June 18, 2021

Mr. Aram Chaparyan
City of Torrance
3031 Torrance Boulevard
Torrance, California 90503

Certified Mail
Return Receipt Requested
Claim No. 7021 0350 0001 7987 2945

Mr. Christian Darville
Lisi Aerospace/Hi-Shear Corporation
2600 Skypark Drive
Torrance, California 90509-2975

Certified Mail
Return Receipt Requested
Claim No. 7021 0350 0001 7987 2938

Mr. Richard Doyle
Magellan Aerospace, Middletown, Inc.
2320 Wedekind Drive
Middletown, Ohio 45042-2390

Certified Mail
Return Receipt Requested
Claim No. 7021 0350 0001 7987 2921

Mr. Bailey Su
Excellon Technologies, LLC
20001 S. Rancho Way
Rancho Dominguez, California 90220

Certified Mail
Return Receipt Requested
Claim No. 7021 0350 0001 7987 2914

CT Corporation System
c/o Esterline Technologies Corporation
500 – 108th Avenue NE,
Suite 1500
Bellevue, Washington 98004

Certified Mail
Return Receipt Requested
Claim No. 7021 0350 0001 7987 2907

Mr. Tim A. Goetz
Robinson Helicopter Company
2901 Airport Drive
Torrance, California 90505

Certified Mail
Return Receipt Requested
Claim No. 7021 0350 0001 7987 2891

Mr. Ward Olson
Dasco Engineering Corporation
24747 Crenshaw Boulevard
Torrance, California 90505

Certified Mail
Return Receipt Requested
Claim No. 7021 0350 0001 7987 2884

SUBJECT: CLEANUP AND ABATEMENT ORDER NO. R4-2021-0079

SITE: SKYPARK COMMERCIAL PROPERTIES (ASSESSOR PARCEL NO. 7377-006-906), 24701 – 24777 CRENSHAW BOULEVARD AND 2530, 2540, AND 2600 SKYPARK DRIVE, TORRANCE, CALIFORNIA (SCP NO. 1499)

Dear Mr. Chaparyan, et al.:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the public agency with primary responsibility under the Porter-Cologne Water Quality Control Act (Cal. Water Code §§13000 et seq.) for the protection of the quality of the waters of the state, including ground water and surface water within major portions of Los Angeles County and Ventura County. The above-referenced site (Site) is situated within the jurisdiction of the Regional Board.

As part of our effort to protect water quality, pursuant to California Water Code sections 13304 and 13267, enclosed is Order No. R4-2021-0079 (Order) naming City of Torrance; Magellan Aerospace, Middletown, Inc. (formerly known as Aeronca, Inc. formerly known as Aeronca Manufacturing Corporation); Excellon Industries, an Esterline Company (also known as Excellon Industries, Inc., Excellon Automation Company, and EA Technologies Corporation); Excellon Acquisitions, LLC; Excellon Technologies, LLC; Esterline Technologies Corporation; Robinson Helicopter Company; Dasco Engineering Corporation; and Hi-Shear Corporation (also known as Lisi Aerospace) as Dischargers for the purpose of investigating and cleaning up impacted soil, soil vapor and/or groundwater from releases at the Site to the extent that it no longer poses a threat to water quality and human health. Should the Dischargers fail to comply with any provision of the Order, they may be subject to further enforcement action, including injunction and civil liability, pursuant to applicable California Water Code sections including, but not limited to, sections 13268, 13304, 13308, and 13350.

This Order establishes requirements and deadlines for investigation and cleanup and abatement actions. This Order supersedes the Investigative Order issued on October 29, 2009 and amendments thereto (originally to Hi-Shear Corporation), except for enforcement purposes. This Order also supersedes the Investigative Orders issued on January 13, 2020 (originally to East Adjacent Properties), and May 12, 2020 (originally to Skypark Commercial Properties [i.e., Site]), and amendments thereto.

On November 30, 2020, the draft Order was provided to you and posted for public comment. The public comment period ended on January 4, 2021. On December 31, 2020, the public comment period was extended to January 11, 2021. The Regional Board has reviewed all comments received and prepared the attached document, entitled, *Response to Comments to Draft Cleanup and Abatement Order No. R4-20XX-XXXX* (Response to Comments), summarizing the comments received and the responses to

those comments. Where appropriate, the Regional Board made changes to the draft Order based on the Dischargers' comments and minor clarifying changes. In providing the parties with a copy of the revised Order and Response to Comments document, we are not opening a new comment period.

If you have any questions regarding this letter, please contact Mr. Kevin Lin at (213) 576-6781 or via email at Kevin.Lin@waterboards.ca.gov, or Ms. Jillian Ly, Unit IV Chief, at (213) 576-6664 or via email at Jillian.Ly@waterboards.ca.gov.

Sincerely,

R Purdy Digitally signed by R Purdy Date: 2021.06.18 15:40:49 -07'00'

Renee Purdy
Executive Officer

Enclosure:
1. Cleanup and Abatement Order No. R4-2021-0079 and attachments
2. Response to Comments to Draft Cleanup and Abatement Order No. R4-20XX-XXXX
3. Comments Received to Draft Cleanup and Abatement Order No. R4-20XX-XXXX

CC by Email:

Dmitriy Ginzburg, State Water Board Division of Drinking Water (dmitriy.ginzburg@waterboards.ca.gov)
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Steve Van der Hoven, Genesis Engineering & Redevelopment (svanderhoven@gercorp.com)

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

CLEANUP AND ABATEMENT ORDER NO. R4-2021-0079
REQUIRING

THE CITY OF TORRANCE
MAGELLAN AEROSPACE, MIDDLETOWN, INC. (FORMERLY KNOWN AS AERONCA, INC., FORMERLY KNOWN AS AERONCA MANUFACTURING CORPORATION)
EXCELLON INDUSTRIES, AN ESTERLINE COMPANY (ALSO KNOWN AS EXCELLON INDUSTRIES, INC., EXCELLON AUTOMATION COMPANY, AND EA TECHNOLOGIES CORPORATION)
EXCELLON ACQUISITIONS, LLC
EXCELLON TECHNOLOGIES, LLC
ESTERLINE TECHNOLOGIES CORPORATION
ROBINSON HELICOPTER COMPANY
DASO ENGINEERING CORPORATION
HI-SHEAR CORPORATION (ALSO KNOWN AS LISI AEROSPACE)

TO ASSESS, CLEANUP, AND ABATE
WASTE DISCHARGED TO WATERS OF THE STATE PURSUANT TO CALIFORNIA WATER CODE SECTIONS 13304 AND 13267

AT

SKYPARK COMMERCIAL PROPERTIES

NORTHEAST PORTION OF CITY OF TORRANCE PARCEL
ASSESSOR PARCEL NO. 7377-006-906
24751 CRENSHAW BOULEVARD, TORRANCE, CALIFORNIA
24777 CRENSHAW BOULEVARD, TORRANCE, CALIFORNIA
24707 CRENSHAW BOULEVARD, TORRANCE, CALIFORNIA
24747 CRENSHAW BOULEVARD, TORRANCE, CALIFORNIA
24701 CRENSHAW BOULEVARD, TORRANCE, CALIFORNIA
2530 SKYPARK DRIVE, TORRANCE, CALIFORNIA
2540 SKYPARK DRIVE, TORRANCE, CALIFORNIA
2600 SKYPARK DRIVE, TORRANCE, CALIFORNIA

(SITE CLEANUP PROGRAM NO. 1499)

This Cleanup and Abatement Order No. **R4-2021-0079** (Order) is issued to City of Torrance; Magellan Aerospace, Middletown, Inc. (formerly known as Aeronca, Inc.

formerly known as Aeronca Manufacturing Corporation); Excellon Industries, an Esterline Company (also known as Excellon Industries, Inc., Excellon Automation Company, and EA Technologies Corporation); Excellon Acquisitions, LLC; Excellon Technologies, LLC; Esterline Technologies Corporation; Robinson Helicopter Company; Dasco Engineering Corporation; and Hi-Shear Corporation (also known as Lisi Aerospace) (hereinafter collectively referred to as Dischargers) based on provisions of Water Code sections 13304 and 13267, which authorize the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) to issue this Cleanup and Abatement Order and require the submittal of technical and monitoring reports.

The Regional Board finds that:

BACKGROUND

1. **Discharger(s):** Dischargers are responsible for the cleanup and abatement of discharges due to their:

   a. Current or prior ownership of properties located at 24751, 24777, 24707, 24747, and 24701 Crenshaw Boulevard and 2530, 2540, and 2600 Skypark Drive in the City of Torrance (hereinafter collectively referred to as the "Site"), and/or

   b. Current or prior operations at the Site that resulted in the discharge of wastes, including volatile organic compounds (VOCs), primarily trichloroethene (TCE) and tetrachloroethene (PCE), perchlorate, 1,4-dioxane, metals, and total petroleum hydrocarbons, which are constituents of concern (COCs) to the environment and human health.

      As detailed in this Order, the Dischargers have caused or permitted waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the State, which creates, or threatens to create, a condition of pollution or nuisance.

2. **Location:** The Site is located at 24751, 24777, 24707, 24747, and 24701 Crenshaw Boulevard and 2530, 2540, and 2600 Skypark Drive in the City of Torrance, California. The Site is approximately 27 acres in size and is located on the northeast portion of assessor parcel number (APN) 7377-006-906 in Torrance, California shown in Attachment A, Figure 1 and Figure 2. The Site includes existing Regional Board cases Hi-Shear Corporation (Hi-Shear; Global ID No. SL204231523; File SCP No. 0218) and East Adjacent Properties of Hi-Shear Corporation (EA Properties; Global ID No. T10000013835; File SCP No. 1481). The entire parcel APN 7377-006-906, including the Site, is owned by the City of Torrance and has been primarily leased to aviation or aerospace-related companies since 1954. Attachment A, Figure 1, Site Location Map, attached hereto and incorporated herein by reference, depicts the location of the Site. Additionally, Figure 2, Site Map, of Attachment A, also attached hereto and incorporated herein, depicts the buildings occupying the Site and the surrounding

area. The land use setting in the vicinity of the Site is commercial/industrial, but the discharge extends offsite beneath residential properties.

SITE HISTORY

3. **Site Description and Activities Involving Constituents of Concern:**

The following is a summary of the current and former occupants and the historical property use for the Hi-Shear Corporation property and the EA Properties.

a. Hi-Shear Corporation (Hi-Shear) is located at 2600 Skypark Drive and occupies the western half of the Site. Hi-Shear has been an occupant as early as 1954. Activities performed on the property include the manufacture, production, assembly, and cleaning of fasteners for the aerospace industry. Wastes generated as part of the activities contained COCs, including TCE and PCE, perchlorate, 1,4-dioxane, metals, and total petroleum hydrocarbons.

b. EA Properties are located at 24751, 24777, 24707, 24747, and 24701 Crenshaw Boulevard, and at 2530 and 2540 Skypark Drive and occupy the eastern half of the Site. EA Properties consist of Property 1 (24751 and 24777 Crenshaw Boulevard), Property 2 (24707, 24747 and 24701 Crenshaw Boulevard), and Property 3 (2530 and 2540 Skypark Drive). The EA Properties Dischargers are as follows:

i. The Property 1 occupants include:

1. Aeronca, Inc. (Aeronca), a manufacturer of aircraft, missiles and their components, that occupied Property 1 from 1954 to 1987. Aeronca operated degreasers with PCE and 1,1,1-trichloroethane (1,1,1-TCA), and operated a spray booth for paint and solvent usage on the property. Aeronca also has stored and/or used 1,1,1-TCA and toluene.

2. Prior to 1966, Aeronca was formerly known as Aeronca Manufacturing Company. In 2012, Aeronca changed its name to Magellan Aerospace, Middletown, Inc.

3. Excellon Industries, an Esterline Company, also known as Excellon Industries, Inc., Excellon Automation Company, and EA Technologies Corporation (Excellon), was a manufacturer of printed circuit board fabrication equipment and occupied Property 1 from 1979 to 2003. Excellon operated degreasers, and used 1,1,1-TCA and trichlorotrifluoroethane on the

property. Excellon also has generated alkaline and solvent mixtures, waste oil mixtures, polychlorinated biphenyl waste, and other organic waste mixtures. Excellon Acquisitions, LLC, and Excellon Technologies, LLC, each continued the Excellon business, creating and servicing the same products using the same manufacturing techniques, and employing many of the same employees.

4. Esterline Corporation was the parent company of Excellon. Esterline Corporation changed its name to Esterline Technologies Corporation (Esterline) in 1991. A June 2003 asset purchase agreement indicates that Esterline retained liabilities related to actions or conditions in connection with the operation of Excellon's business including environmental health and safety liabilities.

5. South Bay Lexus (SBL), a vehicle dealership, has occupied Property 1 since 2006.

ii. The Property 2 occupants include:

1. Aeronca who occupied Property 2 from 1966 to 1973. Aeronca operated a spray booth on the property during this period.

2. Robinson Helicopter Company (RHC), a manufacturer of rotorcraft and related components, occupied Property 2 from 1978 to 1996. RHC has used halogenated solvents, liquid with cadmium, 1,1,1-TCA, methyl ethyl ketone (MEK), and methyl chloride on the property. RHC has had violations for MEK and "excess solvent usage" on the property. RHC has also indicated that there has been soil, wastewater, and/or groundwater investigations conducted on the property for internal use. RHC included the *Evaluation of Subsurface VOCs – 24701-24747 Crenshaw Boulevard & 2530-2540 Skypark Drive*, prepared by Frey Environmental, Inc. (Frey), dated February 23, 2018, as Exhibit B in their June 11, 2020 petition of Investigation Order No. R4-2020-0035; the report is discussed in Section 4 of the Order.

3. Dasco Engineering Corporation (Dasco), a manufacturer of precision mechanical aircraft and space components, has occupied Property 2 since 1995. Pooled hydrocarbon liquids

and metal cuttings were observed throughout the machine shop during a 2004 site reconnaissance performed as part of an environmental site assessment. A 2018 report titled *Environmental Evaluation of Subsurface VOCs* prepared by Frey noted elevated PCE and TCE soil vapor and soil concentrations were detected near areas identified as *Approximate Machining Gantry Location with Subsurface Pit and Tank* on Property 2.

iii. The Property 3 occupant includes:

1. RHC has occupied Property 3 since 1978. RHC has operated spray booths for paint and solvent usage on the property. RHC included the *Evaluation of Subsurface VOCs – 24701-24747 Crenshaw Boulevard & 2530-2540 Skypark Drive*, prepared by Frey, dated February 23, 2018, as Exhibit B in their June 11, 2020 petition of Investigation Order No. R4-2020-0035; the report is discussed in Section 4 of the Order.

Documents supporting each of the above descriptions of the Dischargers' chemical use and storage are available in public files maintained by the Regional Board.

EVIDENCE OF WASTE DISCHARGE AND BASIS FOR SECTION 13304 ORDER

4. **History of Environmental Investigations, Remediation and Board Orders:**

a. Under the oversight of this Regional Board, Hi-Shear has performed remediation and been implementing onsite and offsite investigations and interim mitigation measures under a Water Code section 13267 Order dated October 29, 2009. These activities are documented in following technical reports:

i. *Interim Offsite Assessment Report* (IOAR), prepared by Alta Environmental LP (Alta) dated September 9, 2016. The IOAR documented the offsite, with respect to the Hi-Shear property, VOC soil vapor and groundwater plume evaluation efforts with the installation of groundwater monitoring wells and nested soil vapor probes on the EA Properties and eastward to approximately Pennsylvania Avenue in the City of Lomita.

ii. *Groundwater Remedial Implementation Report* (GWRIR), prepared by Alta dated September 7, 2017. The GWRIR documented the implementation of enhanced in-situ bioremediation (EISB) technology to treat chlorinated VOCs in the regional water table aquifer at the Hi-Shear property.

iii. *Catalytic Oxidizer Soil Vapor Extraction System Remedial Progress Report (January 2018 – March 2018)* (SVE Progress Report), prepared by Geosyntec Consultants (Geosyntec) dated April 30, 2018. The SVE Progress Report documented the remedial activities associated with operating the remediation technology from January 1, 2018 through March 31, 2018.

iv. *Soil, Soil Vapor, and Groundwater Delineation – Module I* (Module I), prepared by Genesis Engineering & Redevelopment (Genesis) dated March 13, 2020. The Module I report documented the soil vapor assessment conducted east of Crenshaw Boulevard in the City of Torrance and City of Lomita.

v. *Soil, Soil Vapor, and Groundwater Delineation Report – Module II* (Module II), prepared by Genesis dated March 16, 2020. The Module II report documented the additional onsite soil and soil vapor conditions at the Hi-Shear property.

vi. *Vapor Intrusion Response Plan* (VIRP), prepared by Genesis dated March 20, 2020. The VIRP presented response actions to further investigate and assess vapor intrusion potential in residential and commercial properties east of Crenshaw Boulevard.

vii. *Soil, Soil Vapor, and Groundwater Delineation Report – Module III – Interim Report* (Interim Module III), prepared by Genesis dated July 3, 2020. The Interim Module III report presented soil and soil vapor data collected on the EA Properties and the Home Depot property located north of the Site.

viii. *Soil, Soil Vapor, and Groundwater Delineation Report* – Module V (Module V) dated April 3, 2020 and *Hi-Shear Module V Addendum - MW-39 Installation and Sampling* (Module V Addendum) dated June 15, 2020 both prepared by Genesis. The Module V report and Module V Addendum documented the groundwater assessment of VOCs, metals, 1,4-dioxane, hexavalent chromium and perchlorate impacts downgradient (east) of the Hi-Shear site.

b. In addition, the Regional Board has reviewed the following report and data, which provides additional evidence of discharges at or near the Site:

i. *Evaluation of Subsurface VOCs – 24701-24747 Crenshaw Boulevard & 2530-22540 Skypark Drive* (Evaluation Report) dated February 23, 2018 prepared by Frey. The Evaluation Report summarized soil and soil vapor data at Property 2 and Property 3 of the EA Properties.

c. A summary of the IOAR, GWRIR, SVE Progress Report, Module I, Module II, VIRP, Interim Module III, Module V, Module V Addendum, and Evaluation Report, is provided below.

i. The IOAR documented the activities associated with evaluating the offsite, with respect to the Hi-Shear property, extent of the VOC soil vapor and groundwater plume between April 2016 and June 2016. The IOAR identified elevated VOC soil vapor concentrations on the Site with concentrations up to five orders of magnitude greater than the applicable regulatory screening levels on Property 1 of the EA Properties. The IOAR identified VOC groundwater concentrations greater than their respective maximum contaminant levels (MCLs) in some of the installed groundwater monitoring wells. The findings from IOAR warranted additional investigation of potential sources on the EA Properties and further delineation of the soil, soil vapor, and groundwater plume offsite, with respect to the Hi-Shear property.

ii. The GWRIR documented the activities associated with application of EISB through 75 dual-nested injection wells from January 2017 to April 2017. Groundwater monitoring wells on the Hi-Shear property observed decreases in VOC concentrations following the application. The GWRIR recommended ongoing monitoring and assessment of results of the EISB injections. Most recently, VOC concentrations remain above their respective MCLs in groundwater.

iii. The SVE Progress Report documented extraction of approximately 1,721 pounds of VOCs during the first quarter of 2018. Since operation in March 1999, the soil vapor extraction (SVE) system has removed approximately 100,155 pounds of total VOCs. Due to operation issues, the SVE system was off from April 2018 through December 2020. The SVE system resumed operation in January 2021 following system modifications and upgrade.

iv. The Module I report documented the results of the soil vapor assessment east of Crenshaw Boulevard (i.e., off-Site into the City of Torrance and City of Lomita neighborhoods) conducted between September 2019 and January 2020. Soil vapor sample results indicated elevated concentrations of VOCs in the area between Crenshaw Boulevard and Pennsylvania Avenue, and the area between Amsler Avenue and in the vicinity of 247th Street. Additional delineation and the implementation of the VIRP are warranted to fully assess and address potential threats to human health and the environment.

v. The Module II report documented the results of the soil and soil vapor assessment on the Hi-Shear property between September 2019 and

December 2019. Soil vapor sample results indicated elevated concentrations of VOCs on the eastern and western portions of the Hi-Shear property, converging towards the center of the property. The restart of the SVE system and an indoor air assessment are necessary to protect human health and prevent additional migration of the chemicals of concern.

vi. The VIRP provides the criteria and sequence for vapor intrusion response actions and proposed further soil vapor, sub-slab vapor, crawl space air, and indoor air sampling for VOCs at residential and commercial properties east of Crenshaw Boulevard. The Regional Board conditionally approved the VIRP on June 1, 2020. The activities of the VIRP commenced on September 14, 2020 and are ongoing. The Regional Board conditionally approved maps that identified properties for testing and decision flow charts that provided soil vapor and indoor air response actions on November 20, 2020.

vii. The Interim Module III report documented the results of soil and soil vapor assessment conducted between November 2019 and April 2020 on the EA Properties and the offsite Home Depot property that refined the understanding of the distribution of VOCs in soil and soil vapor at the Site. The refined dataset confirmed elevated VOC soil vapor concentrations across the Site with distinct areas of high concentrations along the western portion of the Hi-Shear property and Property 1. The PCE concentrations detected during the assessment were up to six orders of magnitude greater than applicable screening levels; the TCE concentrations detected during the assessment were up to five orders of magnitude greater than applicable screening levels. The results of the Interim Module III report warranted assessing the vapor intrusion risk to indoor air at the EA Properties and remediating the soil and soil vapor beneath the Site. The Interim Module III report is an interim report, and the remaining scope of work for Module III includes delineation of perched groundwater south of the EA Properties and delineation of VOCs in soil vapor east, west, and south of the Site.

viii. The Module V and Module V Addendum report documented the installation of groundwater monitoring wells and results of the delineation of the extent of numerous COCs, including VOCs, metals, 1,4-dioxane, hexavalent chromium, and perchlorate in groundwater downgradient of the Hi-Shear property in the shallow (approximately 100 ft-below ground surface [bgs]), intermediate (approximately 150 ft-bgs), and deep (approximately 250 ft-bgs) groundwater zones. This assessment work was completed between November 2019 and May 2020. The network of wells extends east of the Site to Cypress Street. The lateral downgradient extent of VOCs in

groundwater has been delineated southeast of the Site between Pennsylvania Avenue and Cypress Street. The vertical extent of VOCs in groundwater has been delineated to approximately 250 ft-bgs. The results of the Module V and Module V Addendum report indicated that lateral and vertical delineation of the regional water table aquifer upgradient and south of the Site are incomplete.

ix. The Evaluation Report summarized environmental investigations conducted on Property 2 and Property 3 in 2015 and 2016 to address recognized environmental conditions. However, the investigations conducted did not extend to depths greater than approximately 25 ft-bgs. PCE was detected in all soil vapor samples and in the majority of soil samples analyzed; TCE was detected in a majority of the soil vapor samples and in some of the soil samples analyzed. Elevated PCE and TCE soil vapor and soil concentrations detected near areas identified as *Approximate Machining Gantry Location with Subsurface Pit and Tank* on Property 2 and *Covered Hazardous Materials Storage* on Property 3 indicate potential sources that warrant further evaluation.

Detections of PCE and TCE (a known degradant of PCE) beneath Property 2 and Property 3 are consistent with the chemical(s) used by RHC and Dasco. In RHC's 2018 response to a chemical storage and use questionnaire, RHC provided material safety data sheets for many chemicals. Among these chemicals was Safety-Kleen 105 Parts Washing Solvent; its hazardous components include: C9-C13 saturated hydrocarbons, toluene, xylene, ethyl benzene, C8+ aromatics, and chlorinated solvents (1,1,1-TCA and PCE). In Stormwater Pollution Prevention Plans, submitted by Dasco through the years, PCE, methylene chloride, TCE, and petroleum distillates have been identified as potential pollutants from its use of cleaning solvents.

d. On January 13, 2020, the Regional Board issued a Water Code section 13267 Order to the EA Properties Dischargers to submit a technical work plan for the complete delineation of the vertical and lateral extent of VOCs impacts to soil, soil vapor, and groundwater onsite and offsite. On August 21, 2020, two technical work plans were submitted for Property 1, one on behalf of Magellan Aerospace, Middletown, Inc. and the other on behalf of Esterline Technologies Corporation. Both work plans for Property 1 were accompanied by cover letters stating that Magellan and Esterline are not agreeing to or undertaking the work. On December 21, 2020, the Regional Board partially and conditionally approved the work plans for Property 1. On March 19, 2021, a *Subsurface Soil investigation, Magellan Aerospace, Middletown, Inc.* report, prepared by Frey on behalf of Magellan

Aerospace, Middletown, Inc., was submitted to the Regional Board. The Regional Board is in the process of reviewing the work performed for Property 1. To date, the Regional Board has yet to receive work plans for Property 2 and Property 3.

e. On March 6, 2020, the Regional Board issued an amendment to a Water Code section 13267 Order, requiring Hi-Shear to submit an indoor air sampling and analysis plan to assess the vapor intrusion risk for occupants on the Hi-Shear property. On April 28, 2020, the Regional Board received the *Onsite Indoor Assessment Workplan*. The Regional Board conditionally approved the work plan on June 24, 2020; the technical report was submitted by Genesis, on behalf of Hi-Shear, on November 15, 2020.

f. On May 12, 2020, the Regional Board issued a Water Code section 13267 Order to the Dischargers to submit a technical work plan to assess the vapor intrusion risk to indoor air at the EA Properties. On August 25, 2020, work plans were submitted for Property 1, Property 2, and Property 3; however, each work plan was accompanied by a cover letter stating that in submitting the work plans, the Dischargers are not agreeing to or undertaking the work. The Regional Board conditionally approved the work plans on October 6, 2020. The vapor intrusion risk to indoor air assessment reports for Property 1, Property 2, and Property 3 were submitted on February 11, 2021, March 30, 2021, and March 30, 2021, respectively. The Regional Board is in the process of reviewing the assessment reports.

g. The site assessments and remediation activities indicate that the soil, soil vapor, and groundwater are impacted with COCs, including VOCs (primarily TCE and PCE), perchlorate, 1,4-dioxane, metals, and total petroleum hydrocarbons. The detection of these constituents is consistent with contamination known to occur from the types of operations described in the above Site History.

h. To avoid confusion and overlapping requirements, this Order supersedes the Investigative Order issued on October 29, 2009 and amendments thereto (originally to Hi-Shear), except for enforcement purposes. This Order also supersedes the Investigative Orders issued on January 13, 2020 (originally to EA Properties), and May 12, 2020 (originally to Skypark Commercial Properties [i.e., Site]), and amendments thereto.

5. **Summary of Findings from Investigations:**

The Regional Board has reviewed and evaluated the technical reports and records pertaining to the discharge, detection, and distribution of wastes at the Site and the Site vicinity. Elevated levels of VOCs, including PCE and TCE have been detected in soil vapor, soil matrix, and groundwater beneath the Site and downgradient of the Site.

Attachment A, Figure 3, attached hereto and incorporated herein by reference, depicts the levels of PCE and TCE in the soil matrix detected beneath the Site and downgradient of the Site. Attachment A, Figure 4 through Figure 9, attached hereto and incorporated herein by reference, depict the levels of VOCs, primarily PCE and TCE, in soil vapor detected at multiple depths beneath the Site and downgradient of the Site. Attachment A, Figure 10 and Figure 11, attached hereto and incorporated herein by reference, depict the levels of PCE and TCE in groundwater detected in the shallow groundwater zone, approximately 100 ft-bgs.

The sections below summarize the maximum concentrations of the COCs detected in soil, soil vapor, and groundwater.

a. Soil

i. The maximum PCE and TCE soil concentrations detected beneath the Hi-Shear property are 4,010,000 micrograms per kilogram (µg/kg) [detected in sample W-3 at 15 ft-bgs in 1998] and 7,200,000 µg/kg (detected in sample BH-4 at 50 ft-bgs in 1991), respectively. Elevated 1,1,1-TCA soil concentrations detected beneath the Hi-Shear property were as high as 244,000 µg/kg (detected in sample B11 at 50 ft-bgs in 1991). Elevated 1,1-dichloroethylene (1,1-DCE) soil concentrations (a common abiotic degradant of 1,1,1-TCA) detected beneath the Hi-Shear property were as high as 3,330 µg/kg (detected in sample B11 at 50 ft-bgs in 1991).

ii. The maximum PCE and TCE soil concentrations detected beneath Property 1 of the EA Properties are 3,390 µg/kg (detected in sample VP-50 at 55 ft-bgs in 2016) and 223 µg/kg (detected at VP-25 at 40 ft-bgs in 2014), respectively. The maximum 1,1,1-TCA soil concentration detected beneath Property 1 is 1,150 µg/kg (detected in sample VP-50 at 55 ft-bgs in 2016). The maximum 1,1-DCE soil concentration (a common abiotic degradant of 1,1,1-TCA) detected beneath Property 1 is 6,320 µg/kg (detected in sample VP-50 at 55 ft-bgs in 2016).

iii. The maximum PCE and TCE soil concentrations detected at Property 2 of the EA Properties are 280 µg/kg (detected in sample A17 at 5 ft-bgs in 2015) and 37 µg/kg (detected in sample A16 at 5 ft-bgs in 2015), respectively. Samples A16 and A17 are both located near features described as *Approximate Machining Gantry Location with Subsurface Pit and Tank* on Property 2.

iv. The maximum PCE and TCE soil concentrations detected at Property 3 of the EA Properties are 120 µg/kg (detected in sample D11 at 5 ft-bgs in 2015) and 24 µg/kg (detected in sample A3 at 5 ft-bgs in 2015), respectively. Sample D11

is located on the southeast-central portion of *Building D (2540 Skypark Drive)* of Property 3.

v. The maximum PCE and TCE soil concentrations on each property are at least one order of magnitude greater than the November 2020 United States Environmental Protection Agency (USEPA) Region IX MCL-based soil screening levels for the protection of groundwater, thereby posing a threat to groundwater quality. Some concentrations of PCE and TCE in the soil matrix also exceed the USEPA Region IX's direct contact exposure pathways Regional Screening Levels (RSLs) for residential and commercial/industrial land uses. Elevated 1,1,1-TCA and 1,1-DCE soil concentrations on the Hi-Shear property and Property 1 of EA Properties are at least one order of magnitude greater than the November 2020 USEPA Region IX MCL-based soil screening levels for protection of groundwater, thereby posing a threat to groundwater quality. Elevated concentrations of 1,1,1-TCA and 1,1-DCE in the soil matrix also exceed the USEPA Regional IX's direct contact exposure pathways RSLs for residential and commercial/industrial land uses.

b. Soil Vapor

i. The maximum PCE and TCE soil vapor concentrations at the Hi-Shear property are 12,000,000 micrograms per cubic meter (µg/m^3) [detected in sample VP-1 at 45 ft-bgs in 2019] and 16,000,000 µg/m^3 (detected in sample VP-3 at 25 ft-bgs in 2019), respectively. The maximum 1,1,1-TCA soil vapor concentration at the Hi-Shear property is 113,000 µg/m^3 (detected in sample VP-3 at 45 ft-bgs in 2011), The maximum 1,1-DCE soil vapor concentration (a common abiotic degradant of 1,1,1-TCA) at the Hi-Shear property is 1,170,000 µg/m^3 (detected at VP-87 at 65 ft-bgs in 2019).

ii. The maximum PCE and TCE soil vapor concentrations at Property 1 of the EA Properties are 71,500,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020) and 4,100,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020), respectively. The maximum 1,1,1-TCA soil vapor concentration at Property 1 of the EA Properties is 2,590,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020). The maximum 1,1-DCE soil vapor concentration (a common abiotic degradant of 1,1,1-TCA) at Property 1 of the EA Properties is 86,700,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020).

iii. The maximum PCE and TCE soil vapor concentrations at Property 2 of the EA Properties are 250,000 µg/m^3 (detected in sample VP-133 at 65 ft-bgs in 2019) and 280,000 µg/m^3 (detected in sample VP-133 at 85 ft-bgs in 2019), respectively. Elevated concentrations of 1,1-DCE were detected in soil vapor at Property 2 of the EA Properties (19,000 µg/m^3 detected in sample VP-133 at 65 ft-bgs and 85 ft-bgs in 2019).

iv. The maximum PCE and TCE soil vapor concentrations at Property 3 of the EA Properties are 881,000 µg/m^3 (detected in sample VP-132 at 80 ft-bgs in 2020) and 450,000 µg/m^3 (detected in sample VP-26 at 85 ft-bgs in 2020), respectively. Elevated concentrations of 1,1,1-TCA were detected in soil vapor at Property 3 of the EA Properties (16,800 ug/m^3 detected in sample VP-26 at 15 ft-bgs in 2011). Elevated concentrations of 1,1-DCE were detected in soil vapor at Property 3 of the EA Properties (19,500 ug/m^3 detected in sample VP-132 at 80 ft-bgs in 2020).

v. The soil vapor concentrations reported in the Module I report indicated elevated PCE and TCE concentrations along Crenshaw Boulevard, and eastward to between Pennsylvania Avenue and Cypress Street in the City of Lomita. The elevated concentrations observed off-Site and east of Crenshaw Boulevard warranted the implementation of a vapor intrusion response plan. Additionally, elevated 1,1-DCE soil vapor concentrations were detected along Crenshaw Boulevard.

vi. The maximum concentrations of PCE and TCE detected in soil vapor exceed the June 2020 Human Health Risk Assessment (HHRA) Note Number 3, Department of Toxic Substances Control (DTSC) modified soil vapor screening levels (DTSC-SLs)[1] of 15 µg/m^3 and 16 µg/m^3 for cancer endpoint for residential land use, respectively. The maximum concentrations of PCE and TCE in soil vapor exceed the DTSC-SLs of 67 µg/m^3 and 100 µg/m^3 for cancer endpoint for commercial/industrial land use, respectively. Additionally, the maximum concentrations of TCE in soil vapor exceed the short-term exposure soil vapor screening level of 67 µg/m^3 and 267 µg/m^3 for residential land use and commercial/industrial land use, respectively. The elevated concentrations of 1,1,1-TCA detected in soil vapor exceed the HHRA Note Number 3, DTSC-SLs of 35,000 µg/m^3 and 150,000 µg/m^3 for noncancer endpoint for residential and commercial/industrial land use, respectively. The elevated concentrations of 1,1-DCE detected in soil vapor exceed the HHRA Note Number 3, DTSC-SLs of 2,400 µg/m^3 and 10,000 µg/m^3 for noncancer endpoint for residential and commercial/industrial land use, respectively.

vii. Additional measures, including vapor mitigation systems and an interim remedial action plan may be necessary to address potential threats to human health, based on additional data that will be gathered in response to this and other orders.

c. Groundwater

[1] Per HHRA Note 3 Guidance and OSWER *Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway From Subsurface Vapor Sources to Indoor Air* (EPA, 2015); α (attenuation factor) = 0.03

i. The onsite (i.e., on Skypark Commercial Properties [Site]) PCE concentrations in the shallow groundwater zone (estimated to be approximately 100 ft-bgs) were detected more than three orders of magnitude greater than its MCL (21,000 µg/L at MW-3 in 1993); onsite TCE concentrations in the shallow groundwater zone were detected more than four orders of magnitude greater than its MCL (190,000 µg/L at MW-3 in 1994); onsite 1,1-DCE concentrations in the shallow groundwater zone were detected more than two orders of magnitude greater than its MCL (970 µg/L at MW-13 in 2011). The onsite PCE concentrations in the intermediate groundwater zone (estimated to be approximately 150 ft-bgs) were detected more than two orders of magnitude greater than its MCL (2,600 µg/L at SPG-1 in 1997 and in 2000); onsite TCE concentrations in the intermediate groundwater zone were detected more than four orders of magnitude greater than its MCL (97,000 µg/L in SPG-1 in 1997); onsite 1,1-DCE concentrations in the intermediate groundwater zone were detected more than two orders of magnitude greater than its MCL (4,200 µg/L at SPG-1 in 2002). These concentrations of PCE, TCE, and 1,1-DCE in the groundwater exceed and/or have exceeded the USEPA's and the State Water Resources Control Board (SWRCB) Division of Drinking Water's (DDW) MCLs of 5 µg/L, 5 µg/L, and 6 µg/L, respectively.

ii. The offsite (i.e., off Skypark Commercial Properties [Site]) PCE concentrations in the shallow groundwater zone were detected more than two orders of magnitude greater than its MCL (530 µg/L at MW-20 in 2015); offsite TCE concentrations in the shallow groundwater zone were detected more than two orders of magnitude greater than its MCL (3,400 µg/L at MW-20 in 2017) in the commercial and residential areas of the City of Torrance and City of Lomita; offsite 1,1-DCE concentrations in the shallow groundwater zone were detected more than 40 times greater than its MCL (250 µg/L at MW-20 in 2015 and 2017). These concentrations of PCE, TCE, and 1,1-DCE in the groundwater exceed and/or have exceeded the USEPA's and SWRCB DDW's MCL of 5 µg/L, 5 µg/L, and 6 µg/L, respectively.

iii. The depth to groundwater ranges from approximately 80 to 90 ft-bgs and groundwater data and soil vapor data indicates the groundwater plume is off gassing into the soil vapor. While the groundwater off gassing is one of potential multiple secondary sources beneath the Site, the presence of the TCE and PCE beneath the Site threatens to cause vapor intrusion into buildings, including nearby residences.

Detections of concentrations of VOCs in the soil column all the way to groundwater indicate that the Hi-Shear property and Property 1 of the EA Properties on the Site have contributed to a commingled plume of groundwater contamination that begins at the Hi-

Shear property, spans the EA Properties, and extends downgradient beneath nearby residential areas. Detections of concentrations of VOCs in shallow soil (upper 25 feet) above the May 2020 USEPA Region IX MCL-based soil screening levels for the protection of groundwater indicate that Property 2 and Property 3 of EA Properties on the Site threaten groundwater and have likely contributed to the commingled groundwater plume.

Detections of concentrations of VOCs in soil vapor collected at depth to 85 ft-bgs indicate the Site lies above a commingled plume of soil vapor contamination that begins at the Hi-Shear property, spans the EA Properties, and extends downgradient beneath nearby residential areas. Investigations performed to date confirm that soil vapor and groundwater contamination have not been fully delineated.

6. **Sources of Information:** The sources for the evidence summarized above include but are not limited to: reports and other documentation in Regional Board files, including meeting and telephone calls documentation, and e-mail communication with Dischargers, their attorneys, and/or consultants, and site visits.

AUTHORITY – LEGAL REQUIREMENTS

7. Water Code section 13304, subdivision (a) provides that:

   "(a) Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts. A cleanup and abatement order issued by the state board or a regional board may require the provision of, or payment for, uninterrupted replacement water service, which may include wellhead treatment, to each affected public water supplier or private well owner. Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant."

8. Water Code section 13304, subdivision (c)(1) provides that:

   ". . . the person or persons who discharged the waste, discharges the waste, or threatened to cause or permit the discharge of the waste within the meaning of subdivision (a), are liable to that government agency to the extent of the reasonable

costs actually incurred in cleaning up the waste, abating the effects of the waste, supervising cleanup or abatement activities, or taking other remedial actions. . .”

9. Water Code section 13267, subdivision (b)(1) provides that:

“In conducting an investigation . . ., the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or, discharging, or who proposes to discharge waste within its region . . .shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports.”

10. **Public Participation:** The Regional Board may require the Dischargers to submit a Public Participation Plan or engage in other activities to disseminate information and gather community input regarding the Site, as authorized or required by Water Code sections 13307.1, 13307.5 and 13307.6.

11. The State Water Resources Control Board (hereafter State Water Board) has adopted Resolution No. 92-49, the Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304 (Resolution 92-49). This Policy sets forth the policies and procedures to be used during an investigation or cleanup of a polluted site and requires that cleanup levels be consistent with State Water Board Resolution 68-16, the Statement of Policy With Respect to Maintaining High Quality of Waters in California (Resolution 68-16). Resolution 92-49 and the Basin Plan establish the cleanup levels to be achieved. Resolution 92-49 requires the waste to be cleaned up to background, or if that is not reasonable, to an alternative level that is the most stringent level that is economically and technologically feasible in accordance with California Code of Regulations, title 23, section 2550.4. Any alternative cleanup level to background must (1) be consistent with the maximum benefit to the people of the state; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Water Resources Control Board (State Water Board).

12. The Regional Board’s *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) identifies beneficial uses and sets forth water quality objectives to protect those uses. The Site overlies groundwater within the Coastal Plain of Los Angeles (West Coast - Dominguez Channel Watershed). The designated beneficial uses of the groundwater beneath the Site are: municipal and domestic supply (MUN), industrial service supply (IND), industrial process supply (PROC), and agricultural supply (AGR). Water quality objectives to protect the beneficial use of MUN that apply to the groundwater at the Site include the “Chemical

Constituents and Radioactivity", which incorporates by reference state maximum contaminant levels set forth in Title 22 of the California Code of Regulations. (See Basin Plan, Chemical Constituents and Radioactivity, p. 3-47 *et seq.*) The MCLs for the COCs, PCE, TCE, and 1,1-DCE, are 5 µg/L, 5 µg/L, and 6 µg/L, respectively. As set forth in the above Findings, the concentrations of COCs in groundwater at and downgradient of the Site exceed the water quality objectives applicable to the wastes.

13. The exceedance of applicable narrative or numeric water quality objectives in the Basin Plan constitutes "pollution," as defined in Water Code section 13050, subdivision (l)(1).

