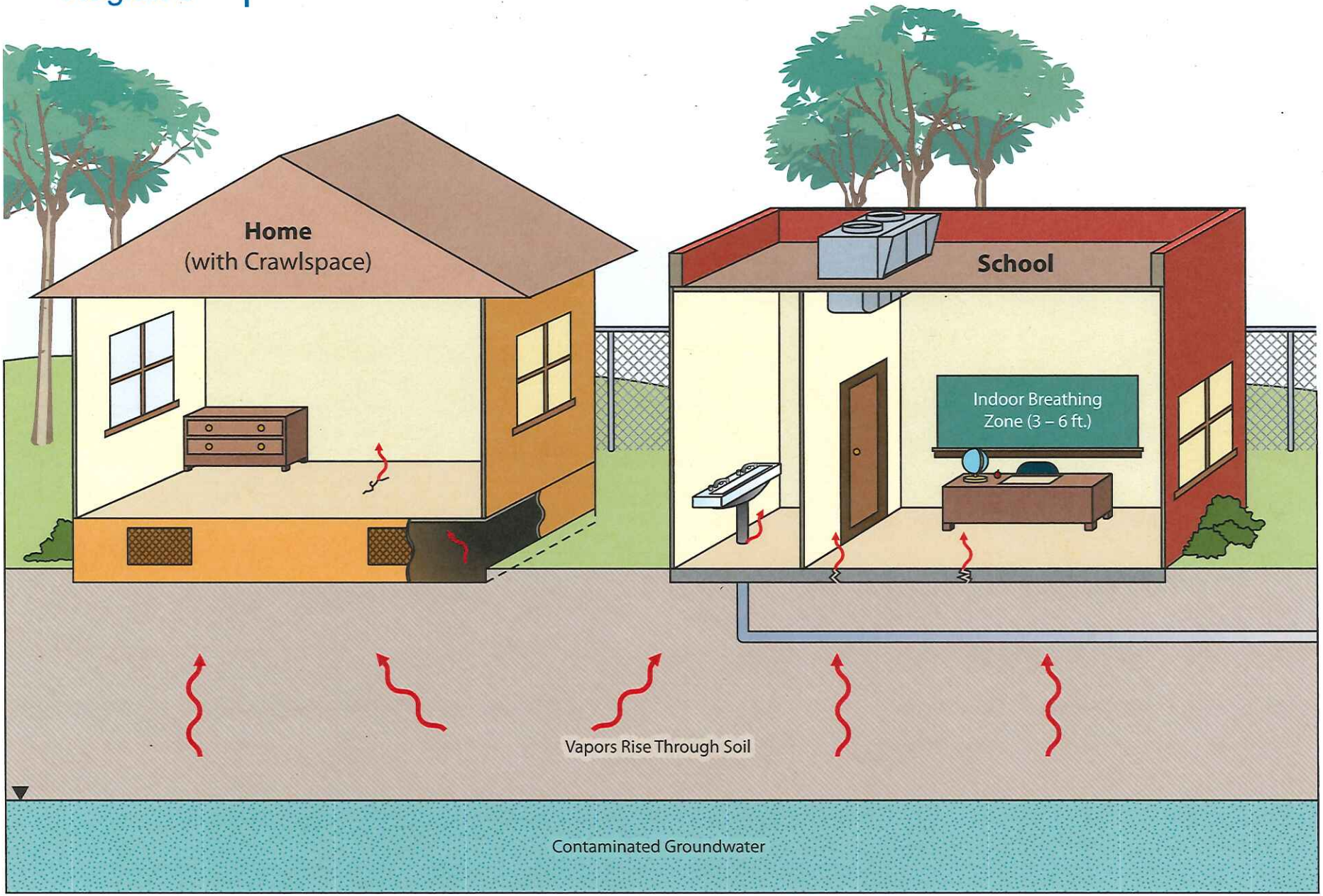
Por favor no dude en contactarme al (415) 972-3242 o por correo electrónico *diaz.alejandro@epa.gov* si tiene preguntas. Hay más información (principalmente en inglés) en el sitio web: **www.epa.gov/region9/triplesite.**

