3rd Party Review of the Proposed Hi-Shear Site Investigation

City of Lomita Council Meeting

Location: Lomita City Hall
Date: July 16, 2019
Time: 6 pm

Presented by Dr Mark Trudell

Advisian
Worley Group

advisian.com

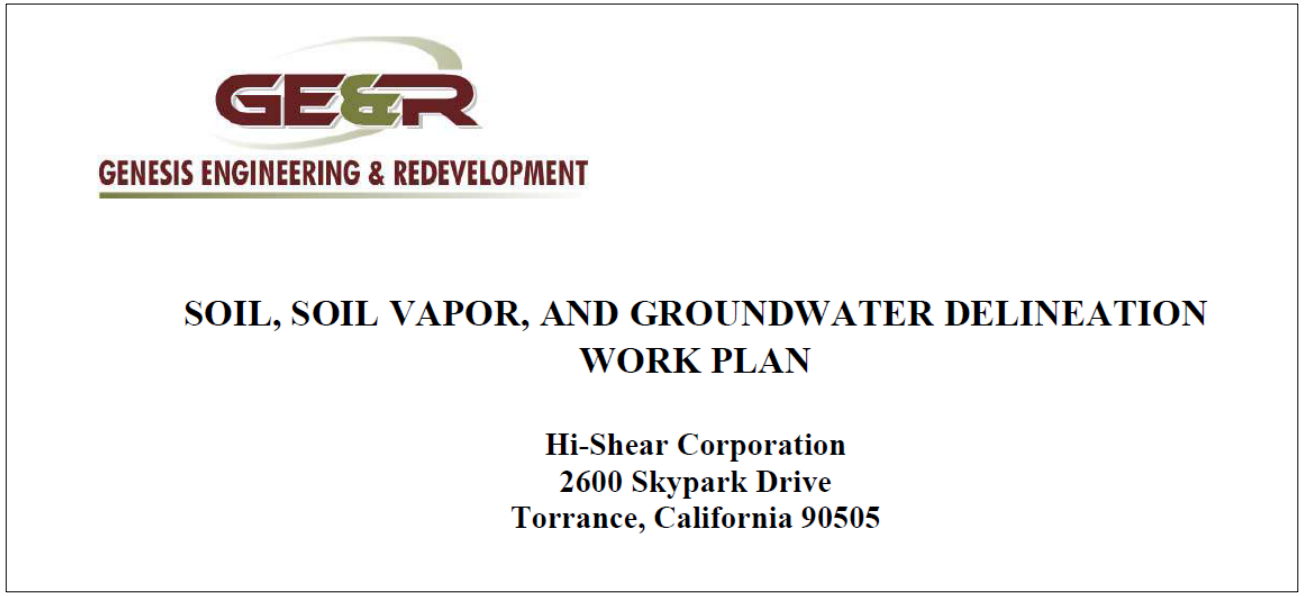
Contents

- Purpose
- General Overview
- Groundwater Contamination Occurrence
- Introduction
- Background Information
- Investigative Work within the City of Lomita
- Conceptual Model of Contaminant Migration
- Lomita Supply Well#5
- Regional Context

Purpose

Purpose of this presentation is to provide a concise description of the investigation proposed by Hi-Shear and associated pertinent background information.

The proposed scope of work is documented in the Regional Board approved 2018 Work Plan:

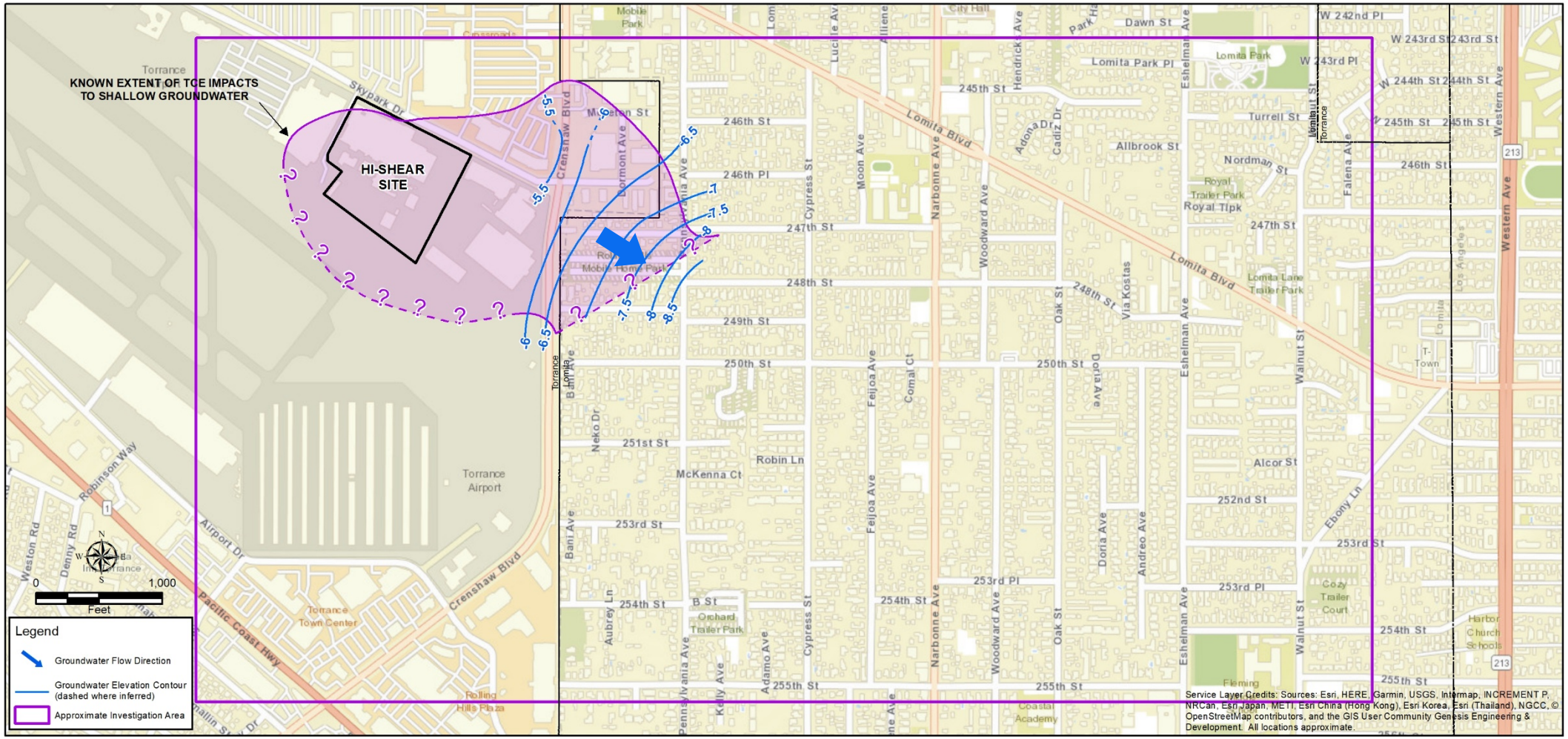

GE&R

GENESIS ENGINEERING & REDEVELOPMENT

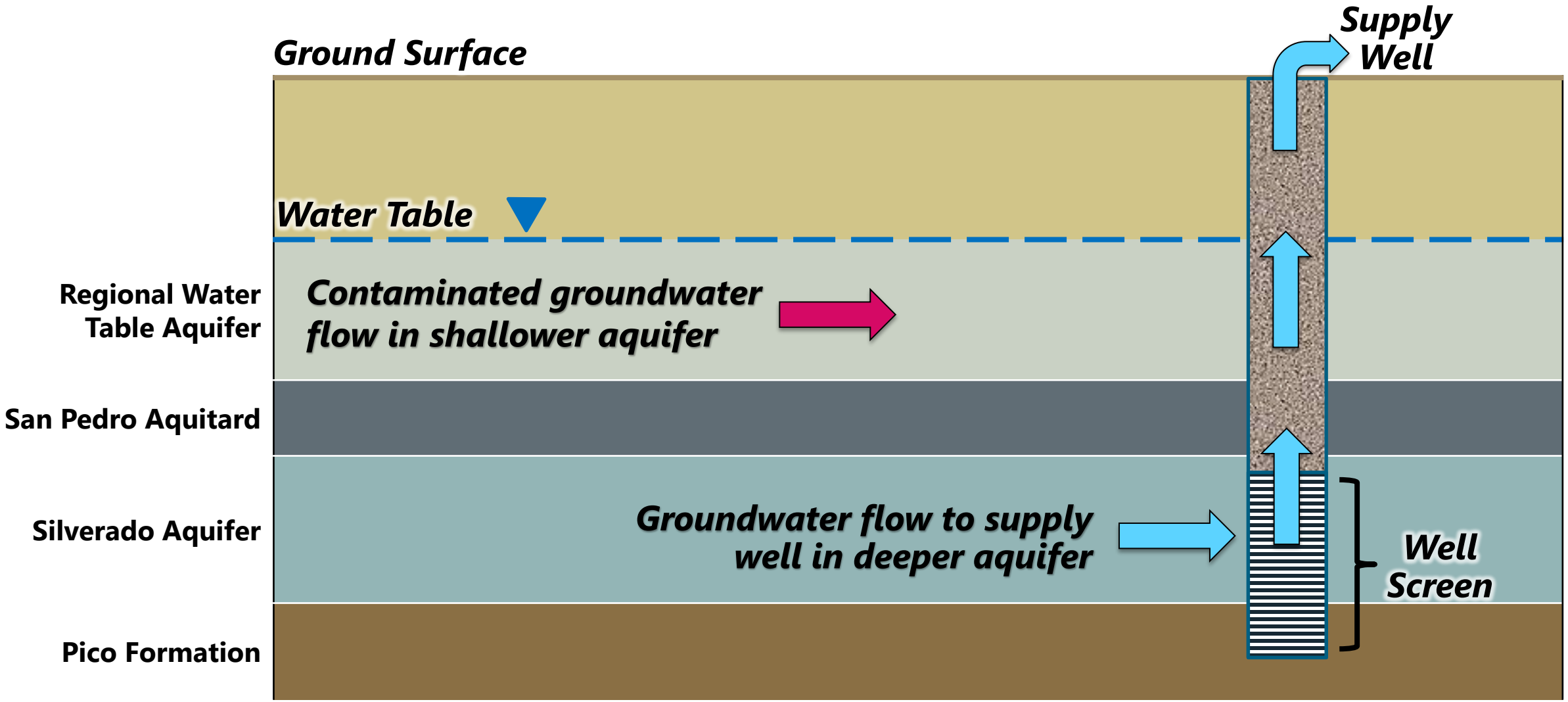
SOIL, SOIL VAPOR, AND GROUNDWATER DELINEATION WORK PLAN

Hi-Shear Corporation
2600 Skypark Drive
Torrance, California 90505

General Overview



Groundwater Contamination Occurrence



Introduction

- Hi-Shear proposes to conduct a multi-phase environmental investigation in the vicinity of their facility (the Site) located at 2600 Skypark Drive in the City of Torrance
- Purpose of the investigation is to delineate the extent of volatile organic compounds (VOCs) impacts to soil, soil vapor and groundwater
- The investigation area falls within both the cities of Torrance and Lomita

Introduction *cont.*

Per the 2018 Work Plan, the investigation will comprise 5 (stand-alone) phases of work, of which 2 phases encroach onto the City of Lomita, i.e.:

1) Delineate the extent of VOC impacts to soil vapor and the vapor intrusion potential to the east of Crenshaw Boulevard
2) Delineate the horizontal and vertical extent of VOCs, metals, 1,4-dioxane, hexavalent chromium, and perchlorate impacts to groundwater downgradient (east) of the Site

Other (3) phases comprise the investigation of soil, soil vapor and groundwater to the west of Crenshaw Blvd, on or proximate to the Site

Background Information

- Hi-Shear has operated at the Site since 1958 - manufacture fasteners for aerospace industry
- Environmental site assessments been conducted since 1991 which identified:
  - Soil, soil vapor, and groundwater impacted by VOCs, petroleum hydrocarbons, and metals
- 2016 soil vapor survey found concentrations of VOCs in soil vapor that exceeded commercial and residential screening levels (*including locations tested in Lomita*)
- Groundwater contaminant plume(s) (*mainly TCE*) present beneath Site, extends off-site SE in the direction of groundwater flow