14. The threat of vapor intrusion into buildings at and near the Site has caused or threatens to cause nuisance as defined in Water Code section 13050, subdivision (m). The presence of COCs, including VOCs (primarily TCE and PCE), at the known levels is potentially injurious to health, indecent or offensive to the senses, and/or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property and affects at the same time an entire community and occurs during or as a result of the treatment or disposal of waste. The wastes detected in groundwater, soil matrix, and vapor at the Site continue to migrate and have caused and threaten to continue to cause pollution, including contamination, and nuisance.

DISCHARGER LIABILITY PURSUANT TO WATER CODE SECTION 13304

15. COCs, including TCE and PCE and other waste constituents discharged at the Site constituted "waste" as defined in Water Code section 13050, subdivision (d).

16. As described in Findings of this Order, Dischargers identified in this Order are the current owner of the property and/or occupants, and each of them has caused or permitted waste to be discharged or deposited where it has discharged to waters of the state and has created, and continues to threaten to create, a condition of pollution or nuisance.[2]

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[2] Under precedential Orders issued by the State Water Resources Control Board (State Water Board), the City of Torrance is liable for the cleanup of wastes at the Site regardless of its involvement in the activities that initially caused the pollution. The discharge of chemicals continues today, as the plume of groundwater contamination continues to migrate, unabated. This is the subject of a recent Court of Appeals case, *Tesoro Refining & Marketing Company LLC v. Los Angeles Regional Water Quality Control Board*, 42 Cal.App.5th 453, 457 (2019), which held "the term 'discharge' must be read to include not only the initial occurrence [of a discharge], but also the passive migration of the contamination into the soil." The Court affirmatively cited State Water Board precedent: "State Board held that a continuous and ongoing movement of contamination from a source through the soil and into the groundwater is a discharge to waters of the state and subject to regulation." (*Ibid*., citing State Water Board Order WQ 86-2 (*Zoecon Corp*), WQ 74-13 (*Atchison, Topeka, et al.*), and WQ 89-8 (*Spitzer*) ("[D]ischarge continues as long as pollutants are being emitted at the site"]. See also State Water Board Order WQ 89-1 (*Schmidl*).) Under California law, courts have historically held, and modern courts maintain, that possessors of land may be liable for a nuisance on that land even if the

17. The City of Torrance is a Discharger because, as the current owner of all of the Site, the City of Torrance was aware or should have been aware of the activities that resulted in the discharges of waste and had the ability to control those discharges through contractual relationships with entities who discharged as a result of their operations. Despite being aware of the contamination present on and under its property, the City of Torrance has not performed any investigation or remediation to stop the migration of contamination.

18. Hi-Shear and the remaining EA Properties Dischargers (other than the City of Torrance) are Dischargers because, as a current or former operator of properties making up the Site, each entity caused or permitted waste to be discharged or deposited where it has discharged to waters of the state and has created, and continues to threaten to create, a condition of pollution or nuisance. Findings 3 describe each entities use of COCs on the Site and Findings 4.c, and 5 describe the investigations that provide data demonstrating discharges of wastes at each respective property that make up the Site. Decades of Regional Board staff experience with industries that use, store and transfer chemicals such as petroleum products and solvents (e.g., total petroleum hydrocarbons, VOCs, etc.), provide evidence that small amounts of spilled chemicals discharge during routine operations, seep through concrete and other intended containment, leading to the type of contamination found at the Site. The Regional Board is currently overseeing numerous cleanup operations resulting from improper and inadequate handling of hazardous materials. Standard chemical handling practices often unknowingly allow adverse environmental impacts, like the ones observed at the Site, to occur. These factors, taken as a whole, lead to the conclusion that the Dischargers have discharged high concentrations of COCs which must be cleaned up and abated to protect the environment and human health.[3]

19. Due to the activities described in this Order, the Dischargers have caused or permitted or threatened to cause or permit wastes to be discharged or deposited where the wastes are, or probably will be discharged into the waters of the State which creates a condition of pollution or nuisance. The Dischargers have caused or permitted or threatened to cause or permit wastes to be discharged or deposited where the wastes are or probably will pose a potential human health threat to occupants of the building onsite through direct contact exposure to contaminated soil and/or groundwater or through vapor intrusion into indoor air. The Dischargers knew or should have known of the discharge of waste and had the legal ability to control it. The relevant facts and

possessor did not create the nuisance. (See *Leslie Salt Co. v. San Francisco Bay Conservation and Dev. Comm'n* (1984) 153 Cal.App.3d 605, 619–620).

[3] State Water Board Order WQ 86-16 (*Stinnes-Western*) supports the use of evidence of chemical use, standard chemical handling practices, and detections of that chemicals in the environment as reasonable bases supporting a cleanup and abatement order. "As we noted earlier, given the very low action levels for these chemicals, today we are concerned with <u>any</u> discharge." (*Ibid.* at n. 4.)

weight of the evidence indicates that the Dischargers are appropriately identified in this Order.

20. This Order requires investigation and cleanup of the Site in compliance with the Water Code, the applicable Basin Plan, State Water Board Resolutions 92-49 and 68-16, and other applicable plans, policies, and regulations. All Dischargers are responsible for complying with each and every requirement, unless otherwise specifically noted.

WATER CODE SECTION 13267 FINDING

21. As described in the Findings in this Order, the Dischargers are subject to orders pursuant to Water Code section 13267 to submit technical reports because existing data and information about the Site indicate that waste has been discharged, is discharging, or is suspected of discharging, at the property, which is or was owned and/or operated by the Dischargers named in this Order. The technical reports required by this Order are necessary to assure compliance with Water Code section 13304 and State Water Board Resolution 92-49, including to adequately investigate and cleanup the Site to protect the beneficial uses of waters of the state, to protect against nuisance, and to protect human health and the environment. As required by Water Code section 13267, the Regional Board has considered the burden and benefits of requiring these reports and has determined that the benefit to water quality and public health outweighs the costs of generating the required reports. Soil, soil vapor, and groundwater concentrations on- and off-Site are detected above their applicable screening levels that are protective of water quality and public health and have not been fully delineated. Regional Board staff, in reliance on best professional judgment, State Water Board data, and a Discharger's suggested estimate, estimates that compliance with Water Code section 13267 in this Order will cost approximately $2,000,000 to $20,000,000, depending upon the extent of the investigation needed. The benefits to be obtained of the required reports include protection of human health, drinking water, and elimination of soil, soil vapor, and groundwater contamination which currently impacts an entire community.

OTHER CONSIDERATIONS

22. Issuance of this Order is being taken for the protection of the environment and as such is exempt from provisions of the California Environmental Quality Act (CEQA) (Public Resources Code §§ 21000 et seq.) in accordance with title 14, California Code of Regulations, sections 15061, subdivision (b)(3), 15306, 15307, 15308, and 15321. This Order generally requires the Dischargers to submit plans for approval prior to implementation of cleanup activities at the Site. Mere submittal of plans is exempt from CEQA as submittal will not cause a direct or indirect physical change in the environment and/or is an activity that cannot possibly have a significant effect on the environment. CEQA review at this time would be premature and speculative, as there is not enough information concerning the Dischargers' proposed remedial activities and possible associated environmental impacts. If the Regional Board determines that

implementation of any plan required by this Order will have a significant effect on the environment, the Regional Board will conduct the necessary and appropriate environmental review prior to Executive Officer's approval of the applicable plan.

23. Pursuant to Water Code section 13304, the Regional Board may seek reimbursement for all reasonable costs to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action.

24. It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring the Dischargers to clean up the groundwater to meet drinking water standards.

25. Any person aggrieved by this action of the Regional Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and title 23, California Code of Regulations, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions will be provided upon request or may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

REQUIRED ACTIONS

THEREFORE, IT IS HEREBY ORDERED, pursuant to Water Code sections 13304 and 13267 that the Dischargers shall investigate, cleanup the waste and abate the effects of waste forthwith discharging at and from the Site. "Forthwith" means as soon as reasonably possible, but in any event no later than the compliance dates below. More specifically, the following tasks are required:

1. **Site Conceptual Model:** Dischargers shall develop and submit a Site Conceptual Model (SCM). The SCM shall include a written presentation with graphic illustrations of discharge scenario(s), geology and hydrogeology, waste fate and transport in soil matrix, soil vapor and groundwater, distribution of wastes, exposure pathways, sensitive receptors and other relevant information. The SCM shall be based upon the actual data already collected from the Site and shall identify data gaps, i.e., areas where further investigation is necessary.

   If information presented in the SCM suggests that assessment, characterization and delineation of waste constituents is incomplete, the Dischargers shall prepare and submit a work plan to complete assessment and characterization of COCs and other potential waste constituents in soil vapor, soil matrix, and groundwater and to fully

delineate the vertical and lateral extent of wastes in the soil, soil vapor, and groundwater onsite and offsite as set forth in Order Number 2 below.

The SCM shall also be updated as new information becomes available. New information may include, but not be limited to, technical reports originally required by CWC section 13267 investigative orders issued on October 29, 2009 to Hi-Shear, January 13, 2020 to EA Properties, and May 12, 2020 to Skypark Commercial Properties. The SCM shall be updated and submitted upon request by the Regional Board.

2. **Risk Assessment:**

   a. Dischargers shall prepare and submit a comprehensive Human Health Risk Assessment (HHRA), and if applicable an ecological risk assessment, considering all waste constituents in the soil matrix, soil vapor, and groundwater, all exposure pathways and sensitive receptors and applying existing and current regulatory human health and ecological screening levels and/or acceptable risk assessment models to the Regional Board for review and approval. The preparation of the HHRA shall consider new information provided by, but not be limited to, technical reports required by CWC section 13267 investigative orders issued on October 29, 2009, January 13, 2020, and May 12, 2020.

   b. Dischargers shall submit the complete implementation report for the VIRP (superseding the original requirement by the October 29, 2009 Investigative Order). The implementation report shall include but not be limited to the current designated response zones, Accelerated Response Zone (ARZ) and Evaluate Need for Action Zone (ENA Zone).

   c. Dischargers shall submit the revised ENA Zone Plan and its Figure 7 – Proposed VI Assessment Sectors as part of the ongoing implementation of the VIRP (as originally required by the October 29, 2009 and May 12, 2020 Investigative Orders).

   d. Dischargers shall prepare and submit soil vapor probe monitoring reports for the network of soil vapor probes east of Crenshaw Boulevard tri-annually (superseding the original requirement by the October 29, 2009 Investigative Order).

3. **Site Assessment:**

   a. Dischargers shall develop, submit, and implement a Site Assessment Work Plan(s) to assess, characterize and delineate the extent of wastes in soil, soil vapor, and groundwater:

      i. For each Property, the Dischargers identified with the Property (i.e., Property 1, 2 or 3 of EA Properties, Hi-Shear Property) in the above Site History shall fully assess, characterize, and delineate the vertical and lateral extent of

wastes (including VOCs, perchlorate, 1,4-dioxane, hexavalent chromium, total petroleum hydrocarbons, and metals) and other waste constituents onsite and offsite in the soil matrix, soil vapor, and groundwater.

ii. For each Property, the Dischargers identified with the Property in the above Site History shall identify the locations of all waste sources at the Site such as underground storage tanks, clarifiers, sumps, and other sources to allow for full assessment of the extent of waste discharged at the Site.

iii. Update the current concentrations of waste constituents in the soil vapor by conducting a site-wide soil vapor survey.

iv. Include a schedule for implementation of the Site Assessment Work Plan(s) within the Plan.

v. Upon Executive Officer approval of the Site Assessment Work Plan(s), you shall implement the Site Assessment Work Plan(s) in accordance with the approved schedule.

vi. Completion of the Site Assessment (Site Assessment Completion Report[s]) may require multiple approved work plans.

Work plan(s) submitted to the Regional Board shall consider new information provided by, but not be limited to, technical reports required by CWC section 13267 investigative orders issued October 29, 2009, January 13, 2020, and May 12, 2020. Outstanding technical reports required in these investigative orders, and their amendments thereto, include the following list. This Order requires the submittal of the following reports:

b. Hi-Shear shall submit the implementation report for the “Additional Soil Vapor Delineation Investigation Scope of Work” (Additional Scope Report) (superseding the original requirement by the October 29, 2009 Investigative Order).

c. Hi-Shear shall submit the Soil, Soil Vapor, and Groundwater Delineation Report – Module IV (Module IV Report) (superseding the original requirement by the October 29, 2009 Investigative Order).

d. Hi-Shear shall submit the Onsite Vertical Groundwater Investigation Report (as originally required by the October 29, 2009 Investigative Order).

e. Dischargers shall submit a work plan for flow and transport groundwater modeling for onsite and offsite groundwater contaminant plumes (Groundwater Modeling Work Plan) (superseding the original requirement by the October 29, 2009 Investigative Order).

4. **Conduct Remedial Action:** For each Property, the Dischargers identified with the Property shall implement a cleanup and abatement program for the cleanup of wastes in the soil matrix, soil vapor, and groundwater and the abatement of the effects of the discharges of waste on water quality and beneficial uses of water. Specifically, you shall:

   a. Develop an Interim Remedial Action Plan (IRAP) for cleanup of wastes in soil, soil vapor, and groundwater originating from each respective Property, based on currently available environmental data.

      The preparation of the IRAP shall consider new information provided by, but not be limited to, technical reports required by CWC section 13267 investigative orders issued October 29, 2009, January 13, 2020, and May 12, 2020. All Dischargers shall address the commingled soil vapor plume. The IRAP shall also include vapor mitigation systems for on- and off-Site properties that have confirmed vapor intrusion risks through indoor air and vapor intrusion assessments.

   b. For each Property, the Dischargers identified with the Property shall develop a comprehensive Remedial Action Plan(s) (RAP) for cleanup of wastes in the soil matrix, soil vapor, and groundwater originating from the Property and submit it to the Regional Board for review and approval. The RAP shall include, at a minimum:

      i. Evaluation of the technology(ies) proposed for remediation of soil matrix, soil vapor, and groundwater

      ii. Description of the selection criteria for choosing the proposed method over other potential remedial options. Discuss the technical merit, suitability of the selected method under the given Site conditions and waste constituents present, economic and technological feasibility, and immediate and/or future benefits to the people of the state

      iii. Description of any pilot projects intended to be implemented

      iv. Estimation of cumulative mass of wastes to be removed with the selected method. Include all calculations and methodology used to obtain this estimate

      v. A proposed schedule for completion of the RAP

   The following information shall be considered when establishing preliminary cleanup goals:

      i. Groundwater cleanup goals that do not exceed applicable water quality objectives or criteria necessary to protect the beneficial uses, including the Regional Board's Basin Plan water quality objectives (e.g., California's MCLs) and Notification Levels for drinking water as established by the SWRCB DDW, at a point of compliance approved by the Regional Board.

ii. Human health protection levels set forth in the current USEPA Region IX's RSLs.

iii. Protection from vapor intrusion and protection of indoor air quality based on the DTSC's September 2018 (or latest version) *Toxic Criteria for Human Health Risk Assessments, Screening Levels, and Remediation Goals* and DTSC and California Water Resources Control Boards' February 2020 (or latest version) *Public Draft – Supplemental Guidance: Screening and Evaluating Vapor Intrusion.* Soil vapor sampling requirements are stated in USEPA's 2015 *OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air*, the DTSC and Los Angeles Water Board's July 2015 *Advisory – Active Soil Gas Investigations*, the DTSC October 2011 (or latest version) *Guidance for Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*, and the October 2014 San Francisco Bay Regional Water Quality Control Board's *Interim Framework for Assessment of Vapor Intrusion at TCE Contaminated Sites in the San Francisco Bay Region*.

Revisions to or additional RAPs may be needed to comply with State Water Board Resolution 92-49.

c. Upon Regional Board approval of the Remedial Action Plan(s), the Dischargers shall implement the RAP(s) in accordance with the approved schedule.

d. The Dischargers shall submit quarterly remediation progress reports to this Regional Board. The quarterly remediation progress reports shall document all performance data associated with the operating systems.

5. **Conduct Groundwater Monitoring:** Dischargers shall implement a tri-annual groundwater monitoring program as set forth in **Attachment C**. The tri-annual groundwater monitoring reports shall be submitted according with the following schedule, with the next report due by **September 15, 2021**:

Monitoring Trimester	Monitoring Period	Report Due Date
First Trimester	January – April	May 15
Second Trimester	May – August	September 15
Third Trimester	September – December	January 15

6. **Time Schedule:** The Dischargers shall submit all required work plans and reports and complete work within the schedule in any approved work plan or RAP and the time schedule set forth in Attachment B attached hereto and incorporated herein by reference, which may be revised by the Executive Officer at his/her discretion.

7. The Regional Board's authorized representative(s) shall be allowed:

   a. Entry upon premises where a regulated facility or activity is located, conducted, or where records are stored, under the conditions of this Order;

   b. Access to copy any records that are stored under the conditions of this Order;

   c. Access to inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

   d. The right to photograph, sample, and monitor the Site for the purpose of ensuring compliance with this Order, or as otherwise authorized by the California Water Code.

8. **Contractor/Consultant Qualification:** As required by the Business and Professions Code sections 6735, 7835, and 7835.1, all reports shall be prepared by, or under the supervision of, a California registered professional engineer or geologist and signed by the registered professional. All technical reports submitted by the Dischargers shall include a statement signed by the authorized representative certifying under penalty of law that the representative has examined and is familiar with the report and that to his/her knowledge, the report is true, complete, and accurate. All technical documents shall be signed by and stamped with the seal of the above-mentioned qualified professionals that reflects a license expiration date.

9. This Order is not intended to permit or allow the Dischargers to cease any work required by any other order issued by the Regional Board, nor shall it be used as a reason to stop or redirect any investigation or cleanup or remediation programs ordered by the Regional Board or any other agency. Furthermore, this Order does not exempt the Dischargers from compliance with any other laws, regulations, or ordinances which may be applicable, nor does it legalize these waste treatment and disposal facilities, and it leaves unaffected any further restrictions on those facilities which may be contained in other statutes or required by other agencies.

10. Each Discharger shall submit a notice to the Regional Board 30 days in advance of any planned changes in name, ownership, or control of the Site and shall submit a notice to the Regional Board 30 days in advance of any planned physical changes to the Site that may affect compliance with this Order. In the event of a Discharger's change in ownership or operator, that Discharger also shall provide a notice 30 days in advance, by letter, to the succeeding owner/operator of the existence of this Order, and shall submit a copy of this advance notice to the Regional Board.

11. Abandonment of any groundwater well(s) at the Site must be approved by and reported to the Regional Board at least 30 days in advance. Any groundwater wells removed must be replaced within a reasonable time, at a location approved by the Regional Board. With written justification, the Regional Board may approve the abandonment of groundwater wells without replacement. When a well is removed, all

work shall be completed in accordance with California Department of Water Resources Bulletin 74-90, *California Well Standards*, Monitoring Well Standards Chapter, Part III, Sections 16-19.

12. In the event compliance cannot be achieved within the terms of this Order, the Dischargers have the opportunity to request, in writing, an extension of the time specified. The extension request shall include an explanation why the specified date could not or will not be met and justification for the requested period of extension. Any extension request shall be submitted as soon as the situation is recognized and no later than the compliance date. Extension requests not approved in writing with reference to this Order are denied.

13. Reference herein to determinations and considerations to be made by the Regional Board regarding the terms of the Order shall be made by the Executive Officer or his/her designee. Decisions and directives made by the Executive Officer in regard to this Order shall be as if made by the Regional Board.

14. The Regional Board, through its Executive Officer, may revise this Order as additional information becomes available. Upon request by the Dischargers, and for good cause shown, the Executive Officer may defer, delete, or extend the date of compliance for any action required of the Dischargers under this Order. The authority of the Regional Board, as contained in the California Water Code, to order investigation and cleanup, in addition to that described herein, is in no way limited by this Order.

15. Continue any remediation or monitoring activities until such time as the Executive Officer determines that sufficient cleanup has been accomplished and this Order has been rescinded.

16. The Dischargers shall reimburse the Regional Board for reasonable costs associated with oversight of the investigation and cleanup of the waste at or emanating from the Site. Provide the Regional Board with the name or names and contact information for the person to be provided billing statements from the State Water Resources Control Board.

17. The Dischargers shall submit information and take actions addressing public participation requirements of Water Code sections 13307.5 and 13307.6 when directed by the Executive Officer.

18. As necessary to assure compliance with the California Environmental Quality Act, provide information to the Regional Board as directed by the Executive Officer.

19. The Regional Board, under the authority given by Water Code section 13267, subdivision (b)(1), requires you to include a perjury statement in all reports submitted under this Order. The perjury statement shall be signed by a senior authorized representative (not by a consultant). The perjury statement shall be in the following format:

"I, [NAME], certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

20. The State Water Board adopted regulations requiring the electronic submittals of information over the internet using the State Water Board GeoTracker data management system. You are required to comply by uploading all reports and correspondence prepared to date on to the GeoTracker data management system. The text of the regulations can be found at the URL:

https://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/

21. Failure to comply with the terms or conditions of this Order may result in imposition of civil liabilities, imposed either administratively by the Regional Board or judicially by the Superior Court in accordance with Water Code sections 13268, 13304, 13308, and/or 13350, and/or referral to the Attorney General of the State of California.

22. None of the obligations imposed by this Order on the Dischargers are intended to constitute a debt, damage claim, penalty or other civil action which should be limited or discharged in a bankruptcy proceeding. All obligations are imposed pursuant to the police powers of the State of California intended to protect the public health, safety, welfare, and environment.

Ordered by: R Purdy Digitally signed by R Purdy Date: 2021.06.18 15:39:07 -07'00' Water Boards

Date: June 18, 2021

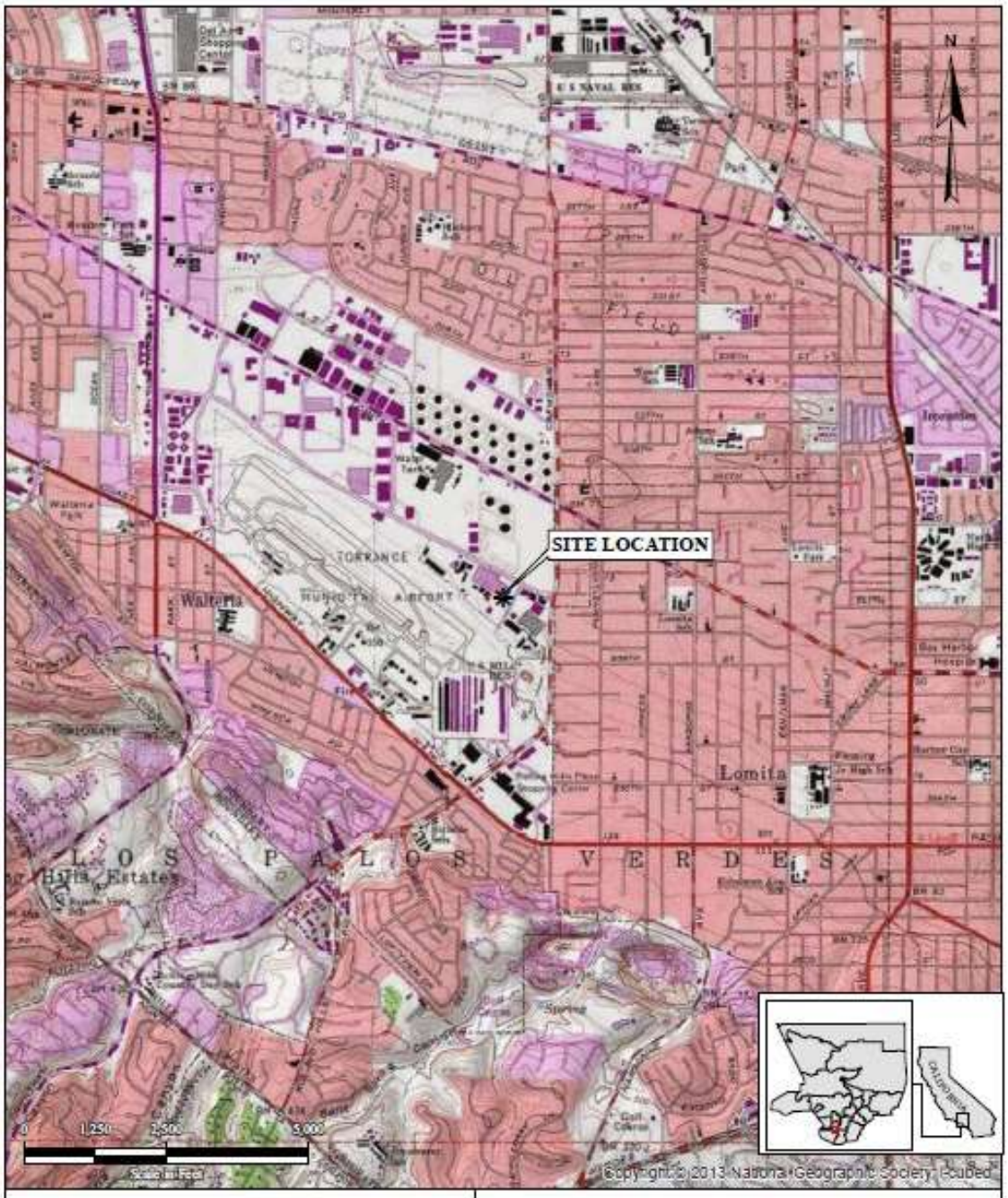
Renee Purdy

Executive Officer

ATTACHMENT A

FIGURES

FIGURE 1: SITE VICINITY MAP



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GENESIS ENGINEERING & REDEVELOPMENT

115 S. School Street · Lodi, CA 95240

Tel: 209.599.2004 · Fax: 209.433.3990

www.gercorp.com

SITE LOCATION MAP

Soil, Soil Vapor, and Groundwater Delineation Report - Module V
Hi-Shear Corporation
2600 Skypark Drive, Torrance, California

Designed:	CH	Project Number:	237-H-13	Figure
Drawn:	DH	File:	237H13_1	1
Checked:	SV	Revision:	xxxxx	Date: 03/17/20