Sinceramente,

Alejandro Díaz
Coordinador de Participación Comunitaria

EPA Region 9

VAPOR INTRUSION: HOMES & SCHOOLS



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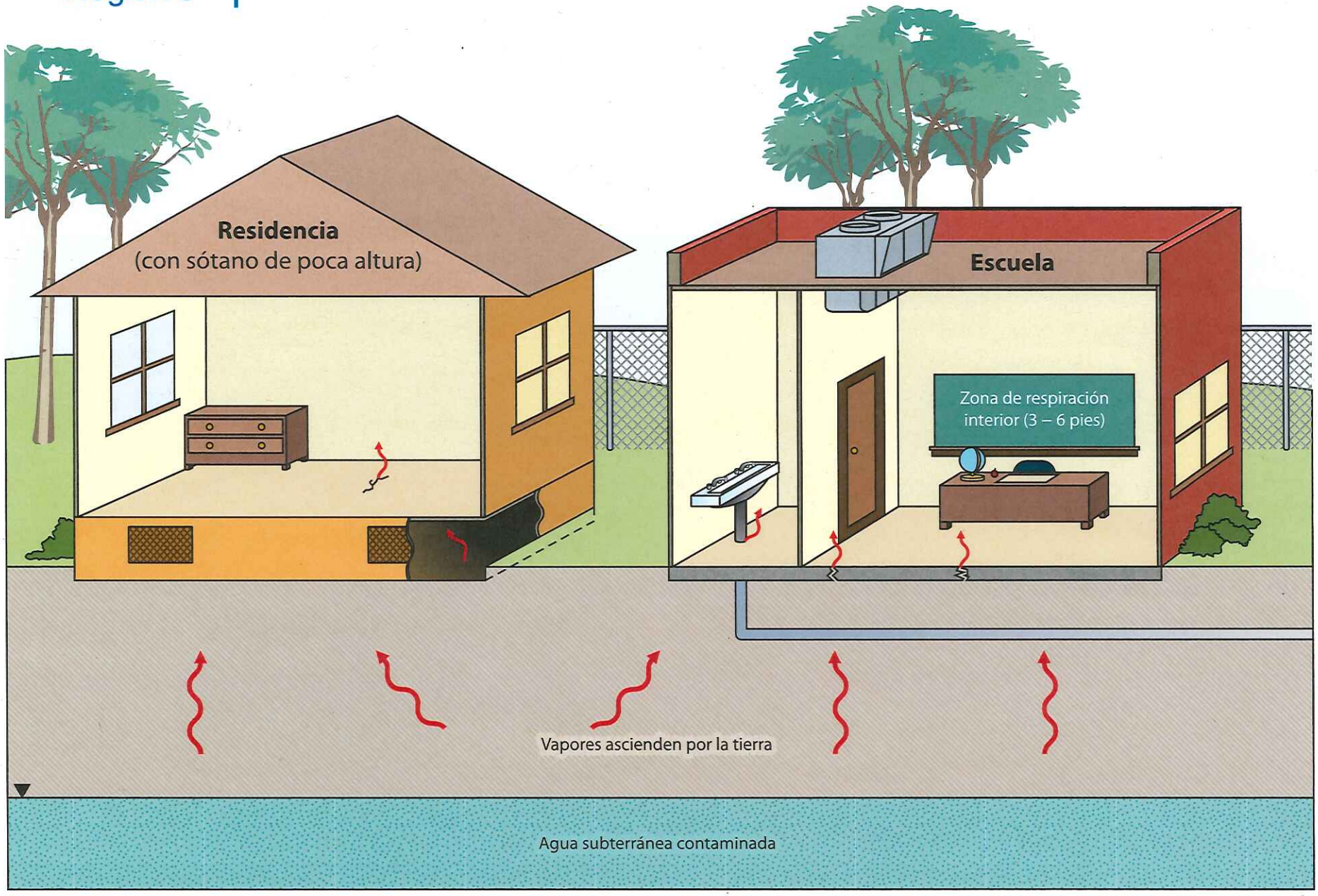
EPA Región 9