- Horizontal extent of VOC impacts in shallow groundwater reaches at least 1,700 feet (ft) east of the Site (*beyond Pennsylvania Avenue*)
- Vertical extent of impacts to shallow groundwater is <260 ft deep on-Site, but not delineated downgradient (to the east) of the Site
- Remedial Site activities include soil vapor extraction (SVE) and in-situ treatment

Investigation Work in the City of Lomita

To delineate the extent of VOC impacts to **soil vapor** and the **vapor intrusion potential** to the east of Crenshaw Boulevard the following work is proposed in Lomita:

- Installation of nested soil vapor probes at 15 locations:
  - At 10 boring locations, probes will be installed at 5 ft and 15 ft bgs
  - At 5 boring locations, probes will be installed at 5, 15, 30, 45, 65 and 85 ft bgs
- Surveying of drilling locations by state-licensed surveyor
- Following installation, the probes will be sampled and analyzed for VOCs
- Future, periodic sampling of some of the vapor probes is anticipated

Investigation Work in the City of Lomita *cont.*

To delineate the horizontal and vertical extent of VOCs, metals, 1,4-dioxane, hexavalent chromium, and perchlorate **impacts to groundwater downgradient** (east) of the Site, the following scope of work are proposed:

- Drilling, installation and development of 9 groundwater monitoring wells
  - 6 shallow wells - screen interval proposed between ~90-100 ft bgs
  - 3 intermediate wells - screen interval proposed between ~110-150 ft bgs
- Surveying of drilling locations by state-licensed surveyor
- Sampling of wells and subsequent sample analysis for VOCs
- Future, periodic sampling of wells is anticipated

Investigation Work in the City of Lomita *cont.*

Hi-Shear Investigation Drilling Methods

- Direct push drilling method proposed for 15 ft borings.
- Direct push drilling rigs are typically mounted on a one-ton truck or on a tracked vehicle.