FIGURE 2: SITE MAP

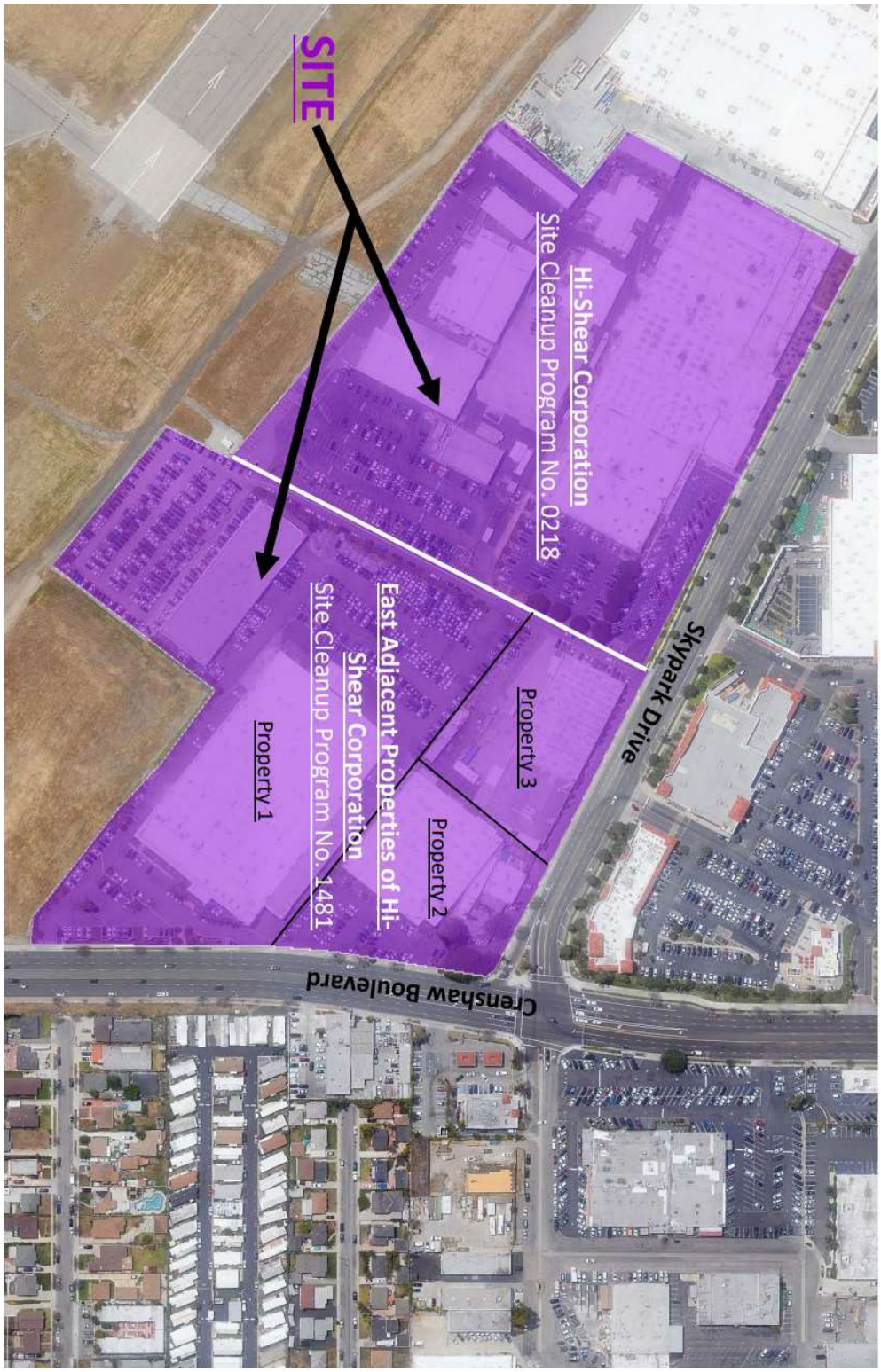


FIGURE 3: PCE and TCE Concentration in Soil Matrix

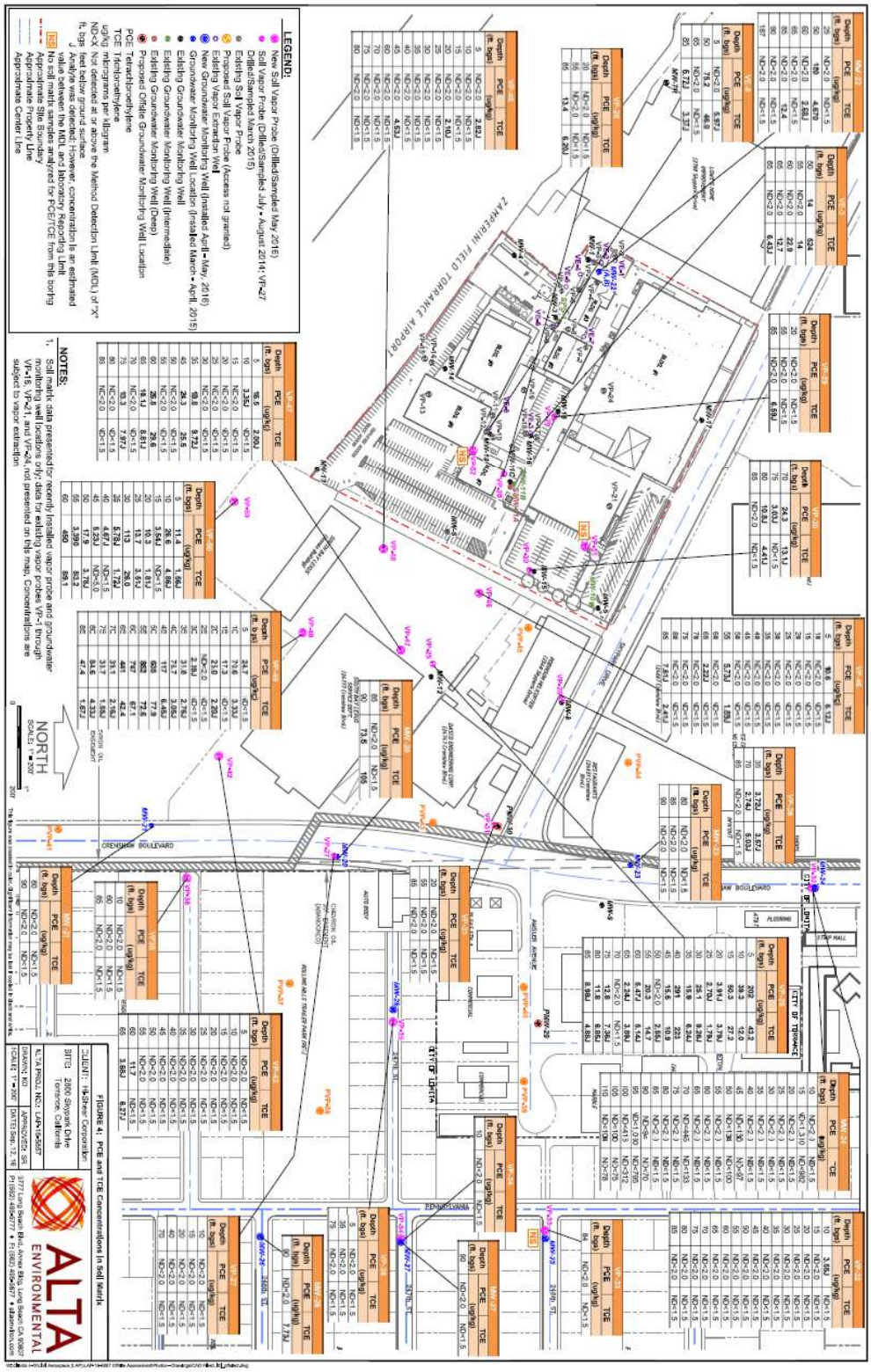


FIGURE 4: PCE Concentration in Soil Vapor at a Depth of 5 Feet

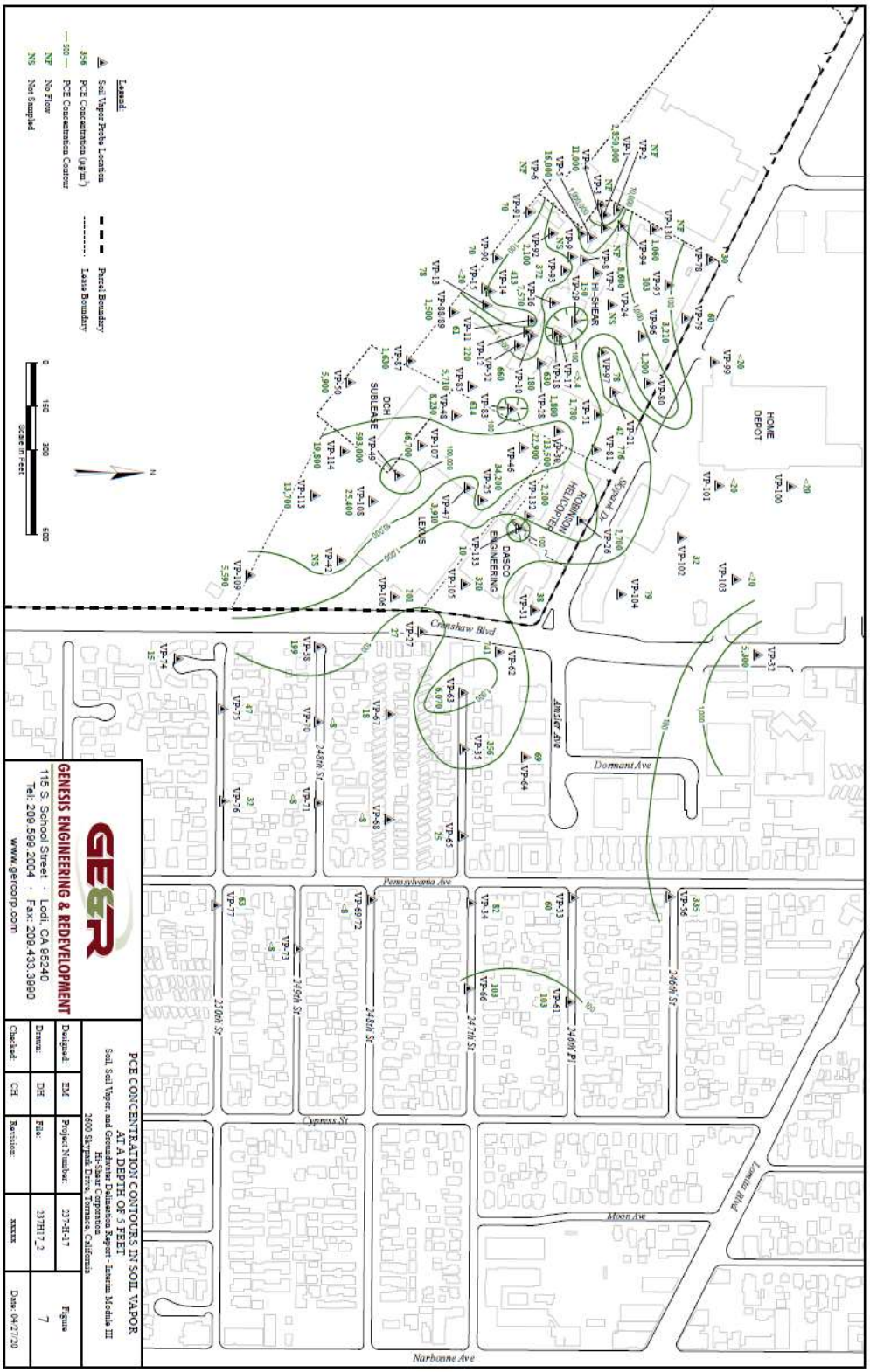


FIGURE 5: PCE Concentration in Soil Vapor at a Depth of 45 Feet

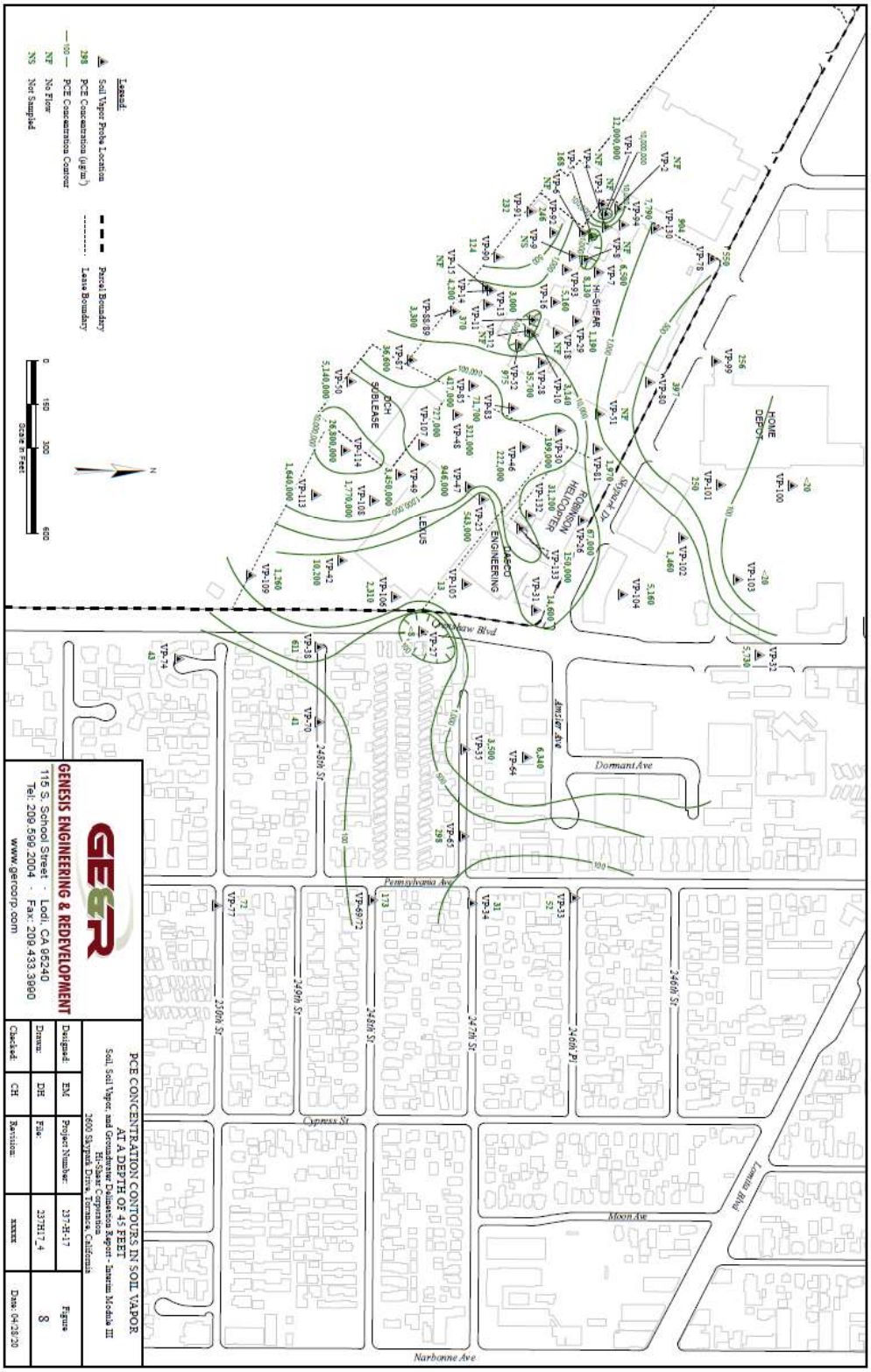


FIGURE 6: PCE Concentration in Soil Vapor at a Depth of 85 Feet

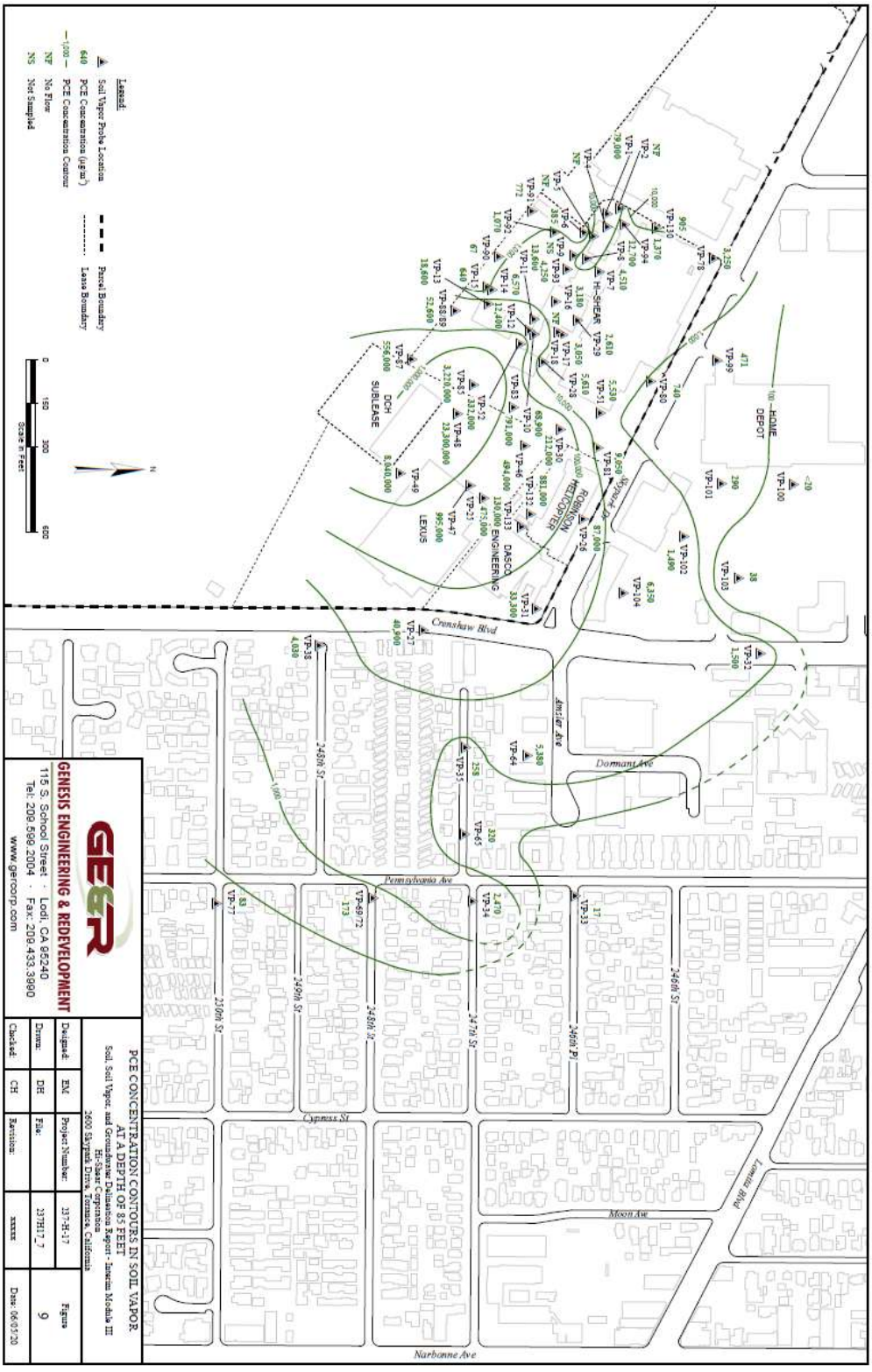


FIGURE 7: TCE Concentration in Soil Vapor at a Depth of 5 Feet

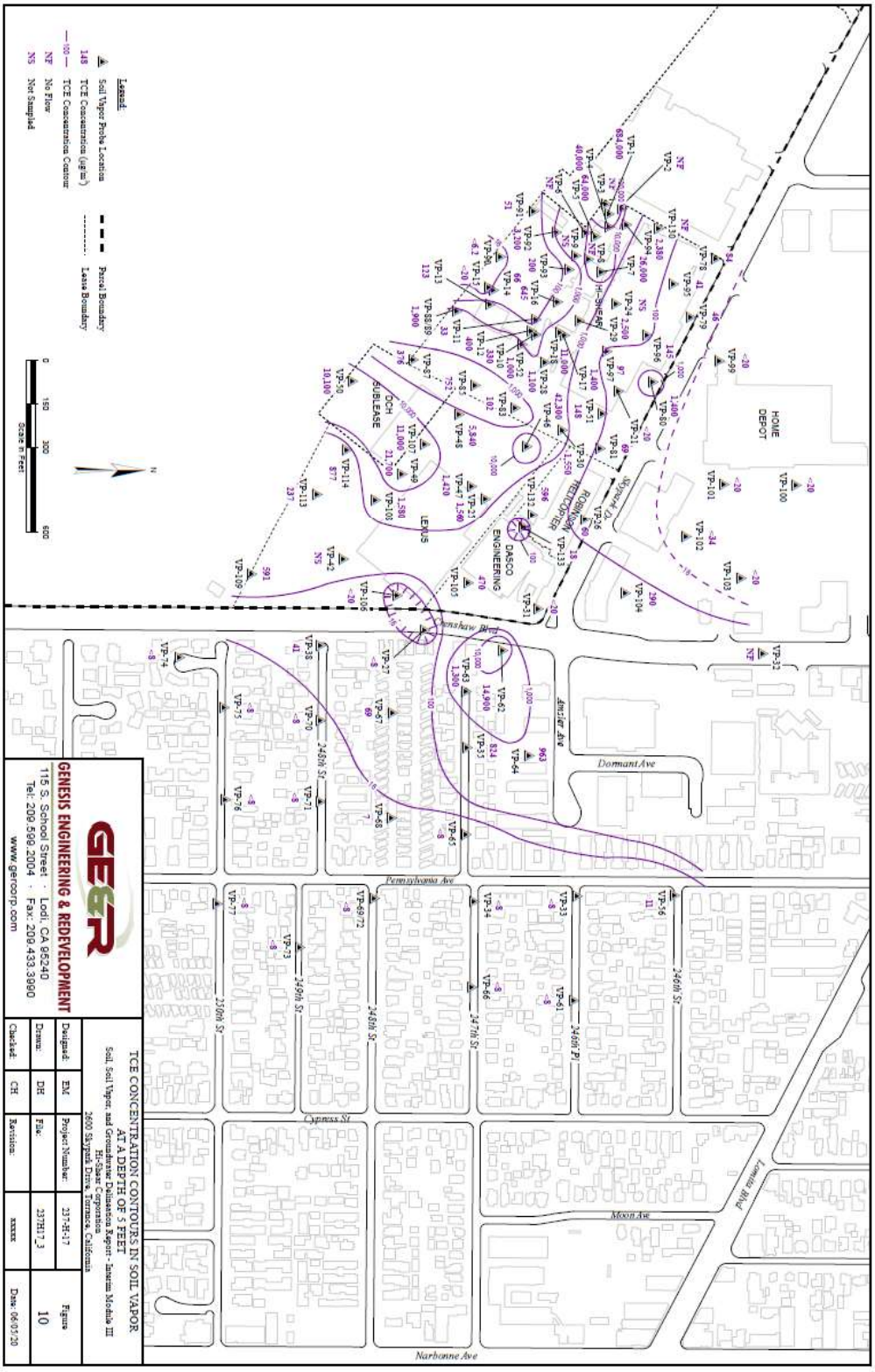

Legend
Soil Vapor Probe Location
TCE Concentration (µg/m³)
TCE Concentration Contour
NF No Flow
NS Not Sampled
Parcel Boundary
Lease Boundary
Scale in Feet
HOME DEPOT
SUBLEASE
DCH
DASCO ENGINEERING
LEXUS
Dominguez Channel
Del Amo Blvd
Dominguez Channel
Dominguez Channel
Dominguez Channel

FIGURE 8: TCE Concentration in Soil Vapor at a Depth of 45 Feet

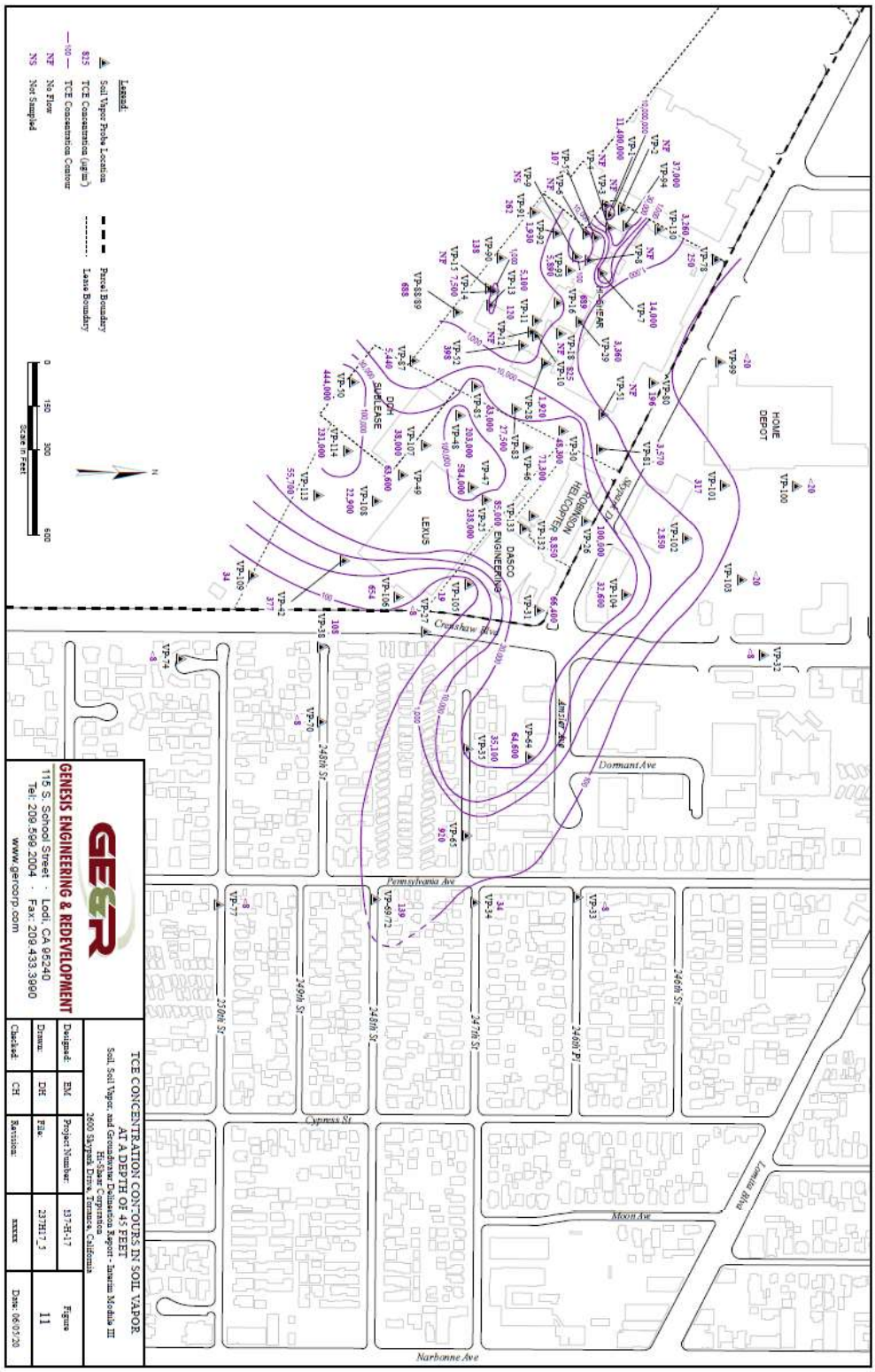


FIGURE 9: TCE Concentration in Soil Vapor at a Depth of 85 Feet

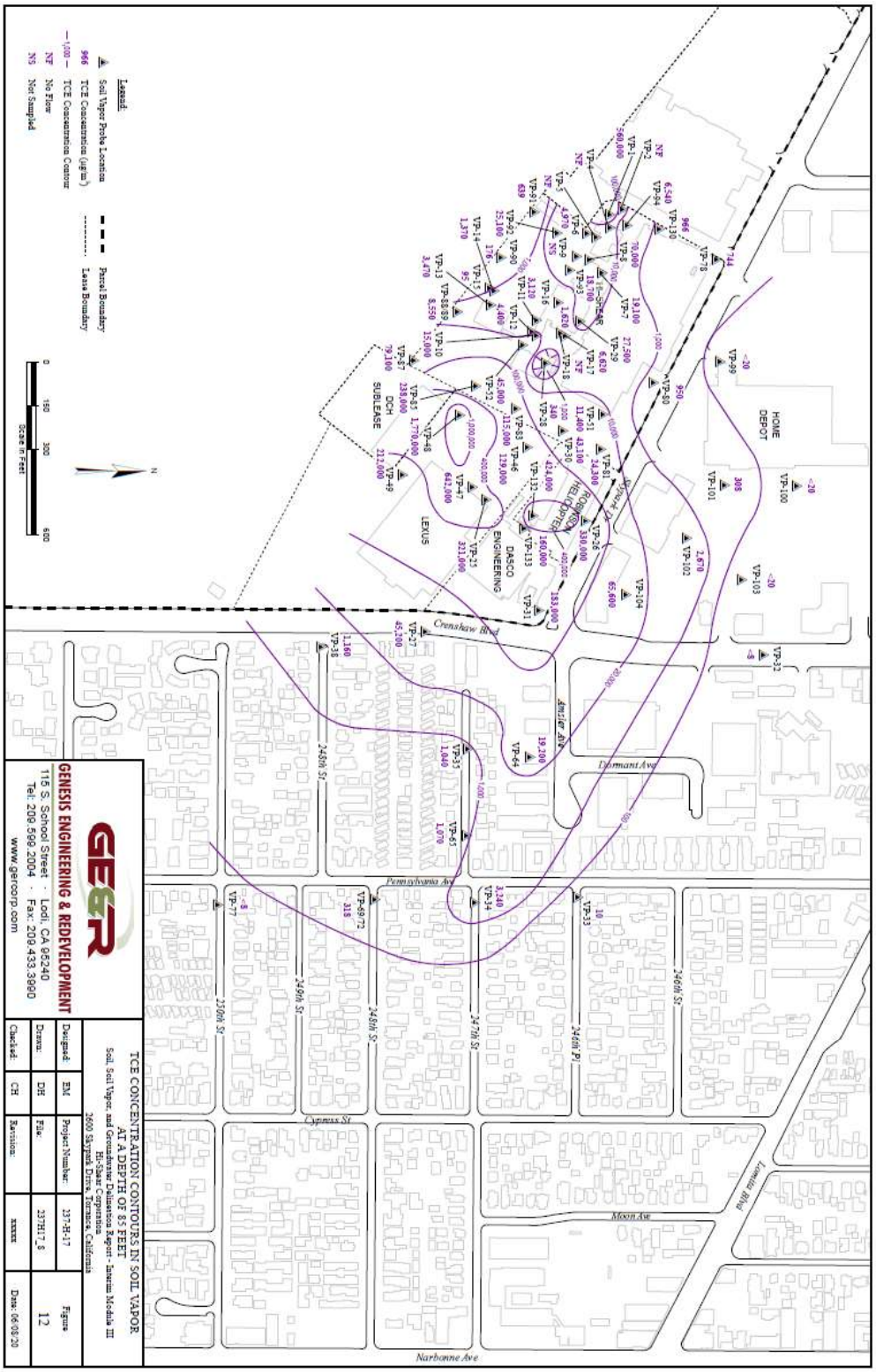


FIGURE 10: PCE Concentration Contours in Shallow Groundwater

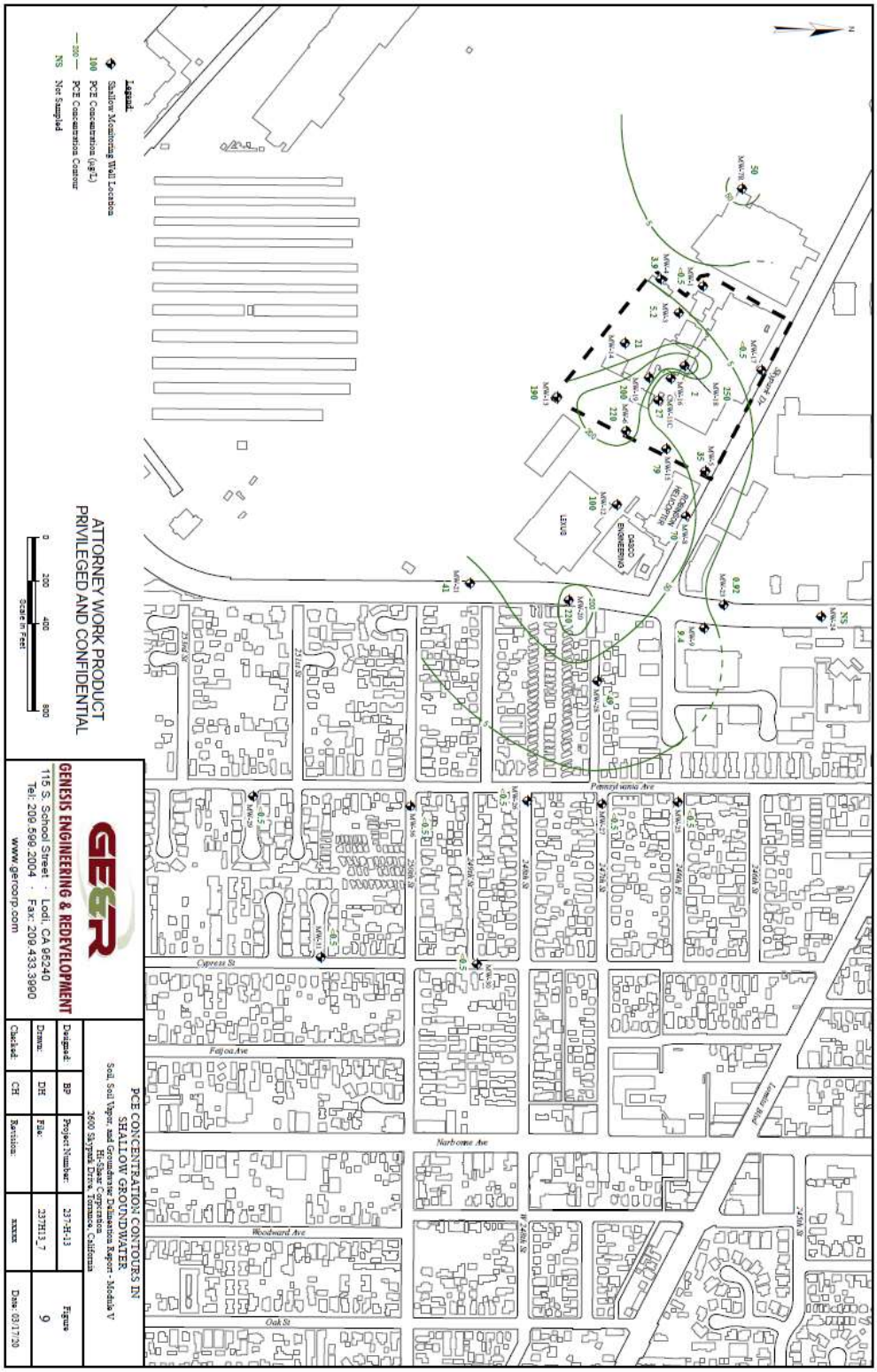
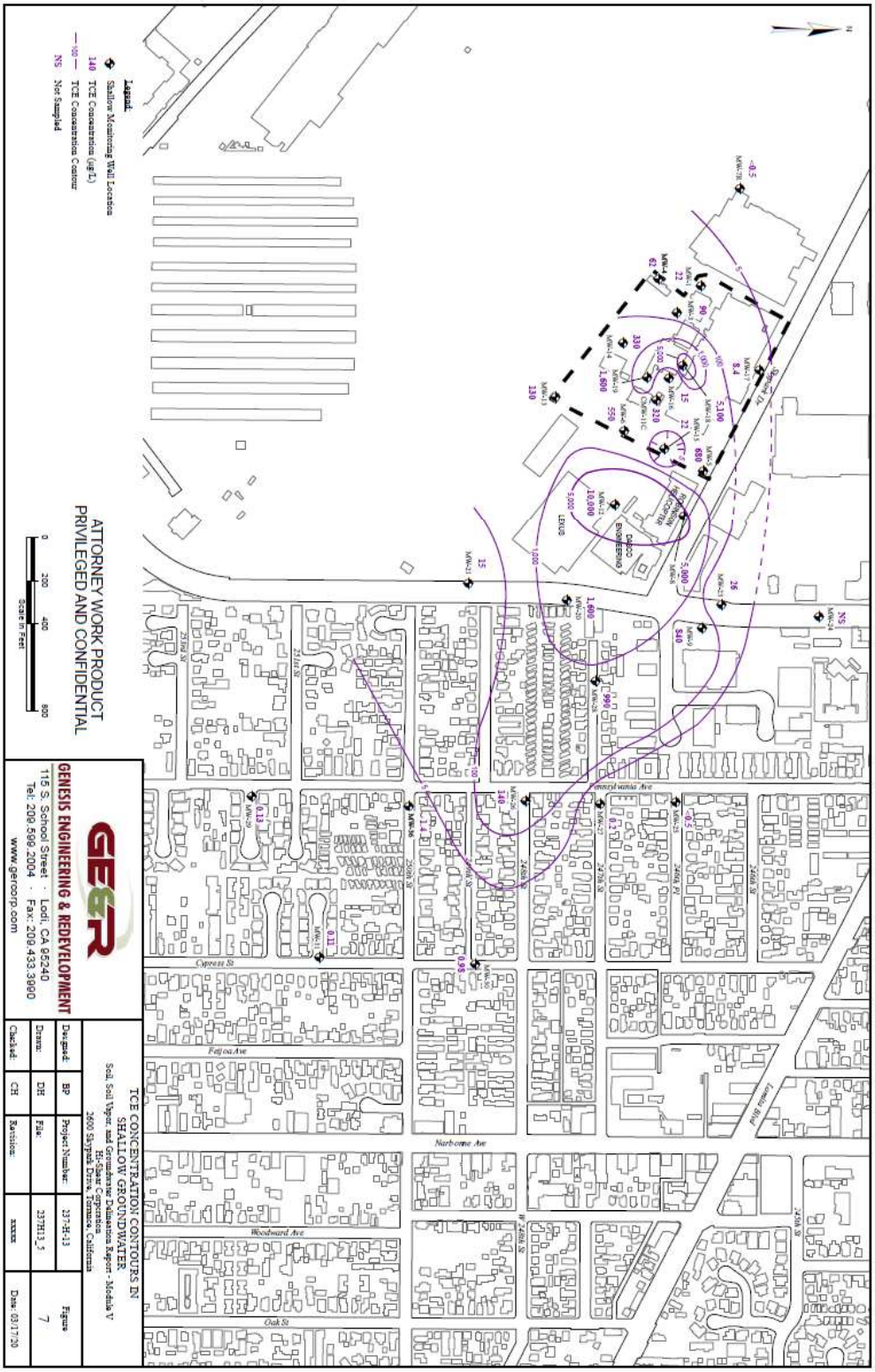


FIGURE 11: TCE Concentration Contours in Shallow Groundwater



ATTACHMENT B: TIME SCHEDULE

DIRECTIVE	DUE DATE
1. Site Conceptual Model: The Dischargers shall prepare and submit to the Regional Board a Site Conceptual Model which provides details on and illustrates waste discharge scenario(s), geology and hydrogeology, waste constituent fate and transport in soil, soil vapor, and groundwater, distribution of waste constituents, exposure pathways, sensitive receptors and other relevant information. [Note that the Regional Board may require revisions to the Site Conceptual Model as necessary to complete the Model.]	Site Conceptual Model due **September 10, 2021.** Revisions due within 60 days of receiving directive from the Regional Board.
2. Risk Assessment: The Dischargers shall: a. Prepare and submit a comprehensive HHRA b. Prepare and submit a complete implementation report for the Vapor Intrusion Response Plan. Complete implement includes both response zones, Accelerated Response Zone and Evaluate Need for Action Zone. c. Submit a revised Evaluate Need for Action Zone Plan and its Figure 7 – Proposed VI Assessment Sectors d. Prepare and submit tri-annual soil vapor probe monitoring reports for the network of soil vapor probes east of Crenshaw Boulevard according to the following schedule: **Monitoring Period** January – April May – August September – December	 **September 10, 2021** Implementation of the Vapor Intrusion Response Plan must be completed no later than **August 15, 2022**. **August 13, 2021** Tri-annually beginning **September 15, 2021** **Report Due Date** May 15th September 15th January 15th

DIRECTIVE	DUE DATE
3. Site Assessment:	
a. The Dischargers shall prepare and submit Site Assessment Work Plan(s) for each Property	**September 10, 2021**
The Dischargers shall implement the Site Assessment Work Plan(s) according to the approved schedule	According to the schedule approved by the Executive Officer. Vertical and lateral delineation must be completed no later than **September 12, 2022**
The Dischargers shall submit the Site Assessment Completion Report(s)	According to the schedule approved by the Executive Officer
b. Hi-Shear Corporation shall submit the Additional Scope Report	**October 15, 2021**
c. Hi-Shear Corporation shall submit the Module IV Report	**October 15, 2021**
d. Hi-Shear Corporation shall submit the Onsite Vertical Groundwater Investigation Report	**August 27, 2021**
e. The Dischargers shall submit the Groundwater Modeling Work Plan	**January 7, 2022**
4. Conduct Remedial Action: The Dischargers shall:	
a. Develop and submit the IRAP(s)	**August 31, 2021**
Implement the IRAP(s)	According to the schedule approved by the Executive Officer
Prepare and submit Remediation Progress Reports for the implementation of the IRAP(s)	Quarterly beginning January 15 of the year implementation of the IRAP begins.
b. Develop and submit the RAP(s)	**March 31, 2022**

DIRECTIVE	DUE DATE
Implement the RAP(s)	According to the schedule in the RAP approved by the Executive Officer. RAP Implementation must be complete and cleanup achieved by **March 31, 2027**.
Prepare and submit Remediation Progress Reports for the implementation of the RAP(s)	Quarterly beginning January 15 of the year implementation of the RAP begins
Upon completion of implementation of the RAP, submit a Remedial Action Completion Report	60 days after completion of implementation of the RAP
5. Groundwater Monitoring: The Dischargers shall conduct tri-annual groundwater monitoring according to Attachment C (Monitoring and Reporting Program) and the following schedule. **Monitoring Period** January – April May – August September – December	The next groundwater monitoring report is due on **September 15, 2021**. **Report Due Date** May 15th September 15th January 15th
6. Public Participation: The Dischargers shall submit information and take actions addressing public participation requirements of CWC sections 13307.5 and 13307.6, including, but not limited to:	
a. Submit a baseline community assessment	According to the schedule approved by Executive Officer.
b. Submit an interested persons contact list	According to the schedule approved by Executive Officer.
c. Submit a draft fact sheet	According to the schedule approved by Executive Officer.

ATTACHMENT C:

MONITORING AND REPORTING PROGRAM FOR CLEANUP AND ABATEMENT ORDER NO. R4-2021-0079

This Monitoring and Reporting Program is part of Cleanup and Abatement Order No. R4-2021-0079 (CAO) and applies to all investigation conducted by Dischargers. Failure to comply with this program constitutes noncompliance with the CAO and California Water Code, which can result in the imposition of civil monetary liability. All sampling and analyses shall be by USEPA approved methods. The test methods chosen for detection of the constituents of concern shall be subject to review and concurrence by the Regional Board.

Laboratory analytical reports to be included in technical reports shall contain a complete list of chemical constituents, which are tested for and reported on by the testing laboratory. In addition, the reports shall include both the method detection limit and the practical quantification limit for the testing methods. All samples shall be analyzed within the allowable holding time. All quality assurance/quality control (QA/QC) samples must be run on the same dates when samples were actually analyzed. Proper chain of custody procedures must be followed and a copy of the completed chain of custody form shall be submitted with the report. All analyses must be performed by a State Water Resources Control Board Division of Drinking Water accredited laboratory.

The Regional Board's *Quality Assurance Project Plan, Updated February 15, 2015*, can be used as a reference and guidance for project activities involving sample collection, handling, analysis, and data reporting. The guidance is available on the Regional Board's website at:

https://www.waterboards.ca.gov/rwqcb4/water_issues/programs/remediation/DocAndInfo/RWQCB_QAPP_2015_FINAL_03-05-15.pdf

GROUNDWATER MONITORING

The Dischargers shall collect groundwater samples from groundwater monitoring wells installed for the purpose of site investigation and monitoring. Any monitoring wells installed in the future shall be added to the groundwater monitoring program and sampled tri-annually. The groundwater surface elevation (in feet above mean sea level [MSL]) in all monitoring wells shall be measured and used to determine the gradient and direction of groundwater flow.

The following shall constitute the monitoring program for groundwater.

Constituent	EPA Method
Volatile Organic Compounds (full scan)	EPA 8260B
Total petroleum hydrocarbons as gasoline	EPA 8015 modified
Metals	EPA 6010B
Hexavalent Chromium	EPA 7199
Ammonium Perchlorate	EPA 314.0
1,4-dioxane	EPA 8270C
Temperature	Field*
pH	Field*
Electrical Conductivity	Field*
Dissolved oxygen	Field*
Oxidation-Reduction Potential (ORP)	Field*
Turbidity	Field*

* Field – To be measured in the field.

REMEDIATION SYSTEMS

Reports on remediation systems shall contain the following information regarding the site remediation systems:

1. Maps showing location of all remediation wells and groundwater monitoring wells, if applicable;

2. Status of each remediation system including amount of time operating and down time for maintenance and/or repair;

3. Air sparge well operating records including status of each well and volume and pressure of air being injected;

4. Soil vapor extraction well records including status of each well and photo ionization detector (PID) readings of other acceptable methods of determining relative volatile concentrations taken at a minimum quarterly. Readings of volatile concentrations drawn from SVE wells need to be taken at a frequency that allows the efficient operation and evaluation of the SVE system. A system operation log to document the system's total hours of operation and parameters, including the system's flow rate, temperature, and applied vacuums at the SVE treatment system and the system manifold;

5. In-Situ well operating records including injection volume, pressure, of the amendment being introduced. Prior to implementation of the injection, all in-situ remediation shall enroll under appropriate Waste Discharge Requirements from this Regional Board;

6. The report shall include documentation and manifest forms of waste generated during operation of the remedial system;

7. The report shall include copies of all required valid permits to construct and operate the remedial systems;

8. The report shall include tables summarizing the operating and performance parameters for the remediation systems; and

9. System inspection sheets shall document field activities conducted during each Site visit and shall be included in quarterly monitoring reports.

MONITORING FREQUENCIES

Specifications in this monitoring program are subject to periodic revisions. Monitoring requirements may be modified or revised by the Executive Officer based on review of monitoring data submitted pursuant to this Order. Monitoring frequencies may be adjusted, or parameters and locations removed or added by the Executive Officer if Site conditions indicate that the changes are necessary.

REPORTING REQUIREMENTS

1. The Dischargers shall report all monitoring data and information as specified herein. Reports that do not comply with the required format will be REJECTED and deemed to be in noncompliance with the Monitoring and Reporting Program.

2. Tri-annual groundwater monitoring reports shall be submitted to the Regional Board according to the schedule below.

Monitoring Period	Report Due
January – April	May 15
May – August	September 15
September – December	January 15

3. Groundwater monitoring reports shall include a contour map showing groundwater elevations at the Site and the groundwater flow direction and figures showing iso-concentration curves for the constituents of concern such as, but not limited PCE, TCE, and 1,1-DCE. The tri-annual groundwater monitoring reports shall include a table with monitoring well construction specifications such as well identification date constructed, total depth of borehole, total depth of casing, screen interval, gravel pack

interval, land surface elevation, and elevation of PVC casing and tables summarizing the historical depth-to-water, groundwater elevations, and historical analytical results for each monitoring well. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Regional Board. Field monitoring well sampling sheets shall be completed for each monitoring well sampled and included in the report.

4. Quarterly remediation progress reports shall be submitted to the Regional Board according to the schedule below.

Monitoring Period	**Report Due**
January – March	April 15
April – June	July 15
July – September	October 15
October – December	January 15

5. Remediation progress reports shall include an estimate of the cumulative mass of contaminant removed from the subsurface, system operating time, the effectiveness of the remediation system, any field notes pertaining to the operation and maintenance of the system, and, if applicable, the reasons for and duration of all interruptions in the operation of any remediation system and actions planned or taken to correct and prevent interruptions.

6. In reporting the monitoring data, the Dischargers shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized to demonstrate compliance with the requirements. All data shall be submitted in electronic form in a form acceptable to the Regional Board.

CALIFORNIA Water Boards

GAVIN NEWSOM GOVERNOR

JARED BLUMENFELD SECRETARY FOR ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

Response to Comments to Draft Cleanup and Abatement Order No. R4-20XX-XXXX

Comment Period: November 30, 2020 – January 11, 2021

Comments received **Bates Page**

A. Rodney R. McInnis and Jacqueline Revel McInnis (McInnis) ..... 1 – 3
B. Lamb and Kawakami on behalf of Magellan Aerospace, Middletown, Inc. (L&K) ..... 4 – 91
C. Hamrick & Evans, LLP on behalf of Hi-Shear Corporation (H&E) ..... 92 – 101
D. Rutan & Tucker, LLP on behalf of the City of Torrance (R&T) ..... 102 – 453
E. GSI Environmental Inc. on behalf of the City of Torrance (GSI) ..... 454 – 568
F. Gordon & Rees Scully Mansukhani on behalf of Robinson Helicopter (G&R) ..... 569 – 582
G. Cermak & Inglin, LLP on behalf of Esterline Technologies Corporation (C&I) ..... 583 – 593
H. Cermak & Inglin, LLP on behalf of Esterline Technologies Corporation (C&I) ..... 594 – 678

Acronyms

1,1-DCE	1,1-Dichloroethene
1,2-DCA	1,2-Dichloroethane – also referred to as EDC
APA	Asset Purchase Agreement
Basin Plan	Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties
CAO	Cleanup and Abatement Order
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
Cfm	Cubic feet per minute
CVOCs	Chlorinated volatile organic compounds
Dischargers	City of Torrance; Magellan Aerospace, Middletown, Inc. (formerly known as Aeronca, Inc. formerly known as Aeronca Manufacturing Corporation); Excellon Industries, an Esterline Company (also known as Excellon Industries, Inc., Excellon Automation Company, and EA Technologies Corporation); Excellon Acquisitions, LLC; Excellon Technologies, LLC; Esterline Technologies Corporation; Robinson Helicopter Company; Dasco Engineering Corporation (Dasco) and Hi-Shear Corporation (also known as Lisi Aerospace)
Draft Order	Draft Cleanup and Abatement Order No. R4-2021-XXXX
DTSC	Department of Toxic Substances Control
EA Properties	East Adjacent Properties of Hi-Shear Corporation
EDC	Ethylene dichloride – also referred to as 1,2-DCA
EPA or USEPA	United States Environmental Protection Agency
ft-bgs	Feet below ground surface
HHRA	Human Health Risk Assessment
Hi-Shear	Hi-Shear Corporation (also known as Lisi Aerospace)
HVOCs	Halogenated volatile organic compounds
IRAP	Interim Remedial Action Plan
MCL	Maximum Contaminant Level
MTBE	Methyl tertiary butyl ether
NFA	No Further Action
µg/kg	Micrograms per kilogram
µg/L	Micrograms per liter
NPDES	National Pollutant Discharge Elimination System

ND	Non-detect
Order	Cleanup and Abatement Order R4-2021-0079
PCE	Tetrachloroethylene or perchloroethylene
RAP	Remedial Action Plan
RWB	California Regional Water Quality Control Board, Los Angeles Region
Robinson	Robinson Helicopter Company
SCAP	Site Cleanup Subaccount Program
SCM or CSM	Site conceptual model or conceptual site model
Site	Hi-Shear Corporation and EA Properties
SVE	Soil vapor extraction
SWRCB or State Water Board	State Water Resources Control Board
1,1,1-TCA	1,1,1-trichloroethane
TCE	Trichloroethylene
Torrance	The City of Torrance
TPHG	Total Petroleum Hydrocarbons as Gasoline
UST	Underground storage tanks
VIRP	Vapor Intrusion Response Plan
VOCs	Volatile organic compounds
Water Code	California Water Code
WCBBP	West Coast Basin Barrier Project

Comment Identifier	Commenter	Comment Summary	Response	Action
A.1	McInnis	The scope and strength of the Draft Order is a good step towards cleaning up groundwater and soil under homes in the City of Lomita.	We agree. The issuance of the Order will require the dischargers to assess, monitor, and clean up wastes and/or abate the effects of discharges of wastes, including VOCs, primarily PCE and TCE and their daughter products, that have been discharged to soil, soil vapor, and groundwater on- and off-Site.	No Changes
A.2	McInnis	The HHRA required in the Draft Order should include the City of Lomita residences due to the potential for continuous exposure to the City of Lomita.	RWB staff acknowledges the concern. Although not explicitly stated in the Draft Order, the human health risks to the City of Lomita residential and commercial properties will be addressed in the Order and are already being assessed through the ongoing implementation of the March 20, 2020 VIRP. It is important to note that the screening levels used in the VIRP are conservative to ensure protection of human health and the environment and that the groundwater in the City of Lomita area is greater than 50 ft-bgs under homes. The data collected to date from soil vapor (sub-slab and 5 feet below ground surface), crawl space, and indoor air at City of Lomita properties show that vapor intrusion is not occurring at this time. See also Response to Comment to A.1.	No Changes
A.3	McInnis	Commenter strongly urges the RWB to use all of its authority and enforcement tools to ensure cleanup proceeds expeditiously.	The issuance of a CAO is an example of the RWB utilizing its authority and enforcement tools. The RWB is committed to ensuring that the cleanup proceeds expeditiously. See also Response to Comment A.1.	No Changes
B.1	L&K	Magellan suggests that a statement concerning discharges at various properties, written in a November 30, 2020 letter, is vague and conclusory and does not form a sufficient basis for Magellan's liability.	Magellan's liability as a discharger is described in the findings of the Draft Order. The key evidence supporting naming Magellan is: 1) evidence of use and storage of chemicals of concern at the site; 2) Magellan's use of those chemicals in particular activities and operations;	No Changes