INTRUSIÓN DE VAPORES: RESIDENCIAS Y ESCUELAS



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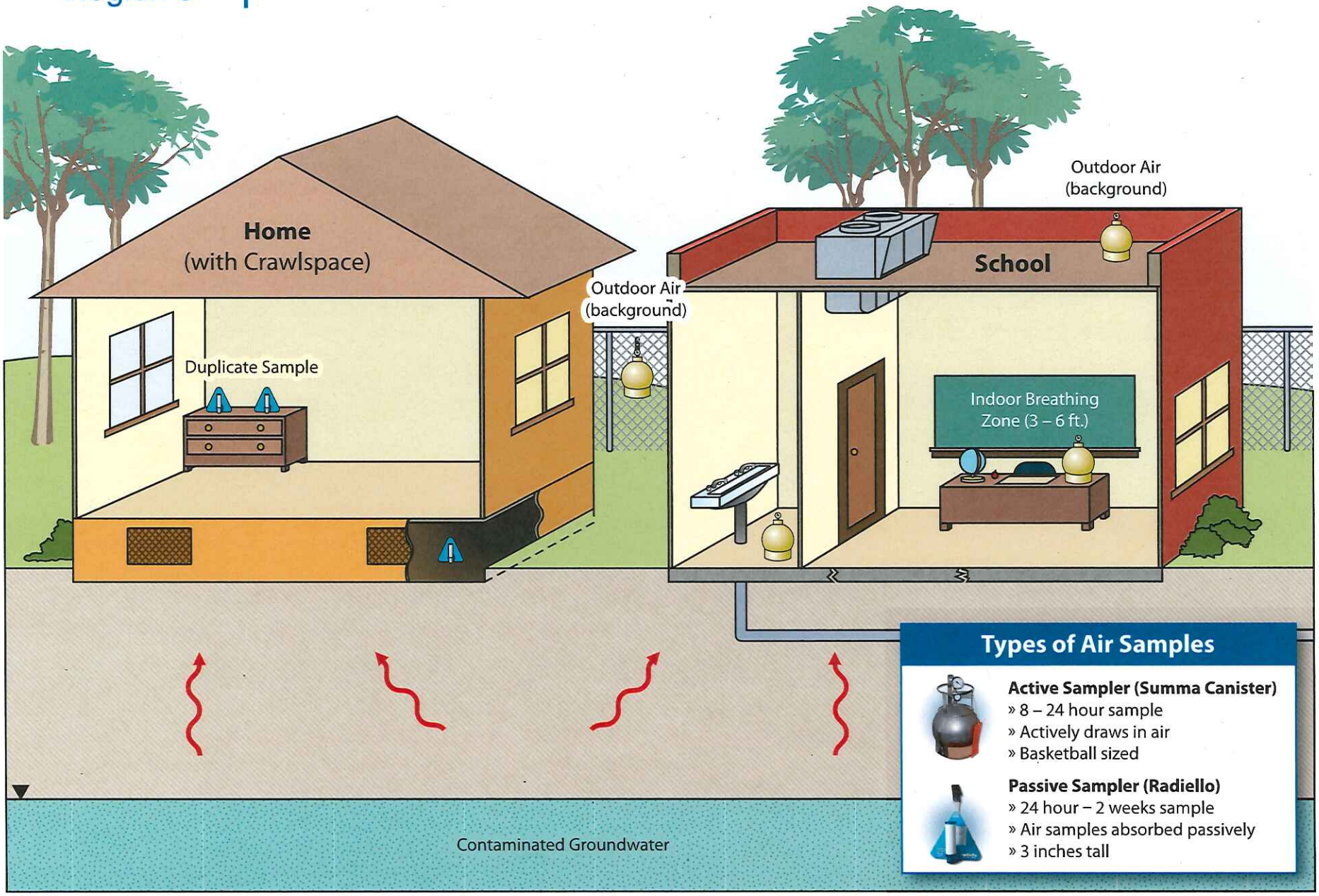
EPA Region 9