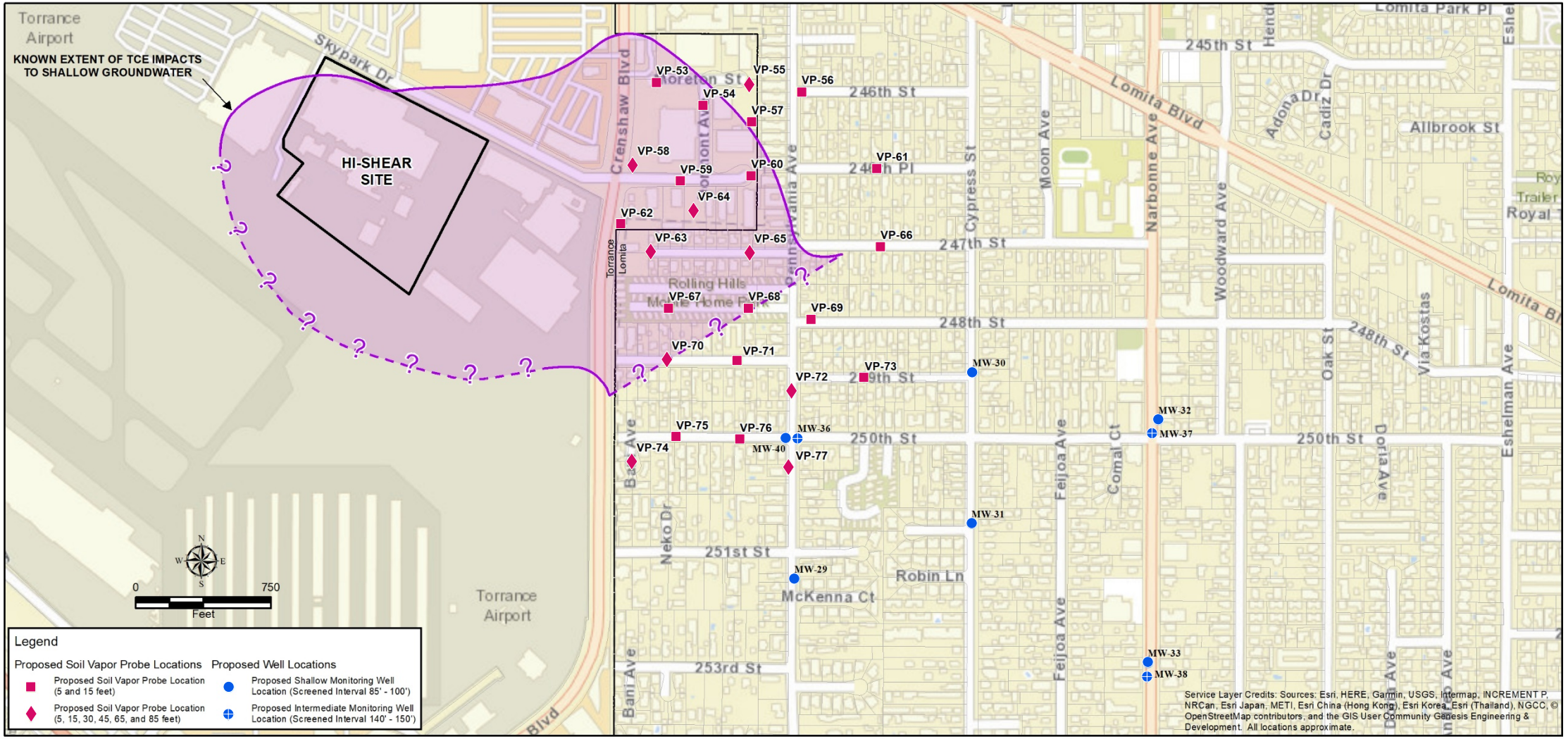
Typical Direct-Push Drill Rig

Well at surface

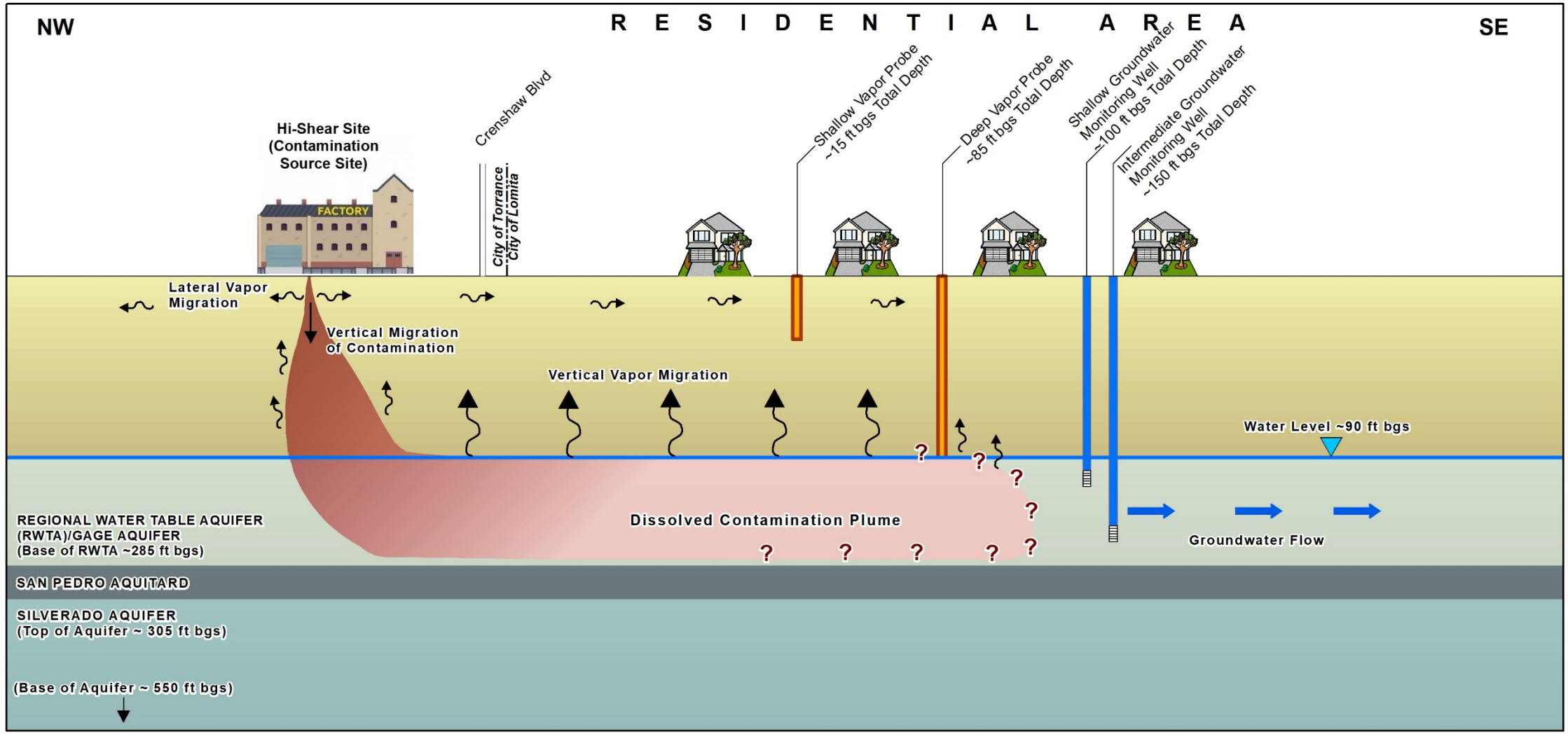
- Hollow stem auger method proposed for deeper borings, i.e., deep vapor borings and groundwater monitoring wells.
- The drilling rig is mounted on a medium-sized double axel truck. The rig is accompanied by another support truck with equipment & supplies.