			3) the known propensity of those activities to cause discharges; 4) presence of chemicals of concern in the subsurface that match those of Magellan's operations; 5) the concentrations of the waste discharged to the subsurface exceed screening levels protective of human health and groundwater, and therefore must be cleaned up and abated. Water Code section 13304 provides a basis for liability for "A person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance." The weight of the evidence is that Magellan has discharged waste in a manner that has caused a discharge and/or threat of a discharge to waters of the state. As detailed in Finding 3.b.i of the Draft Order and in the January 13, 2020 Water Code section 13267 Order issued to multiple entities (collectively referred to as EA Properties), "Aeronca, Inc. (Aeronca), a manufacturer of aircraft, missiles and their components, occupied Property 1 from 1954 to 1987. Aeronca operated degreasers with PCE and 1,1,1-TCA, and operated a spray booth for paint and solvent usage on the property. Aeronca also has stored and/or used 1,1,1-TCA and toluene at quantities of 2,425 gallons per year and 35 gallons per year, respectively. Prior to 1966, Aeronca was formerly known as Aeronca Manufacturing Company. In 2012, Aeronca changed its name to Magellan Aerospace, Middletown, Inc." As stated in the Draft Order, decades of RWB staff experience with industries that use, store and transfer chemicals such as petroleum products and solvents (e.g., total petroleum hydrocarbons, VOCs, etc.), provide evidence that small amounts of spilled chemicals discharge during routine operations, seep through concrete and	

			other intended containment, leading to the type of waste found at the Site. The RWB is currently overseeing hundreds of cleanups in the Los Angeles region, resulting from improper and inadequate handling of hazardous materials. Standard chemical handling practices often unknowingly allow adverse environmental impacts, like the ones observed at the Site, to occur. These factors, taken as a whole, lead to the conclusion that the Dischargers have discharged high concentrations of COCs which must be cleaned up and abated to protect the environment and human health. State Water Board Order WQ 86-16 (*Stinnes-Western*) supports the use of evidence of chemical use, standard chemical handling practices, and detections of that chemicals in the environment as reasonable bases supporting a cleanup and abatement order. "As we noted earlier, given the very low action levels for these chemicals, today we are concerned with any discharge." (*Ibid*. at n. 4.) Investigations conducted in 2014 and subsequent offsite investigations conducted by Hi-Shear under the requirements of the October 29, 2009 Investigative Order, identified the chemicals beneath Property 1 that are consistent with ones used by Magellan/Aeronca; these chemicals include: PCE, 1,1,1-TCA, and toluene. Multiple sample locations detected these chemicals throughout its soil column (i.e., at/near surface to groundwater; track to groundwater). The following are the chemicals' maximum soil concentrations by sample location on Property 1: • PCE = 3,390 µg/kg (VP-50 at 55 ft-bgs [May 2016]) • TCE (a degradation product of PCE) = 223 µg/kg (VP-25 at 40 ft-bgs [August 2014]) • 1,1,1-TCA = 1,150 µg/kg (VP-50 at 55 ft-bgs [May 2016]) • Toluene = 5.40 µg/kg (VP-49 at 60 ft-bgs [May 2016]) Sample locations VP-25, VP-46, VP-47, VP-49, and VP-50 on Property 1 have detected one or more of the chemicals throughout its soil column. For example, VP-25 reported elevated PCE soil concentrations of 291 µg/kg (at 40 ft-bgs) and 202 µg/kg (at 5 ft-bgs [i.e., at/near surface]), which are in exceedance of the May 2020 USEPA Region IX's risk-based and MCL-based screening levels for the protection of groundwater of 5.1 µg/kg and 2.3 µg/kg,	

			respectively; PCE soil concentrations were present throughout the soil column. As stated in the Finding 4.c.ix. of the Draft Order, an "Evaluation of Subsurface VOCs – 24701-24747 Crenshaw Boulevard & 2530-22540 Skypark Drive," (Evaluation Report), dated February 23, 2018, identified elevated PCE and TCE soil and soil vapor concentrations near features referred to as *Approximate Machining Gantry Location with Subsurface Pit and Tank* on Property 2. The samples in the vicinity of these features are A16 and A17; PCE soil concentration at A17 was detected at 280 µg/kg at 5 ft-bgs (i.e., at/near surface). The Evaluation Report was a limited investigation in that only the upper 25 ft-bgs was evaluated. A "Subsurface Soil Investigation, Magellan Aerospace, Middletown, Inc" (SSI Report), dated March 18, 2021, documented a limited subsurface investigation that identified elevated PCE soil concentrations at multiple sample locations located relatively centrally beneath Property 1. At/near surface (i.e., 4 to 6 ft-bgs) sample locations detected PCE soil concentrations ranging from 1.2 µg/kg to 210 µg/kg. The maximum PCE soil concentration of the limited subsurface investigation was 1,600 µg/kg detected in MIP7 at 15 ft-bgs. The above information and the Findings in the Draft Order concluded that concentrations of VOCs detected in the soil column all the way to groundwater indicate that the Hi-Shear property, Property 1, and Property 2 have contributed (and/or continues to have the potential to contribute) to the commingled plume of groundwater contamination. State Water Board Resolution 92-49 notes that the regional water boards may rely upon "any relevant evidence, whether direct or circumstantial, including, but not limited to, evidence in the following categories: 1. Documentation of historical or current activities, waste characteristics, chemical use, storage or disposal	

			information, as documented by public records, responses to questionnaires, or other sources of information; 2. Site characteristics and location in relation to other potential sources of a discharge; 3. Hydrologic and hydrogeologic information, such as differences in upgradient and downgradient water quality; 4. Industry-wide operational practices that historically have led to discharges, such as leakage of pollutants from wastewater collection and conveyance systems, sumps, storage tanks, landfills, and clarifiers" This is precisely the type of evidence serving as the basis for the Draft Order here. Magellan does not dispute any of the evidence cited in the Draft Order. The weight of the evidence therefore supports identifying Magellan as a discharger.	
B.2	L&K	The basis for adding Middletown to the Draft Order is successor liability to Aeronca.	Magellan is correct. The Draft Order notes the chain of liability from Aeronca to Magellan. Magellan does not dispute these facts.	No Changes
B.3	L&K	Magellan states that Hi-Shear is the only potentially responsible party.	RWB disagrees. See Response to Comment B.1	No Changes
B.4	L&K	Magellan states that it cannot be liable by virtue of operating a site under which contaminated groundwater has migrated.	Magellan misstates the basis for identifying it as a discharger. See Response to Comment B.1.	No Changes
B.5	L&K	Magellan states that there is no evidence that Aeronca or Middletown discharged contaminants, relying on an absence of documentation of any discharges.	RWB disagrees. See Response to Comment B.1. It is not necessary to have documentation of a discharge (such as an unauthorized release report or witness statement) in order for the weight of the evidence to support a finding that a discharge occurred, as is the case here. Frequently, cleanup and abatement orders are issued in the absence of anyone witnessing a spill or even recalling the use of a particular chemical found in the subsurface.	No Changes
B.6	L&K	Magellan states there is no evidence that the soils or groundwater beneath	RWB disagrees. See Response to Comment B.1.	No Changes

		Aeronca's former operations was contaminated during the years when Aeronca operated.	In particular, note that Water Code Section 13304 supports a finding of discharger liability where the person has caused or permitted, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance. In this case, the shallow soil detections on the Magellan site are evidence of a discharge and are in concentrations that pose a threat to groundwater.	
B.7	L&K	Magellan states that it cannot be liable pursuant to Water Code section 13304 because that section did not impose liability for acts occurring before January 1, 1981, if the acts were not in violation of existing laws or regulations at the time they occurred; Aeronca did not discharge and only operated at portions of the Site between 1954 and 1987 and 1966 and 1973.	RWB disagrees. See Response to Comment B.1. In addition, discharges causing impacts to groundwater have been prohibited since at least 1872. Water Code Section 13304 does not limit liability for acts that were in violation of existing laws or regulations, even if they occurred before 1981. Since 1872, California law has prohibited the creation of a public nuisance. In 1925, water pollution was held by the courts to be a public nuisance. And since 1949, California law has expressly prohibited any discharge of waste in a manner which results in pollution, contamination, or nuisance. Additionally, the Porter–Cologne Water Quality Act of 1969 defined nuisance and authorized regional water boards to order cleanup. The definition included anything that: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and (3) occurs during or as a result of the treatment of wastes. Discharges of hazardous waste polluting groundwater meet the definition of a nuisance under the 1969 law, impacting or threatening to impact groundwater, and adversely impacting an entire community. (See *Newhall Land & Farming Co. v. Superior Court* (1993) 19 Cal.App.4th 334, 341 [Pollution of water constitutes a public nuisance; water pollution occurring as a result of discharges of wastes is a public nuisance per se]	No Changes

			[citations omitted]. See also *San Diego Unified Port District v. Monsanto Company* (S.D. Cal., Mar. 26, 2020, No. 15-CV-578-WQH-AGS) 2020 WL 1479071, at *8 [same].) Nuisance conditions, discharges, and pollution which occurred before 1981 was a violation of statutes in existence at the time, and was actionable under law at the time and properly the subject of the Order now.	
B.8	L&K	Magellan states there are no legal grounds upon which to issue the Draft Order to Aeronca or to Middletown, based upon the above arguments and those following.	RWB disagrees. See Responses to Comments B.1, B.7, and B.9-B.22.	No Changes
B.9	L&K	Magellan requests opportunity to submit supplemental comments and a hearing.	RWB staff have already extended the comment deadline from January 4, 2021 to January 11, 2021. The Executive Officer will consider any requests to consider late submissions of comments. RWB staff disagrees that any additional time is necessary. The Water Code does not contemplate the need for hearings regarding orders requiring investigation and/or cleanup and abatement, and RWB staff do not recommend a hearing in this instance. Although the site is complex and there are substantial data, the written submissions of all parties provide a sufficient basis on which to consider the evidence for and arguments against naming parties as dischargers. The RWB does not ordinarily hold formal hearings before the entire Board for orders requiring investigation and/or cleanup and abatement. Rather, the Executive Officer has delegated authority to issue these orders. (Water Code § 13223.) The public comment period afforded adequate due process and allows ample opportunity for parties to present their views, seek revisions, and contest findings proposed in the Draft Order. (*See Machado v. State Water Resources Control Bd.* (2001) 90 Cal.App.4th 720, 725 [no hearing required before issuance of a cleanup and abatement order].)	No Changes
B.10	L&K	Magellan notes that only the named dischargers received a copy of the Draft Order, but notes that there are 61	There is no statutory requirement to provide a notice and comment period for orders requiring investigation and/or cleanup and abatement. In this case, where the weight of the	No Changes

		additional potentially responsible parties in a lawsuit regarding the same discharges.	evidence supports naming a discharger, RWB staff has provided an opportunity to comment to the named dischargers and circulated the Draft Order to other parties who have indicated interest. None of the comment letters has provided evidence supporting naming any other discharger. To the extent Magellan suggests all of the additional potentially responsible parties in the lawsuit should be added to the Draft Order, the Draft Order notes the ability of the RWB to add additional parties in the future, and RWB staff will consider any evidence supporting the identification of additional dischargers. This is consistent with State Water Board Resolution 92-49, which states that "[i]t is not necessary to identify all dischargers for the RWB to proceed with requirements for a discharger to investigate and clean up." Should other parties wish to be added to the interested parties list and receive copies of draft orders and key correspondence, they may request to do so by contacting Kevin Lin at (213) 576-6781 or via email at kevin.lin@waterboards.ca.gov.	
B.11	L&K	Magellan notes evidence of Hi-Shear's discharge of VOCs and the existence of a lawsuit. Magellan notes that Hi-Shear remains the only "confirmed discharger of VOCs." Magellan states that naming Hi-Shear is justified, but disputes whether there is sufficient basis to name Aeronca or Magellan.	See Response to Comment B.1 for evidence supporting naming Magellan as a discharger. Although the RWB may refer to findings in a lawsuit as relevant evidence, it is not bound by findings in litigation to which it is not a party, but rather exercises its own review and weighing of the evidence. (Water Code § 13304 and State Water Board Resolution 92-49.)	No Changes
B.12	L&K	Magellan states that the RWB "seems to recognize that it needs additional data and information to support adding other PRPs to a CAO." Magellan identifies several ongoing investigations and suggests that the RWB should wait for this data before issuing a CAO and inviting all parties in the litigation to comment on a draft CAO.	Numerous parties have suggested that the RWB should let Hi-Shear continue to investigate, complete the investigation, and only then issue an order requiring cleanup and abatement. Water Code section 13267 and State Water Board Resolution 92-49 places the onus of investigating the extent of discharges on all *suspected* discharges. Here, where the weight of the evidence is sufficient to support naming Magellan and other identified Dischargers, the Water Code and State Water Board Resolution 92-49 are clear that those parties must participate in conducting the necessary investigation as part of cleanup and abatement.	No Changes

			State Water Board Resolution 92-49 suggests that a discharger conduct investigation and cleanup and abatement in a progressive sequence but notes that "the sequence shall be adjusted to accommodate site-specific circumstances, if necessary." (Reso. 92-49, § II.A.1.) The Resolution specifically recognizes that there may be circumstances where it is necessary to approve plans for investigation and cleanup concurrently, including in at least the following situations, each of which is applicable here: a. Emergency situations involving acute pollution or contamination affecting present uses of waters of the state; b. Imminent threat of pollution; c. Protracted investigations resulting in unreasonable delay of cleanup and abatement; or d. Discharges of limited extent which can be effectively investigated and cleaned up within a short time (Reso. 92-49, § II.A.2.) See Response to Comment B.1 for evidence supporting naming Magellan as a discharger. See Response to Comment B.10 regarding circulation to and naming of other interested parties.	
B.13	L&K	Magellan states that the United States may potentially have contributed perchlorate discharges to the groundwater plume, and suggests that the RWB wait to issue a CAO until receiving additional data.	See Response to Comment B.12. Suggesting that the United States (or any other potentially responsible party) *may* bear some responsibility does not meet the weight of the evidence standard. If additional data suggests that the United States is a source of waste, the RWB will take appropriate action to require cleanup and abatement.	No Changes
B.14	L&K	Magellan states that, based upon State Water Board Resolution 92-49, the investigation should be completed before issuing a CAO. Magellan reiterates its statement that all parties	See Responses to Comments B.10 and B.12.	No Changes

		to the existing lawsuit should have an opportunity to provide comments after additional data is collected.		
B.15	L&K	Magellan states that the following cases apply (for the propositions shown in parentheses): • *Tesoro Refining & Marketing Company v. Los Angeles Regional Water Quality Water Control Board ("Tesoro Refining") (2019) 42 Cal.App.5th 453* (Tesoro found to be the only identified source of a discharge; "discharge" refers to the continued migration of contaminants. Magellan asserts that Tesoro does not stand for the proposition that a former operator, irrespective of evidence of fault, is a proper party to a CAO) • *United Artists Theatre Circuit v. San Francisco Regional Water Quality Control Board ("United Artists")* (2019) 42 Cal.App.5th 851 (Magellan states that the RWB has not provided any evidence of the three-part test applied to former owners: (1) did they have a significant ownership interest in the property at the time of the discharge?; (2) did they have knowledge of the activities which resulted in the	Magellan's liability hinges on a straight-forward reading of Water Code section 13304, as discussed in Comment B.1. The weight of the evidence supports naming Magellan: there is specific evidence of 1) operations involving chemicals of concern; 2) evidence that those operations are known to cause discharges; 3) evidence of discharges of those chemicals of concern in the substrate; and 4) those discharges pose a threat to waters of the State. Like *Tesoro*, the investigation in this case supports the conclusion that the same constituents found in the subsurface match those used in Magellan's activities. These conclusions are also consistent with the law cited in *San Diego Gas & Electric*. Magellan is a former lessee who caused a discharge. The RWB has identified a causal link or connection between Magellan's activities and the discharge. *Tesoro* is principally cited for the proposition Magellan quotes, pertaining to continued migration of a discharge as a basis for finding that discharges continue to occur. *Tesoro* is the most current ruling on the topic of passive migration, and operates as applicable precedent, as compared with *Carson Harbor Village*, which evaluates passive migration under CERCLA, and is inapplicable here. *United Artists* also is not relevant here. That case developed a test of liability applicable to a former landlord whose tenant's operation were the source of a discharge of waste found on the property. In contrast, Magellan's own activities were the cause of the discharge. The *United Artists* test is thus inapplicable. Finally, Magellan's citation to *BNSF Railway* is also inapplicable, primarily because it involves interpretation of CERCLA. In that case, the court found that railroads were "not in fact responsible for the discharge because they did not conduct operations related to the petroleum." In contrast, Magellan does not contest any of the facts regarding the use of solvents and	No Changes

		discharge?; and (3) did they have the legal ability to prevent the discharge?") • *Redevelopment Agency of the City of Stockton v. BNSF Railway Co.,* 643 F.3d 668, 678 (9th Cir. 2011) ("the words 'causes or permits' within [Water Code] section 13304 were not intended 'to encompass those whose involvement with a spill was remote and passive.'"). • *Carson Harbor Village, Ltd. v. Unocal Corp., 270 F.3d 863, 887* (9th Cir. 2001) ("we hold that, in light of the plain meaning of the terms used to define 'disposal' in [CERCLA] § 6903(3), the alleged passive migration of contaminants through soil…was not a 'disposal' under § 9607(a)(2)"). • *San Diego Gas & Electric v. San Diego Regional Water Quality Control Board ("San Diego Gas & Electric")* (2019) 36 Cal.App.5th 427, 431 (identifying categories of dischargers including an owner/lessee who causes a discharge and noting that "a regional board must establish a causal link or connection between a named responsible person and an actual	operations on the Property 1 and Property 2 where there is evidence of a discharge that threatens groundwater.	

		threatened *discharge of waste*.")		
B.16	L&K	There is no soil data showing that waste was discharged at either Property 1 or Property 2.	RWB disagrees. See Responses to Comments B.1 and B.18.	No Changes
B.17	L&K	Magellan references historical records documenting Hi-Shear's discharges and notes that equipment, quantities, and time of operation dwarfs that of Aeronca's. Aeronca operated baking oven, spray paint booth, degreaser using PCE for nearly two decades before being replaced with 1,1,1-TCA; however, there has been no documented use of TCE. Hi-Shear's operations has resulted in the impacts of soil, soil vapor, and groundwater.	See Response to Comment B.5. RWB agrees that Hi-Shear is a source of discharges of TCE. They are one of the parties named in the Draft Order. The evidence demonstrates that Magellan's operations contributed discharges of PCE and 1,1,1-TCA that have commingled with discharges from Hi-Shear. RWB does not involve itself in the allocation of liability, however, so the argument that Aeronca's contribution is less than Hi-Shear's is irrelevant. The RWB typically considers all responsible parties jointly and severally liable. This is consistent with State Water Board precedent and California law, as most recently interpreted by *Barclay Hollander Corp. v. California Regional Water Quality Control Bd.* (2019) 38 Cal.App.5th 479, 484 [finding Barclay jointly and severally responsible with real party in interest Shell Oil Company (Shell) for the cleanup and abatement of petroleum hydrocarbon compounds and other contaminants at the former Shell tank farm in Carson, California]. See also State Water Board Order WQ 90-2 (Union Oil Company of California), p. 8-9 ["We consider all dischargers jointly and severally liable for discharges of waste"].) Finally, TCE is a well-documented degradant of PCE.	No Changes
B.18	L&K	Magellan cites RWB's conclusion(s) in an August 28, 2018 letter that identified source(s) of PCE and TCE in down-gradient locations (i.e., Property 1) and tied them to Hi-Shear. Since then, there has been no new data generated that changes the conclusion/findings. Hi-	See Responses to Comments B.1, B.5, and B.17. Regardless of what the 2018 letter may have concluded, multiple sample locations detected PCE, 1,1,1-TCA, and toluene throughout its soil column (i.e., at/near surface to groundwater and track to groundwater), indicating a discharge at Property 1. In addition, the RWB's comments in its August 28, 2018 letter did not fully consider the later-confirmed historical usage of VOCs (as confirmed by local agency permit[s]), which was identified in the	No Changes

		Shear's data failed to establish any shallow VOC sources at Property 1.	RWB's January 13, 2020 Water Code Section 13267 Order No. R4-2020-0003. Based on the site's lithology (mostly sands), there exists the potential for the downward migration of VOCs from historical releases from historical operations; Magellan does not contest that historically VOCs (i.e., PCE, 1,1,1-TCA, etc.) were used by Aeronca.	
B.19	L&K	Magellan identified numerous delays and lack of pursuance in addressing requirements issued to Hi-Shear. Magellan claims RWB is not interested in pursuing Hi-Shear and other operators.	See Responses to Comments A.1-A.3, B.12 and D.3.	Comment Noted
B.20	L&K	Magellan states that Middletown is not liable for Aeronca, citing the following cases: *U.S. v. Bestfoods* 524 U.S. 51 (1998), "[i]t is a general principle of corporate law deeply 'ingrained in our economic and legal systems' that a parent corporation (so-called because of control through ownership of another corporation's stock) is not liable for the acts of its subsidiaries." *Id*. at p. 60. "Thus it is hornbook law that 'the exercise of the 'control' which stock ownership gives to the stockholders…will not create liability beyond the assets of the subsidiary." *Id*. at p. 61-62. *Atlantic Richfield Co. v. Central Valley Regional Water Quality Control Board*	The Draft Order states: > Prior to 1966, Aeronca was formerly known as Aeronca Manufacturing Company. In 2012, Aeronca changed its name to Magellan Aerospace, Middletown, Inc. Contrary to the cited cases, it is well established that a *name change* does not extinguish liability. > [W]here "the purchasing corporation is a mere continuation of the seller"—it has long been held that "corporations cannot escape liability by a mere change of name or a shift of assets when and where it is shown that the new corporation is, in reality, but a continuation of the old." (*Cleveland v. Johnson* (2012) 209 Cal.App.4th 1315, 1327 [citations omitted].) Magellan never refutes the assertion in the Draft Order concerning the name change from Aeronca to Magellan Aerospace, Middletown, Inc. Rather, its discussion rests entirely on parent-subsidiary law, which is inapplicable here. Finally, *Sunoco* is a trial court decision and has no precedential value.	No Changes

		(2019) 41 Cal.App.5th 91, 99 (parent company is not liable where there is no evidence that parent company managed operations specifically related to the pollution at a plant or that parent company had anything to do with a discharge into the environment) *Sunoco, Inc. v. Central Valley Regional Water Quality Control Board*, Sacramento Superior Court Case No. 34-2016-80002282 (*Sunoco*)		
B.21	L&K	Magellan states that any discharge by Aeronca would be divisible and capable of apportionment from other discharges, warranting a separate Order reasonably calculated to address the harm from Aeronca separate from other discharges. Magellan supports its position with citations to CERCLA law and the Health & Safety Code	See Response to Comment B.17. Magellan's discussion ignores recent applicable authorities construing the Water Code. When releases from separate sources commingle, the RWB normally considers all responsible parties of the separate releases as jointly and severally liable for the commingled release. This is consistent with State Water Board precedent and California law, as most recently interpreted by *Barclay Hollander Corp. v. California Regional Water Quality Control Bd.* (2019) 38 Cal.App.5th 479, 484 [finding Barclay jointly and severally responsible with real party in interest Shell Oil Company (Shell) for the cleanup and abatement of petroleum hydrocarbon compounds and other contaminants at the former Shell tank farm in Carson, California]. See also State Water Board Order WQ 90-2 (Union Oil Company of California), p. 8-9 [all dischargers jointly and severally liable for discharges of waste].) The Findings in the Draft Order concluded that detections of concentrations of VOCs in the soil column all the way to groundwater indicate that the Hi-Shear property and Property 1 have contributed to a commingled discharge of waste that continues to migrate offsite and downgradient. Accordingly, the Draft Order identifies all dischargers associated with each respective release and the commingled plume.	Revisions Made throughout to specify tasks associated with each Discharger, particularly the Required Actions section (pages 20 - 27)

			Several Findings and associated Required Actions have been amended to specify that "Dischargers" associated with a particular property have responsibility for soil/soil vapor investigations specific to the property where each had ownership or operations. (See Required Actions section, pages 20 - 27)	
B.22	L&K	Magellan states that the Draft Order violates Water Code section 13225, specifically subdivision (c) which requires that "reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained therefrom."	Reading a slightly broader excerpt of Water Code section 13225, subdivision (c) demonstrates its inapplicability: Each regional board, with respect to its region, shall: (a) Obtain coordinated action in water quality control, including the prevention and abatement of water pollution and nuisance. (b) Encourage and assist in self-policing waste disposal programs, and upon application of any person, advise the applicant of the condition to be maintained in any disposal area or receiving waters into which the waste is being discharged. (c) Require as necessary *any state or local agency* to investigate and report on any technical factors involved in water quality control or to obtain and submit analyses of water; provided that the burden, including costs, of such reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained therefrom. (Emphasis added.) Magellan presents no facts that suggest it is a state or local agency that is the subject of section 13225, subdivision (c).	No Changes
B.23	L&K	Magellan states that issuing the Draft Order to Magellan would violate its due process rights because the Draft Order would be based on incomplete data and not all participants in the litigation have been invited to comment.	See Response to Comment B.9. Magellan's due process has been preserved in that Magellan has been provided notice and opportunity to comment. As discussed above, issuance of a CAO may occur prior to the completion of an investigation and may be issued prior to the discovery of all dischargers. (See Responses to Comments B.10, B.12 and B.14.) Here, where there is extensive distribution of waste that impacts surrounding neighborhoods, the RWB has determined that it has sufficient data to support the Draft Order, even as investigations of the extent of the discharge continue, and it is necessary to issue the Draft Order to require prompt	No Changes

			cleanup and abatement in order to protect human health and the environment from potential impacts of the soil, soil vapor and groundwater contamination. (See Finding 5.a., Finding 5.b., and Finding 5.c. of the Draft Order.)	
C.1	H&E	Hi-Shear contends it is scientifically impossible for discharges on its property to have migrated through the plume of contaminants emanating from the EA Properties or to have off-gassed from the groundwater plume. Hi-Shear suggests that liability for wastes detected east of Crenshaw Boulevard belongs to EA Properties and/or other source parties yet to be identified through Hi-Shear's ongoing investigation.	There is evidence that the discharges to groundwater have commingled; known contaminants of concern now seen in groundwater under the EA Properties also have currently and historically been detected on the Hi-Shear property. There is no break or defined edge between the plume emanating from the Hi-Shear site and the downgradient plume. As stated in Finding 5, PCE and TCE soil concentrations detected beneath the Hi-Shear property were up four orders of magnitude greater than soil concentrations detected beneath the EA Properties. The majority of the available soil vapor data on the Hi-Shear property was collected post-onsite (and ongoing) remedial activities (i.e., SVE system); there is limited to no soil vapor data on the Hi-Shear property prior to commencing its onsite remedial activities (in 1999) for comparison purposes with soil vapor data collected on the EA Properties. Groundwater remedial activities commenced as early as 2013 (via injection) in the vicinity of groundwater monitoring well MW-15 (near the property boundary between the Hi-Shear property and EA Properties). Groundwater concentrations prior to the 2013 remedial injections indicate VOC groundwater concentrations beneath the Hi-Shear property were greater than the concentrations beneath the EA Properties. For example, groundwater monitoring well MW-3, located on the Hi-Shear property, detected PCE and TCE concentrations as high as 16,000 µg/L (MW-3; 3/31/1998) and 190,000 µg/L (MW-3; 6/9/1994), respectively; comparatively, groundwater monitoring wells, MW-8 and MW-12, on the EA Properties detected PCE concentrations as high as 2,500 µg/L (MW-12; 10/30/2003 and 4/1/2010) and TCE concentrations as high as 76,000 µg/L (MW-8; 7/25/2006). RWB staff acknowledges that comparing groundwater concentrations from different sampling events is not ideal; however, it is worth mentioning that these elevated concentrations were detected prior to the	No Changes

			remedial injections in 2013 and are each groundwater monitoring well's respective maximum PCE and TCE concentrations. Therefore, the weight of the evidence supports the conclusion that the plume of contaminants emanating from beneath the Hi-Shear property has migrated to the EA Properties, based on the magnitude of historical release on the Hi-Shear property and the local and regional groundwater flow direction. Regional groundwater flow is to the east and is maintained by the combination of groundwater injection along the WCBBP to the west and groundwater withdrawals to the east. When releases from separate sources commingle, the RWB normally considers all responsible parties of the separate releases as jointly and severally liable for the commingled release. See Response to Comment B.17. To the extent Hi-Shear suggests there are additional dischargers who should be added to the Draft Order, see Response to Comment B.10.	
C.2	H&E	Hi-Shear has been the only party performing the required investigative work. Hi-Shear requests the RWB enforce orders issued to the Other Responsible Parties instead of punishing the only party complying.	Comment noted.	No Changes
C.3	H&E	Hi-Shear requests modification to the Draft Order to require the Other Responsible Parties to pay all oversight costs until the amount of costs paid by each have been equalized. Hi-Shear requests an appropriate allocation of oversight costs among the dischargers named in the Draft Order.	See Responses to Comments D.3 (enforcement of prior orders) and B.17 (RWB does not allocate liability).	No Changes
C.3.5	H&E	The Draft Order requires investigatory and remedial work that is redundant and overlaps with prior orders, such	Several Findings and associated Required Actions have been amended to specify that "Dischargers" associated with a particular property have responsibility for soil/soil vapor	Revisions Made throughout the Draft Order,

		that compliance obligations are unclear. Hi-Shear requests a meeting to properly define the compliance and implementation tasks required of each discharger.	investigations specific to the property where each had ownership or operations. (See Required Actions section of the Order, pages 20 - 27.) RWB Staff have revised the Draft Order to add Finding 4.h., clarifying that the Order consolidates prior requirements and supersedes prior orders: "To avoid confusion and overlapping requirements, this Order supersedes the Investigative Order issued on October 29, 2009 and amendments thereto (originally to Hi-Shear), except for enforcement purposes. This Order also supersedes the Investigative Orders issued on January 13, 2020 (originally to EA Properties), and May 12, 2020 (originally to Skypark Commercial Properties [i.e., Site]), and amendments thereto." To the extent that Hi-Shear wishes to meet with RWB staff to discuss any of the details of the CAO, we are available.	particularly the Required Actions section (pages 20 - 27) Added Finding 4.h.
C.4	H&E	Hi-Shear states that a number of compliance deadlines in the Draft Order and highlighted in its Time Schedule are infeasible. Hi-Shear requests that the entire Time Schedule of deliverables be removed, and that there should be reasonable extended deadlines based number of days from date of RWB's final approval of the Draft Order.	RWB staff have modified several deadlines in response to this comment. Specifically, the following deadlines have been added and/or modified: • SCM due September 10, 2021 • HHRA due September 10, 2021 • VIRP implementation report due August 15, 2022 • Revised Evaluate need for Action Zone Plan and its Figure 7 – Proposed VI Assessment Sectors due August 13, 2021 • Site Assessment Work Plan(s) due September 10, 2021 • Additional Scope Report due October 15, 2021 • Module IV Report due October 15, 2021 • Onsite Vertical Groundwater Investigation Report due August 27, 2021 • Groundwater Modeling Work Plan due January 7, 2022 • IRAP(s) due August 31, 2021 • RAP(s) due March 31, 2022 The revised deadlines are reflected in Attachment B: Time Schedule and in the Required Actions section of the Order (pages 20 - 27) with "Dischargers" distinctions.	Revision Made to Required Actions section and Attachment B: Time Schedule

C.5	H&E	Hi-Shear requests adding the additional description "electronics manufacturing" to the current Lexus property (Property 1). Hi-Shear also noted the widespread detection of Freon near the Robinson Helicopter location, and its common application in cleaning electronics parts.	Hi-Shear does not provide any evidence supporting its contention that electronics manufacturing occurred on the Lexus Property. On January 26, 2021, Cermak & Inglin, LLP, on behalf of Esterline Technologies Corporation, submitted exhibits showing activities on the site, which are consistent with the Draft Order's description and finding(s) for Property 1.	No Changes
C.6	H&E	Hi-Shear requests adding a citation to the "Third Tri-Annual 2019 Groundwater Monitoring Report" in the lists of investigations in the Draft Order. Hi-Shear also asks to include the December 21, 2020 partial and conditional approval of Property 1 Data Gap Work Plan in Finding 4.a. of the Draft Order.	For the purposes of simplifying the Draft Order, the RWB limited the discussion in Finding 4 to environmental investigations, remediation and RWB orders. Citations to ongoing monitoring reports and correspondence such as approval letters are not necessary to provide a sufficient basis for issuing the Order, but the Draft Order does contain a reference to the entire public file, which contains the referenced documents, in Finding 3 (Site History), page 5.	No Changes
C.7	H&E	Hi-Shear requests modification to the Finding 4.c.vii. of the Draft Order to state concentration highs have been recorded on properties where other unidentified contributing source areas are present.	The purpose of noting high concentrations is to illustrate the need for cleanup and the potential risks to human health and the environment. The Draft Order has identified and included the Other Responsible Parties (i.e., EA Properties). To the extent that other, as yet unidentified sources may have contributed, the Draft Order notes that additional information may support adding additional parties through a future amendment. This is consistent with State Water Board Resolution 92-49, which states that "[i]t is not necessary to identify all dischargers for the Regional Water Board to proceed with requirements for a discharger to investigate and clean up." See Response to Comment B.10 (additional dischargers may be added later).	No Changes
C.8	H&E	Hi-Shear notes that EA Properties work plans have been reviewed by the RWB since the issuance of the Draft Order and requests Finding 4.d. to be updated to reflect this and the partial conditional approval of the	See Response to Comment C.6. RWB staff propose amending the Draft Order as follows: <u>Finding 4.d.</u> " On January 13, 2020, the Regional Board issued a Water Code section 13267 Order to the EA Properties	Revision Made to Finding 4.d. (History of Environmental Investigations, Remediation and

		investigative workplan for the Lexus property.	Dischargers to submit a technical work plan for the complete delineation of the vertical and lateral extent of VOCs impacts to soil, soil vapor, and groundwater onsite and offsite. On August 21, 2020, two technical work plans were submitted for Property 1, one on behalf of Magellan Aerospace, Middletown, Inc. and the other on behalf of Esterline Technologies Corporation. Both work plans for Property 1 were accompanied by cover letters stating that Magellan and Esterline are not agreeing to or undertaking the work. On December 21, 2020, the Regional Board partially and conditionally approved the work plans for Property 1. On March 19, 2021, a *Subsurface Soil investigation, Magellan Aerospace, Middletown, Inc.* report, prepared by Frey on behalf of Magellan Aerospace, Middletown, Inc., was submitted to the Regional Board. The Regional Board is in the process of reviewing the work performed for Property 1. To date, the Regional Board has yet to receive work plans for Property 2 and Property 3."	Board Orders section)
C.9	H&E	Hi-Shear identifies that Finding 5.b.ii of the Draft Order does not discuss 1,1-DCE detections, of up to 86,700,000 µg/m^3, on Property 1. Hi-Shear requests that the high detection of 1,1-DCE be included because 1,1-DCE is an important tracer for evaluating releases from various properties and it is the highest concentration at which VOCs have been detected.	RWB staff propose amending the Draft Order as follows: <u>Finding 5.a.ii. (soil with respect to Property 1):</u> "The maximum PCE and TCE soil concentrations detected beneath Property 1 of the EA Properties are 3,390 µg/kg (detected in sample VP-50 at 55 ft-bgs in 2016) and 223 µg/kg (detected at VP-25 at 40 ft-bgs in 2014), respectively. The maximum 1,1,1-TCA soil concentration detected beneath Property 1 is 1,150 µg/kg (detected in sample VP-50 at 55 ft-bgs in 2016). The maximum 1,1-DCE soil concentration (a common abiotic degradant of 1,1,1-TCA) detected beneath Property 1 is 6,320 µg/kg (detected in sample VP-50 at 55 ft-bgs in 2016)." <u>Finding 5.b.ii (soil vapor with respect to Property 1):</u>	Revisions Made to Finding 5.a, 5.b, and 5.c (Summary of Findings from Investigations section)

			"The maximum PCE and TCE soil vapor concentrations at Property 1 of the EA Properties are 71,500,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020) and 4,100,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020), respectively. The maximum 1,1,1-TCA soil vapor concentration at Property 1 of the EA Properties is 2,590,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020). The maximum 1,1-DCE soil vapor concentration (a common abiotic degradant of 1,1,1-TCA) at Property 1 of the EA Properties is 86,700,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020)." For the purposes of Response to Comment C.9, only Property 1 edits are discussed. The rest of the edits to Finding 5.a., 5.b., and 5.c. are found in the revised Order. It is worth mentioning the following, with respect to the Hi-Shear property: • 1,1,1-TCA has been detected in soil beneath the Hi-Shear property at concentration(s) as high as 2,440 µg/kg (B11, at 50 ft-bgs in 1991) • 1,1-DCE (a common abiotic degradant of 1,1,1-TCA) has also been detected at soil concentrations up to 3,330 µg/kg (B11, at 50 ft-bgs in 1991). • 1,1,1-TCA has been detected in soil vapor beneath the Hi-Shear property at concentrations as high as 113,000 µg/m^3 (VP-3, at 45 ft-bgs in 2011) • 1,1-DCE has been detected in soil vapor beneath the Hi-Shear property at concentrations as high as 1,180,000 µg/m^3 (VP-85, at 85 ft-bgs in 2019) • 1,1-DCE has been detected in groundwater monitoring well, MW-3, at 360 µg/L in 1994 (before operation of the SVE system and implementation of bioremediation injections into groundwater). This groundwater concentration is greater than detected concentrations in	

			groundwater monitoring wells located on the EA Properties; however, groundwater grab sample at VP-50 (Property 1 of EA Properties) detected 1,1-DCE at 56,000 µg/L in 2016. Consistent with Response to Comment C.1, that the weight of the evidence supports the conclusion that discharges on and beneath the Hi-Shear property have migrated onto EA Properties.	
C.10	H&E	Hi-Shear requests clarification to the term "onsite" used in Finding 5.c.i of the Draft Order. RWB should clarify "onsite" refer to the Hi-Shear property or EA Properties.	RWB's intended use for the term "onsite" is for both the Hi-Shear property and the EA Properties, collectively referred to as Skypark Commercial Properties in the Draft Order. Clarifying revisions and amendments were made to Finding 5.c.i and Finding 5.c.ii.: <u>Finding 5.c.i:</u> "The onsite (i.e., on Skypark Commercial Properties [Site]) PCE concentrations in the shallow groundwater zone (estimated to be approximately 100 ft-bgs) were detected more than three orders of magnitude greater than its MCL (21,000 µg/L at MW-3 in 1993); onsite TCE concentrations in the shallow groundwater zone were detected more than four orders of magnitude greater than its MCL (190,000 µg/L at MW-3 in 1994); onsite 1,1-DCE concentrations in the shallow groundwater zone were detected more than two orders of magnitude greater than its MCL (970 µg/L at MW-13 in 2011). The onsite PCE concentrations in the intermediate groundwater zone (estimated to be approximately 150 ft-bgs) were detected more than two orders of magnitude greater than its MCL (2,600 µg/L at SPG-1 in 1997 and in 2000); onsite TCE concentrations in the intermediate groundwater zone were detected more than four orders of magnitude greater than its MCL (97,000 µg/L in SPG-1 in 1997); onsite 1,1-DCE concentrations in the intermediate groundwater zone were detected more than two	Revision Made to Finding 5.c.i and 5.c.ii. (Summary of Findings from Investigations section)

			orders of magnitude greater than its MCL (4,200 µg/L at SPG-1 in 2002). These concentrations of PCE, TCE, and 1,1-DCE in the groundwater exceed and/or have exceeded the USEPA's and the State Water Resources Control Board (SWRCB) Division of Drinking Water's (DDW) MCLs of 5 µg/L, 5 µg/L, and 6 µg/L, respectively." <u>Finding 5.c.ii:</u> "The offsite (i.e., off Skypark Commercial Properties [Site]) PCE concentrations in the shallow groundwater zone were detected more than two orders of magnitude greater than its MCL (530 µg/L at MW-20 in 2015); offsite TCE concentrations in the shallow groundwater zone were detected more than two orders of magnitude greater than its MCL (3,400 µg/L at MW-20 in 2017) in the commercial and residential areas of the City of Torrance and City of Lomita; offsite 1,1-DCE concentrations in the shallow groundwater zone were detected more than 40 times greater than its MCL (250 µg/L at MW-20 in 2015 and 2017). These concentrations of PCE, TCE, and 1,1-DCE in the groundwater exceed and/or have exceeded the USEPA's and SWRCB DDW's MCL of 5 µg/L, 5 µg/L, and 6 µg/L, respectively." Unless further specified within the context of the finding(s), "onsite" and "offsite" shall refer to the Site (Skypark Commercial Properties [Hi-Shear property and EA Properties, wholly and collectively]).	
C.11	H&E	Hi-Shear finds Finding 5.c.iii misleading as it may be interpreted as groundwater degassing is the sole mechanism for detections in soil vapor and pathway for potential vapor	We agree that groundwater degassing may be only one of potentially multiple secondary sources beneath the Hi-Shear property, EA Properties, and off-Site and have made the following revisions:	Revision Made to Finding 5.c.iii. (Summary of Findings from

		intrusion. Hi-Shear requests RWB to specify that groundwater degassing is not the only source of VOCs in soil vapor at the Site and east of Crenshaw Boulevard.	"The depth to groundwater ranges from approximately 80 to 90 ft-bgs and groundwater data and soil vapor data indicates the groundwater plume is off gassing into the soil vapor. While the groundwater off gassing is one of potentially multiple secondary sources beneath the Site, the presence of the TCE and PCE beneath the Site threatens to cause vapor intrusion into buildings, including nearby residences." (See Finding 5.c.iii; page 14).	Investigations section)
C.12	H&E	Hi-Shear suggests that the cost estimate of $2,000,000 to $5,000,000 is unrealistically low, and suggests the number could be perhaps triple or quadruple the cost estimated.	Revisions were made to include cost estimate range of both the RWB staff's estimate as well as Hi-Shear's upper end: "Regional Board staff, in reliance on best professional judgment, State Water Board data, and a Discharger's estimate, estimates that compliance with Water Code section 13267 in this Order will cost approximately $2,000,000 to $20,000,000, depending upon the extent of the investigation needed." (See Finding 21; page 19) The findings concerning the benefits to be obtained, namely the protection of human health and drinking water supplies, remain unchanged and accurate, even with this amendment increasing the estimated costs.	Revision Made to Finding 21 (Discharger 13267 Finding section)
C.13	H&E	Hi-Shear requests to be removed from the Draft Order.	State Water Board precedential orders advise naming all known dischargers in a cleanup and abatement order. (See, e.g., State Water Board Order 85-7 (Exxon) [name all parties for which there is credible and reasonable evidence of responsibility, even in cases of disputed responsibility].) As a practical matter, doing so encourages discharger collaboration by adopting enforceable deadlines.	No Changes
D.1	R&T	Torrance contends that it should not be named in the Draft Order because doing so would be legally deficient and an abuse of discretion. Torrance contends it is not a "discharger" for the purposes of the Water Code sections referenced in the Draft Order.	RWB disagrees. As the current landowner, who is aware of the discharge, and has the ability to control it, Torrance is unquestionably a discharger. The weight of the evidence establishes that Torrance is the current landowner of all of the properties that constitute the Site. Torrance is unquestionably aware of the discharge of waste, and, with that knowledge, permitted and continues to permit the migration of such discharges by failing to take any action to clean	Revision Made to Finding 17 (Discharger Liability Pursuant to Water Code Section 13304 section)

			it up. The discharges of waste in the subsurface continues to migrate and has impacted and threatens to impact waters of the State, human health and the environment. The existing findings in the Draft Order discuss the presence and ongoing migration of discharges and the fact that high concentrations of pollutants constitute a condition of pollution and nuisance. (See Findings 4 and 5.) <u>Torrance Owns Contaminated Properties</u> In this case, Torrance owned (at least since 1954) and leases the Hi-Shear property and the properties associated with EA Properties (aka Property 1, Property 2, and Property 3). In fact, Torrance owns the entire parcel identified by APN 7377-006-906; however, the Draft Order only pertains to approximately 27 acres located on the northeastern portion of this parcel. (See Finding 1.a and 2.) <u>Torrance Is Aware of the Discharges</u> Torrance states that the Draft Order does not cite to specific evidence that it was aware of the activities that resulted in the discharges of waste, but Torrance does not dispute that it has knowledge of the extensive discharges of waste present on and under these properties. In fact, Torrance's comment letter corroborates this knowledge. Knowledge of discharges and the failure to address it is the relevant inquiry for a current property owner. (See State Water Board Order WQ 86-2 (Zoecon).) Finding 3 references the extensive public files containing evidence of the chemical use and storage on each site. The available evidence of Torrance's knowledge of the presence of discharges of waste that continues to migrate under its property (an ongoing discharge) includes, but is not limited to: The Torrance Fire Department, a department within the City of Torrance, received an Application for Closure on November 17, 1988 related to the removal of a 15-year old 2,000-gallon waste oil UST on the Hi-Shear property. The application noted discharges of waste in soil was discovered in certain areas of the excavation of that UST. (*Report of Subsurface Soil Investigation at*	

			the Hi-Shear Torrance Facility, prepared by Camp Dresser & McKee Inc., dated May 15, 1991). Torrance was aware of the documented discharges in soil as early as 1988 through its own fire department. A technical document titled "Status of Remedial Investigations at Hi-Shear Corporation," prepared by Blasland, Bouck & Lee dated September 15, 1992, identified accomplishments and technical program issues at the time. One of the accomplishments was the procurement of a draft lease agreement to access Torrance rights-of-way for exploratory drilling. Torrance knew or should have known of the discharge necessitating the exploratory drilling on its property. A November 28, 2005, RWB correspondence (addressed to Mr. Norm LaCaze of then LaCaze Development Company) was copied to Mr. Brian Sunshine of the City of Torrance and pertained to the March 7, 2006, Shallow Soils NFA. The Shallow Soils NFA itself was addressed to Mr. LeRoy Jackson (City Manager of City of Torrance at the time) and Mr. Norm LaCaze, and also copied Mr. Brian Sunshine. Both documents noted ongoing investigative and remedial efforts to address VOC discharges on the Torrance's property. The above referenced correspondence and technical documents indicate Torrance's knowledge of the discharge(s) as early as 1988. The correspondence and technical documents were generated as part of Hi-Shear's investigative and remedial activities on the property leased by Torrance. <u>Torrance Permitted and Continues to Cause and/or Permit the Discharge, as It Has Failed to Remediate or Otherwise Address the Ongoing Migration of Discharges of Waste</u> *Tesoro Refining & Marketing Co. LLC v. Los Angeles Regional Water Quality Control Bd*. (2019) 42 Cal.App.5th 453 governs these circumstances because Torrance owns property where discharges of waste continue to migrate. The State Water Board has defined the term "discharge" in this statutory provision consistently for the past 40	

			years to refer to the entire time during which the discharged waste remains in the soil or groundwater and continues to impact or to threaten the groundwater. (*Tesoro*, *supra,* 42 Cal. App. 5th at p. 471 [citing State Water Board Order No. WQ 86-2 (Zoecon) at p. *3; State Water Board Order No. WQ 74-13 (Atchison, Topeka) at p. *9; and State Water Board Order No. WQ 89-8 (Spitzer), at p. *17 ["[D]ischarge continues as long as pollutants are being emitted at the site."].]) As stated in those decisions, discharge refers to any movement of waste from soils to groundwater and from contaminated to uncontaminated groundwater, and continues to occur if the waste continues to move through the soils and groundwater and poses a threat of further degradation to groundwater. [Citing *Atchison, Topeka, supra*, at p. *9.] An actionable discharge, therefore, encompasses not simply the initial episode of contamination, but rather includes the time during which the waste uncontrollably flows or migrates from its source, through the soil, and into and within the groundwater. (*Tesoro, supra,* 42 Cal. App. 5th at p. 472.) Torrance has objected to any participation in the investigation or cleanup of the Site. Failing to contain or remediate the discharge causes and permits the ongoing migration - discharge - of waste on its properties. (See Finding 1.b, footnote 2, Findings 14, 17, and 19.) State Water Board and case law precedents establish that a current landowner is a discharger and responsible for controlling discharges of waste migrating from property it owns. Current landowners are responsible for cleanup, regardless of whether the landowner owned the property at the time of the initial release. (State Water Board Order No. WQ 84-6 (Logsdon).) A landowner has ultimate responsibility for a cleanup even when the landowner acquired the property *after* a previous owner had discharged pesticides to the land. (State Water Board Order No. WQ 89-1 (Schmidl).)	