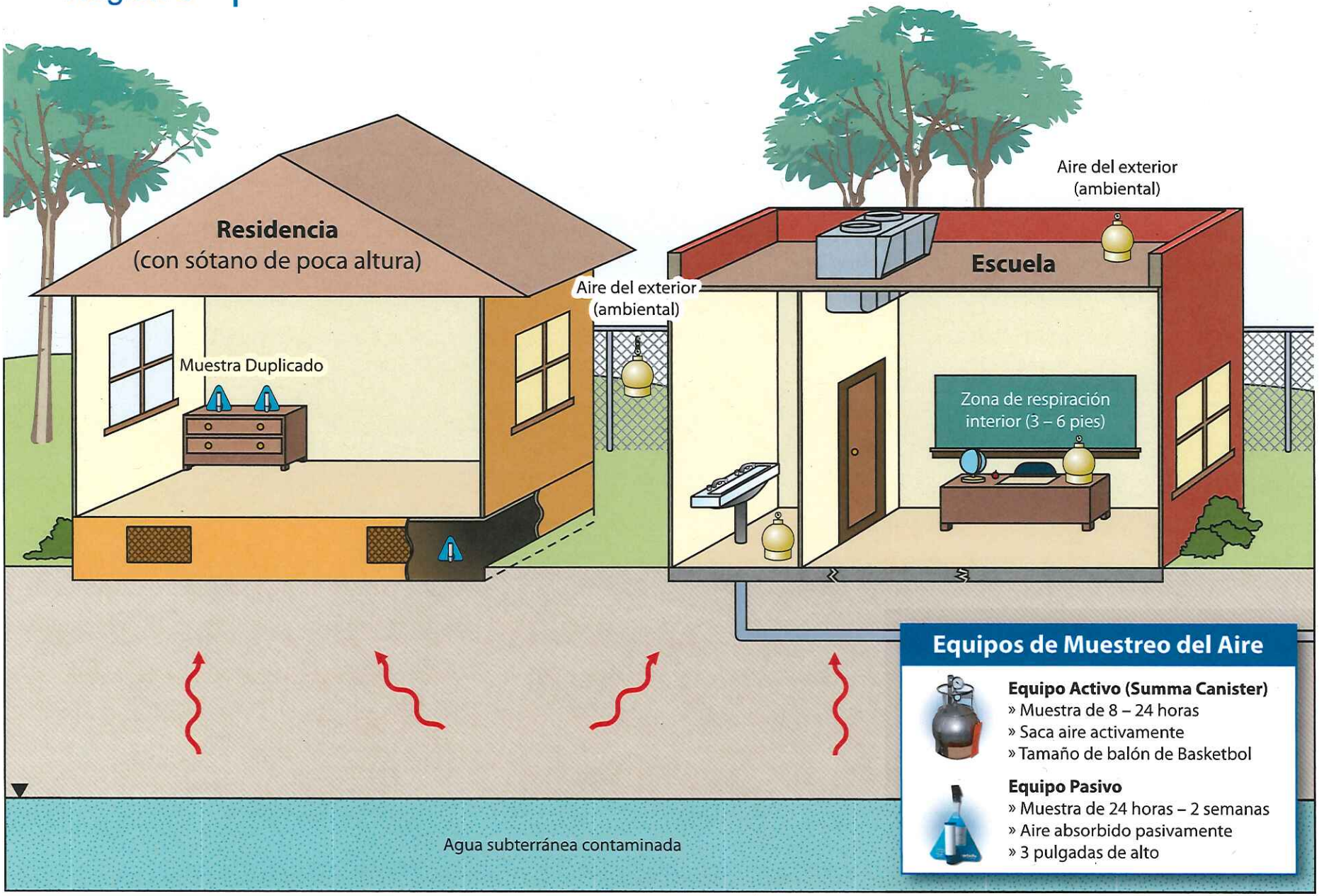
VAPOR INTRUSION SAMPLING



not to scale

EPA Región 9

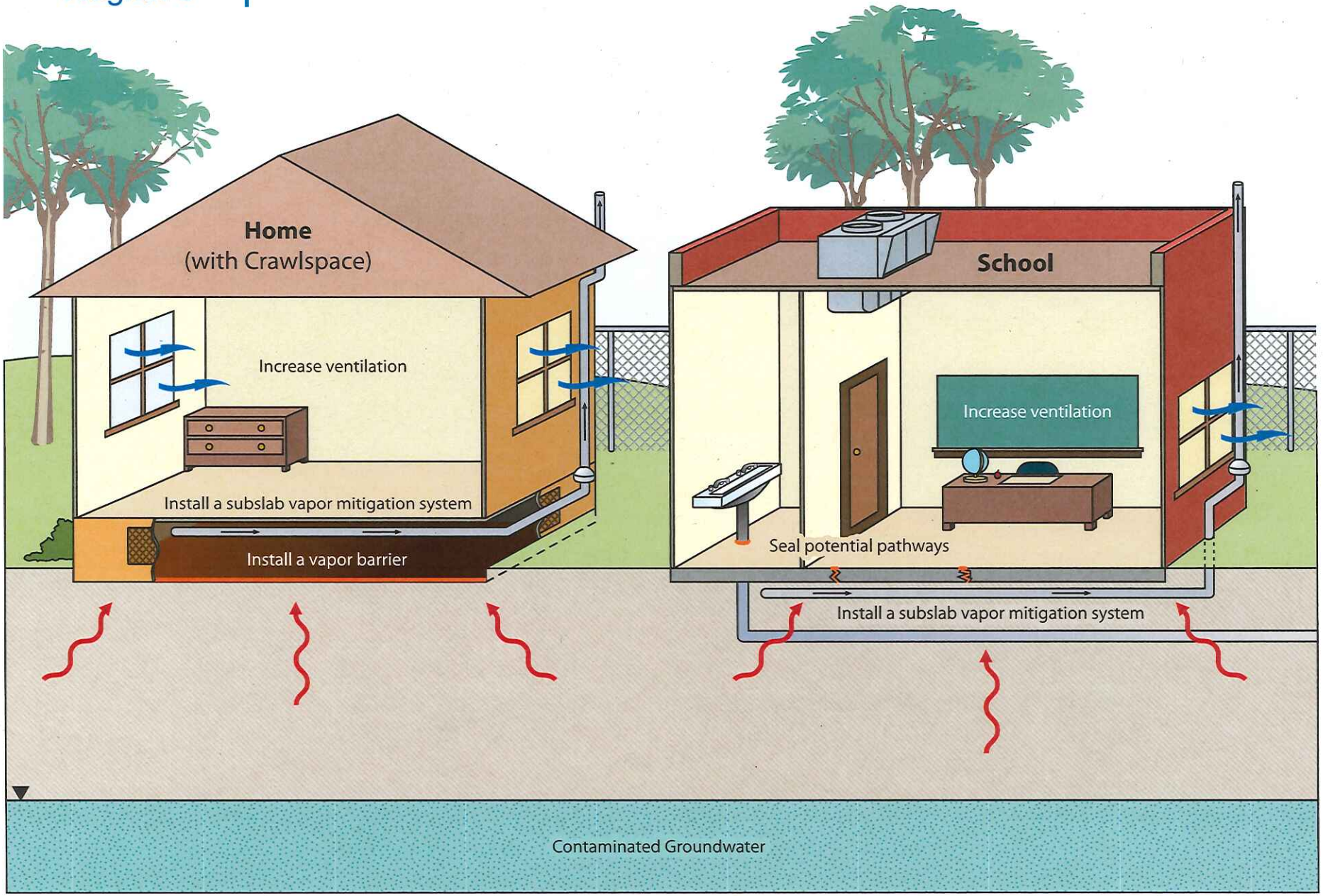
MUESTREO DE INTRUSIÓN DE VAPORES



no a escala