Typical Hollow Stem Auger Set-Up for Deeper Borings

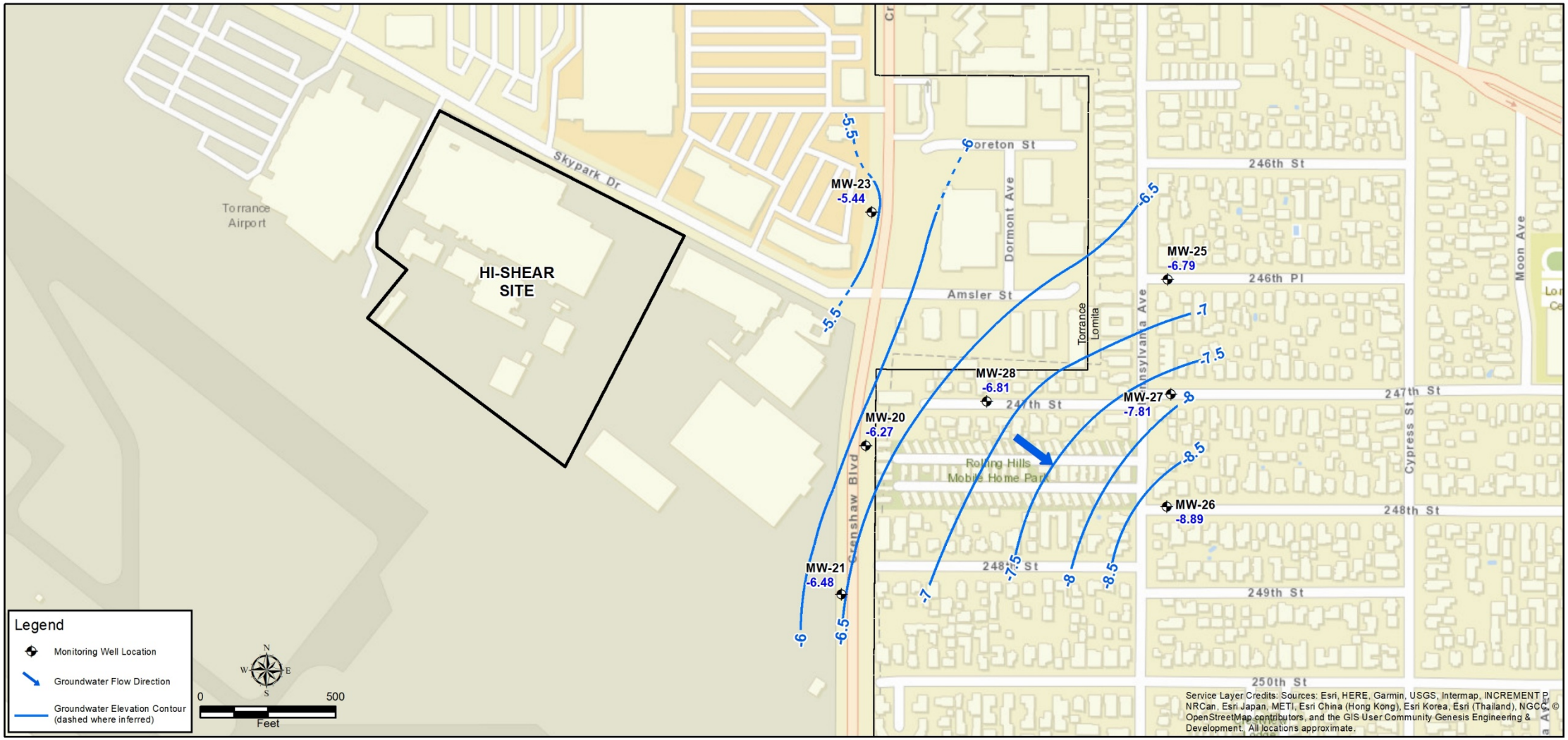
Investigation Locations & TCE Plume Footprint