			A regional water board may order any person to clean up a discharge if that person has permitted or permits a discharge which causes water pollution (Water Code Section 13304). A discharge is "the flowing or issuing out of harmful material from the site of the particular operation into the water of the State. The operation which produced the harmful material need not however be currently conducted." (27 Ops Atty Gen. 182, 183 (1956); Zoecon, *supra*.) A landowner is ultimately responsible for the condition of his property, even if he is not involved in day-to-day operations. If a landowner knows of a discharge on his property and has sufficient control of the property to correct it, the landowner may be subject to a cleanup order under Water Code Section 13304 (Logsdon, *supra*; State Water Board Order No. WQ 86-18 (Vallco Park, Ltd.); *Leslie Salt Company v. San Francisco Bay Conservation & Development Commission* (1984) 153 Cal.App.3d 605, 619-20 [possessors of land liable for a nuisance on the land even if they did not create the nuisance].) In both Logsdon and Vallco Park, Ltd., the State Water Board determined that the landlord had control of the property sufficient to permit the landlord to comply with the Regional Board order. (See also State Water Board Order No. WQ 86-11 (Southern California Edison Co.); State Water Board Order No. WQ 87-5 (U.S. Forest Service); State Water Board Order No. WQ 87-6 (Prudential Insurance Company of America); State Water Board Order No. WQ 89-8 (Spitzer).) Although not relevant here, where Torrance clearly knows of the discharges of waste, State Water Board Order WQ 85-16 (John Stuart Petroleum) also notes that "actual knowledge of the contamination need not be shown where it is reasonable for a person to be aware of the dangers generally inherent in an activity." That same Order cites to an earlier order (State Water Board Order WQ 84-6 (Logsdon)) for the proposition that "one who should have known is in the same position as one who did know." A vigilant landowner knows or should know of the activities of its tenant. This is consistent with the conclusion in 27 Ops.Atty.Gen. 182 Opinion No. 55-236 (1956) regarding issuance of waste discharge requirements for inactive, abandoned or completed operations. The opinion concluded: "The person upon whom the	

			waste discharge requirements should be imposed to correct any condition of pollution or nuisance which may result from discharges of the materials discussed above are those persons who in each case are responsible for the current discharge. In general, they would be the persons who presently have legal control over the property from which the harmful material arises, and thus have the legal power either to halt the escape of the material into the waters of the State or to render the material harmless by treatment before it leaves their property. Under this analysis, the fact that the persons who conducted the operations which originally produced or exposed the harmful material have left the scene does not free from accountability those permitting the existing and continuing discharge of the material into the waters of the State." (*Id*. at p. 185.) The Discharge Is In Violation of Basin Plan The Basin Plan notes the potential harm to human health posed by chemical constituents. Consequently, the Basin Plan forbids concentrations of chemical constituents in excess of MCLs or concentrations of chemical constituents in amounts that adversely affect any designated use. Finding 12 already notes the Basin Plan's discussion of MCLs. The following Finding has been modified to better clarify Torrance's liability as a discharger: **Finding 17** has been amended to add the underlined language: The City of Torrance is a Discharger because, as the current owner of all of the Site, the City of Torrance was aware or should have been aware of the activities that resulted in the discharges of waste and had the ability to control those discharges through contractual relationships with entities who discharged as a result of their operations. Secondary Liability Torrance appears to suggest that it would be appropriate to name Torrance as "secondarily liable." That is incorrect. To achieve their programmatic missions, regional water boards "cast a wide net" in	

			identifying dischargers, and dischargers are considered jointly and severally responsible for executing the requirements, unless otherwise specified. As discussed in Response to Comment B.17, regional water boards do not allocate responsibility for cleanup. A request to find a party secondarily liable runs afoul of these general principles, in that it de facto allocates responsibility. There are instances in which this has been found to be acceptable, as in the case where all parties agree that secondary liability is appropriate, but there is no such agreement among the parties here. *Prudential Insurance Co. of America* (Order No. 87-6) found "specific and unique facts" under which secondary liability was permissible. Among the critical facts in that case included the fact that site investigation and cleanup were proceeding. That factor is also not met here. At this time, no party has performed required site investigations on Property 2 and Property 3, as required by January 13, 2020 Investigative Order (EA Properties). Other than the remediation efforts on site at the Hi-Shear site, no party has taken any responsibility for source control on EA Properties (i.e., Property 1, Property 2, and Property 3). For these reasons, secondary liability status is not appropriate.	
D.1	R&T	Torrance contends that the Draft Order does not contain a cost benefit analysis, as required under Water Code sections 13225 and 13267.	See Response to Comment D.7.	No Changes
D.1	R&T	Torrance contends that the Draft Order would violate Water Code sections 13304, 13267, 13225, and State Water Board Resolution No. 92-94.	See Response to Comment D.7 regarding Water Code sections 13225 and 13267. We presume the reference to Resolution 92-94 (approval of State Revolving Fund Loans for Oceanside) is intended to be a reference to Resolution 92-49, which establishes the policies and procedures for investigation and cleanup and abatement of discharges under Water Code section 13304. The Draft Order complies with Resolution 92-49 and Water Code 13304, as discussed above in our response to Torrance's contention that it is not a discharger.	No Changes

D.1.5	R&T	Torrance requests that the RWB take enforcement action, through a CAO, and require Hi-Shear to take immediate action to clean up and abate its discharges. Torrance claims failure to include specific directives to Hi-Shear to address the primary source of discharges of waste is an abuse of discretion.	The Draft Order, taken as a whole, is designed to force prompt action to address the source and extent of discharges of waste. In particular, Required Action 4.a requires "an Interim Remedial Action Plan (IRAP) for cleanup of wastes in soil, soil vapor, and groundwater originating from each respective Property based on currently available environmental data."	No Changes
D.2	R&T	Torrance contends that the Draft Order does not discuss soil, soil vapor, and groundwater sampling test results from reports prior to 2016 conducted on the Hi-Shear property. Torrance further contends that the Draft Order is deficient in describing the Hi-Shear operations and the associated use of HVOCs that resulted in discharges of waste (citing State Water Board Resolution 92-49). Torrance also suggests including particular directives to Hi-Shear to fully assess and remediate discharges of waste on and migrating from the Hi-Shear site.	The Draft Order documents that the operations of Hi-Shear have contributed to the waste found on its property and migrating beyond. We have considered the long history and extensive data relevant to the Site. The Draft Order already includes a lengthy list of summarizing key reports and a notion referencing other documents in the files which was considered in preparation of the Draft Order. State Water Board Resolution 92-49 lists the types of evidence that shall be considered, but “consideration” of that evidence, as defined by State Water Board Resolution 92-49, does not require complete recitation of all data in a CAO. It is not practical or necessary to include “a comprehensive description of the data showing the location, types and levels of the contamination on and migrating from the Hi-Shear Property, inclusive of all the data generated starting in 1990,” as Torrance suggests. The summary of the available data included in the Draft Order, which highlights the severity and threat to human health and the environment, is sufficient to “bridge the analytical gaps” and support issuance of the Draft Order. Additionally, much of the data and information Torrance suggests including is available in public files maintained by the RWB, as noted in Finding 3. To the extent Torrance requests that we direct specific directives to Hi-Shear only, the RWB has already issued and subsequently amended an investigation order particular to Hi-Shear, and is overseeing significant, voluntary investigative and remediation activities. Where plumes are commingled and there is more than one discharger, however, State Water Board precedential orders	No Changes

			and Resolution 92-49 confirm that it is appropriate to name all dischargers. (See Response to Comment D.1.)	
D.3	R&T	Torrance contends that for 30 years, the RWB did not recognize and take immediate action for the significant soil and groundwater contamination caused by Hi-Shear. Torrance notes that it filed a lawsuit against Hi-Shear in October 2017.	As the landowner, who had knowledge of the discharges of waste and ability to control continued migration, Torrance may not deflect responsibility. The RWB has taken numerous actions to address discharges of waste at the Site. Water Code section 13267 Orders, and numerous amendments thereto, have been issued to the Dischargers named in the Draft Order and to Hi-Shear specifically, including a Water Code section 13267 Order issued as early as October 29, 2009. Torrance has disregarded both Water Code 13267 Orders issued to it. Consistent with the process and progress of typical remediation program cases, an iterative approach was taken with the Hi-Shear property, and now the larger Site. As described in the Draft Order, remedial activities on the Hi-Shear property, which occurred under the RWB's oversight, included soil vapor extraction and excavation(s) to address source removal.	No Changes
D.4	R&T	Torrance contends that the Draft Order should include the history of Hi-Shear's operations and "describe the primary source area of the contamination, i.e., the Hi-Shear Property…." Torrance claims that failing to order Hi-Shear to take immediate action to address the wastes on and migrating from its property is an abuse of discretion.	See Responses to Comments D.1, D.1.5, D.2, and D.3	No Changes
D.5	R&T	Torrance contends that any order to be issued to Torrance would need to justify a determination that it is a "*discharger"* that is *"associated with a discharge"* subject to Water Code section 13267 or section 13304. Torrance claims the Draft Order does not include such justification.	See Response to Comment D.1, which discusses the basis for naming Torrance as a discharger and identifies relevant portions of the *Tesoro* case and a subset of the relevant Findings that support naming Torrance as a discharger.	No Changes

D.6	R&T	Torrance disputes the interpretation of the term "*discharge",* and argues that naming Torrance as a discharger is inconsistent with the holding of the Court in *Tesoro Refining & Marketing Company LLC v. Los Angeles Regional Water Quality Control Board* (2019) 42 Cal.App.5th 453. Torrance also cites a number of RWB Orders that did not name the property owner as a discharger. Torrance disputes that the findings (in particular Finding 17 of the Draft Order) are sufficient to conclude that Torrance is a *"discharger".* Torrance contends that naming it in any final order would be an abuse of discretion and action contrary to law.	See Response to Comment D.1., which discusses the basis for naming Torrance as a discharger and identifies relevant portions of the *Tesoro* case and a subset of the relevant Findings that support naming Torrance as a discharger. Note also that, unlike the State Water Board orders discussed in Response to Comment D.1, RWB orders are not precedential and usually pertain to a site-specific evaluation of discharger liability and site circumstances. The State Water Board orders discussed in Response to Comment D.1 provide ample support for naming the current property owner as a discharger.	Revisions Made to Finding 17 (discussed in Response to Comment D.1)
D.7	R&T	The Draft Order fails to comply with Water Code sections 13225 and 13165. Torrance contends that the cost/benefit analysis in the Draft Order does not cite evidence to support its conclusion of costs of $2,000,000 to $5,000,000 nor does the Draft Order provide a breakdown of these costs. Torrance further contends that the Draft Order does not explain the specific assessment and remedial work required of Torrance.	See Response to Comment C.12. The RWB has appropriately considered burdens, including costs. No cost-benefit analysis is required. Torrance offers no support for its contention that either Water Code section 13225 or 13267 require a cost benefit analysis, and in fact, the only appellate decision to have considered the issue supports the adequacy of the Draft Order's consideration of the burdens, including costs. The Court in *Sweeney v. California Regional Water Quality Control Board, San Francisco Bay Region* (2021) 61 Cal.App.5th 1 evaluated the meaning of the Water Code's references to the "burden, including costs" of technical reports, as that language appears in Water Code section 13267. The *Sweeney* case involved an order similarly based upon Water Code sections 13267 and 13304. The *Sweeney* Order itself contained no references to any estimated cost of complying with requirements for technical reports. The Court held, "We recognize that Section 13627 requires the burden of conducting site investigations and producing reports to be reasonable in light	Revisions Made to Finding 21

			of the benefits to be obtained. **But Section 13267 contains no requirement that a CAO include any type of weighing or cost-benefit analysis**." (*Id.* at p. 6 [emphasis added].) The Court found adequate bases for the consideration of burdens, including costs, in the Order and administrative record: "A plain reading of the CAO shows that the Regional Board was aware of the requirement that the burden of reports be proportional to their anticipated benefit … The Board's findings warrant the inference that the Board understood the burden of preparing such reports were reasonably related to the benefits it aimed to accomplish, namely, the restoration of beneficial uses at the Site." (*Ibid.*) Going above and beyond *Sweeney*, the Draft Order presents an explanation of the burdens, the benefits to be obtained, and even an estimate of the costs of compliance. (See Response to Comment C.12, suggesting that the estimated costs were inaccurate, and related edits in response to comments.) Torrance also challenges the Draft Order based upon Water Code section 13225 (a section that describes the regional water boards' powers), and section 13165 (part of the section of the Water Code describing the State Water Board's powers and duties). Section 13165 is not relevant here, where the action is an order by a regional water board. To the extent section 13225 is tangentially relevant, it contains the same "burden, including costs" language as section 13267, and the interpretation of that language in *Sweeney* is relevant; no cost-benefit analysis is necessary. Torrance suggests that a breakdown of the estimated costs is necessary. Given that the *Sweeney* case validated an order that contained no specific cost estimate, no additional analysis of costs is necessary. The cost estimate of $2,000,000 to $5,000,000 was based on professional judgment of the RWB and the 2018 Cost Guidelines developed by the RWB's Underground Storage Tank Cleanup Fund. It has been updated in response to Hi-Shear's comments. Torrance also suggests that the Draft Order should parse out the specific assessment and remedial work required of Torrance.	

			Unless otherwise specified, responsibility for carrying out the required tasks is joint and several. See Response to Comment B.17 (regarding joint and several liability and allocation of liability). Here, where the Torrance owns the entire Site, Torrance has responsibility for all tasks in the Draft Order. (See Response to Comment D.1.) We note, however, that the intent of the Draft Order and cost estimate was never for the Dischargers to perform and/or implement separate, duplicative investigative and cleanup actions at the Site. The RWB has previously encouraged the Dischargers to collaborate and also consider a joint cost-recovery agreement that would allow the State Water Board to bill one party rather than each individually.	
E.1	GSI	The Draft Order does not describe the predominant VOC source areas (i.e., Hi-Shear property and its operations) or historical operations, or substantial data. The Draft Order should be revised to be consistent with State Water Board Resolution No. 92-49 and past RWB Orders that focus on source areas and to direct particular remediation at these source areas.	See Responses to Comments B.1, B.12, B.14, D.2, D.3 and D.4. In addition, remediation via SVE on the Hi-Shear property started as early as 1999 but was shut down for repairs and system design in April 2018. Remediation via SVE has restarted in February 2021 on the Hi-Shear property; the former system was removed and upgraded/replaced with a 500 cfm blower (formerly 400 cfm) and three 2,000-pound activated carbon tanks in series. An evaluation of the results from radius of influence testing from system restart will be discussed in the SVE operations report. Modifying and toggling SVE system operations will consider source areas and maximizing mass extraction.	No Changes
E.2	GSI	The Draft Order lacks direction for immediate remediation in source areas of the Hi-Shear property which will result in overall cleanup delays to the detriment of the health and safety of public and environmental health.	See Responses to Comments D.2 through D.4, D.1.5, and E.1. The Draft Order contains several tasks intended to require immediate actions to protect human health and the environment, including the SVE system restart, which occurred during the first quarter of 2021.	No Changes
E.3	GSI	The absence of a summary of historical site features and equipment on the Hi-Shear property in the Draft Order is a material deficiency. Pursuant to State Water Board Resolution No. 92-49,	See Responses to Comments B.1, B.14, D.2, D.3 and D.4. RWB staff agree that the development of the overall CSM should consider historical site features and equipment where chemicals were used and handled on the Hi-Shear and other properties. This	No Changes

		such information must be discussed in the Draft Order. The historical discussion must be incorporated into the overall CSM.	consideration should be made across the Site, inclusive of the Hi-Shear property and EA Properties, as intended in Required Action 1. Several commenters have suggested that more detail is necessary in the Draft Order. The Draft Order need only include sufficient information to establish each element of Water Code section 13304. (See *San Diego Gas & Electric, supra,* 36 Cal.App.5th at p. 431 (causal link must be established).) The Draft Order need not incorporate a description of every document, every piece of equipment, or every data point. In particular, Hi-Shear is an undisputed discharger in this case; additional evidence on Hi-Shear's operations is thus unnecessary.	
E.4	GSI	The Draft Order omits 26 years of reports and relevant information on the history of environmental investigations and groundwater monitoring. Attachment B notes 59 site assessment investigation reports and 47 groundwater monitoring reports prior to the earliest report referenced in Finding 4.a. of the Draft Order. The Draft Order should be revised to include the following: 3 May 1991, Hygienetics, Inc., (Hygienetics), *Phase I Environmental Site Assessment (ESA) Report*; 15 May 1991, Camp, Dresser & McKee, Inc. (CDM), *Report of Subsurface Soil Investigation at the Hi-Shear Torrance Facility*; 21 September 2001, BBL Environmental Services, Inc., (BBL), *Deep Soils and Groundwater Investigation Progress Report*; 15 March 2010, Winefield & Associates, Inc., (W&A), *SCM Report*.	See Responses to Comments B.1, B.14, D.2, D.3 and E.3. Each of these reports is in the RWB's files and part of the administrative record for the Draft Order. Consideration of these is noted in Finding 6, referencing files that form the basis of the Draft Order.	No Changes

E.5	GSI	The Required Actions portion of the Draft Order required various actions based on "current available environmental data." The Draft Order should be revised to identify specific source areas at the Hi-Shear property (discuss its eight area of potential concerns and other areas, such as the sewer system, where additional investigation is warranted).	See Responses to Comments B.1, B.14, D.2, D.3, D.4 and E.3. In addition, Required Action 1 (Develop and Submit a Site Conceptual Model) addresses the concerns that source areas be identified as well as data gaps where further investigation is needed (e.g. the sewer system). The intent behind RWB's statement, "…based on current available environmental data" in Required Action 4.a., is to acknowledge that additional environmental data will be forthcoming as the parties comply with existing Water Code section 13267 orders, and their amendments thereto, issued to Hi-Shear, EA Properties, and Skypark Commercial Properties. The outstanding technical reports identified in the IRAP requirement was purposeful as they are related to remedial actions.	No Changes
F.1	G&R	With the exception of the SCM, the Draft Order's Required Actions appear to place full responsibility upon each Discharger for the Site.	See Response to Comment D.7. In response to several comments, the Required Actions have been revised to more clearly state that dischargers associated with a particular property are responsible for investigating and remediating the extent of discharges of waste found on that property. (See Response to Comment B.21.)	See revisions described in Response to Comment B.21.
F.2	G&R	The RWB cites no evidence that Robinson used PCE or TCE or caused any releases from the listed operations.	RWB disagrees. RWB staff propose amending the Draft Order as follows: <u>Finding 4.c.ix.:</u> "The Evaluation Report summarized environmental investigations conducted on Property 2 and Property 3 in 2015 and 2016 to address recognized environmental conditions. However, the investigations conducted did not extend to depths greater than approximately 25 ft-bgs. PCE was detected in all soil vapor samples and in the majority of soil samples analyzed; TCE was detected in a majority of the soil vapor samples and in some of the soil samples analyzed. Elevated PCE and TCE soil vapor and soil concentrations detected near areas identified as *Approximate Machining Gantry Location*	Revisions Made throughout the Draft Order, particularly the Required Actions section (pages 20 - 27) Revisions Made to Finding 4.c.ix.

			with Subsurface Pit and Tank on Property 2 and *Covered Hazardous Materials Storage* on Property 3 indicate potential sources that warrant further evaluation. Detections of PCE and TCE (a known degradant of PCE) beneath Property 2 and Property 3 are consistent with the chemical(s) used by RHC and Dasco. In RHC's 2018 response to a chemical storage and use questionnaire, RHC provided material safety data sheets for many chemicals. Among these chemicals was Safety-Kleen 105 Parts Washing Solvent; its hazardous components include: C9-C13 saturated hydrocarbons, toluene, xylene, ethyl benzene, C8+ aromatics, and chlorinated solvents (1,1,1-TCA and PCE). In Stormwater Pollution Prevention Plans, submitted by Dasco through the years, PCE, methylene chloride, TCE, and petroleum distillates have been identified as potential pollutants from its use of cleaning solvents." The Draft Order is not limited to discharges of PCE and TCE, although those are the predominant COCs. Finding 1.b. states, "Current or prior operations at the Site that resulted in the discharge of wastes, including VOCs, primarily TCE and PCE, perchlorate, 1,4-dioxane, metals, and TPH, which are COCs to the environment and human health." As discussed in the Finding 3.b.ii and 3.b.iii., Robinson has had violations associated with their use of methyl ethyl ketone and "excess solvent usage" on Property 2, and Robinson's activities on Property 3 has been associated with spray booths for paint and solvent usage. Often, dischargers will claim that they did not use various chemicals. But the absence of records showing a particular chemical was used or the absence of employees who remember	

			what chemicals were used historically, or even affirmative statements declaring that a particular chemical was not used is rarely as credible as shallow soil data showing discharges. In this case, a material safety data sheet provides evidence that Robinson used substances containing the relevant COCs. As important, and as discussed in Finding 4.c.ix., PCE and TCE detections are present in soil and soil vapor detections in the upper 25 feet in the areas labeled as "approximate machining gantry location with subsurface pit and tank" on Property 2 and "covered hazardous materials storage" on Property 3, where Robinson operated. With respect to the Robinson properties, G&R ignores several key findings connecting Robinson to activities known to cause discharges, the presence of discharges of waste in shallow soils, indicating an on-site source, and the need to remediate those discharges because they pose a threat to human health and the environment. In addition to the Findings specific to Robinson Helicopter, see also Finding 4.c.ix, which notes the presence of waste in shallow soils and soil vapor samples, indicating an on-site source. This finding has been revised to specifically reference Robinson's use of Safety-Kleen 105 Parts Washing Solvent found in their material safety data sheets. Additionally, the activities associated with Robinson's operations and the hazardous materials used and/or generated (i.e., halogenated solvents, oxygenated solvents, unspecified solvent mixture, waste oil and mixed soil, etc.) are common with activities that may be associated with PCE/TCE. The State Water Board affirms that common chemical handling practices are relevant, credible evidence on which to base a CAO. (State Water Board Order WQ-86-16 (*Stinnes-Western*) at p. 9 [RWB referred to chemical handling practices and found that standard practices were "insufficient to protect the environment from chemical pollution" and "unknowingly allow[ed] adverse environmental impacts to occur."].)	

			Groundwater monitoring wells on or in the vicinity of Properties 2 and 3 include: MW-8 (on Property 3), MW-20 (approximately downgradient, southeast of Property 2), MW-28 (approximately downgradient, east-southeast of Property 2), MW-9 (approximately cross gradient, northeast of Property 2 and Property 3), and MW-23 (approximately cross gradient, northeast of Property 2 and Property 3) reported 1,1-DCE (a common abiotic degradant of 1,1,1-TCA) up to 40 times greater than its MCL and 1,4-dioxane (a widely used stabilizer with chlorinated solvents, particular 1,1,1-TCA) up to 70 times greater than its notification level. See also Finding 4.g: "The site assessments and remediation activities indicate that the soil, soil vapor, and groundwater are impacted with COCs, including VOCs (primarily TCE and PCE), perchlorate, 1,4-dioxane, metals, and total petroleum hydrocarbons. The detection of these constituents is consistent with contamination known to occur from the types of operations described in the above Site History." Findings 5.a.iii-v and 5.b.iii-iv establish that Property 2 and Property 3 have discharges of waste that poses a threat to human health and the environment and must be remediated and/or further investigated. These Findings "bridge the analytical gap" between Robinson's operations, the presence of waste that is consistent with those types of operations, and the need to investigate and clean up known discharges of waste.	
F.3	G&R	G&R cite case laws, *San Diego Gas & Electric v. San Diego Regional Water Quality Control Board* ("San Diego Gas & Electric") (2019) 36 Cal.App.5th 427, 431; and *United Artists Theatre Circuit v. San Francisco Regional Water Quality*	RWB concurs that Hi-Shear is a Discharger. RWB has reviewed and considered the "Evaluation of Subsurface VOCs – 24701-24747 Crenshaw Boulevard & 2530-2540 Skypark Drive," prepared by Frey Environmental, Inc., dated February 23, 2018, documenting the environmental assessment conducted. See Finding 3.b.ii.2; Finding 3.b.ii.3.; Finding 4.b.i.; and Finding	No Changes

		Control Board ("United Artists") (2019) 42 Cal.App.5th 851, 887, contending Robinson is not a Discharger. Robinson conducted a limited environmental assessment of its properties (Property 2 and Property 3) that concluded PCE in soil is limited in depth and concentration and concludes soil vapor concentrations detected beneath the properties are result of off-gassing from uncontrolled groundwater contamination originated and sourced from the Hi-Shear property.	4.c.ix. See Response to Comment F.2. The weight of the evidence is that there are concentrations of contaminants in shallow soil that exceed the screening levels for threats to groundwater. As such, the Draft Order appropriately directs Robinson to fully investigate the extent of those impacts and remediate them. The *San Diego Gas & Electric* case supports the RWB's position. In that case, San Diego Gas & Electric (SDG&E) operated a power plant and discharged PCBs into San Diego Bay. SDG&E argued that its contribution was not significant enough (a "substantial factor") to be liable for creating a nuisance, as that term is used in Water Code section 13304. The court held that SDG&E's admitted contribution was sufficient, that there is no "substantial factor" test under the Water Code. Similarly, here, Robinson admits there have been detections of waste on a site where it operated. As described above, the levels of contaminants of concern on the Robinson site exceed the screening level of risks to groundwater. It is irrelevant that an adjacent site may have contributed more waste. (See Response to Comment B.17 (joint and several liability) and also State Water Board Order WQ-86-16 (*Stinnes-Western*) [noting that the water boards are concerned with even small quantities of spilled solvents, "given the extremely low action levels for these chemicals."].) The *United Artists* case is not relevant here. That case involved a former landowner, United Artists, who leased its property to a dry cleaner. The case evaluated the liability of a former landowner who did not conduct activities that caused the initial or "active" discharge. As a *tenant*, Robinson is not similarly situated to United Artists.	
F.4	G&R	Requiring full characterization of Properties 2 and 3 is premature. RWB's reliance on the "Module III – Interim Report" by Hi-Shear has "significant unaddressed failings," which the RWB has not provided its review on.	RWB disagrees. See Responses to Comments B.12, F.2 and F.3. The "Module III – Interim Report" is only one of the reports the RWB relied on. Finding 4.a. and Find 4.b. identified other technical reports reviewed and Finding 4.c. summarized those reports. In particular, Finding 4.c.ix. identified the presence of PCE and TCE in soil vapor and soil samples sampled on Property 2 and Property 3. RWB acknowledges that investigation and	No Changes

			assessment presented in the "Module III – Interim Report" is incomplete; a full Module III report was submitted on April 30, 2021. RWB's potential/pending review and response to technical reports is not an acceptable justification for further delaying a full assessment and remediation of the Robinson-related properties to ensure the protection of human health and the environment from potential impacts of the soil, soil vapor, and groundwater contamination. The January 13, 2020 Investigative Order (January Order) required a complete delineation of the lateral and vertical extent of VOC impacts to soil, soil vapor and groundwater on the EA Properties, which include Property 2 and Property 3, where Robison has had operations. The RWB has not received work plans for Property 2 and Property 3 to date. Robinson also delayed providing access to Hi-Shear's consultant for purposes of environmental investigation. Robinson also performed an "Evaluation of Subsurface VOCs" in 2018 (Frey Environmental), which found PCE and TCE on Properties 2 and 3. Despite finding concentrations of both constituents in excess of screening levels for protection of groundwater, and despite the known, ongoing investigation of the area, and the known, potential threats to human health from VOCs in soil vapor, Robinson failed to share this data with the RWB. RWB staff only became aware of the data when Robinson petitioned the January Order to the State Water Board and attached the data, ostensibly to show how insignificant their contribution was. (See Response to Comment F.3 [all discharges relevant].) In short, Robinson has a track record of delays and lack of cooperation. The Draft Order is necessary to ensure that all Dischargers participate in the investigation of their respective site(s) to assess known discharges that exceed screening levels indicating risks to human health and the environment.	
F.5	G&R	The Draft Order does not contain any evidence that Robinson discharged or	RWB disagrees. See Responses to Comment F.2 and F.4.	No Changes

		used PCE/TCE on Property 2 and Property 3.	See also Finding 3.b.ii.2., Finding 3.b.ii.3., and Finding 3.b.iii.1.	
F.6	G&R	The Draft Order does not contain factual findings connecting Robinson to any discharge or potential discharge on Property 2 or Property 3. G&R cites the following case laws contending the notion of "sufficient evidence" for RWB's conclusion findings: • *Asociacion de Gente Unida v. Central Valley Regional Water Quality Control Board* (2012) 210 Cal.App.4th 1255, 1281 (*AGUA*) • *Topanga Assn. For a Scenic Community v. County of Los Angeles*, supra, 11 Cal.3rd at p. 516 (*Topanga*) G&R cites the following case laws contending that a nexus of responsibility was not demonstrated for Robinson's properties (i.e., Property 2 and Property 3) and the discharges of waste: • *Tesoro Refining & Marketing Company v. Los Angeles Regional Water Quality Water Control Board* (2019) 42 Cal.App.5th 453 *(Tesoro)* • *Redevelopment Agency of the City of Stockton v. BNSF Railway Co.* (9th Cir. 2011) 643 F.3d 668, 678 (no liability where the involvement with a	RWB disagrees. To the extent the *AGUA* and *Topanga* cases require that the RWB consider sufficient evidence and summarize that evidence in an appropriate finding, the RWB has done so. (See also *Environmental Protection Information Center v. California Dept. of Forestry & Fire Protection* (2008) 44 Cal.4th 459, 516 [requiring "findings to bridge the analytic gap between the raw evidence and ultimate decision or order"].) The weight of the evidence supports naming Robinson: there is evidence of 1) operations known to involve chemicals of concern; 2) evidence of discharges of those chemicals of concern in the shallow soil and soil vapor near historic areas of storage/operation; and 3) the discharges pose a threat to waters of the State and must be remediated. See Responses to Comments F.2, F.4 and F.5, describing the links in evidence and supporting findings in the Draft Order. The substantial, credible evidence described above meets the requirements in *Tesoro*. In that case, the court relied upon circumstantial evidence, including soil and soil vapor investigations, to determine that there was sufficient evidence on which to base a determination that Tesoro was the source of a discharge. (*Tesoro, supra*, 42 Cal.App.5th at p. 467-68.) Robinson's citation to *BNSF* is inapplicable, primarily on a factual basis. In that case, the railroads built and maintained a French drain which acted as a conduit for petroleum discharges to migrate from a nearby petroleum plant. The court declined to hold the railroads liable for a discharge on adjacent land where the railroads had no control. (*BNSF, supra*, 643 F.3d at p. 676.) This is distinguishable from the instant case, in which Robinson was the operator and had complete control over the use, storage and discharge of chemicals – Robinson is not similarly situated to the railroads' "passive and remove" tie to migration of a discharge. See Responses to Comments F.2 and F.4.	No Changes

		spill was passive and remote) (*BNSF*)		
F.7	G&R	The groundwater discussions in the "Module V" report only identifies two groundwater sampling locations on the Robinson properties. Two locations are insufficient to conclude Robinson's properties have contributed to the groundwater and soil vapor plumes. RWB needs to consider the burden placed on the Discharger. G&R cites State Water Board Questions And Answers: State Water Resources Control Board Resolution No. 68-16 (Statement Of Policy With Respect To Maintaining High Quality Of Waters In California) (Q&A) and *City of Arcadia v. State Water Resources Control Board* (2006) 135 Cal.App.4th 1392, 1413-1414 (*Arcadia*).	RWB acknowledges there is limited groundwater data specific to Property 2 and Property 3. This is a direct result of Robinson's failure to comply with the January 13, 2020 Investigative Order requiring EA Properties to completely delineate the vertical and lateral extent of VOCs impacts to soil, soil vapor, and groundwater onsite and offsite. See Response to Comment F.2. 1,1-DCE is a common abiotic degradant of 1,1,1-TCA and it was detected in groundwater monitoring wells on and in the immediate vicinity of Property 2 and Property 3. More importantly, however, Findings 5.a.iii and iv (also see Responses to Comments F.2, F.3, F.4, and F.5 above) identify detections of VOCs in shallow soil that are in exceedance of the May 2020 USEPA Regional IX MCL-based soil screening levels for the protection of groundwater beneath Property 2 and Property 3. These findings in shallow soil provide clear evidence that discharges occurred in the areas identified as a "machining gantry location with subsurface pit and tank" on Property 2 and "covered hazardous materials storage" on Property 3. *City of Arcadia* is irrelevant here. That case examined the contention that a total maximum daily load was invalid because it did not comply with Water Code 13241, which requires the regional water boards to include economic considerations in their considerations when adopting water quality objectives. (*Arcadia*, supra, 135 Cal.App.4th at pp. 1415, *et seq.*) Adoption of an order requiring investigation and cleanup, however, does not involve establishing water quality objectives. Rather, it is an exercise of authority under Water Code sections 13267 and 13304. By way of comparison, *City of Burbank v. State Water Resources Control Board* (2005) 35 Cal.4th 613, 625 only found a	No Changes

			consideration of costs necessary in the issuance of an NPDES permit because Water Code section 13263 contains a cross-reference to section 13241. There is no parallel cross reference to section 13241 in section 13304, which governs the issuance of the Draft Order. The State Water Board's Q&A regarding Resolution 68-16 is relevant to the extent that it reiterates the dischargers' obligation to clean up soil and groundwater and prevent degradation or impairment of beneficial uses. The part of the Q&A that G&R quotes, however, pertains to the application of the Anti-Degradation Policy (Resolution 68-16) to situations in which the regional water boards are *authorizing* a discharge, such as a permit issuance. That portion of the Q&A is simply inapplicable here, where the discharge was *un*authorized.	
F.8	G&R	RWB should invite comments from all 68 potentially responsible parties in the lawsuit entitled *City of Torrance v. Hi-Shear Corporation, et al.*, USDC Case No. 2:17-cv-07732-DSF-JPR not just the Dischargers identified in the Draft Order. Additional investigation may identify additional dischargers.	See Response to Comment B.10 (other parties should be able to comment/should be named). The RWB frequently circulates draft orders to the named dischargers to maximize their input into the process and catch errors before finalizing the order, but there is no statutory requirement to provide an opportunity to comment on orders issued pursuant to Water Code sections 13267 and/or 13304. Additional investigations or evidence may support adding other dischargers in the future. The Draft Order contains a provision that allows the RWB to name additional dischargers through an amendment. This is consistent with State Water Board Resolution 92-49, which states that "[i]t is not necessary to identify all dischargers for the Regional Water Board to proceed with requirements for a discharger to investigate and clean up." Given the significance of the discharges, and the threat to nearby residents, it is important to issue the Draft Order now to require known dischargers to complete the investigation and begin remediation and other activities to protect human health and the environment. If parties have evidence of additional dischargers' liability, they may provide that evidence for consideration. To the extent parties wish to be added to the interested parties list and	No Changes

			receive copies of draft orders and key correspondence, they may request to do so by contacting Kevin Lin at (213) 576-6781 or via email at kevin.lin@waterboards.ca.gov.	
F.9	G&R	Review of historical records identified a portion of land that is currently identified as part of Property 1 was formerly part of the Torrance airport and included portions of the former Nike missile base. Issuing the Order to include Robinson would be premature and misdirected.	See Responses to Comments B.13 (Nike missile base), F.4 and F.8. As discussed above, the RWB has determined that it is appropriate to issue an order requiring cleanup to commence immediately, even as investigations of the extent of the discharges and surrounding areas continue, in order to protect human health and the environment from potential impacts of the soil, soil vapor and groundwater contamination. (See Finding 5.a., Finding 5.b., and Finding 5.c.)	No Changes
F.10	G&R	RWB should invite all 68 parties in the pending lawsuit to comment on the Draft Order. The federal court is the proper forum to adjudicate the parties' liabilities.	See Responses to Comments B.10 and F.8. As G&R's comment states, "additional data and information may still fall short of pinpointing whether there are others who contributed…" Investigating an additional 61 potential dischargers would significantly delay issuance of the Draft Order. Investigative and cleanup efforts to protect the environment and public health must continue and/or begin as soon as possible. The statutory process for issuing orders requiring investigation and cleanup is not encumbered by litigation over allocation of liability. Water Code section 13304 is intended to allow the RWB to act quickly to address the effects of discharges and protect human health and the environment, without waiting for the outcome of litigation, which can be quite lengthy, as the G&R comment notes (pending since 2017).	No Changes
F.11	G&R	Perchlorate, most often associated with rocket fuel, has been identified in the Site's plume. The United States owned and operated the Torrance airport and the Nike missile base. Robinson and the others who may have operated at Property 1, Property 2, and Property 3 would not	Existing data is sufficient to support naming Robinson as a discharger. See Responses to Comments F.2, F.3, F.4, F.5, F.7 and F.8. G&R's comment letter notes the absence of complete information concerning the United States' operations at the Nike missile base or information that would be necessary to establish the required causal link that dischargers have noted is necessary	No Changes

		have operated the Nike missile base nor used perchlorate. The United States is the only known potential discharger of perchlorate in the area.	in other comments. (See Responses to Comments B.12, B.13, B.15, F.3 and H.1a.) See also Response to Comment B.10 (possible to name other dischargers in the future).	
F.12	G&R	The Draft Order fails to comply with Water Code section 13225 and 13165. The cost/benefit analysis in the Draft Order does not cite evidence to support its conclusion of $2,000,000 to $5,000,000 nor does the Draft Order provide a breakdown for it. The Draft Order does not explain the specific assessment and remedial work required of Robinson.	See Responses to Comments B.22 (applicability of 13225 to state or local agencies), C.12 (revisions made to cost estimate) and D.7 (responding to contentions regarding 13225, 13165 and 13267).	See Response to C.12 for revisions.
F.13	G&R	Robinson requests the right to submit supplemental comments for any forthcoming information and data; a meeting with RWB; and a hearing and opportunity to be heard before the RWB	See Response to Comment B.9.	No Changes
G.1	C&I	In response to Hi-Shear's comment (See Comment C.5) to the Draft Order, Esterline notes that Hi-Shear's request did not identify any evidence that warrants adding additional description ("electronics manufacturing") to the current Lexus property (Property 1).	RWB concurs. Based on available information, the "electronics manufacturing" description will not be added to Property 1 at this time.	No Changes
G.2	C&I	Esterline's subsidiary, Excellon Automation, manufactured precision equipment to be used by other company and is consistent with what is stated in the Draft Order.	See Response to Comment C.5.	No Changes