EPA Region 9

VAPOR INTRUSION MITIGATION OPTIONS



not to scale

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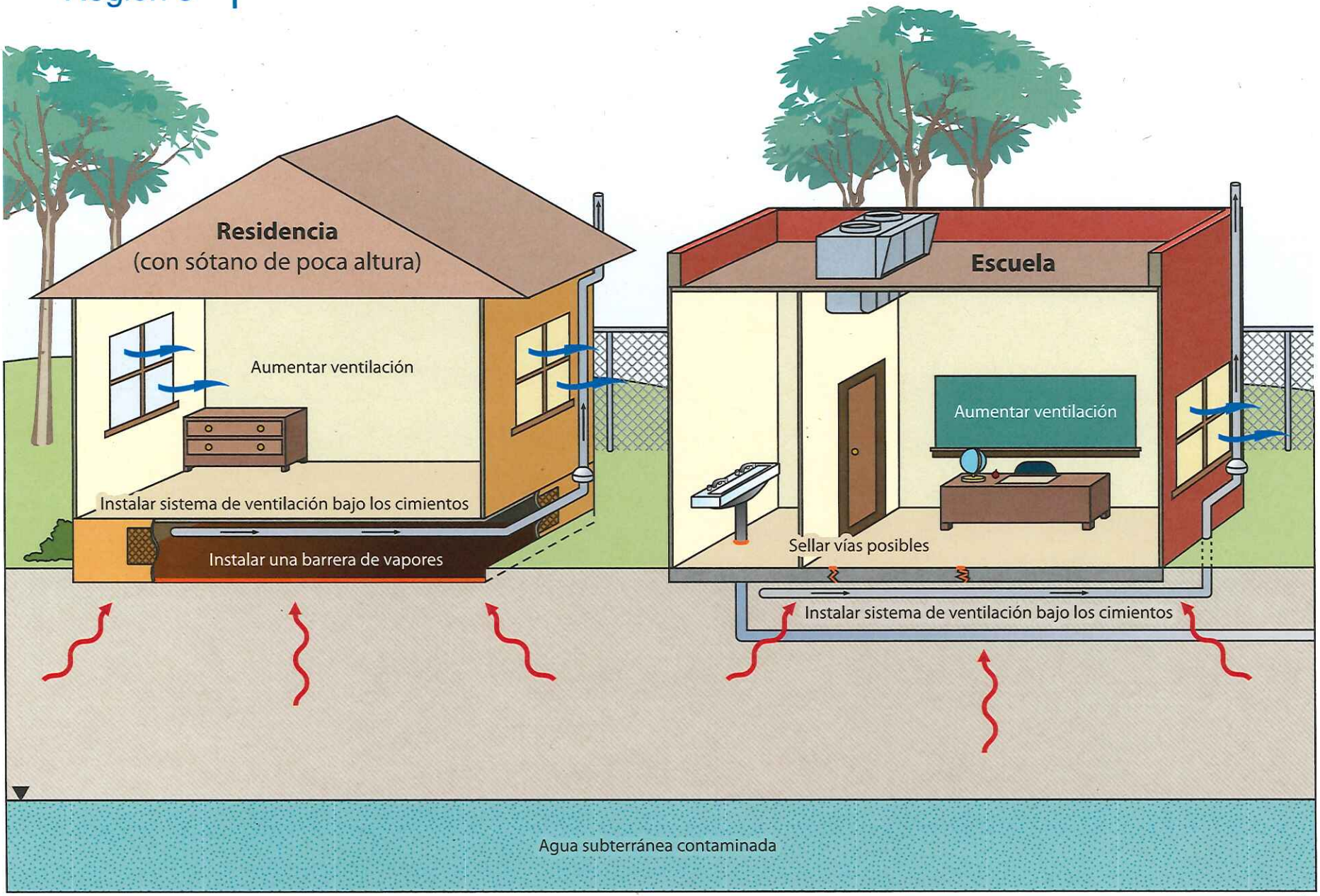
REMEDIOS PARA LA INTRUSIÓN DE VAPORES