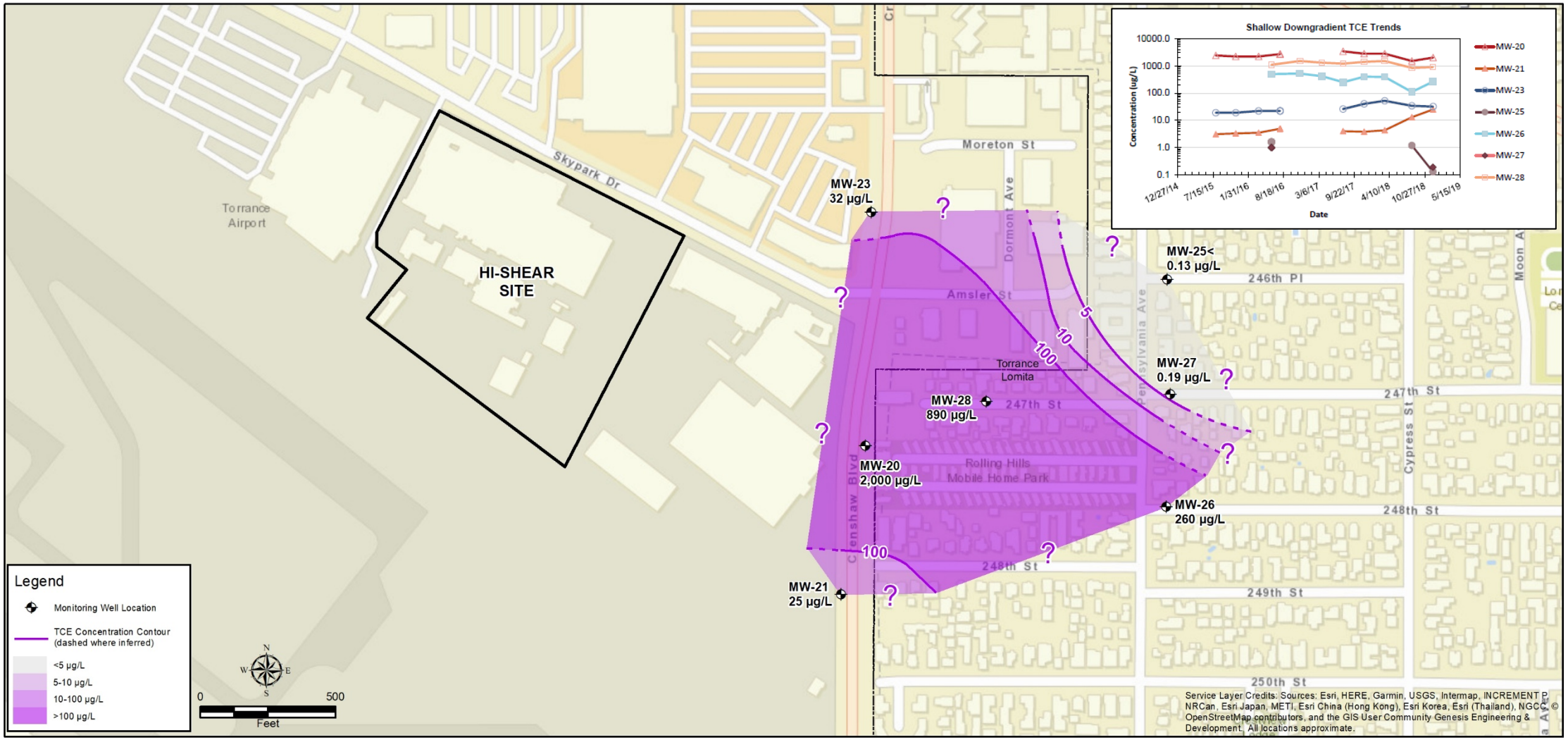
Conceptual Model of Contaminant Migration