G.3	C&I	Hi-Shear's comment (summarized in Comment C.5) to the Draft Order should be rejected.	See Response to Comment C.5.	No Changes
G.4	C&I	Esterline reserves right to make additional submissions on other aspects of Hi-Shear's comment(s) to the Draft Order.	See Response to Comment B.9 (request for supplemental submissions).	No Changes
Esterline has three submissions: 1) a cover letter that summarizes and cross-references a Detailed Statement; 2) a copy of the Draft Order with comment bubbles that proposed revisions and also cross-references the Detailed Statement; and 3) a Detailed Statement of comments. Responses to Comments H.1a through H.8 primarily track the comments in the "Detailed Statement" Esterline submitted, but also note proposed revisions that fall within those arguments. The Draft Order with comment bubbles has a few additional suggested revisions that are addressed in Responses to Comments H.9 through H.18.				
H.1a	C&I	Esterline has no connection to the site that could serve as a basis for the RWB to name it in the Draft Order. The Draft Order fails to make any findings supporting naming Esterline as a discharger. The Draft Order does not find that Esterline ever owned, leased or occupied any portion of the Site. Esterline does not have any "current or prior ownership" or "current or prior operations" at any of the properties. Additionally, the Draft Order has not identified evidence of any wastes discharged as the result of Excellon's operations (i.e., causal link). (*San Diego Gas & Electric v. San Diego Regional Water Quality Control Board*, 36 Cal.App.5th 427, 440 (2019).) The findings in the Draft Order (including Finding 5) does not link the subsidiary to potential responsibility for TCE and PCE.	This Response addresses Esterline's numerous arguments that it has no relationship to the site and, to the extent it has any responsibility for Excellon, Excellon never used PCE or TCE, so neither Excellon nor Esterline can be dischargers. Esterline offers numerous authorities for the proposition that it cannot be liable 1) for the actions of a wholly-owned subsidiary; 2) by virtue of owning shares in a dissolved subsidiary; or 3) where the former subsidiary has dissolved. None of these authorities are relevant here, however, where Esterline has expressly and contractually assumed Excellon's "environmental health and safety liabilities." The June 2003 APA discussed in the Draft Order documents that Esterline retained all liabilities related to actions, conditions or events in connection with operation of the business (Excellon) including, without limitation, Environmental Health & Safety Liabilities. Although we are not privy to the entirety of the agreement, Esterline's counsel confirmed in a letter to RWB counsel that Esterline *did* retain any such liabilities: > Mr. Beverly takes the position in his letter dated June 29, 2020 ("June 29 Letter") that the "Buyer" in the 2003 Transaction did not assume liability for the SUBSIDIARY's pre-closing environmental liabilities. **Esterline does not dispute that claim.** Esterline is not asserting that there was	Revisions Made to Finding 3.b.i.4. (Esterline; Site Description and Activities Involving Constituents of Concern section) and Findings 5.a.ii, 5.a.v, 5.b.ii., and 5.b.vi. (Summary of Findings from Investigation section)

		Finding 4.c. did not establish a source or discharge on Property 1, but rather highlights the magnitude of discharge(s) associated with Hi-Shear's operations. Esterline commented on Finding 4 that the RWB has previously noted that Hi-Shear should perform remediation of the groundwater plume for all contaminants originating from the Hi-Shear property (citing an April 12, 2012 letter) (and therefore Hi-Shear should perform the remediation, and not Esterline). Finding 14 (the threat of vapor intrusion at and near the site has cause nuisance) of the Draft Order is not applicable to Esterline because its subsidiary, Excellon, did not use PCE or TCE (chemicals in which RWB has not identified have been used by Excellon). A soil vapor investigation already ordered by the RWB must be completed before naming Esterline. Esterline disputes the applicability of Finding 15 (TCE and PCE constitute waste), Finding 16 (Excellon/Esterline are dischargers), Finding 18 and 19 (bases for identifying dischargers). Esterline states that State Water Board Order WQ 86-16 (*Stinnes Western*) does not obviate the RWB's obligation to tie use of chemicals to a party's discharge.	a transfer to the "Buyer" in the 2003 Transaction of any pre-closing environmental liabilities. (Letter from Sonja Inglin to Tamarin Austin (Nov. 17, 2020).) Therefore, at the time of the sale of Excellon, Esterline retained environmental liabilities. When Excellon later dissolved, the dissolution did nothing to relieve Esterline of its express contractual assumption of Excellon's liabilities. Esterline claims that the Draft Order does not provide sufficient evidence of any of Excellon's activities that would lead to liability. This is incorrect. The Draft Order documents the connection between Excellon and known discharges on the site. Specifically: • Excellon operated at the site (See Finding 3). • Excellon conducted activities (such as operating a degreaser) known to use solvents and, in fact, used solvents at the site (See Finding 3). • Discharges routinely occur in these types of operations (See Finding 18). • Waste found on site is consistent with the types of chemicals used in Excellon's operations (See Findings 5.a.ii and 5.b.ii). • Waste at Property 1 exceeds soil screening levels for the protection of groundwater (indicating that discharges on Property 1 pose a threat to groundwater) (See Findings 5.a.ii and 5.a.v). • Waste at Property 1 is contributing to a commingled plume of groundwater contamination (See Finding 5.c). For purposes of readability, the RWB focused the discussion of the wastes discharged to VOCs ("primarily TCE and PCE") as these are generally more prevalent than other VOCs. The Draft Order by no means excludes any COCs or potential COCs that have or may have been identified to have discharged into the waters of the State. (See Finding 1.b, generally identifying volatile organic compounds (VOCs) as constituents of concern.) Of note, it is well documented (including in Esterline's submissions) that Excellon used the VOC 1,1,1-TCA, in its	

			operations. Between the late 1980's and early 1990's, waste disposal manifests documented large quantities of 1,1,1-TCA waste disposal approximately ranging from 300 pounds to 13,000 pounds per year.
			
			1,1,1-TCA concentrations have been detected in soil, soil vapor, and groundwater beneath and/or in the immediate vicinity of Property 1. Below are notable concentrations by media:
			
			• Soil
			  ○ 1,150 µg/kg (VP-50, 55 ft-bgs [2016])
			  ○ 28.4 µg/kg (VP-49, 55 ft-bgs [2016])
			  ○ 20.0 µg/kg (MIP-8, 20 ft-bgs [2021])
			• Soil vapor
			  ○ 593,000 to 1,200,000 µg/m^3 at all depths of the soil column at VP-49 (maximum at VP-49, 85 ft-bgs [2016]; all concentrations at the time greater than the commercial screening level)
			  ▪ From trace levels to 278 µg/m^3 (VB-34 at 85 ft-bgs, 1/30/2020), 1,1,1-TCA has also been detected in soil vapor samples collected offsite in the nearby neighborhoods.
			• Groundwater
			  ○ 1,1,1-TCA was detected in grab groundwater samples, VP-50 and VP-114, at 22,600 µg/L and 230 µg/L, respectively, in 2020. 1,1,1-TCA was detected in groundwater monitoring well MW-12 at a maximum of 1.5 µg/L (11/20/2009 and 8/18/2009).
			  ○ 1,1-DCE was detected in grab groundwater samples, VP-50 and VP-114, at 56,000 µg/L and 16,000 µg/L, respectively, in 2020. 1,1-DCE has historically been detected in groundwater monitoring well MW-12 with a high of 99 µg/L in 2010.
			  ▪ 1,1-DCE, a common abiotic degradant of 1,1,1-TCA, has been detected in the on-property groundwater monitoring well	

			(MW-12) and also in offsite downgradient monitoring wells in the City of Lomita above its MCL of 6 µg/L. ○ 1,4-dioxane was detected in MW-12 at 25 µg/L in 2014. ▪ 1,4-dioxane, a commonly used stabilizing agent for 1,1,1-TCA, has been historically detected in the on-property groundwater monitoring well (MW-12) and offsite downgradient groundwater monitoring wells (MW-20, MW-21, and MW-26) in the City of Lomita. It is common for 1,4-dioxane to be seen offsite (i.e., away from point of discharge) as is miscible with water and highly mobile in soils and rapidly migrate to groundwater. Although an MCL has not be established for 1,4-dioxane, the SWRCB has adopted a drinking water notification level of 1 µg/L. All of the above data is publicly available in reports on GeoTracker. The above data provides evidence of a discharge of waste that has impacted groundwater and residual concentrations that continue to threaten to impact groundwater. This is consistent with Finding 5: "Detections of concentrations of VOCs in the soil column all the way to groundwater indicate that the Hi-Shear property and Property 1 of the EA Properties on the Site have contributed to a commingled plume of groundwater contamination…" The following Findings have been revised to include a discussion on 1,1,1-TCA and 1,1-DCE: <u>Finding 5.a.ii.:</u> "The maximum PCE and TCE soil concentrations detected beneath Property 1 of the EA Properties are 3,390 µg/kg (detected in sample VP-50 at 55 ft-	

			bgs in 2016) and 223 µg/kg (detected at VP-25 at 40 ft-bgs in 2014), respectively. The maximum 1,1,1-TCA soil concentration detected beneath Property 1 is 1,150 µg/kg (detected in sample VP-50 at 55 ft-bgs in 2016). The maximum 1,1-DCE soil concentration (a common abiotic degradant of 1,1,1-TCA) detected beneath Property 1 is 6,320 µg/kg (detected in sample VP-50 at 55 ft-bgs in 2016)." Finding 5.a.v.: "The maximum PCE and TCE soil concentrations on each property are at least one order of magnitude greater than the November 2020 United States Environmental Protection Agency (USEPA) Region IX MCL-based soil screening levels for the protection of groundwater, thereby posing a threat to groundwater quality. Some concentrations of PCE and TCE in the soil matrix also exceed the USEPA Region IX's direct contact exposure pathways Regional Screening Levels (RSLs) for residential and commercial/industrial land uses. Elevated 1,1,1-TCA and 1,1-DCE soil concentrations on the Hi-Shear property and Property 1 of EA Properties are at least one order of magnitude greater than the November 2020 USEPA Region IX MCL-based soil screening levels for protection of groundwater, thereby posing a threat to groundwater quality. Elevated concentrations of 1,1,1-TCA and 1,1-DCE in the soil matrix also exceed the USEPA Regional IX's direct contact exposure pathways RSLs for residential and commercial/industrial land uses." Finding 5.b.ii.: "The maximum PCE and TCE soil vapor concentrations at Property 1 of the EA Properties	

			are 71,500,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020) and 4,100,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020), respectively. The maximum 1,1,1-TCA soil vapor concentration at Property 1 of the EA Properties is 2,590,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020). The maximum 1,1-DCE soil vapor concentration (a common abiotic degradant of 1,1,1-TCA) at Property 1 of the EA Properties is 86,700,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020)." <u>Finding 5.b.vi.:</u> "The maximum concentrations of PCE and TCE detected in soil vapor exceed the June 2020 Human Health Risk Assessment (HHRA) Note Number 3, Department of Toxic Substances Control (DTSC) modified soil vapor screening levels (DTSC-SLs)[1] of 15 µg/m^3 and 16 µg/m^3 for cancer endpoint for residential land use, respectively. The maximum concentrations of PCE and TCE in soil vapor exceed the DTSC-SLs of 67 µg/m^3 and 100 µg/m^3 for cancer endpoint for commercial/industrial land use, respectively. Additionally, the maximum concentrations of TCE in soil vapor exceed the short-term exposure soil vapor screening level of 67 µg/m^3 and 267 µg/m^3 for residential land use and commercial/industrial land use, respectively. The elevated concentrations of 1,1,1-TCA detected in soil vapor exceed the HHRA Note Number 3, DTSC-SLs of 35,000 µg/m^3 and 150,000 µg/m^3 for noncancer endpoint for residential and commercial/industrial land use, respectively. The elevated concentrations of 1,1-DCE detected in	

[1] Per HHRA Note 3 Guidance and OSWER *Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway From Subsurface Vapor Sources to Indoor Air* (EPA, 2015); α (attenuation factor) = 0.03

			soil vapor exceed the HHRA Note Number 3, DTSC-SLs of 2,400 µg/m^3 and 10,000 µg/m^3 for noncancer endpoint for residential and commercial/industrial land use, respectively." Esterline offers numerous authorities for the proposition that Corporations Code section 2011, subdivision (a), precludes any liability because Excellon dissolved. Again, this argument necessarily ignores the express assumption of liability documented in the APA. Esterline also fails to address the most relevant authority on the dissolution of corporations, *Penasquitos, Inc. v. Superior Court* (1991) 53 Cal.3d 1180. In this case, the Supreme Court determined that "there is no legal barrier to a suit against a dissolved corporation itself for injury or damage that is caused by the corporation's predissolution activities but occurs or is discovered after the dissolution." (*Id.* at p. 1193-94. See also pp. 1188-89.) *Penasquitos* thus supports naming Excellon as a discharger, even though the company has dissolved. As described above, the Draft Order contains findings that establish the basis for naming Excellon. The discharge at Property 1 was discovered as early as 2014 as part of a soil vapor survey performed by Hi-Shear ("Additional Soil Gas Survey Report," dated September 4, 2014, prepared for Hi-Shear by Alta Environmental), after Excellon's dissolution, and the ongoing migration of waste is an ongoing discharge. Subsequent offsite investigations, 2016 to present, have also identified the discharge(s) at Property 1. (See *Tesoro*, *supra,* 42 Cal. App. 5th at p. 471 cross-reference to State Water Board Order WQ 86-2 (Zoecon) at p. *3.) As quoted in Ms. Inglin's letter above, Esterline concedes that it has assumed responsibility for Excellon's environmental liabilities via the 2003 APA. Corporations Code section 2011, subdivision (a), is therefore irrelevant in this case where Esterline has expressly assumed liability for Excellon, and Excellon's dissolution did not extinguish its responsibility for the discharges, as the Supreme Court held in	

			Penasquitos. To detail the connection more clearly between Excellon and Esterline and address Esterline's requested revisions, the RWB has edited Finding 3.b.i.4 (concerning Esterline) as follows: "Esterline Corporation was the parent company of Excellon. Esterline Corporation changed its name to Esterline Technologies Corporation (Esterline) in 1991. A June 2003 asset purchase agreement indicates that Esterline retained liabilities related to actions or conditions in connection with the operation of Excellon's business including environmental health and safety liabilities." Esterline cites to *San Diego Gas & Electric* for the proposition that the RWB must establish a causal link between a discharger and an actual or threatened discharge of waste. The paragraphs above review relevant evidence and amended Findings to clarify the link between Esterline, Excellon and discharges of waste at issue in the Draft Order. Finally, RWB does not dispute that Hi-Shear has contributed to the commingled discharges beneath the Site. However, reports summarized in Finding 4.c. identify soil vapor and groundwater impacts at Hi-Shear property, EA Properties and offsite into the City of Torrance and City of Lomita neighborhoods. Also, see Response to Comment B.1 (chemicals beneath Property 1 that are consistent with ones used by Esterline [namely 1,1,1-TCA and its common abiotic degradant compound 1,1-DCE]; detected in sample locations throughout their soil columns [i.e., at/near surface to groundwater; track to groundwater]).	
H.1b	C&I	Esterline's only connection to the Site is that it was the parent company of Excellon, which dissolved in 2010. Esterline's status as a former parent company is not a sufficient basis to name Esterline as a discharger.	See Response to Comment H.1a. Neither *Armenta* nor *Alcoa* apply here, where there is no claim that Esterline has liability merely as a former parent company. Similarly, Corporations Code 2011, subdivision (a) and *Potlatch* do not apply here, where Esterline's express assumption of environmental liabilities supersedes all arguments regarding	No Changes

		Citations to: • *Potlatch Corp. v. Superior Court* (1984) 154 Cal.App.3d 1144, 1151 (*Potlatch*) (shareholders of dissolved corporation are not liable for debts of the corporation). • *Sonora Diamond Corp. v. Superior Court* (2000) 83 Cal.App.4th 523, 539 (*Sonora*) (parent company not liable for subsidiary's operation absent fraud). • *Armenta ex rel. City of Burbank v. Mueller Co.* (2006) 142 Cal.App.4th 636, 652-53 (*Armenta*) (no liability of parent entity based merely on parent-subsidiary relationship). • State Water Board Order WQ 93-09 (Alcoa) (more than parent-subsidiary relationship necessary to create discharger liability)	parent-subsidiary corporations or liability as a shareholder of a dissolved corporation. It is worth mentioning that other parties have asserted alter ego and/or piercing the corporate veil arguments prior to the circulation of the Draft Order. (See *CenterPoint Energy, Inc. v. Superior Court* (2007) 157 Cal.App.4th 1101, 1120 ["As set forth in [*Ray v. Alad* (1977) 19 Cal.3d 22, 28], a successor company has liability for a predecessor's actions if: (1) the successor expressly or impliedly agrees to assume the subject liabilities...."].) Esterline cannot, on the one hand contractually agree to assume environmental liabilities and, on the other hand, refuse to accept responsibility for those liabilities, claiming they dissolved with Excellon. Doing so both contradicts the plain intent of the contracting parties, as stated in the contract, and raises questions as to the validity of the agreement under the fourth exception in *Ray*, *supra*, 19 Cal.3d at p. 28 (ordinary rules of successor liability do not apply when the transfer of assets for the fraudulent purpose of escaping liability). (See also *Wady v. Provident Life and Accident Ins. Co. of America* (C.D. Cal. 2002) 216 F.Supp.2d 1060, 1069 [parent corporations are not liable for the subsidiary's debts, "unless the parent attempts to liquidate the subsidiary for the purpose of avoiding its liabilities"] [citing *Sonora Diamond Corp. v. Superior Court* (2000) 83 Cal.App.4th 523, 539].)	
H.1c	C&I	The Draft Order is based on a misreading of the APA. The APA provided that the Buyer was not assuming liabilities, but it does not establish Excellon had any liabilities; therefore, mention of liabilities related to actions or conditions in connection with the operation of the business should be removed. Esterline is not responsible for the subsidiary's liabilities citing *Sunoco, Inc., v. Central Valley Regional Water*	See Response to Comment H.1a, revising Finding 3.b.i.4 and addressing Esterline's express assumption of liability pursuant to the APA. Esterline cites *Sunoco, Inc., v. Central Valley Regional Water Quality Control Board*, a case with no precedential value. To the extent Esterline contests the validity of naming a parent corporation for the acts of a subsidiary, Esterline's assumption of Excellon's liabilities is discussed in Response to Comment H.1a. It is not necessary to quote language from the APA in Finding 3 to provide a sufficient basis for Esterline's liability.	Revisions Made to Finding 3.b.i.4 (Esterline)

		Quality Control Board, Case No. 34-2016-80002282 (Cal. Sup. Ct. 2016). Esterline requests changes to Finding 3 to track the language in the APA.		
H.2	C&I	Esterline cannot be named in the Draft Order in its capacity as a former shareholder of Excellon. Legal actions against Esterline as a shareholder or Excellon are time-barred and expired in 2014. (Cal. Corp. Code § 2011(a)(2)(B).) Any liability of the shareholder is limited to amount of assets distributed to the shareholder upon dissolution. (Cal. Corp. Code § 2011(a)(1).)	See Responses to Comments H.1a and H.1b regarding the bases of Esterline's liability and the inapplicability of Corporations Code section 2011.	Revisions made to Findings 5.a.ii, 5.a.v., 5.b.ii., 5.b.vi (Summary of Findings from Investigations)
H.3	C&I	The Draft Order's findings are limited to a finding that Excellon had degreasers. These degreasers were small in size. Esterline concludes that the small size of degreasers would mean only periodic use with minimal volume of the permitted chemical, 1,1,1-TCA. Evidence only references the use of 1,1,1-TCA, not PCE or TCE. There is no explanation explaining how Excellon's generation of other wastes (alkaline and solvent mixtures, waste oil mixtures, polychlorinated biphenyl waste and other organic waste) relates to discharges at the Site. Esterline requests specific identification of files and documents concerning Excellon's chemical use and	See Response to Comment H.1a, which reiterates the linkage between Excellon's use and subsequent detections of 1,1,1-TCA in the substrate. Revisions have been made to address Excellon's use of 1,1,1-TCA and detections of the same constituent (along with its common abiotic degradant, 1,1-DCE) in the subsurface. Responses to Comments H.1a. and H.1b. establish the linkage between Excellon's operations and wastes found in the subsurface at Property 1. RWB disagrees with Esterline's conclusion that small size degreasers would mean minimal volume of the permitted chemical used, based on the amount of waste documented to have been disposed of. See Responses to Comment H.1a (documenting significant quantities of 1,1,1-TCA used at Excellon). Whether Hi-Shear has also contributed to the discharges does not obviate Esterline's responsibility to investigate the extent of and cleanup and abate discharges on	Revision Made to Findings 5.a.ii, 5.b.ii., 5.c.ii. (Summary of Findings from Investigations)

		storage so that it may fully respond to the proposed findings based on the complete file. Esterline requests revisions to Finding 3.b.i.3. in the Draft Order to reflect Excellon's corporate history, note that it has been dissolved and that degreasers onsite were small.	and migrating from Property 1. (See Response to Comment H.7 [joint and several liability].) Moreover, even if only small quantities were used, as the State Water Board found, and as RWB staff have observed at many other cleanups, even small, inadvertent spills "will inevitably result in some solvent reaching the ground through the concrete." (State Water Board Order WQ 86-16 (*Stinnes-Western*).) The transfer of solvent from storage to use or "insignificant" volumes of solvents that may escape from equipment may still cause discharge that requires cleanup: "We are concerned [with] what 'insignificant' may mean, given the extremely low action levels for these chemicals. Additionally, we note that solvent does not necessarily quickly evaporate. Small quantities of solvent inevitably will seep through concrete.... [G]iven the very low action levels for these chemicals, today we are concerned with <u>any discharge.</u>" (*Ibid.*; [original emphasis].) According to the DTSC's Hazardous Waste Tracking System, Excellon's generated waste includes, but is not limited to: "unspecified solvent mixture," "waste oil and mixed oil," "unspecified oil-containing waste," "unspecified organic liquid mixture," "other organic solids," and "laboratory waste chemicals." To the extent the comments are a request to submit additional comments based upon a review of additional documents, the request is not granted. (See Response to Comment B.9.) Other parties submitted requests for documents and performed file reviews well in advance of the comment deadline. There was no reason that Esterline could not have done the same. While the RWB remains willing to produce records in response to any Public Records Act request, there is no requirement in the Government Code that a public agency prepare a summary of all files and documents bearing any mention of Excellon's chemical usage or evidence of discharges at Property 1. The Draft Order provides sufficient basis (causal link) on which to find discharger liability.	
H.4	C&I	Reliance on "experience" without specific and detailed findings	See Response to Comment H.1a, providing specific evidence relevant to Esterline.	No Changes

		concerning the time period of operations, demonstration of experience related to comparable operations, specific aspects of the comparable operations, and evidence concerning the referenced practices at Excellon. Referencing use of a chemical and its detection in the environment is not sufficient to support a finding that Esterline is a discharger. To the extent the Draft Order references aviation or aerospace-related operations, Excellon did not engage in those operations. Excellon engaged in the production of precision micro-machining equipment. RWB's assumptions regarding the nature of chemical use related to Excellon are not applicable. The reports cited in Finding 4.b do not contain evidence establishing that Excellon had discharges.	Esterline objects to the citation to RWB staff experience and knowledge, but that has been an accepted basis of numerous upheld cleanup and abatement orders. For example, in State Water Board Order WQ 93-14 (Sanmina), the State Water Board considered a case in which the discharger claimed never to have used the chemical at issue. Like Esterline's site, environmental investigations found chemicals of concern in groundwater and soil near the use and storage areas. In considering circumstantial evidence of the use of the particular chemical of concern, including the detections of chemicals, and the fact that similar companies in the area used the same chemicals, "[t]he State Water Board takes administrative notice of the Regional Water Board's experience and expertise in this area. The Regional Water Board has overseen many cleanups of a similar nature by similar companies...." State Water Board Order WQ 86-16 (*Stinnes-Western*) similarly took "administrative notice of the Regional Board's experience and expertise" in considering "chemical handling practices standard to the industry" that were "insufficient to protect the environment from chemical pollution" and "unknowingly allow[ed] adverse environmental impacts to occur." The State Water Board acknowledged: "The Regional Board has regulated similar companies for many years. Currently, the Regional Board is engaged in overseeing numerous cleanup operations resulting from improper and inadequate handling of hazardous materials on site." (*Ibid.*) Each of these decisions acknowledged a general body of knowledge as opposed to requiring documentation of specific experience, as Esterline suggests is necessary. In this case, the record contains evidence that Excellon engaged in manufacturing and selling of computer controlled drilling machines for printed circuit boards, routing machines and optical programmers and inspection equipment for the printed circuit board industry, manufacturing of production equipment for semiconductor industry, expendable carbide tools for the printed circuit board and semiconductor industries. There are also records (including those which Esterline cites) documenting the use of a degreaser using 1,1,1-TCA, including permits to operate,	

			disposal manifests, and other records that have identified hazardous chemical usage by Excellon. Specifically, Excellon's usage of 1,1,1-TCA has been well documented by publicly available operation permits and waste disposal manifests. See Comments H.1a and H.2. The general knowledge referenced in the Draft Order refers to general knowledge that, during routine operations involving chemical usage/generation, small amounts of spilled chemicals can seep through concrete and other intended containment, leading to the type of discharges found at the Site. The RWB is currently overseeing numerous cleanup operations resulting from improper and inadequate handling of hazardous materials. Standard chemical handling practices often unknowingly allow adverse environmental impacts, like the ones observed at the Site, to occur. Excellon operated a Baron-Blakeslee vapor spray type degreaser. Numerous contaminated sites across California have been known to use vapor or other degreasers, and those sites have discharges in the shallow soil and/or groundwater near the location of use and/or storage of associated chemicals. For example, in *Orange County Water District v. Alcoa Global Fasteners, Inc.* (2017) 12 Cal.App.5th 252, the court reviewed numerous sites where solvents were used in degreasers and stored at the sites and each had discharges of waste found in the shallow soil: • Alcoa - 800 South State College, Fullerton (operated a vapor degreaser; soil samples near the degreaser revealed high concentrations of PCE at shallow depths) • Arnold - 1551 East Orangethorpe Ave, Fullerton (operated a vapor degreaser; VOC found in shallow soil) • CBS - 500 S Raymond Ave, Fullerton (operated a degreaser; shallow soils had VOCs) • Crucible - 2100 E Orangethorpe Ave, Fullerton (operated a degreaser; shallow soil sampling found VOCs near degreaser and storage areas) • Northrop - 500 E Orangethorpe Ave, Anaheim (operated several degreasers; extensive VOC discharges)	

			• Northrop - 301 E Orangethorpe Ave, Anaheim (operated degreaser; undisputed that solvents discharged at the site) Each of these sites had operations using degreasers in the 1970s and 1980s. Each had discharges of VOCs. Most if not all required remediation involving Santa Ana Regional Water Quality Control Board oversight. Other relevant cases include *Raytheon Aircraft Co. v. U.S.* (D. Kan. 2008) 556 F.Supp.2d 1265, 1289, in which "Jeff Gadt, formerly a geologist and project manager with E & E, the firm responsible for conducting the ESI on behalf of EPA, testified that, in his experience, the very use of TCE in connection with vapor degreasing always leads to some degree of discharge because of leaks, spills or poor waste handling procedures. Indeed, Mr. Gadt testified that he has yet to come across a site where TCE was used in connection with a vapor degreaser without leakage." The Code of Regulations provide additional evidence of the routine nature in which degreasers are found to be a source of discharges. (22 Cal. Code Regs., tit. 22, App 64481-A [identifying degreasing as the major origin of PCE, TCE and 1,1,1-TCA found in drinking water].) As discussed in the State Water Board Orders above, this type of circumstantial evidence is relevant and may be considered as a basis for discharger liability.	
H.5a	C&I	The RWB should follow the process and approach mandated by Resolution 92-49 in identifying dischargers in addition to Hi-Shear. There is no reason to rush the identification of dischargers since Hi-Shear is pursuing claims against Esterline and others in federal court. Resolution 92-49 establishes a phased approach to facilitate delineation and consideration of site-specific characteristics. A well-planned investigation is necessary for effective	See Response to B.12 (it is premature to name additional dischargers). The Water Code establishes an administrative process that is intended to allow regional water boards to quickly establish liability and require dischargers to clean up and abate discharges of waste. The Water Code is intentionally separate from litigation over allocation of liability and streamlined, to allow prompt response to discharges of wastes, which can cause severe and at times irreparable harm to human health and the environment. The RWB's process under the Water Code is not dependent upon the outcome of private litigation concerning allocation of liability. State Water Board Resolution 92-49 suggests that a discharger conduct investigation and cleanup and abatement in a	No Changes

		delineation and failure to do so increases costs.	progressive sequence but notes that "the sequence shall be adjusted to accommodate site-specific circumstances, if necessary." (Reso. 92-49, § II.A.1.) The Resolution specifically recognizes that there may be circumstances where it is necessary to approve plans for investigation and cleanup concurrently, including in at least the following situations, each of which is applicable here: a. Emergency situations involving acute pollution or contamination affecting present uses of waters of the state; b. Imminent threat of pollution; c. Protracted investigations resulting in unreasonable delay of cleanup and abatement; or d. Discharges of limited extent which can be effectively investigated and cleaned up within a short time (Reso. 92-49, § II.A.2.) The RWB has determined that it is appropriate to issue a Draft Order even as investigations of the extent of the discharges continues, to protect human health and the environment from potential impacts of the soil, soil vapor, and groundwater contamination. (See Required Actions section, page 26, paragraph 14 [allowing the Executive Officer to revise the Order, which may include adding dischargers].)	
H.5b	C&I	The RWB should wait for additional data to be collected with regard to Property 1 and require Hi-Shear to provide the RWB with an updated SCM before issuing a CAO to Esterline. Additional work is necessary before the RWB can determine there is a credible basis to identify any discharge associated with Excellon. With pending work, key activities, and technical documents forthcoming, it would be premature and inconsistent	See Responses to Comments B.12 (proper to issue the Draft Order before investigation complete), H.1a and H.5a. The comparative size of Excellon's operations does not excuse Excellon from participating in the investigation and remediation where there is evidence supporting naming Excellon as a discharger. (See Response to Comment B.17, regarding joint and several liability and apportionment.) Circumstances have changed and there is far more data available today than there was in 2018, including recent data supporting the identification of Esterline as a discharger on Property 1. (See	No Changes

		with the Order No. 92-49 for the RWB to proceed with the Draft Order. Any decision with regard to the issuance of the Draft Order should wait until the investigative process is complete. Excellon's operations were smaller in scale compared to Hi-Shear. Hi-Shear should continue to conduct the investigative and remedial work required in the Draft Order. The RWB has been skeptical about Hi-Shear's previous requests to find additional dischargers (citing 2012 and again in 2016). In August 2018, the RWB stated that it did not have sufficient information to identify sources of discharges on Property 1. The nearby Nike Missile base is a likely source of VOCs and possibly perchlorate detected at Property 1.	Response to Comment H.1a.) Since 2018, the RWB has received following technical documents: • "Evaluation of Subsurface VOCs – 24701-24747 Crenshaw Boulevard & 2530-2540 Skypark Drive," prepared by Frey Environmental, Inc. dated February 23, 2018. As stated in Finding 3.b.ii, this report was included in Robinson's June 11, 2020 petition of the May 12, 2020 Investigative Order. • "Subsurface Soil Investigation, Magellan Aerospace, Middletown, Inc., 24751 / 24777 Crenshaw Boulevard, Torrance, California," prepared by Frey Environmental, Inc. on behalf of Magellan Aerospace, Middletown, Inc., dated March 18, 2021 (SSI Report). The SSI Report is discussed further in Response to Comment H.16 below. • "Chemical Inventory Survey Indoor Air Quality Investigation and Sub-Slab Soil Vapor Sampling, Magellan Aerospace, Middletown, Inc.," prepared by Frey Environmental, Inc. on behalf of Magellan Aerospace, Middletown, Inc., dated February 11, 2021 (Indoor Air and Sub-Slab Report). The Indoor Air and Sub-Slab Report is discussed further in Response to Comment H.16 below. Other recent data highlights the extensive migration of discharges from the Site to surrounding areas, where it is a threat to drinking water and indoor air. There is no reason to wait to name parties other than Hi-Shear. (See, e.g., State Water Board Order WQ 85-7 (Exxon) ["Generally speaking it is appropriate and responsible for a Regional Board to name all parties for which there is reasonable evidence of responsibility, even in cases of disputed responsibility."].) Resolution 92-49 itself emphasizes that "It is not necessary to identify all dischargers for the Regional Water Board to proceed with requirements for a discharger to investigate and clean up."	

			As discussed in Response to Comment B.13 and H.5a, if additional data suggests the former Nike Missile base is a source of waste, the RWB will take appropriate action to require cleanup and abatement.	
H.6	C&I	Esterline states that the Draft Order footnote 2, citing *Tesoro Refining & Marketing Company v. Los Angeles Regional Water Quality Control Board,* 42 Cal.App.5th 453 (2019), suggests that the RWB views *Tesoro* as a basis for finding that a former operator is responsible for cleanup of contamination present in groundwater beneath the Site of its former operations. Esterline further cites *United Artists Theater Circuit v. San Francisco Regional Water Quality Control Board*, 42 Cal.App.5th 851 (2019), where Court of Appeal opinion rejected SFRWQCB's argument that a prior owner should be strictly liable for discharges later found beneath the property.	The beginning of footnote 2 explains that, "the *City of Torrance* is liable for cleanup of wastes, regardless of its involvement in the activities that initially caused the pollution." (Emphasis added.) While *Tesoro* is relevant to current ownership (which is *not* relevant to Esterline) it also stands for the proposition Esterline quotes - that ongoing migration of unabated, uncontrolled discharges are an ongoing discharge (a principle relevant to all dischargers). The investigation in this case supports the conclusion that the same constituents found in the subsurface match those used in the activities of Esterline's subsidiary, Excellon. The nexus Esterline contests is documented above in Response to Comment H.1a. These conclusions are also consistent with the law cited in *San Diego Gas & Electric*. (See Response to Comment H.1a.) Esterline's subsidiary, Excellon, is a former owner/lessee who caused a discharge. The RWB has identified a causal link or connection between activities and the discharge. *United Artists* developed a test of liability applicable to a former landlord whose tenant's operation were the source of discharges found on the property. In contrast, Excellon's own activities were the cause of the discharge and Esterline expressly assumed responsibility for Excellon's environmental liabilities. The *United Artists* test is thus inapplicable.	See Response to Comment H.1a Revisions Made to Finding 3.b.i.4 (Esterline)
H.7	C&I	Imposing joint and several liability ignores clear disparities in the nature and scope of individual party's contributions (in particular Hi-Shear) to the conditions the Draft Order seeks to address. Water Code section 13304 only requires that a discharger clean up the	See Response to Comment B.17 (joint and several liability). Esterline takes liberties in the construction of *City of Modesto* and *United Artists* in implying that either would support apportionment here. Neither discusses apportionment or joint and several liability in the context of a regional water board order.	See Response to Comment B.21 (clarifications to which entities are responsible for each task)

		effects of its own waste. Esterline should not be required to remediate PCE and TCE waste that others' discharged. Esterline's liability must be apportioned and limited to addressing any environmental harm associated with Excellon's activities. Citations to: *United Artists* at pp. 877-78 *City of Modesto Redevelop. Agency v. Superior Court* (2004) 119 Cal.App.4th 28, 38 (*City of Modesto*) *Sunoco* *City of Lodi v. Randtron* (2004) 118 Cal.App.4th 337, 357 (*City of Lodi*) *Burlington No. & Santa Fe Ry Co. v. United States* (2009) 556 U.S. 599 (*Burlington Northern*) (basis for apportionment was land area, time of ownership, types of hazardous products) With respect to Required Action 16 (i.e., reimbursement of RWB costs and oversight), Esterline argues that the RWB must make specific findings concerning apportionment and any oversight costs must be apportioned accordingly. Deadlines and tasks in Attachment B (Time Schedule) must be apportioned. These tasks cannot be performed collectively because of conflicting interests of the named parties.	*City of Modesto* is, however, applicable for the propositions on pages 36-38 (the pages Esterline cites): • Water Code section 13304 imposes liability on anyone who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance • Liability for nuisance does not hinge on whether the party owns, possesses, or controls the property Esterline cites pages 877 and 878 of *United Artists*, in which the court evaluates the meaning of "causes" or "permits" in the context of landlord liability for the acts of a tenant. As discussed in Response to Comment H.6, this discussion is simply irrelevant here, where Esterline has expressly assumed liability for Excellon, and the weight of the evidence establishes that Excellon discharged wastes. (See Response to Comment H.1a.) As previously stated, *Sunoco* is a trial court decision and has no precedential value here. *Barclay Hollander* is the relevant, applicable case law concerning joint and several liability. To the extent *Sunoco* cites *City of Modesto,* see above. Finally, *Burlington Northern* discusses apportionment in a CERCLA case, and *City of Lodi* discusses apportionment in a Hazardous Substances Account Act case, neither of which is applicable here. To the extent discharges of waste are present in shallow soil (e.g. as described above in Response to Comment H.1a), the owner and occupants of that property (in Esterline's case Property 1) are responsible for that discharge of waste. To the extent the parties have contributed to a commingled plume, however, liability remains joint and several, as discussed in *Barclay Hollander, supra*.	