no a escala

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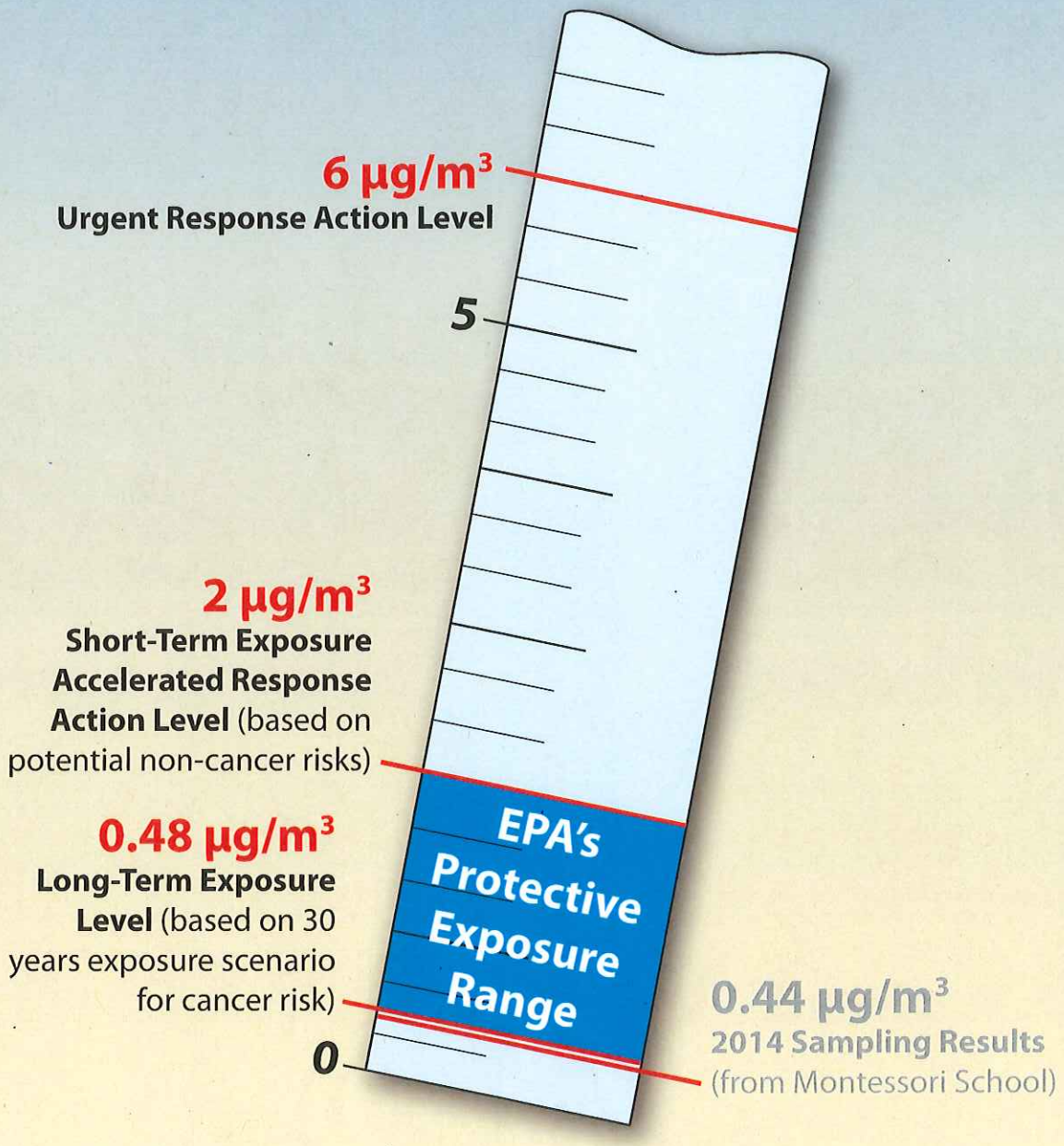
HEALTH PROTECTIVE EXPOSURE LEVELS FOR TCE IN INDOOR AIR