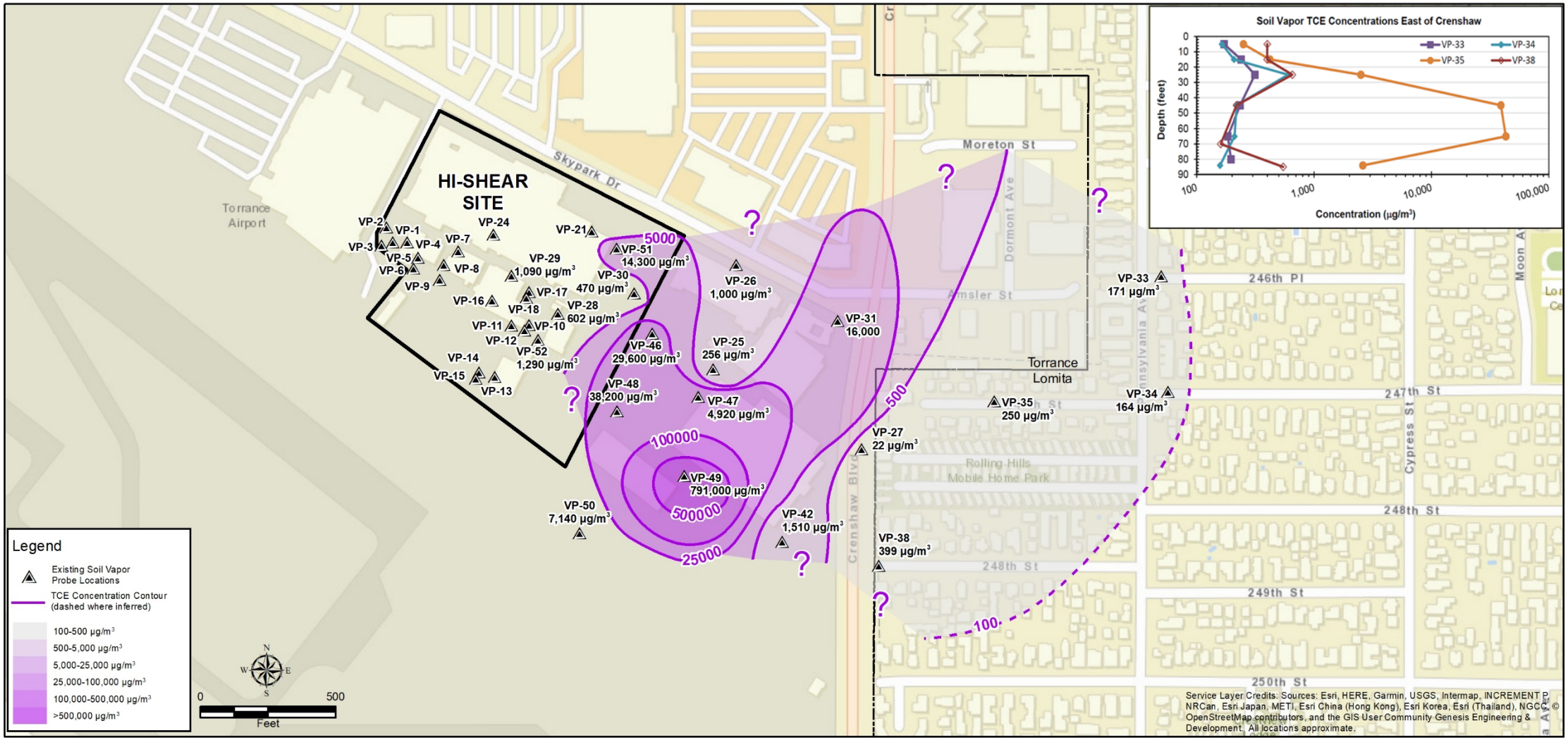
Groundwater Flow Direction
(*taken from GE&R 3rd Tri-Annual 2018 GWM Report)*



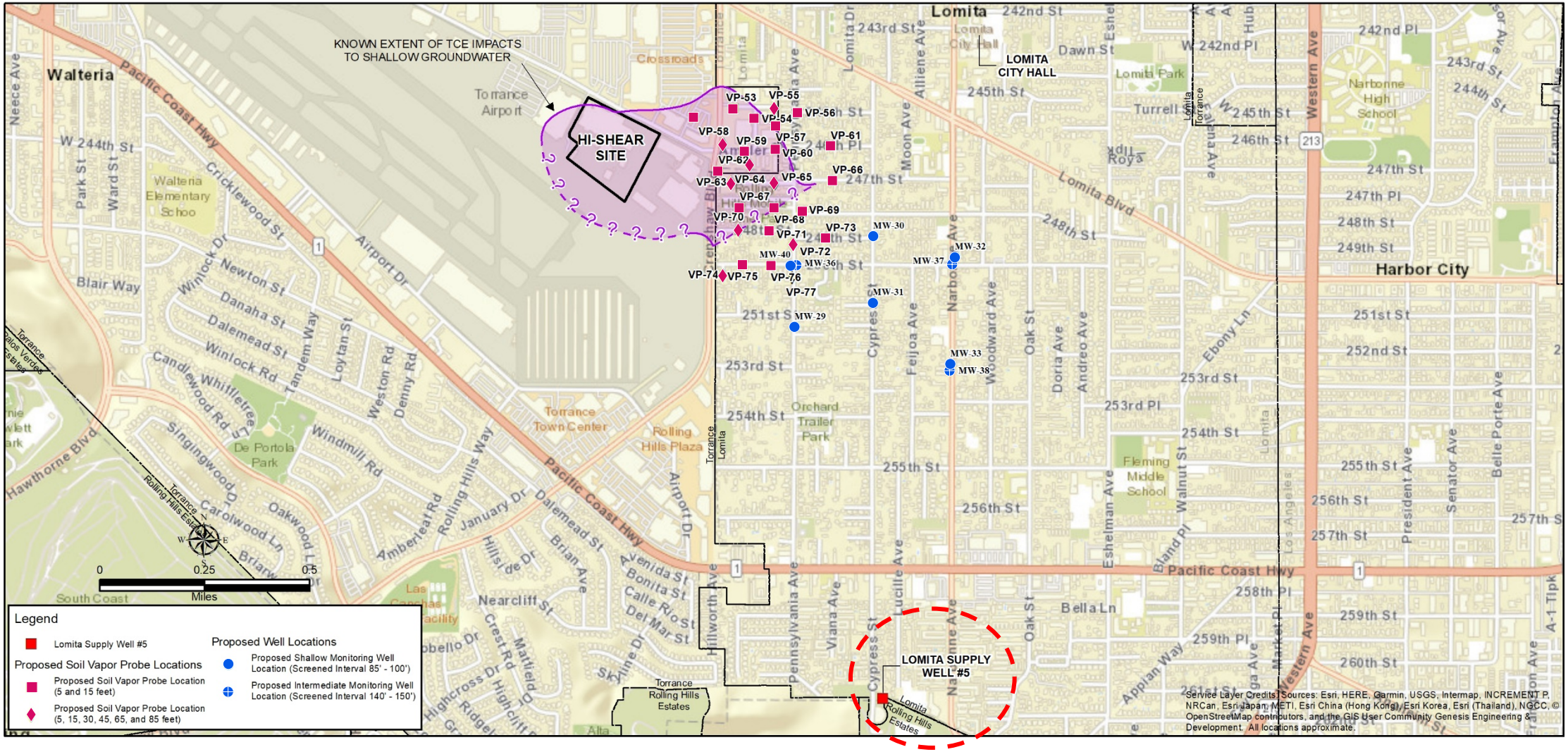
TCE Contours in Shallow Groundwater (*taken from GE&R 3rd Tri-Annual 2018 GWM Report*)