			See Response to Comment B.21, discussing edits to clarify responsibility for cleanup.	
H.8	C&I	The Draft Order imposes significant investigative obligations on the parties that should be apportioned. Substantial work is already the subject of separate RWB orders and is being performed by Hi-Shear. There is no "need" for these reports. Water Code 13267 and 13225 required the RWB to show the costs associated with the investigative reports bear a reasonable relationship to the need for them and the benefits to be obtained. The RWB must provide more detail regarding the estimated costs. The reports identified in Finding 4 did not include evidence identifying Esterline's subsidiary, Excellon, operations have had discharge(s).	See Response to Comment H.7 concerning apportionment and revisions discussed therein. The fact that Hi-Shear has conducted some work and taken the lead on additional work does not make them more responsible for completing those tasks, particularly in view of the commingled discharges in groundwater. See Response to Comment B.21, concerning duplicative RWB orders and revisions discussed therein. See Response to Comment B.22, concerning Water Code section 13225. See Response to Comment C.12, concerning revised cost estimates. See Responses to Comments H.1a and H.1b regarding the bases of Esterline's liability.	Revisions Made (See Response to Comment H.7 re. changes to tasks, Response to Comment B.21 re. duplicative Board orders and Response to Comment C.12 re. cost estimates)
H.9	C&I	Esterline suggests revising the naming of Excellon to reflect the name as recorded in California Secretary of State records and that Excellon dissolved in 2010.	The Draft Order names "Excellon Industries, An Esterline Company" as used on Excellon's own letterhead in a letter to the City of Torrance dated June 21, 1979. That letter proposed to use the Crenshaw site as "the principal manufacturing facility for the computer controlled drilling and routing machinery product lines." A June 12, 1979 sub-sublease agreement similarly documents the name of the sublessee entity as "Excellon Industries, An Esterline Company." The Draft Order therefore accurately identifies the multiple identities used by that company, including the version suggested by Esterline to be the "legal name." There is no need to discuss whether Excellon dissolved, given the *Penasquitos* case discussed above in Response to Comment H.1a.	No Changes

H.10	C&I	Esterline requests edits to Finding 3, describing Esterline, to incorporate language from the APA and state that "The APA does not establish that ESTERLINE, as the parent company of the Buyer, in fact had any such liabilities."	See Response to Comment H.1a and H.1c.	No Changes
H.11	C&I	Esterline objects to any requirement (including Requirement 9 and the Time Schedule established in Attachment B) that duplicates obligations under existing orders as many cannot be performed on a collective basis. Issuing duplicative orders will complicate and delay activities. Esterline objects that the RWB has separately ordered Hi-Shear and others to conduct investigations and there is no justification to also require Esterline to conduct the same investigations.	See Response to Comment B.17 (joint and several liability and apportionment). See Response to Comment B.21 and revisions that more clearly indicate that the Draft Order supersedes prior orders.	Revisions Made (See Response to Comment B.21)
H.12	C&I	The Draft Order should be revised to mention the pending petitions for the SWRCB from Esterline and the other Dischargers for the May 12, 2020 Investigative Order.	The pending petitions are not relevant to the basis for identifying Esterline as a discharger. The requirements of prior orders were not stayed by filing petitions.	No Changes
H.13	C&I	The time schedule of requirements in the Draft Order are unrealistic and unachievable.	See Response to Comment C.4 (amended deadlines). Notably, Esterline did not propose alternative deadlines. We also note that the Executive Officer may, for good cause shown, extend deadlines.	See Response to Comment C.4 (Revisions made to Attachment B - Time Schedule)
H.14	C&I	Esterline objects that the requirement to continue remediation or monitoring until the Executive Officer determines	RWB disagrees. Water Code section 13223 delegates authority to the Executive Officer to require dischargers to clean up and abate	No Changes

		cleanup is complete confers unfettered discretion on the Executive Officer.	discharges of waste. The Executive Officer's discretion is governed by State Water Board Resolution 92-49.	
H.15	C&I	Required site assessment tasks and associated deadlines in Attachment B must be assigned to individual parties.	RWB agrees in part. See Response to Comment B.21. Revisions have been made to Required Action 2 (Risk Assessment), Required Action 3 (Site Assessment), Required Action 4 (Conduct Remedial Action) and associated deadlines in Attachment B to clarify which of the various dischargers is responsible for each of the tasks.	See Response to Comment B.21 (Clarifying Required Actions 2 through 4 and Attachment B)
H.16	C&I	Finding 4.d. should be updated to include 12/21/2020 RWB correspondence and the report received for the delineation of VOCs for Property 1. Esterline suggests that RWB correspondence identified additional data necessary to understand conditions on Property 1, and without that data it is premature to identify Excellon (and thus Esterline) as a discharger.	Finding 4.d. will be updated to include the December 21, 2020 RWB correspondence and report received. The weight of the evidence supports naming Excellon (and thus Esterline) as a discharger. See Response to Comment H.1a. RWB staff has preliminarily reviewed the SSI Report for Property 1 and found: The limited subsurface soil investigation identified PCE and TCE in soil with detections at multiple sample locations across Property 1. The maximum PCE and TCE soil concentrations in the limited soil investigation were 1,600 µg/kg at MIP7 (15 ft-bgs) and 56 µg/kg at MIP8 (20 ft-bgs), respectively. Additionally, 1,1,1-TCA, along with cis-1,2-DCE, was detected at one location, MIP8, in this limited soil investigation with concentrations ranging from 1.5 to 20 µg/kg at 20 ft-bgs (trend appears to increase with depth). RWB staff has preliminarily reviewed the Indoor Air and Sub-Slab Report for Property 1 and found: PCE and TCE in sub-slab soil vapor were detected in all 30 samples collected; maximum PCE and TCE soil vapor concentrations were 260,000 µg/m^3 beneath the Service Area and 38,000 µg/m^3 beneath the Unoccupied Building, respectively. 1,1,1-TCA in sub-slab soil vapor was detected in 23 of 30 samples collected; maximum 1,1,1-TCA soil vapor concentration was 6,700 µg/m^3 beneath the Unoccupied Building. Additionally, 1,4-dioxane was	Revisions made to Finding 4.d (History of Environmental Investigations, Remediation and Board Orders)

			detected in two of the 30 samples collected; the maximum 1,4-dioxane soil vapor concentration was 9.2 µg/m^3 beneath the Unoccupied Building. PCE and TCE in indoor air were detected in 27 and 16 samples collected, respectively. The maximum PCE and TCE indoor air concentrations were 13 µg/m^3 and 1.1 µg/m^3, respectively, in the Service Area; the PCE concentration warrants additional actions (such as resampling and/or mitigation of Property 1/Service Area). 1,1,1-TCA in indoor air was detected in two samples collected; the maximum 1,1,1-TCA indoor air concentration was 0.69 µg/m^3 in the Unoccupied Building. RWB staff is in the process of reviewing and responding to the March 2021 *Subsurface Soil Investigation* report on Property 1 and February 2021 *Indoor Air Quality Investigation and Sub-Slab Soil Vapor Sampling* on Property 1.	
H.17	C&I	Required Action 10, concerning changes in name, ownership or control of the Site, should be revised as it may not be applicable to Dischargers collectively but rather individually.	RWB concurs with Esterline's recommended revisions, clarifying that each discharger has a separate and independent responsibility to advise the RWB of any change in ownership.	Revisions made to Required Action 10
H.18	C&I	Esterline has no access to the groundwater well or means available to perform the required groundwater monitoring.	Cleanup and abatement orders commonly require groundwater monitoring on land that does not belong to the discharger and/or collaboration with others who own wells. Dischargers routinely work together and with landowners to gain access and collaborate with consultants to get work done. It is not an unrealistic expectation to order Esterline and all other parties to work together to develop a cooperative effort in investigating and remediating commingled discharges of waste. The alternative, requiring each discharger to independently conduct these activities, would be exponentially more time- and resource-consuming, contrary to State Water Board Resolution 92-49.	No Changes

CALIFORNIA Water Boards

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Los Angeles Regional Water Quality Control Board

Comments Received to Draft Cleanup and Abatement Order No. R4-20XX-XXXX

Comment Period: November 30, 2020 – January 11, 2021

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Rodney R. McInnis and Jacqueline Revel McInnis (McInnis)

2047 245th Street
Lomita, CA 90717-1138

December 22, 2020

Ms. Irma Muñoz, Chair
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Re: Skypark Commercial Properties SCP 1499 CAO No. R4-20XX-XXX

Dear Chair Muñoz:

We are taking this opportunity to comment on the draft Cleanup and Abatement Order posted on the Los Angeles Regional Water Quality Board website on November 30, 2020. We are residents of the City of Lomita and have been actively following the effort to delineate and remediate the chemical contamination of groundwater and soil vapors caused by industrial activities on the Skypark Properties in Torrance, California. The chemical contamination from these activities has extended eastward from those commercial sites into the residential neighborhoods of the City of Lomita. The health risks posed by long-term exposure to these chemicals in the residences has yet to be determined, but that risk is a real concern for Lomita residents. Another ongoing impact to property owners and residents – caused by the contaminant plume and uncertainty surrounding it – is uncertainty with respect to the impact of the contamination on the value, use and enjoyment of their property. With these concerns in mind, we offer the following comments on the draft order.

A.1 First, we are pleased with the scope and strength of the draft order. This order is a good step forward on the extremely long path to cleaning up the groundwater and soil under homes in the City of Lomita.

A.2 Second, we note that much of this draft order continues to focus on monitoring and cleanup on the site from which the contaminants originate. We argue that at least the same level of attention should be focused on the City of Lomita where there is the potential for continuous exposure of infants and children as well as adults. In that regard, the Human Health Risk Assessment ordered under "Required Action" number 3 should not be limited to the use of the businesses on the site but should include the residences in Lomita that are within the plume. This risk assessment for the residents "off site" may be included in the Attachment B: Time Schedule under 1. B Risk Assessment, but it is not clearly included in the body of the draft order under Required Actions.

A.3 Third, we strongly urge the Board to use all of its authority and enforcement tools to ensure that this clean-up proceeds as rapidly as possible. The chemical contamination on the Skypark Commercial Properties has been known for at least 30 years. The history in the draft order shows that the plume in both groundwater and soil vapor under Lomita has been documented since 2016. It should have been suspected long before that time and investigated. The history also documents the series of prior orders including required action and time schedules that have not been met by the responsible parties. Continued delays would be irresponsible and potentially dangerous. Therefore, the Board should not tolerate any stalling in the clean-up.

Thank you for considering these comments and for giving this contamination of a residential neighborhood your high priority attention.

Sincerely,

Rodney R. McInnis

Jacqueline Revel McInnis

Lamb and Kawakami on behalf of Magellan Aerospace, Middletown, Inc. (L&K)

L&K

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January 11, 2021

VIA E-MAIL

Mr. Kevin Lin, P.E.
Los Angeles Regional Water Quality Control Board
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E-Mail: Kevin.Lin@waterboards.ca.gov

Re: Draft Cleanup & Abatement Order No. R4-20XX-XXXX

Skypark Commercial Properties (Assessor Parcel No. 7377-006-906), 24701 – 24777 Crenshaw Boulevard and 2530, 2540 & 2600 Skypark Drive, Torrance, California (SCP No. 1499)

Dear Mr. Lin:

This letter is submitted on behalf of Magellan Aerospace, Middletown, Inc. ("Middletown") and responds to the Regional Water Quality Control Board's ("RWQCB") invitation to submit comments on a draft Cleanup and Abatement Order No. R4-20XX-XXXX ("draft CAO") which the RWQCB is contemplating issuing to certain parties. The draft CAO is attached to the RWQCB's correspondence dated November 30, 2020 from Hugh Marley (the "November 30 RWQCB letter").

1. *Executive Summary*

In the November 30, 20 RWQCB letter, the RWQCB states that volatile organic compounds ("VOCs"), primarily tetrachloroethene ("PCE") and trichlorethylene ("TCE") and their daughter products "have been discharged" into the soils of various properties and into the underlying groundwater. *See*, November 30 RWQCB letter p. 2 ¶3.

B.1

This vague and conclusory remark, cast as a foregone fact, crystalizes the premise and, importantly, the underlying foundation upon which a final CAO would rest should the RWQCB decide to move in that direction.

B.2 Here, the basis for adding Middletown to a CAO is presumably that Aeronca, Inc. ("Aeronca") operated at a certain property which is now located over a contaminated groundwater plume.[1]

B.3 As discussed below, based on our review of the records, Hi-Shear Corporation dba Lisi Aerospace ("Hi-Shear") is the only potentially responsible party ("PRP") who is known to have released the VOCs which are the subject of the draft CAO. There is no evidence that either Aeronca or that Middletown released any VOCs or contributed VOCs to Hi-Shear's contaminated groundwater plume.

Beyond the lack of a factual foundation, the legal authority cited in the draft CAO does not support naming Aeronca or Middletown in a CAO. *See*, draft CAO, Legal Requirements §§ 7 – 9 & Fn. 2.

B.4 As the RWQCB is aware from its own recent litigation on this subject, there is no authority that holds a party liable for contamination or subject to a CAO by virtue of the fact that a PRP formerly operated at a site under which a contaminated groundwater plume has migrated.

Water Code § 13304[2] states that a proper party to a CAO is a "person who has discharged…waste into the waters of this state…or who has caused or permitted…any waste to be discharged…into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance…"

Though § 13304 is limited in words and uses undefined terms, regional water quality control boards in different regions have recently litigated the meaning and scope of this code section. There are three recent cases (discussed below) which now offer a body of law as to who the RWQCB may properly name in a CAO.[3] The RWQCB cites to one of these three cases and, as discussed below, the RWQCB's analysis with respect to that case is incomplete.

There are two distinct categories of persons who are subject to a CAO under § 13304. These are either (i) an owner/lessee who causes a discharge of contamination that resulted in harm to the environment, or (ii) an owner/lessor who through actual knowledge or constructive knowledge permits a tenant to discharge contaminants. *See, e.g., San Diego Gas & Electric v. San Diego Regional Water Quality Control Board* (*"San Diego Gas & Electric"*) (2019) 36

[1] The RWQCB asserts that Middletown is liable for the actions of Aeronca.

[2] Unless otherwise noted, all section references are to the California *Water Code*.

[3] These three cases came down in quick succession on June 18, November 22, and November 27, 2019.

Cal.App.5th 427, 431, *see also, United Artists Theatre Circuit v. San Francisco Regional Water Quality Control Board* ("*United Artists*") (2019) 42 Cal.App.5th 851, 887.

B.5

Neither Aeronca nor Middletown falls under either category. There is no evidence that either Aeronca or Middletown discharged contaminants, including VOCs into the groundwater.[4] As Middletown has stated before and reiterates again here, Middletown has no document or information that indicates Aeronca (or Middletown) discharged or permitted the discharge of any contamination, including VOCs in Torrance.

Furthermore and even more fundamentally, there is no evidence that the soils or the groundwater beneath any property where Aeronca formerly operated was contaminated during the years when Aeronca operated in Torrance.

B.6
B.7
B.8

It is also important to note that § 13304 also states: "This section does not impose any new liability for acts occurring before January 1, 1981, if the acts were not in violation of existing laws or regulations at the time they occurred." *Id*. subpart (j). Based on our review, we understand that Aeronca first started operating at certain locations in Torrance in or about 1966 and then left Torrance altogether. There is no evidence that Aeronca discharged contaminants at either Properties 1 or 2, including the groundwater located beneath these properties, nor is there evidence that either Properties 1 or 2 were contaminated at the time that Aeronca left the area. In Order R4-2020-0003, the RWQCB states that Aeronca operated (i) at 24751 Crenshaw Boulevard, generally described as Property 1, between 1954 and 1987, and (ii) at 24707 Crenshaw Boulevard, generally described as Property 2, between 1966 and 1973.[5] Therefore, reliance on § 13304 to ascribe liability to Aeronca and, in turn, to Middletown is misplaced for this reason.

Based on the foregoing and for the other reasons set forth below in more detail, there are no legal grounds upon which the RWQCB may issue a CAO to Aeronca or to Middletown.

2. *Request for Extension, For Meeting with RWQCB, and For Hearing*

Although Middletown is providing these initial comments by the January 11 deadline, based on the missing information highlighted below, Middletown hereby requests the right to submit supplemental comments so that any forthcoming information and data may be evaluated

[4] The issue of whether Middletown is a successor and liable for the acts of Aeronca is disputed but addressed later to isolate and highlight the point that no one has presented evidence that either Aeronca or Middletown caused any of the contamination which is the subject of the draft CAO.

[5] Middletown disputes the foregoing for several reasons. These include the following: The areas which are now generally described as Property 1 and Property 2 appear to have changed over the years and it is disputed that Aeronca operated in all areas now covered by the boundaries of what is now generally described as Property 1 and Property 2. Furthermore, there appear to have been different operators within these areas over the years.

in context rather than through the incomplete body of information and data which now exists. This is also important for the RWQCB since it should base the CAO on reliable and complete information.

Middletown also requests (i) a meeting with the RWQCB after all comments are submitted and the additional data is made available to discuss the foregoing with the RWQCB, and (ii) a hearing and opportunity to be heard before the RWQCB issues a final CAO. *See, e.g.*, 23 CCR § 2050.6.

3. *Additional Data and Information is Needed Before Issuing a CAO*

The RWQCB invites comments from only seven potentially responsible parties ("PRPs"). However, there are 61 additional PRPs in a lawsuit over the very same contamination which is the subject of the draft CAO.

The lawsuit is styled *City of Torrance v. Hi-Shear Corporation, et al.*, USDC Case No. 2:17-cv-07732-DSF-JPR (the "lawsuit"). Until recently, Hi-Shear was the only defendant in the lawsuit and this is understandable since it is evident that Hi-Shear released VOCs into the soils and groundwater. By any standard, Hi-Shear's discharges are substantial. The draft CAO notes that approximately 100,155 pounds of VOCs have been extracted through Hi-Shear's intermittent operation of a soil vapor extraction ("SVE") system. *See*, draft CAO §4. c. iii. These same types of VOCs have been detected at depth in properties located to the south and southwest of the Hi-Shear site. The data collected from those properties, including the groundwater data beneath those properties, is consistent with the discharges from the Hi-Shear site.

B.10
B.11

In order to defray its liability, in December 2017 Hi-Shear filed a third-party complaint contending that Middletown and other PRPs contributed to Hi-Shear's contaminated groundwater plume. Despite over 30 years of field investigations, Hi-Shear has been unable to substantiate its allegations, and to date the only confirmed discharger of VOCs remains Hi-Shear.

Based on the existing data and Hi-Shear's acknowledgment of substantial discharges, it appears that a CAO directed at Hi-Shear is justified but there does not appear to be a valid legal basis for issuing a CAO to Aeronca or to Middletown.

B.12

At least implicitly, the RWQCB seems to recognize that it needs additional data and information to support adding other PRPs to a CAO.

We understand that in or about January 15, 2021, Hi-Shear is scheduled to collect soil and groundwater samples at certain locations at the Torrance airport. For its part, on August 21,

2020, Middletown submitted a Data Gap Work Plan to the RWQCB and that work will proceed when a final work plan is developed and approved.[6]

The field investigations at the Torrance airport are expected to yield information about whether activities there contributed to Hi-Shear's known contaminated groundwater plume. The field investigations at Property 1 may also yield additional information about releases at the Torrance airport, including a missile site which was formerly located at the airport, known as Nike Battery #57 (the "Nike missile base"). The field investigations at Property 1 may also yield information about the Hi-Shear site.

Property 1 is located down-gradient from both the Torrance airport and the Hi-Shear site and shares a southern and western border with both the airport and the Hi-Shear site, at least according to the boundaries which have now been drawn around Property 1. However, based on our review of historical records, it may very well be that a portion of the land which is now included within the footprint of Property 1 was actually part of the Torrance airport and included portions of the former Nike missile base. This alone illustrates just how premature and misdirected issuing a CAO to Aeronca or to Middletown would be.

B.13

Beyond waiting for the data which will be generated by the pending field work at the Torrance airport, at the Lexus property (which is included in what is now generally referred to as Property 1) and elsewhere, the RWQCB should also invite comments from all of the PRPs in the pending lawsuit. While this additional data and information may still fall short of pinpointing whether there are others who contributed to Hi-Shear's contaminated groundwater plume, it will provide a much fuller and appropriate foundation for a CAO and for identifying the proper parties to a CAO.

This is further illustrated by the existing data on Hi-Shear's contaminated groundwater plume. Perchlorate, a well-known oxidizer found almost exclusively in rocket fuel, has been identified in this plume. The United States is a party to the pending lawsuit presumably because operations at the Torrance airport and at the Nike missile base contributed to the contaminated groundwater plume.

Based on our review of historical records, the United States owned and operated the Torrance airport during the 1940's and through later years and operated the Nike missile base from at least 1948 until 1972. Since then, portions of the area which were formerly part of the Torrance airport appear to have been removed from the footprint of the original Torrance airport and may now be located within the footprint of what is generally described as Property 1.

[6] Despite the urgency which is suggested by the initial January 4 deadline, now extended to January 11, to submit comments on the draft CAO, the RWQCB provided comments to the August 21, 2020 proposed work plan on December 22, 2020 (via a letter dated December 21).

Neither Middletown nor other PRPs who may have operated on portions of what is now generally described as Property 1 and/or Property 2 would have operated the Nike missile base nor used perchlorate. The United States is the obvious and only known potential discharger of perchlorate in the area. Yet the United States is mentioned nowhere in the draft CAO nor has the RWQCB solicited comments or requested information from the United States. The United States, more than anyone else, is the PRP who will likely be most familiar with its activities at the Torrance airport. Presumably there are detailed and thorough manuals setting forth the storage, handling, and maintenance practices that the United States followed in handling weapons, including Nike missiles, especially since these weapons were a stones-throw away from residential communities.

The additional information from comments submitted by Hi-Shear, the United States, and others and from the data which will be generated during the course of upcoming field studies should greatly assist the RWQCB in assessing the scope of a final CAO and who to include in a final CAO. Until that information and data is received, it would be premature to issue a final CAO.

4. ***The Issuance of a Draft CAO is in Conflict with the Guidance in SW92-49***

The draft CAO stands in stark contrast to the underlying principles of California Water Boards Site Cleanup Program Resolution No. 92-49 – Policies and Procedures for Investigation and Cleanup and Abatement Discharges Under Water Code Section 13304 ("SW92-49"), attached as Exhibit 1.

SW92-49 indicates that investigations that are not properly planned increase overall costs, and in some cases, exacerbate rather than ameliorate environmental damage. SW92-49 also notes that a phased and well planned investigation, based on data and scientific processes, is more effective in delineating the nature and extent of pollution and, ultimately, in developing a reliable and appropriate site conceptual model to address the contamination.

B.14

Based on SW92-49, the RWQCB should allow the investigations at Properties 1 and 2 and at other sites to be completed before issuing a CAO. As discussed above, Middletown submitted work plans for an indoor air quality investigation and a data gap investigation in August 2020. An indoor air quality investigation work plan was also submitted for Property 2. The indoor air quality investigation at Property 1 is currently underway and field work was performed yesterday and is also being performed today, January 11. An investigation at Property 2 is also set to commence shortly. In addition, the data gap investigation will follow after a final Data Gap Work Plan is developed and approved.

In contrast to the underlying policies of SW92-49, the RWQCB issued the draft CAO and solicited comments from only 7 PRPs, completed the review and provided comments on Middletown's August 21, 2020 proposed Data Gap Work Plan on December 22, 2020, and is still

in the process of assessing whether anyone other than Hi-Shear contributed to the contaminated groundwater plume.

In keeping with the policies and goals set forth in SW92-49, at a minimum the field investigations at the various properties should be completed before a final CAO is issued and any final CAO should be directed at appropriate parties based on the data.

In addition, the RWQCB should invite all of the PRPs in the pending lawsuit to submit comments and information about their activities and operations in the area. Thereafter, Middletown along with all of the other PRPs should be provided an opportunity to submit supplemental comments which incorporates the data generated from the pending investigations and which incorporates the information submitted by all the PRPs before issuing a final CAO.

Issuing a CAO before this additional data and information is received and before Middletown and others have an opportunity to incorporate that data and information defeats the underlying purpose and policies of SW92-49. More to the point, issuing a CAO without the benefit of such additional information and data defeats the very purpose of the RWQCB inviting comments from PRPs which are presumably supposed to help the RWQCB evaluate the scope of a final CAO and who should be named in a final CAO.

5. *Recent Case Law Regarding Who May Be Properly Added to a CAO*

Beyond the guidance provided by SW92-49, California courts have also interpreted the meaning and scope of § 13304 and, ultimately, it is the reasoning and holdings of the courts that matters. One court plainly states that "when an agency construes a statute, courts take 'ultimate responsibility for the construction of the statute'..." *United Artists, supra*, 42 Cal.App.5th at p. 883.

§ 13304 (a) states, in pertinent part, that a "person who has discharged…waste into the waters of this state…or who has caused or permitted…any waste to be discharged…into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall, upon order of the regional board, clean up the waste…"

There are three recent California state court cases which specifically analyze the meaning and effect of § 13304. The RWQCB refers to only one of these three cases, *Tesoro Refining & Marketing Company v. Los Angeles Regional Water Quality Water Control Board* ("*Tesoro Refining*") (2019) 42 Cal.App.5th 453.[7]

[7] None of the administrative decisions or other authority cited in the CAO (*see*, draft CAO, Legal Requirements §§ 7 – 9 & Fn. 2, 3) support adding Middletown to a CAO.

A careful reading of *Tesoro Refining* and of the other two cases which the draft CAO fails to consider plainly establish that the RWQCB has no valid grounds upon which to name Aeronca or Middletown in a CAO.

In *Tesoro Refining,* there was substantial evidence that Tesoro was the sole source of the groundwater contamination. *Id*. at p. 462. Tesoro, like Hi-Shear, claimed that another operator must have contributed in some manner to the contaminated groundwater. *Id*. However, following an investigation it became apparent that Tesoro was the only identified source of the contamination. *Id*. at p. 463, 467-468. Following an investigation that included the analysis of soil and groundwater samples, it was established that the same constituents which were found in the soils and groundwater had telltale matching characteristics to the refined gasoline and petroleum based products which ran through Tesoro's subterranean pipelines. *Id*. at p. 462. The investigation failed to find anyone else who contributed to the contamination. *Id*.

Faced with such substantial evidence, Tesoro then argued that the term "discharge" in § 13304 was subject to a narrow temporal window, specifically a brief period when contaminants were released from the pipeline into the soils. More specifically, Tesoro asserted that the later migration of its own leaked product into the groundwater was beyond the reach of a CAO. *Id*. at p. 473-475. The court rejected Tesoro's argument explaining that in § 13304 the term "discharge is properly interpreted to embody the entire period during which pollution is introduced into the environment and thereafter actively migrates so as to threaten to pollute or to pollute groundwater." *Id*. at p. 473.

The RWQCB's suggestion that *Tesoro Refining* stands for the blanket proposition that a former operator, irrespective of any evidence of fault, is a proper party to a CAO and responsible for the cleanup of contamination which was introduced into the soils and groundwater years later is incorrect.[8]

B.15

Based on T*esoro Refining*, a CAO directed at a PRP must rest on substantial evidence that establishes a nexus between the party who is named in a CAO and the contamination which is the subject of the CAO. Federal courts in the 9th Circuit (which includes California) have reached the same conclusion. *See, e.g*., *Redevelopment Agency of the City of Stockton v. BNSF Railway Co*., 643 F.3d 668, 678 (9th Cir. 2011) ("the words 'causes or permits' within [Water Code] section 13304 were not intended 'to encompass those whose involvement with a spill was remote and passive.'"), *see also*, *Carson Harbor Village, Ltd. v. Unocal Corp.,* 270 F.3d 863, 887 (9th Cir. 2001) ("we hold that, in light of the plain meaning of the terms used to define

[8] Buried within the RWQCB's erroneous premise, is the implicit assertion that at the time that Aeronca discharged VOCs and/or that at the time Aeronca operated in Torrance there was contamination migrating in the soils and groundwater beneath the sites where Aeronca operated. Neither the RWQCB nor anyone else offers evidence that Aeronca discharged VOCs or that there was even contamination in the soils or groundwater beneath any of the sites where Aeronca operated during the period that Aeronca operated there.

'disposal' in [CERCLA] § 6903(3), the alleged passive migration of contaminants through soil…was not a 'disposal' under § 9607(a)(2)").

Another recent state court case which specifically analyzes § 13304 and which the draft CAO overlooks is *San Diego Gas & Electric, supra*, 36 Cal.App.5th 427. There the court succinctly states the standard which the RWQCB must meet before issuing a CAO as follows: "Prior to issuing a cleanup or abatement order, a regional board must establish a causal link or connection between a named responsible person and an actual threatened *discharge of waste*." Emphasis in original, *San Diego Gas & Electric, supra*, 36 Cal.App.5th at p. 440, 442.

The third recent state court case which examines the meaning and effect of § 13304 and which the draft CAO also fails to consider is *United Artists, supra,* 42 Cal. App.5th 851.

In *United Artists*, the court noted that "the Water Code does not define 'cause' or 'permit.'" *Id*. at p. 809. Consistent with the holdings in T*esoro Refining* and *San Diego Gas & Electric*, the *United Artists* court then proceeded to hold that the "term 'cause' clearly connotes direct responsibility for a discharge..." *Id*.

B.15

The court in *United Artists* had a harder time interpreting the term "permit" in § 13304 especially because the State Water Board administrative decisions were inconsistent (*i.e*., arbitrary) and, therefore, failed to provide guidance. Specifically, the *United Artists* court states that "the State Board ha[d] not taken consistent positions on the type of knowledge required to hold an owner liable in a cleanup order for discharges by a lessee." *Id*. at p. 886-887.

In *United Artists*, like now, the State Board sought to expand the scope of § 13304 and even argued that a prior owner should be strictly liable under the statute for contamination which is later found beneath a property. *Id*. at p. 871-872. The court rejected this argument and held "[s]uch a construction of section 13304 would impose liability almost as broad as that imposed in section 13305 on a current property owner..."[9] *Id*. at p. 887. In rejecting the State Board's interpretation and attempt to expand the statute, the court held that a prior owner of a property (and presumably a prior landlord) may be subject to a CAO if the RWQCB establishes (i) that the prior owner "knew or should have known" that a tenant's activities resulted in discharges, and (ii) such "owner had the 'legal ability to prevent the discharge'" *Id*. at p. 887, *see also*, Fn. 27.

[9] *Water Code* § 13305 provides, in pertinent part, that an "owner of the property on which the [environmental] condition exists, or is created, is liable for all reasonable costs incurred by the regional board or any city, county, or public agency in abating the condition." *Id*. subpart (f).

The *United Artists* court provided further guidance:

> "…we apply a three-part test to former owners: (1) did they have a significant ownership interest in the property at the time of the discharge?; (2) did they have knowledge of the activities which resulted in the discharge?; and (3) did they have the legal ability to prevent the discharge?" *Id*. at p. 823.

Here, the RWQCB offers no evidence on any prong of this three-part test with respect to Aeronca or Middletown. The only identified source of the contamination remains Hi-Shear who has been unable to offer any evidence that Aeronca or Middletown discharged any VOCs into the environment. This is consistent with the existing data; there is no soil data which establishes that contamination was discharged at either Property 1 or Property 2. On the other hand, the draft CAO notes that approximately 100,155 pounds of VOCs have been extracted through Hi-Shear's intermittent operation of a SVE system. *See*, draft CAO §4. c. iii.

B.16

Our review of existing records is consistent with, and corroborates, the soil and groundwater data. Hi-Shear's historical operations involved the significant use and storage of TCE, PCE, and other chlorinated solvents dating back to at least 1968, though Hi-Shear operated out of the same location for decades before then. The South Coast Air Quality Management District ("AQMD") issued Hi-Shear permits to operate which identify equipment which used TCE, PCE , and other chlorinated solvents (for example PCE degreasing operations, solvent recovery still, and TCE storage tanks); the very same contaminants found in the soils at the Hi-Shear site and in the contaminated groundwater plume radiating from that site.

In 1991, a Phase I Environmental Site Assessment was performed at the Hi-Shear site on behalf of Chemical Bank by Hygienetics Environmental. The Phase I report described the use and storage of chlorinated solvents, including the use of degreasers at Heat Treat Building #2 and Plating/Parts Cleaning Building #5 ("Building 5"). The report also identified 18 underground storage tanks ("USTs") at the Hi-Shear site. The Phase I report also identifies two clarifiers and two plating pits at Building 5 with capacities of 50,000 and 75,000 gallons; indicating substantial operations. The operations in the southern part of Building 5 included several degreasers for the removal of oil and grease with solvents. This again is consistent with the existing data.

Historical site features have provided pathways for the release of TCE and PCE to the subsurface including a drywell, clarifiers, USTs, and sewer lines. A shallow dry well was located on the Hi-Shear site; historically drywells were used for waste disposal. Hygienetics identified Hi-Shear had an Industrial Waste Water Discharge Permit dating back to 1956. The Hygienetics report documented that Hi-Shear acknowledged that discharges to the sewer by Hi-Shear degraded the main municipal sewer line on Skypark Drive. Additionally, industrial water discharge samples detected elevated levels of PCE, TCE, and 1,1,1-TCA during a 20-year period from1989 to 2012.

B.17

In contrast, there are no identified discharges from Aeronca's operations. In addition, based on our review of historical records, the size of Aeronca's equipment and the quantities of solvents used by Aeronca are dwarfed by the size, volumes, and period of time covered by Hi-Shears operations. According to an AQMD permit, Aeronca had a baking oven and a spray paint booth at a location within the area which now generally described as Property 1 in 1968, a degreaser that purportedly used PCE in 1957 which was replaced by a degreaser which purportedly used 1,1,1-TCA in 1975, and a 767-gallon solvent aboveground storage tank 1982. According to such records, Aeronca's total annual use of 1,1,1-TCA in 1984 amounted to 2,425 gallons. There is no evidence that Aeronca used TCE at any time.

The soil, soil vapor, and groundwater data all identify releases of VOCs from the Hi-Shear site. Investigations as early as 1990 detected TCE and PCE in the subsurface at the Hi-Shear site. For example soil samples in the vicinity of Hi-Shear Building 9 detected concentrations of TCE as high as 5,500,00 ug/kg and PCE at 1,600,00 ug/kg. *See*, CDM 1991 Report.

Groundwater monitoring data dating back to 1991 indicates that Hi-Shear's contaminated groundwater plume migrated east, towards and under Property 1 and reached sites located east of Crenshaw Boulevard. By 1993, Hi-Shear acknowledged that the contaminated groundwater plume extended to sites located east of Crenshaw Boulevard (the "EA properties"). *See*, BBL 1993 Report.

The RWQCB acknowledged the foregoing. In a letter to Hi-Shear dated August 28, 2018, the RWQCB notes that "the TCE plume, which originated from the Hi-Shear Site, continues to migrate offsite and downgradient from the Site east-southeastward since 1992, and has crossed past Crenshaw Boulevard and Pennsylvania Avenue."

Additional investigations conducted in 2001 by BBL near MW-3 (located at the Hi-Shear site) detected TCE concentrations of 4,100,000, 120,000, and 15,000 ug/kg in soils ranging in depths from 44 to 90 feet below ground surface ("bgs"), and PCE concentrations at 190,000, 120,000, and 5,200 ug/kg in the deeper soils. BBL noted the presence of dense nonaqueous phase liquid ("DNAPL") in deeper soils at depths of 60 feet bgs to groundwater (approximately 95 feet bgs). In a progress report of the soil investigation, BBL included a figure depicting the presence of DNAPL within the onsite TCE plume.

In 2001, Hi-Shear acknowledged TCE and DNAPL was associated with a "VOC source area" upgradient of MW-3 that resulted in a "dissolved TCE plume" migrating offsite and which impacted groundwater at the EA properties and further east to the residential properties east of Crenshaw Boulevard.

The 2010 Site Conceptual Model report prepared by Winefield & Associates summarizes significant concentrations of PCE and TCE in soil at multiple areas of potential concern across the Hi-Shear site. PCE and TCE were detected in soil samples collected at the Hi-Shear site at depths from 5 feet to 90 feet bgs. Given the dates of operation at the Hi-Shear site, such data indicates that a long-term source of both TCE and PCE was present and impacted groundwater at the Hi-Shear site and, as the RWQCB acknowledges, migrated downgradient and to off-site properties.

The foregoing findings have been confirmed by the City of Torrance's environmental consultant, GSI Environmental ("GSI").

GSI prepared a technical memorandum after reviewing and analyzing historical uses and the environmental conditions at the Hi-Shear site. In the technical memorandum GSI states, "The Hi-Shear aerospace fastener manufacturing operations includes and previously included fastener manufacturing, heat treatment, process coating, ordinance assembly, plating with in-ground plating pits, and parts cleaning. These operations typically had included the use, storage, and handling of significant quantities of chlorinated solvents."

Further, GSI concluded that "soil, soil vapor, and groundwater data identify releases of TCE and PCE at historical Hi-Shear operational site features, and these releases have caused a soil vapor and groundwater plume beneath the Hi-Shear site, EA Properties, and Residential Properties."

In addition, after reviewing soil data collected by BBL in 2001 at the Hi-Shear site (VPO-2 near Building 2) and Property 1 (MW-12), GSI concluded that the detected concentrations of PCE and TCE at MW-12 (Property 1) are over 4 orders of magnitude lower than PCE and TCE concentrations at VPO-2 and noted that this data is inconsistent with a release at the EA Property 1.

The RWQCB reached the same conclusion in its August 28, 2018 comments on the "interim offsite assessment report and…[on the] conceptual site model" where the RWQCB concluded that the source of PCE and TCE in down-gradient locations emanated from the Hi-Shear site. In those comments, the RWQCB noted:

B.18

> "The absence of the highest PCE concentrations in the 5 foot samples at VP-49 and VP-50 (located on Property 1) indicates that the PCE may not have been released at these two locations."
>
> "The detection of the highest PCE in soil gas at 85 feet bgs (above the water table) in VP-49 and its decrease to 17,700 ug/L at 5 feet indicates upward migration of PCE vapors from the underlying groundwater plume and lateral migration of PCE vapors in the vadose zone."

> "Absence of the highest TCE concentrations in the 5-foot soil samples collected from VP-49, VP-50 and VP-25 indicates that TCE may not have been released at these locations. Similarly, the detections of the highest TCE concentration of 1,200 ug/L in the 85-foot soil gas sample collected from VP-49; 893 ug/L in the 53-foot samples from VP-50; and 874 ug/L in the 65-foot sample also indicates upward migration of TCE vapors from the underlying groundwater plume."

The RWQCB findings demonstrate clear knowledge that the source of impacts beneath Property 1 are derived from contaminated groundwater that has migrated from the Hi-Shear site. Since 2018 when the RWQCB issued these findings, there has been no new data generated which supports changing the RWQCB's findings.

B.18 The current state of the data fails to reasonably support the conclusions which the RWQCB now appears to be reaching from the same data which it analyzed before. For example, in a September 30, 2020 e-mail from Kevin Lin, the RWQCB states, in part, that the "[m]aximum PCE and TCE soil concentrations are 3,390 ug/kg and 223 ug/kg, respectively." In the same e-mail, the RWQCB further asserts that "[e]ach of these samples are above the PCE and TCE risk-based soil screening levels (5.1 ug/kg and 0.18 ug/kg respectively) and MCL-based soil screening levels of 2.3 ug/kg and 1.8 ug/kg, respectively…" The cited data is offered in a vacuum and appears to lose sight of important context. First, the referenced concentrations were detected at 55 bgs in one sample located at the groundwater interface and smear zone. Second, no other soil samples at the subject property show concentrations of PCE or of TCE at or exceeding regulatory action levels. More specifically, based on our review of records we understand that previous investigations conducted at Property 1 (including the work described in the HSC Interim Module III Report dated July 3, 2020) have not identified any locations where shallow soil is impacted with VOC concentrations which exceed regulatory action levels.

The available data from Hi-Shear's investigations show a constant correlation of increasing soil vapor concentrations with depth and these investigations also show that the highest VOC concentrations identified in soil vapor were in samples collected near the perched groundwater (approximately 60 feet bgs) or in the deeper groundwater zones (approximately 85 feet bgs).

Therefore, the existing data suggests that the observed impacts are volatizing at depth and in the groundwater or associated deep smear-zone horizons and further suggests that the contamination is from an off-site, rather than from an on-site, source. Hi-Shear's data has failed to establish any shallow VOC sources at Property 1 or, at least from our review of the data and reports, Hi-Shear fails to provide a reasonable explanation for the very high VOC soil vapor concentrations observed at depth beneath Property 1 and also fails to explain or analyze the potential impacts from known VOC releases at off-site sources (*e.g.*, adjacent Hi-Shear site).

Based on our review of the record, the RWQCB has repeatedly ordered Hi-Shear to update and further develop a conceptual site model ("CSM"). We understand that on October 29, 2009, the RWQCB ordered Hi-Shear to update a CSM; Winefield & Associates prepared an updated CSM dated March 15, 2010. On August 28, 2018, the RWQCB prompted Hi-Shear to update the dated CSM. Hi-Shear still has not provided an updated CSM perhaps because a CSM by design integrates all of the data collected to date and this will starkly and plainly show blind spots in the existing data and is likely to show that the contamination originated from the Hi-Shear site and potentially from the Torrance airport rather than from downstream properties, including Properties 1 and 2.

The attached table highlights other delays. *See*, Exhibit 2.

B.19

These numerous delays and lack of performance in addressing the order and investigative requirements issued to Hi-Shear suggests that the RWQCB is not interested in pursuing the only recognized responsible party and other potential contributors of the contamination such as operators at the Torrance airport and the Nike missile base. Hi-Shear is the only party with a demonstrated history of releases, has demonstrated a history of mishandling hazardous materials and hazardous wastes, and has acknowledged impacts to the downgradient properties.

Focusing on the existing PCE/TCE data, Hi-Shear is the only party in the pending lawsuit who discharged VOCs. This same data, along with the fact that perchlorate has been found in the groundwater plume, gives rise to a compelling inference that the VOC plume may have originated from the Torrance airport and from Nike missile base. For example, the highest concentrations of PCE and TCE in soil vapor on Property 1 (*i.e.*, 26,800,000 ug/L of PCE and 231,000 ug/L of TCE at 45-feet bgs) have been detected in VP-50, VP-113, and VP-114 along the southern border of Property 1 which is adjacent to the current border of the Torrance airport.

Perchlorate has been detected in groundwater monitoring wells from 2015 to the present. Recent groundwater monitoring data found perchlorate concentrations in 15 groundwater monitoring wells located at the Hi-Shear site, Property 1, Property 3, and properties along Crenshaw Boulevard and into the eastern residential properties. Perchlorate is an oxidizer primarily used in rocket fuels and in some munitions. The most likely source of perchlorate would have been the former Nike missile base which was formerly located on the southern end of the Torrance airport and/or possibly from other sources tied to the United States' activities at the Torrance airport during World War II.

Further, a 1984 report prepared for the U.S. Army Toxic and Hazardous Materials Agency Assessments Division states:

> "Between the early 1950s and the mid-1970s, a variety of chlorinated organic solvents were utilized on Nike sites for cleaning and maintenance activities. At many of the early Ajax sites carbon tetrachloride was used as a multi-purpose

solvent. Carbon tetrachloride was gradually replaced in turn, by trichloroethylene and trichloroethane."

"Waste solvents and cleaners were typically poured in a ground sump where they soak into the ground…"

Based on the foregoing, there is insufficient information to develop a reliable site conceptual model until investigations are performed at the Torrance airport and at the former Nike missile base. As discussed above, the data from the proposed Data Gap Work Plan for Property 1 may also provide important information about impacts from the Torrance airport and from the former Nike missile base.

6. *Middletown Is Not Liable for Aeronca*

It appears that the RWQCB is contemplating directing the draft CAO to Middletown on the grounds that it should be liable for any discharge which presumably was caused by Aeronca; this would disregard well established principles of corporate law.

As the United States Supreme Court states in *U.S. v. Bestfoods* 524 U.S. 51 (1998), "[i]t is a general principle of corporate law deeply 'ingrained in our economic and legal systems' that a parent corporation (so-called because of control through ownership of another corporation's stock) is not liable for the acts of its subsidiaries." *Id*. at p. 60. "Thus it is hornbook law that 'the exerecise of the 'control' which stock ownership gives to the stockholders…will not create liability beyond the assets of the subsidiary." *Id*. at p. 61-62.