Homes and Schools



Units in micrograms per cubic meter (µg/m³) or parts per billion volume (ppbv). One part per billion is roughly equal to one drop of water in an Olympic sized swimming pool.

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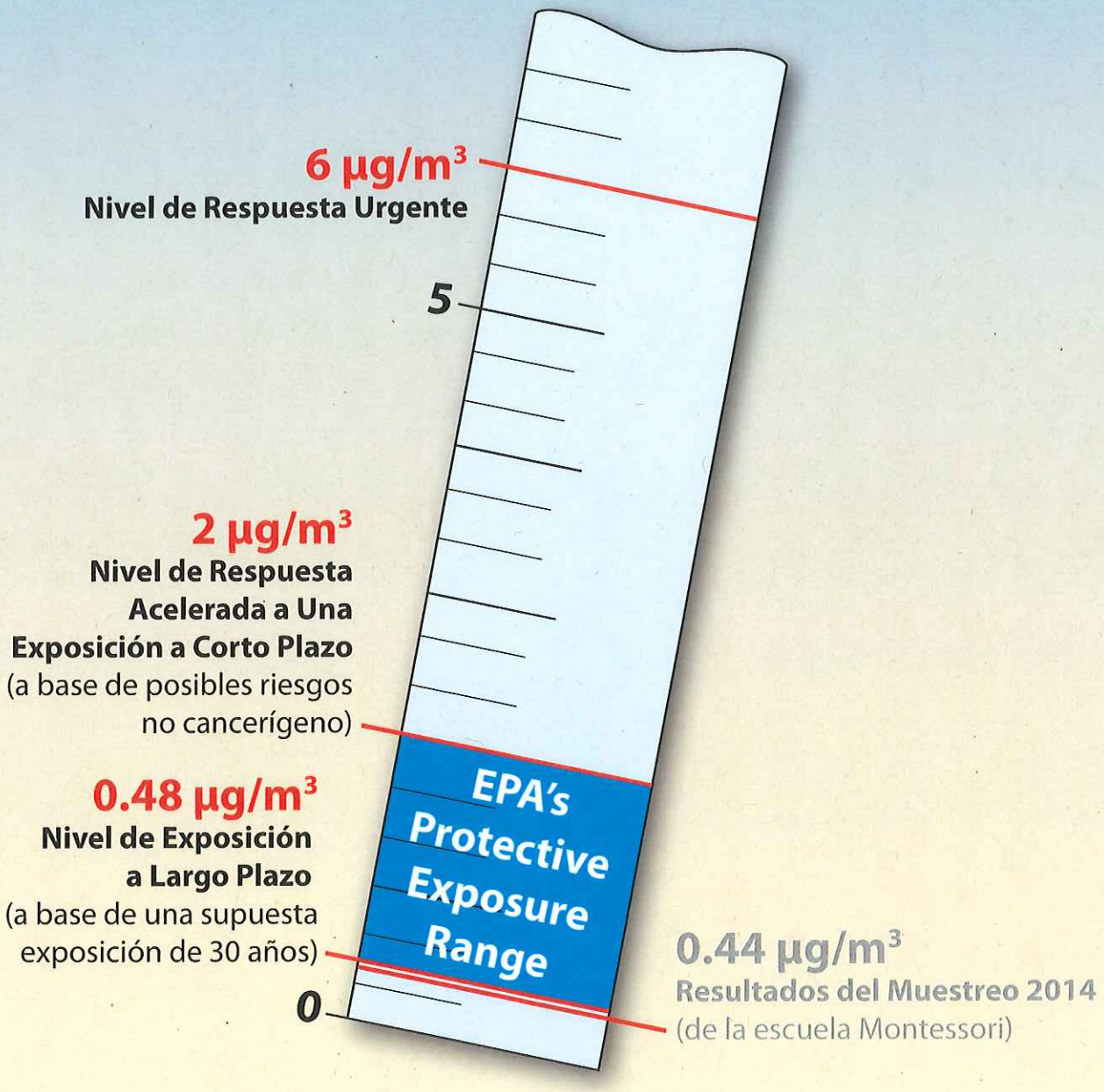
NIVELES DE EXPOSICIÓN PROTECTIVOS A LA SALUD PARA TCE EN EL AIRE DEL INTERIOR

Residencias y Escuelas



Unidades estan en microgramos por metro cubico (µg/m³) o partes por billón volumen (ppbv). Una parte por billón es más o menos igual a una gota de agua en una piscina de tamaño olímpico.