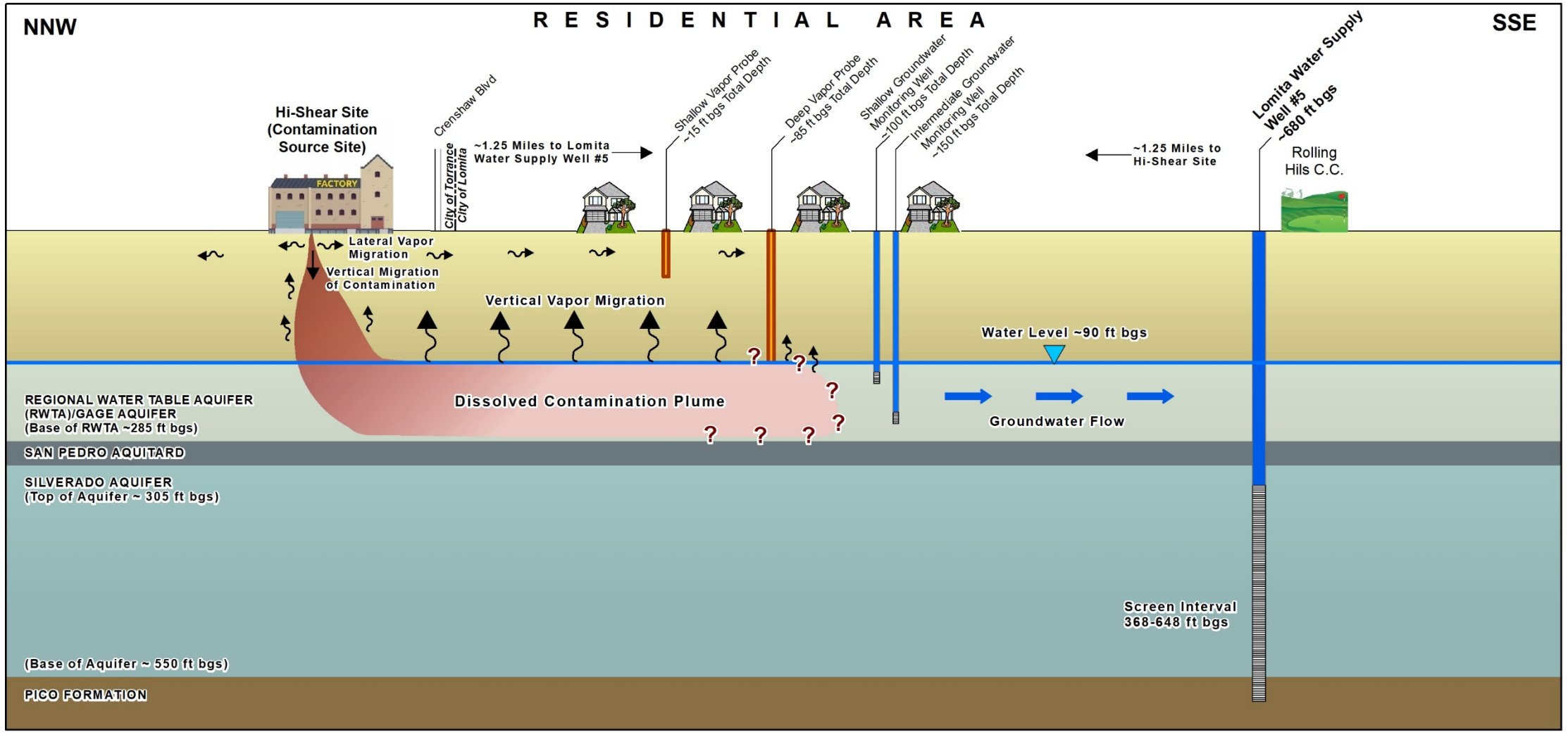
TCE Vapor Concentrations in Shallow Soils - 5ft bgs (*taken from GE&R 3rd Tri-Annual 2018 GWM Report*)



Lomita Supply Well #5 Location



Regional Context



Questions?

Advisian

Worley Group