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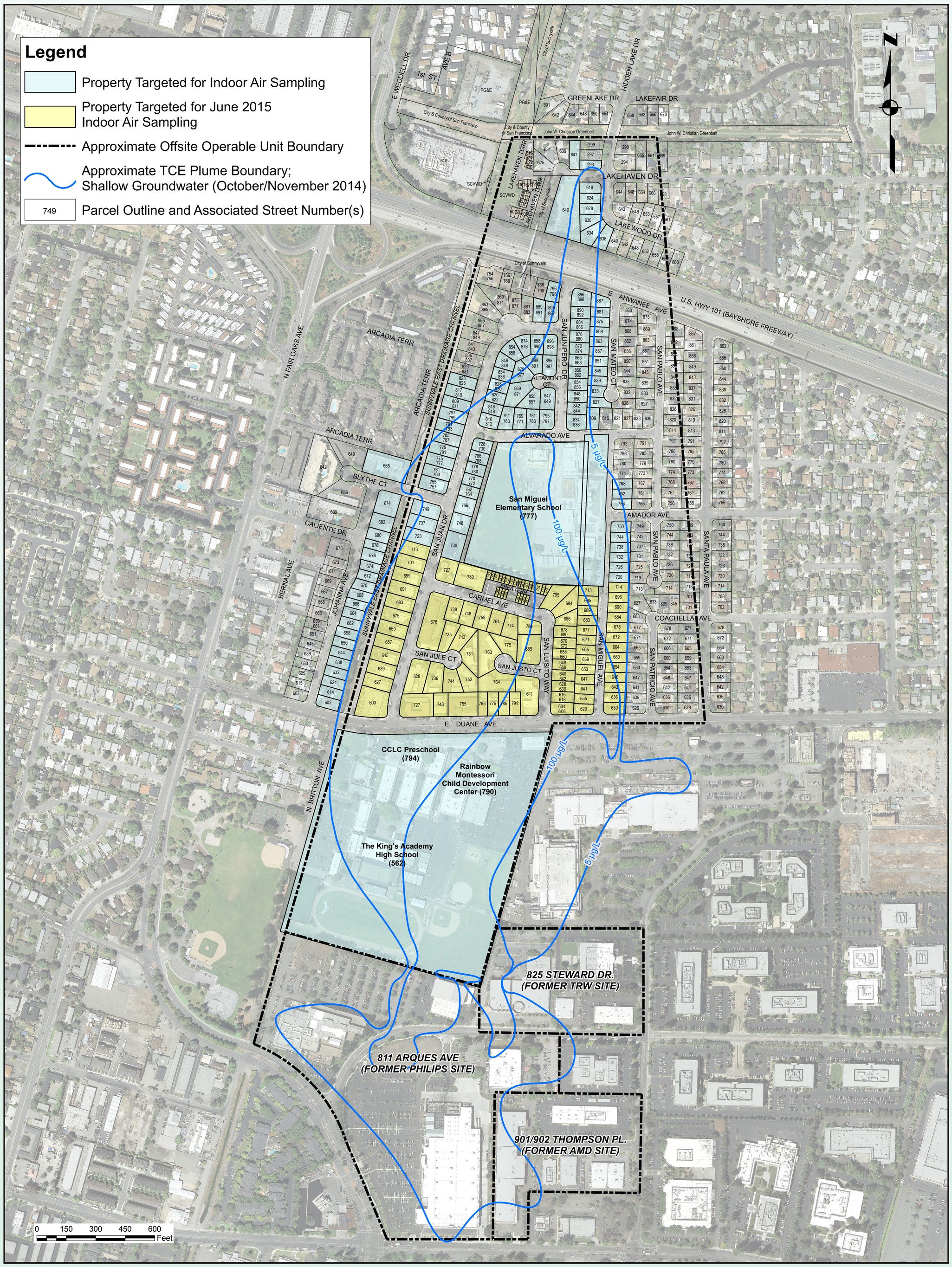
Sunnyvale, California • May 2015



Indoor air sampling area. Approximate extent of TCE contamination above 5 micrograms per liter (µg/L) in shallow groundwater (around 10 ft).