B.20

In *Bestfoods*, the Supreme Court notes that only in those limited circumstances when "the corporate veil may be pierced, may a parent corporation be charged with derivative CERCLA liability for its subsidiary's actions." *Id*. at p. 63-64. Similarly, the draft CAO fails to set forth evidence which would attach liability to Middletown based on the principles of operator liability even assuming *arguendo* that there had been a discharge by Aeronca and, as discussed above, there is no evidence of this. *See, e.g., Bestfoods* at p. 70-71, *see also, Atlantic Richfield Co. v. Central Valley Regional Water Quality Control Board* (2019) 41 Cal.App.5th 91, 99 (parent company is not liable where there is no evidence that parent company managed operations specifically related to the pollution at a plant or that parent company had anything to do with the discharge of contamination into the environment); *Sunoco, Inc. v. Central Valley Regional Water Quality Control Board*, Sacramento Superior Court Case No. 34-2016-80002282, Exhibit 3 (Final Judgment and Order).

If the RWQCB issues a final CAO to Middletown, it reserves the right to object to a CAO based on the principles set forth in this section.

7. *Liability is Divisible, Not Joint & Several*

B.21

For the reasons discussed above, there is no evidence which supports including Aeronca or Middletown in a final CAO. However, even assuming *arguendo* that Aeronca had caused a discharge of VOCs (and there is no evidence of this) and further assuming *arguendo* that Middletown were liable for Aeronca, there would still be no legal basis to include Middletown in an overly broad CAO which includes known discharges from Hi-Shear and from other PRPs, including, for example, the United States. Any purported environmental harm caused by any hypothetical discharge by Aeronca would be divisible and reasonably capable of apportionment from other discharges. This would warrant a separate CAO reasonably calculated to address the harm caused by a hypothetical discharge from Aeronca and measured by such factors as the location of the discharge, the areas impacted, and the types and volumes of the hypothetical discharge. Conflating any such discharge into the substantial Hi-Shear discharges (and any discharges from other locations including the Torrance airport or within the areas now covered by Properties 1 and 2) is unwarranted, especially knowing the magnitude of Hi-Shear's operations vs. Aeronca's and the decades of Hi-Shear's operations vs. Aeronca's, and such a broad CAO would be arbitrary, capricious, and unsupported by the principles of SW92-49, the case law discussed above in Section 5 and the authority cited below in this section.

To highlight just one example, if the data from the pending investigations were to suggest that discharges occurred at the Torrance airport, including at the Nike missile base, any CAO which the RWQCB may decide to issue should be directed at the operator(s) of the airport and of the Nike missile base, not at Aeronca or at Middletown.

The foregoing is consistent with other well-established policies and principles that have been followed by courts and others to insulate owners/operators of contaminated properties from liability for contamination caused by others. *See, e.g., Burlington Northern & Santa Fe Railway Co. v. United States*, 556 U.S. 599, 614 (2009) (divisibility is a potential defense to joint and several liability under CERCLA § 107(a) and, therefore, it is appropriate to apportion liability by the distinct harm caused by each discharger according to the contribution of each discharger); *Sunoco v. Central Valley Regional Water Quality Control Board*, Sacramento Superior Court Case No. 34-2016-80002282, Exhibit 3 (Final Judgment and Order); *see also*, 42 U.S.C. §9607(q) ("A person that owns real property that is contiguous to or otherwise similarly situated with respect to, and that is or may be contaminated by a release or threatened release of a hazardous substance from, real property that is not owned by that person shall not be considered to be an owner or operator of a vessel or facility…by reason of the contamination if….(i) the person did not cause, contribute, or consent to the release or threatened release…); California *Health & Safety Code* § 25395.70, including subparts (a)(1), (a)(4)(B), (a)(4)(C) and (b); US EPA Memorandum dated May 24, 1995 regarding "*Final Policy Toward Owners of Property Containing Contaminated Aquifers,*" Section I., Statement of Policy, attached as Exhibit 4 ("Based on the Agency's interpretation of CERCLA, existing EPA guidance, and EPA's Superfund program expertise, it is the Agency's position that where hazardous substances have

come to be located on or in a property solely as the result of subsurface migration in an aquifer from a source or sources outside the property, EPA will not take enforcement action against the owner of such property…"); US EPA Memorandum dated January 13, 2004 regarding "*Interim Enforcement Discretion Guidance Regarding Contiguous Property Owners,*" Section II.A., Contiguous Property Owner Criteria, attached as Exhibit 5 ("The new contiguous property owner provision, section 107(q), provides CERCLA liability protection to landowners who own property that is or may be contaminated, but is not the original source of the hazardous substance contamination. Specifically, the provision excludes from the definition of 'owner' or 'operator' under CERCLA § 107(a)(1) and (2) a person who owns property that is 'contiguous to or otherwise similarly situated with respect to, and that is or may be contaminated by a release or threat of release of hazardous substances from' property owned by someone else.").

8. *Costs Need to Bear a Reasonable Relationship To Discharge*

A CAO issued to Aeronca or to Middletown would also fail to comply with § 13225 which requires that the RWQCB consider the costs vs. the benefits of a contemplated order. Specifically, § 13225(c) states, in pertinent part, that "reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained therefrom."

B.22

Here, the RWQCB has ordered Hi-Shear to operate the SVE system and to further investigate the groundwater plume. Based thereon, a CAO directed at Aeronca or Middletown would be arbitrary, capricious, an abuse of discretion, redundant, and a waste of resources.

9. *Due Process*

Issuing a CAO to Middletown would also violate Middletown's due process rights especially in light of the fact that any CAO is based on incomplete information and data. As discussed above, the RWQCB is only inviting comments from 7 PRPs when, based on the pending lawsuit, there are at least 61 other PRPs who purportedly caused or contributed in some manner to the contamination. In addition, the RWQCB is aware that additional data will be forthcoming from additional investigations, including an investigation at the Torrance airport.

Middletown is entitled to the fundamental due process right to consider and submit comments based on the data from the pending field investigations and from the information which other PRPs may submit. For its part, the RWQCB should want to base any decision on a fuller body of information and on a better understanding as to who, beyond Hi-Shear, has contributed to the contaminated groundwater plume.

B.23

10. *Conclusion*

Based on the incomplete data and information along with the analysis of the legal authority cited above, we trust that the RWQCB will agree that naming Aeronca or Middletown in a final CAO would be unwarranted. At a minimum, Middletown respectfully urges the

RWQCB to refrain from issuing any final CAO until the RWQCB (i) receives additional data from pending investigations, (ii) invites comments from all the PRPs in the pending lawsuit, (iii) evaluates the additional comments which may be submitted by the additional PRPs, and (iv) provides Middletown with an opportunity to supplement the initial comments set forth in this letter based on the newly received information and data. Middletown also looks forward to the opportunity to present its more fully developed comments and to answering any questions which the RWQCB may have at the requested meeting and, if necessary, at a hearing.

Very truly yours,

Patrick L. Rendón, Esq.

Attachments

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EXHIBIT 1

Resolution No. 92-49

STATE WATER RESOURCES CONTROL BOARD

RESOLUTION NO. 92-49
(As Amended on April 21, 1994 and October 2, 1996)

POLICIES AND PROCEDURES FOR INVESTIGATION AND CLEANUP AND ABATEMENT OF DISCHARGES UNDER WATER CODE SECTION 13304

WHEREAS:

1. California Water Code (**WC**) Section 13001 provides that it is the intent of the Legislature that the State Water Resources Control Board (**State Water Board**) and each Regional Water Quality Control Board (**Regional Water Board**) shall be the principal state agencies with primary responsibility for the coordination and control of water quality. The State and Regional Water Boards shall conform to and implement the policies of the Porter-Cologne Water Quality Control Act (Division 7, commencing with WC Section 13000) and shall coordinate their respective activities so as to achieve a unified and effective water quality control program in the state;

2. WC Section 13140 provides that the State Water Board shall formulate and adopt State Policy for Water Quality Control;

3. WC Section 13240 provides that Water Quality Control Plans shall conform to any State Policy for Water Quality Control;

4. WC Section 13304 requires that any person who has discharged or discharges waste into waters of the state in violation of any waste discharge requirement or other order or prohibition issued by a Regional Water Board or the State Water Board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance may be required to clean up the discharge and abate the effects thereof. This section authorizes Regional Water Boards to require complete cleanup of all waste discharged and restoration of affected water to background conditions (i.e., the water quality that existed before the discharge). The term waste discharge requirements includes those which implement the National Pollutant Discharge Elimination System;

5. WC Section 13307 provides that the State Water Board shall establish policies and procedures that its representatives and the representatives of the Regional Water Boards shall follow for the oversight of investigations and cleanup and abatement activities resulting from discharges of hazardous substances, including:

> a. The procedures the State Water Board and the Regional Water Boards will follow in making decisions as to when a person may be required to undertake an investigation to determine if an unauthorized hazardous substance discharge has occurred;
>
> b. Policies for carrying out a phased, step-by-step investigation to determine the nature and extent of possible soil and ground water contamination or pollution at a site;
>
> c. Procedures for identifying and utilizing the most cost-effective methods for detecting contamination or pollution and cleaning up or abating the effects of contamination or pollution;
>
> d. Policies for determining reasonable schedules for investigation and cleanup, abatement, or other remedial action at a site. The policies shall recognize the danger to public health and the waters of the state posed by an unauthorized discharge and the need to mitigate those dangers while at the same time taking into account, to the extent possible, the resources, both financial and technical, available to the person responsible for the discharge;

6. "Waters of the state" include both ground water and surface water;

7. Regardless of the type of discharge, procedures and policies applicable to investigations, and cleanup and abatement activities are similar. It is in the best interest of the people of the state for the State Water Board to provide consistent guidance for Regional Water Boards to apply to investigation, and cleanup and abatement;

8. WC Section 13260 requires any person discharging or proposing to discharge waste that could affect waters of the state, or proposing to change the character, location, or volume of a discharge to file a report with and receive requirements from the Regional Water Board;

9. WC Section 13267 provides that the Regional Water Board may require dischargers, past dischargers, or suspected dischargers to furnish those technical or monitoring reports as the Regional Water Board may specify, provided that the burden, including costs, of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports;

10. WC Section 13300 states that the Regional Water Board may require a discharger to submit a time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements prescribed by the Regional Water Board or the State Water Board;

11. California Health and Safety Code (**HSC**) Section 25356.1 requires the Department of Toxic Substances Control (**DTSC**) or, if appropriate, the Regional Water Board to prepare or approve remedial action plans for sites where hazardous substances were released to the environment if the sites have been listed pursuant to HSC Section 25356 (state "Superfund" priority list for cleanup of sites);

12. Coordination with the U.S. Environmental Protection Agency (**USEPA**), state agencies within the California Environmental Protection Agency (**Cal/EPA**) (e.g., DTSC, Air Resources Control Board), air pollution control districts, local environmental health agencies, and other responsible federal, state, and local agencies: (I) promotes effective protection of water quality, human health, and the environment and (2) is in the best interest of the people of the state. The principles of coordination are embodied in many statutes, regulations, and interagency memoranda of understanding (**MOU**) or agreement which affect the State and Regional Water Boards and these agencies;

13. In order to clean up and abate the effects of a discharge or threat of a discharge, a discharger may be required to perform an investigation to define the nature and extent of the discharge or threatened discharge and to develop appropriate cleanup and abatement measures;

14. Investigations that were not properly planned have resulted in increases in overall costs and, in some cases, environmental damage. Overall costs have increased when original corrective actions were later found to have had no positive effect or to have exacerbated the pollution. Environmental damage may increase when a poorly conceived investigation or cleanup and abatement program allows pollutants to spread to previously unaffected waters of the state;

15. A phased approach to site investigation should facilitate adequate delineation of the nature and extent of the pollution, and may reduce overall costs and environmental damage, because: (1) investigations inherently build on information previously gained; (2) often data are dependent on seasonal and other temporal variations; and (3) adverse consequences of greater cost or increased environmental damage can result from improperly planned investigations and the lack of consultation and coordination with the Regional Water Board. However, there are circumstances under which a phased, iterative approach may not be necessary to protect water quality, and there are other circumstances under which phases may need to be compressed or combined to expedite cleanup and abatement;

16. Preparation of written workplans prior to initiation of significant elements or phases of investigation, and cleanup and abatement generally saves Regional Water Board and discharger resources. Results are superior, and the overall cost-effectiveness is enhanced;

17. Discharger reliance on qualified professionals promotes proper planning, implementation, and long-term cost-effectiveness of investigation, and cleanup and abatement activities. Professionals should be qualified, licensed where applicable, and competent and proficient in the fields pertinent to the required activities.

California Business and Professions Code Sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgements be performed by or under the direction of registered professionals;

18. WC Section 13360 prohibits the Regional Water Boards from specifying, but not from suggesting, methods that a discharger may use to achieve compliance with requirements or orders. It is the responsibility of the discharger to propose methods for Regional Water Board review and concurrence to achieve compliance with requirements or orders;

19. The USEPA, California state agencies, the American Society for Testing and Materials, and similar organizations have developed or identified methods successful in particular applications. Reliance on established, appropriate methods can reduce costs of investigation, and cleanup and abatement;

20. The basis for Regional Water Board decisions regarding investigation, and cleanup and abatement includes: (1) site-specific characteristics; (2) applicable state and federal statutes and regulations; (3) applicable water quality control plans adopted by the State Water Board and Regional Water Boards, including beneficial uses, water quality objectives, and implementation plans; (4) State Water Board and Regional Water Board policies, including State Water Board Resolutions No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) and No. 88-63 (Sources of Drinking Water); and (5) relevant standards, criteria, and advisories adopted by other state and federal agencies;

21. Discharges subject to WC Section 13304 may include discharges of waste to land; such discharges may cause, or threaten to cause, conditions of soil or water pollution or nuisance that are analogous to conditions associated with migration of waste or fluid from a waste management unit;

22. The State Water Board has adopted regulations governing discharges of waste to land (California Code of Regulations (CCR), Title 23, Division 3, Chapter 15);

23. State Water Board regulations governing site investigation and corrective action at underground storage tank unauthorized release sites are found in 23 CCR Division 3, Chapter 16, in particular Article 11 commencing with Section 2720;

24. It is the responsibility of the Regional Water Board to make decisions regarding cleanup and abatement goals and objectives for the protection of water quality and the beneficial uses of waters of the state within each Region;

25. Cleanup and abatement alternatives that entail discharge of residual wastes to waters of the state, discharges to regulated waste management units, or leaving wastes in place, create additional regulatory constraints and long-term liability, which must be considered in any evaluation of cost-effectiveness;

26. It is not the intent of the State or Regional Water Boards to allow dischargers, whose actions have caused, permitted, or threaten to cause or permit conditions of pollution, to avoid responsibilities for cleanup. However, in some cases, attainment of applicable water quality objectives for ground water cannot reasonably be achieved. In these cases, the State Water Board determines that establishment of a containment zone is appropriate and consistent with the maximum benefit to the people of the State if applicable requirements contained in the Policy are satisfied. The establishment of a containment zone does not limit or supersede obligations or liabilities that may arise under other laws;

27. The Porter-Cologne Water Quality Control Act allows Regional Water Boards to impose more stringent requirements on discharges of waste than any statewide requirements promulgated by the State Water Board (e.g., in this Policy) or than water quality objectives established in statewide or regional water quality control plans as needed to protect water quality and to reflect regional and site-specific conditions; and

28. Pursuant to Section 13320 of the Water Code, aggrieved persons may petition the State Water Board to review any decisions made under this policy.

THEREFORE BE IT RESOLVED:

These policies and procedures apply to all investigations, and cleanup and abatement activities, for all types of discharges subject to Section 13304 of the WC.

I. The Regional Water Board shall apply the following procedures in determining whether a person shall be required to investigate a discharge under WC Section 13267, or to clean up waste and abate the effects of a discharge or a threat of a discharge under WC Section 13304. The Regional Water Board shall:

A. Use any relevant evidence, whether direct or circumstantial, including, but not limited to, evidence in the following categories:

1. Documentation of historical or current activities, waste characteristics, chemical use, storage or disposal information, as documented by public records, responses to questionnaires, or other sources of information;

2. Site characteristics and location in relation to other potential sources of a discharge;

3. Hydrologic and hydrogeologic information, such as differences in upgradient and downgradient water quality;

4. Industry-wide operational practices that historically have led to discharges, such as leakage of pollutants from wastewater collection and conveyance systems, sumps, storage tanks, landfills, and clarifiers;

5. Evidence of poor management of materials or wastes, such as improper storage practices or inability to reconcile inventories;

6. Lack of documentation of responsible management of materials or wastes, such as lack of manifests or lack of documentation of proper disposal;

7. Physical evidence, such as analytical data, soil or pavement staining, distressed vegetation, or unusual odor or appearance;

8. Reports and complaints;

9. Other agencies' records of possible or known discharge; and

10. Refusal or failure to respond to Regional Water Board inquiries;

B. Make a reasonable effort to identify the dischargers associated with the discharge. It is not necessary to identify all dischargers for the Regional Water Board to proceed with requirements for a discharger to investigate and clean up;

C. Require one or more persons identified as a discharger associated with a discharge or threatened discharge subject to WC Section 13304 to undertake an investigation, based on findings of I.A and I.B above;

D. Notify appropriate federal, state, and local agencies regarding discharges subject to WC Section 13304 and coordinate with these agencies on investigation, and cleanup and abatement activities.

II. The Regional Water Board shall apply the following policies in overseeing: (a) investigations to determine the nature and horizontal and vertical extent of a discharge and (b) appropriate cleanup and abatement measures.

A. The Regional Water Board shall:

1. Require the discharger to conduct investigation, and cleanup and abatement, in a progressive sequence ordinarily consisting of the following phases, provided that the sequence shall be adjusted to accommodate site-specific circumstances, if necessary:

a. Preliminary site assessment (to confirm the discharge and the identity of the dischargers; to identify affected or threatened waters of the state and their beneficial uses; and to develop preliminary information on the nature, and vertical and horizontal extent, of the discharge);

b. Soil and water investigation (to determine the source, nature and extent of the discharge with sufficient detail to provide the basis for decisions regarding subsequent cleanup and abatement actions, if any are determined by the Regional Water Board to be necessary);

c. Proposal and selection of cleanup and abatement action (to evaluate feasible and effective cleanup and abatement actions, and to develop preferred cleanup and abatement alternatives);

d. Implementation of cleanup and abatement action (to implement the selected alternative, and to monitor in order to verify progress);

e. Monitoring (to confirm short- and long-term effectiveness of cleanup and abatement);

2. Consider, where necessary to protect water quality, approval of plans for investigation, or cleanup and abatement, that proceed concurrently rather than sequentially, provided that overall cleanup and abatement goals and objectives are not compromised, under the following conditions:

a. Emergency situations involving acute pollution or contamination affecting present uses of waters of the state;

b. Imminent threat of pollution;

c. Protracted investigations resulting in unreasonable delay of cleanup and abatement; or

d. Discharges of limited extent which can be effectively investigated and cleaned up within a short time;

3. Require the discharger to extend the investigation, and cleanup and abatement, to any location affected by the discharge or threatened discharge;

4. Where necessary to protect water quality, name other persons as dischargers, to the extent permitted by law;

5. Require the discharger to submit written workplans for elements and phases of the investigation, and cleanup and abatement, whenever practicable;

6. Review and concur with adequate workplans prior to initiation of investigations, to the extent practicable. The Regional Water Board may give verbal concurrence for investigations to proceed, with written follow-up. An adequate workplan should include or reference, at least, a comprehensive description of proposed investigative, cleanup, and abatement activities, a sampling and analysis plan, a quality assurance project plan, a health and safety plan, and a commitment to implement the workplan;

7. Require the discharger to submit reports on results of all phases of investigations, and cleanup and abatement actions, regardless of degree of oversight by the Regional Water Board;

8. Require the discharger to provide documentation that plans and reports are prepared by professionals qualified to prepare such reports, and that each component of investigative and cleanup and abatement actions is conducted under the direction of appropriately qualified professionals. A statement of qualifications of the responsible lead professionals shall be included in all plans and reports submitted by the discharger;

9. Prescribe cleanup levels which are consistent with appropriate levels set by the Regional Water Board for analogous discharges that involve similar wastes, site characteristics, and water quality considerations;

B. The Regional Water Board may identify investigative and cleanup and abatement activities that the discharger could undertake without Regional Water Board oversight, provided that these investigations and cleanup and abatement activities shall be consistent with the policies and procedures established

herein.

III. The Regional Water Board shall implement the following procedures to ensure that dischargers shall have the opportunity to select cost-effective methods for detecting discharges or threatened discharges and methods for cleaning up or abating the effects thereof. The Regional Water Board shall:

A. Concur with any investigative and cleanup and abatement proposal which the discharger demonstrates and the Regional Water Board finds to have a substantial likelihood to achieve compliance, within a reasonable time frame, with cleanup goals and objectives that implement the applicable Water Quality Control Plans and Policies adopted by the State Water Board and Regional Water Boards, and which implement permanent cleanup and abatement solutions which do not require ongoing maintenance, wherever feasible;

B. Consider whether the burden, including costs, of reports required of the discharger during the investigation and cleanup and abatement of a discharge bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports;

C. Require the discharger to consider the effectiveness, feasibility, and relative costs of applicable alternative methods for investigation, and cleanup and abatement. Such comparison may rely on previous analysis of analogous sites, and shall include supporting rationale for the selected methods;

D. Ensure that the discharger is aware of and considers techniques which provide a cost-effective basis for initial assessment of a discharge.

1. The following techniques may be applicable:
    a. Use of available current and historical photographs and site records to focus investigative activities on locations and wastes or materials handled at the site;
    b. Soil gas surveys;
    c. Shallow geophysical surveys;
    d. Remote sensing techniques;
2. The above techniques are in addition to the standard site assessment techniques, which include:
    a. Inventory and sampling and analysis of materials or wastes;
    b. Sampling and analysis of surface water;
    c. Sampling and analysis of sediment and aquatic biota;
    d. Sampling and analysis of ground water;
    e. Sampling and analysis of soil and soil pore moisture;
    f. Hydrogeologic investigation;

E. Ensure that the discharger is aware of and considers the following cleanup and abatement methods or combinations thereof, to the extent that they may be applicable to the discharge or threat thereof:

1. Source removal and/or isolation;
2. In-place treatment of soil or water:
    a. Bioremediation;
    b. Aeration;
    c. Fixation;

3. Excavation or extraction of soil, water, or gas for on-site or off-site treatment by the following techniques:

a. Bioremediation;

b. Thermal destruction;

c. Aeration;

d. Sorption;

e. Precipitation, flocculation, and sedimentation;

f. Filtration;

g. Fixation;

h. Evaporation;

4. Excavation or extraction of soil, water, or gas for appropriate recycling, re-use, or disposal;

F. Require actions for cleanup and abatement to:

1. Conform to the provisions of Resolution No. 68-16 of the State Water Board, and the Water Quality Control Plans of the State and Regional Water Boards, provided that under no circumstances shall these provisions be interpreted to require cleanup and abatement which achieves water quality conditions that are better than background conditions;

2. Implement the provisions of Chapter 15 that are applicable to cleanup and abatement, as follows:

a. If cleanup and abatement involves corrective action at a waste management unit regulated by waste discharge requirements issued under Chapter 15, the Regional Water Board shall implement the provisions of that chapter;

b. If cleanup and abatement involves removal of waste from the immediate place of release and discharge of the waste to land for treatment, storage, or disposal, the Regional Water Board shall regulate the discharge of the waste through waste discharge requirements issued under Chapter 15 provided that the Regional Water Board may waive waste discharge requirements under WC Section 13269 if the waiver is not against the public interest (e.g., if the discharge is for short-term treatment or storage, and if the temporary waste management unit is equipped with features that will ensure full and complete containment of the waste for the treatment or storage period); and

c. If cleanup and abatement involves actions other than removal of the waste, such as containment of waste in soil or ground water by physical or hydrological barriers to migration (natural or engineered), or in-situ treatment (e.g., chemical or thermal fixation, or bioremediation), the Regional Water Board shall apply the applicable provisions of Chapter 15, to the extent that it is technologically and economically feasible to do so; and

3. Implement the applicable provisions of Chapter 16 for investigations and cleanup and abatement of discharges of hazardous substances from underground storage tanks;

G. Ensure that dischargers are required to clean up and abate the effects of discharges in a manner that promotes attainment of either background water quality, or the best water quality which is reasonable if background levels of water quality cannot be restored, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible; in approving any alternative cleanup levels less stringent than background, apply Section 2550.4 of Chapter 15, or, for cleanup and abatement associated with underground storage tanks, apply Section 2725 of Chapter 16, provided that the Regional Water Board

considers the conditions set forth in Section 2550.4 of Chapter 15 in setting alternative cleanup levels pursuant to Section 2725 of Chapter 16; any such alternative cleanup level shall:

1. Be consistent with maximum benefit to the people of the state;

2. Not unreasonably affect present and anticipated beneficial use of such water; and

3. Not result in water quality less than that prescribed in the Water Quality Control Plans and Policies adopted by the State and Regional Water Boards; and

H. Consider the designation of containment zones notwithstanding any other provision of this or other policies or regulations which require cleanup to water quality objectives. A containment zone is defined as a specific portion of a water bearing unit where the Regional Water Board finds, pursuant to Section III.H. of this policy, it is unreasonable to remediate to the level that achieves water quality objectives. The discharger is required to take all actions necessary to prevent the migration of pollutants beyond the boundaries of the containment zone in concentrations which exceed water quality objectives. The discharger must verify containment with an approved monitoring program and must provide reasonable mitigation measures to compensate for any significant adverse environmental impacts attributable to the discharge. Examples of sites which may qualify for containment zone designation include, but are not limited to, sites where either strong sorption of pollutants on soils, pollutant entrapment (e.g. dense non-aqueous phase liquids [**DNAPLS**), or complex geology due to heterogeneity or fractures indicate that cleanup to applicable water quality objectives cannot reasonably be achieved. In establishing a containment zone, the following procedures, conditions, and restrictions must be met:

1. The Regional Water Board shall determine whether water quality objectives can reasonably be achieved within a reasonable period by considering what is technologically and economically feasible and shall take into account environmental characteristics of the hydrogeologic unit under consideration and the degree of impact of any remaining pollutants pursuant to Section III.H.3. The Regional Water Board shall evaluate information provided by the discharger and any other information available to it:

   a. Technological feasibility is determined by assessing available technologies, which have been shown to be effective under similar hydrogeologic conditions in reducing the concentration of the constituents of concern. Bench-scale or pilot-scale studies may be necessary to make this feasibility assessment;

   b. Economic feasibility is an objective balancing of the incremental benefit of attaining further reductions in the concentrations of constituents of concern as compared with the incremental cost of achieving those reductions. The evaluation of economic feasibility will include consideration of current, planned, or future land use, social, and economic impacts to the surrounding community including property owners other than the discharger. Economic feasibility, in this Policy, does not refer to the discharger's ability to finance cleanup. Availability of financial resources should be considered in the establishment of reasonable compliance schedules;

   c. The Regional Water Board may make determinations of technological or economic infeasibility after a discharger either implements a cleanup program pursuant to III.G. which cannot reasonably attain cleanup objectives, or demonstrates that it is unreasonable to cleanup to water quality objectives, and may make determinations on the basis of projection, modeling, or other analysis of site-specific data without necessarily requiring that remedial measures be first constructed or installed and operated and their performance reviewed over time unless such projection, modeling, or other analysis is insufficient or inadequate to make such determinations;

2. The following conditions shall be met for all containment zone designations:

   a. The discharger or a group of dischargers is responsible for submitting an application for designation of a containment zone. Where the application does not have sufficient information for the Regional Water Board to make the requisite findings, the Regional Water Board shall request the discharger(s) to develop and

submit the necessary information. Information requirements are listed in the Appendix to this section;

b. Containment and storage vessels that have caused, are causing, or are likely to cause ground water degradation must be removed or repaired, or closed in accordance with applicable regulations. Floating free product must be removed to the extent practicable. If necessary, as determined by the Regional Water Board, to prevent further water quality degradation, other sources (e.g., soils, nonfloating free product) must be either removed, isolated, or managed. The significance and approach to be taken regarding these sources must be addressed in the management plan developed under H.2.d.;

c. Where reasonable, removal of pollutant mass from ground water within the containment zone may be required, if it will significantly reduce the concentration of pollutants within the containment zone, the volume of the containment zone, or the level of maintenance required for containment. The degree of removal which may be required will be determined by the Regional Water Board in the process of evaluating the proposal for designation of a containment zone. The determination of the extent of mass removal required will include consideration of the incremental cost of mass removal, the incremental benefit of mass removal, and the availability of funds to implement the provisions in the management plan for as long as water quality objectives are exceeded within the containment zone;

d. The discharger or a group of dischargers must propose and agree to implement a management plan to assess, cleanup, abate, manage, monitor, and mitigate the remaining significant human health, water quality, and environmental impacts to the satisfaction of the Regional Water Board. Impacts will be evaluated in accordance with Section III.H.3. The management plan may include management measures, such as land use controls, engineering controls, and agreements with other landowners or agreements with the landlord or lessor where the discharger is a tenant or lessee. The contents of the management plan shall be dependent upon the specific characteristics of the proposed containment zone and must include a requirement that the Regional Water Board be notified of any transfer of affected property to a new owner(s);

e. The proposed management plan must provide reasonable mitigation measures to substantially lessen or avoid any significant adverse environmental impacts attributable to the discharge. At a minimum, the plan must provide for control of pollutants within the containment zone such that water quality objectives are not exceeded outside the containment zone as a result of the discharge. The plan must also provide, if appropriate, for equivalent alternative water supplies, reimbursement for increased water treatment costs to affected users, and increased costs associated with well modifications. Additional mitigation measures may be proposed by the discharger based on the specific characteristics of the proposed containment zone. Such measures must assist in water quality improvement efforts within the ground water basin and may include participating in regional ground water monitoring, contributing to ground water basin cleanup or management programs, or contributing to research projects which are publicly accessible (i.e., not protected by patents and licenses) and aimed at developing remedial technologies that would be used in the ground water basin. Proposals for off-site cleanup projects may be considered by the Regional Water Board as a mitigation measure under the following criteria:

1. Off-site cleanup projects must be located in the same ground water basin as the proposed containment zone, and

2. Implementation of an off-site project must result in an improvement in the basin=s water quality or protect the basin=s water quality from pollution, and

3. Off-site projects must include source removal or other elements for which water quality benefits or water quality protection can be easily demonstrated, and

4. Off-site projects may be proposed independently by the discharger or taken from projects identified as acceptable by the Regional Water Board through a clearinghouse process, or

5. In lieu of choosing to finance a specific off-site project, the discharger may contribute moneys to the SWRCB=s Cleanup and Abatement Account (**Account**) or other funding source. Use of such contributions to the Account or other source will be limited to cleanup projects or water quality protection projects for the basin in which the containment zone is designated. Contributions are not to exceed ten percent of the savings in continued active remediation that discharger will accrue over a ten-year period due to designation of a containment zone (less any additional costs of containment zone designation during this period, e.g., additional monitoring requirements, Regional Water Board application costs, etc.). Contributions of less than ten percent must be accompanied by a detailed justification as to why a lesser contribution would provide adequate mitigation.

Except where prohibited by Federal law, Federal agencies may be required, based on specific site conditions, to implement mitigation measures;

f. The proposed management plan must include a detailed description of the proposed monitoring program, including the location and construction of monitoring points, a list of proposed monitoring parameters, a detailed description of sampling protocols, the monitoring frequency, and the reporting requirements and frequency. The monitoring points must be at or as close as reasonable to the boundary of the containment zone so as to clearly demonstrate containment such that water quality objectives outside the containment zone are not violated as the result of the discharge. Specific monitoring points must be defined on a case-by-case basis by determining what is necessary to demonstrate containment, horizontally and vertically. All technical or monitoring program requirements and requirements for access shall be designated pursuant to WC Section 13267. The monitoring program may be modified with the approval of the Regional Water Board=s Executive Officer based on an evaluation of monitoring data;

g. The management plan must include a detailed description of the method to be used by the discharger to evaluate monitoring data and a specific protocol for actions to be taken in response to evidence that water quality objectives have been exceeded outside the containment zone as a result of the migration of pollutants from within the containment zone;

3. In order for a containment zone to be designated, it shall be limited in vertical and lateral extent; as protective as reasonably possible of human health and safety and the environment; and should not result in violation of water quality objectives outside the containment zone. The following factors must be considered by the Regional Water Board in making such findings:

a. The size of a containment zone shall be no larger than necessary based on the facts of the individual designation. In no event shall the size of a containment zone or the cumulative effect of containment zones cause a substantial decline in the overall yield, storage, or transport capacity of a ground water basin;

b. Evaluation of potentially significant impacts to water quality, human health, and the environment, shall take into consideration the following, as applicable to the specific factual situation:

1. The physical and chemical characteristics of the discharge, including its potential for migration;

2. The hydrogeological characteristics of the site and surrounding land;

3. The quantity of ground water and surface water and the direction of ground water flow;

4. The proximity and withdrawal rates of ground water users;

5. The patterns of rainfall in the region and the proximity of the site to surface waters;

6. The present and probable future uses of ground water and surface water in the area;

7. The existing quality of ground water and surface water, including other sources of pollution and their cumulative impact on water quality;

8. The potential for health impacts caused by human exposure to waste constituents;

9. The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

10. The persistence and permanence of any potential adverse effects;

11. Exposure to human or other biological receptors from the aggregate of hazardous constituents in the environment;

12. The potential for the pollutants to attenuate or degrade and the nature of the breakdown products; and

13. Potential adverse effects on approved local development plans, including plans approved by redevelopment agencies or the California Coastal Commission.

c. No provision of this Policy shall be interpreted to allow exposure levels of constituents of concern that could have a significant adverse effect on human health or the environment;

d. A containment zone shall not be designated in a critical recharge area. A critical recharge area is an artificial recharge area or an area determined by the Regional Water Board to be a critical recharge area after the consultation process required by Section III.H.9. Further, a containment zone shall not be designated if it would be inconsistent with a local ground water management plan developed pursuant to Part 2.75 of Division 6 of the WC (commencing at Section 10750) or other provisions of law or court order, judgment or decree;

4. After designation, no further action to reduce pollutant levels, beyond that which is specified in the management plan, will be required within a containment zone unless the Regional Water Board finds that the discharger(s) has failed to fully implement the required management plan or that violation of water quality objectives has occurred beyond the containment zone, as a result of migration of chemicals from inside the containment zone. If the required tasks contained in the approved management plan are not implemented, or appropriate access is not granted by the discharger to the Regional Water Board for purposes of compliance inspection, or violation of water quality objectives occurs outside the containment zone and that violation is attributable to the discharge in the containment zone, the Regional Water Board, after 45 days public notice, shall promptly revoke the zone's containment status and shall take appropriate enforcement action against the discharger;

5. The designation of a containment zone shall be accomplished through the adoption of a cleanup and abatement order as authorized by WC Section 13304. The Regional Water Board shall make a finding of fact with regard to each of the conditions which serve as a prerequisite for containment zone designation in the cleanup and abatement order. All applicable criteria of Section III.H. must be met as a prerequisite to designation. The Regional Water Board may reject an application for designation of a containment zone for failure to meet any applicable criteria without having to make findings with regard to each prerequisite. Such orders shall be adopted by the Regional Water Boards themselves and not issued by the Executive Officers of the Regional Water Boards. These orders shall ensure compliance with all procedures, conditions, and restrictions set forth in Section III.H. As authorized by WC Section 13308, time schedules issued as part of the establishment of a containment zone may prescribe a civil penalty which shall become due if compliance is not achieved in accordance with that time schedule;

6. A containment zone shall be implemented only with the written agreement of all fee interest owners of the parcel(s) of property containing the containment zone. Exceptions may be allowed by the Regional Water Board where opposition is found to be unreasonable. In such cases, the Regional Water Board may use the authority of WC Section 13267 to assure access to property overlying the containment zone;

7. Local agencies which are supervising cleanup under contract with the State Water Board or by agreement with the Regional Water Board pursuant to provisions of the Underground Storage Tank Program may propose containment zones for consideration by the Regional Water Board. The local agency will forward its files and proposal to the Regional Water Board for consideration. Regional Water Boards shall use the same procedures, processes, public notice, and criteria that are noted elsewhere in this policy. Approval of Technical Impracticability Waivers by the Department of Toxic Substances Control or the United States Environmental Protection Agency under the requirements of the Federal Resource Conservation and Recovery Act or the Comprehensive Environmental Response, Compensation, and Liability Act are deemed to be equivalent to the actions outlined in Section H. of this Policy if :

a. the substantive provisions of Sections III.H.2.b., e., f., and g. are met;

b. interested parties described in III.H.8.a. are included in the public participation process; and

c. site information is forwarded from the approving agency to the Regional Water Board so that sites for which Technical Impracticability Waivers have been approved can be included in the master listings described in Section III.H.10.;

8. The Regional Water Board shall comply with the following public participation requirements, in addition to any other legal requirements for notice and public participation, prior to the designation of a containment zone:

a. Public notice of an intention to designate a containment zone shall be provided to all known interested persons, including the owner of the affected property(s), owners and residents of properties adjacent to the containment zone, and agencies identified in Section III.H.9, at least 45 days prior to the proposed designation of a containment zone;

b. Interested persons shall be given the opportunity to review the application, including the proposed management plan, and any other available materials and to comment on any proposed designation of a containment zone. These materials, which contain information upon which the proposed designation of a containment zone is based, must be available for review at least 45 days prior to the proposed designation of a containment zone;

c. The proposed designation of a containment zone shall be placed on the agenda for consideration at a Regional Water Board meeting;

9. At least 45 days prior to the proposed designation of a containment zone, the Regional Water Board shall invite a technical advisory committee to review any proposed designation and shall meet as a committee at the request of any committee member. The committee or any committee member shall provide advice to the Regional Water Board as to the appropriateness of the requested designation and such designation will become part of the public record. No person or agency shall be made a member of the committee who is employed by or has a financial interest with the discharger seeking the designation. The following agencies shall be invited to participate in the advisory committee:

a. The California Department of ToxicSubstances Control;

b. The California Department of Health Services, Drinking Water Branch;

c. The California Department of Fish and Game;

d. The local health authority;

e. The local water purveyor, in the event ground water is used or planned to be used as a source of water supply;

f. Any local ground water management agency including an appointed water master;

g. The United States Environmental Protection Agency; and

h. The California Coastal Commission if the site is located within the coastal zone of California.

10. The Regional Water Boards shall keep a master listing of all designated containment zones. The master listing shall describe the location and physical boundaries of the containment zone, the pollutants which exceed applicable water quality objectives, and any land use controls associated with the containment zone designation. The Regional Water Board shall forward the information on the master list to the State Water Board and to the local well permitting agency whenever a new containment zone is designated. The State Water Board will compile the lists from the Regional Water Boards into a comprehensive master list;

11. To assure consistency of application of this Policy, the State Water Board will designate a Containment Zone Review Committee@ consisting of staff from the State Water Board and each of the Regional Water Boards. This review committee shall meet quarterly for two years and review all designation actions taken. The committee shall review problems and issues and make recommendations for consistency and improved procedures. In any event the State Water Board shall review the containment zone issue not later than five years after the adoption of Section III.H. and periodically thereafter. Such review shall take place in a public proceeding;

12. In the event that a Regional Water Board finds that water quality objectives within the containment zone have been met, after public notice, the Regional Water Board will rescind the designation of the containment zone and issue a closure letter; and

13. The Regional Water Board=s cost associated with review of applications for containment zone designation will be recoverable pursuant to Section 13304 of the Water Code, provided a separate source of funding has not been provided by the discharger.

14. Designation of a containment zone shall have no impact on a Regional Water Board=s discretion to take appropriate enforcement actions except for the provisions of Section III.H.4.

IV. The Regional Water Board shall determine schedules for investigation, and cleanup and abatement, taking into account the following factors:

A. The degree of threat or impact of the discharge on water quality and beneficial uses;

B. The obligation to achieve timely compliance with cleanup and abatement goals and objectives that implement the applicable Water Quality Control Plans and Policies adopted by the State Water Board and Regional Water Boards;

C. The financial and technical resources available to the discharger; and

D. Minimizing the likelihood of imposing a burden on the people of the state with the expense of cleanup and abatement, where feasible.

V. The State and Regional Water Boards shall develop an expedited technical conflict resolution process so when disagreements occur, a prompt appeal and resolution of the conflict is accomplished.

Appendix to Section III.H. Application for a Containment Zone Designation

The discharger is responsible for submitting an application for designation of a containment zone. Supporting information which is readily available to the Regional Water Board and which would be cumbersome or costly to reproduce can be included in the application by reference. In order to facilitate the preparation of an acceptable application, the discharger may request that the Regional Water Board provide a preliminary review of a partial application. The partial application should be detailed enough to allow the Regional Water Board to determine if the site passes the threshold criteria for establishment of a containment zone (e.g., it is not reasonable to achieve water quality objectives at that site, plume management measures are likely to be effective, etc.). As appropriate, the application shall include:

a) Background information (location, site history, regulatory history);

b) Site characterization information, including a description of the nature and extent of the discharge. Hydrogeologic characterization must be adequate for making the determinations necessary for a containment zone designation;

c) An inventory of all wells (including abandoned wells and exploratory boreholes) that could affect or be affected by the containment zone;

d) A demonstration that it is not reasonable to achieve water quality objectives;

e) A discussion of completed source removal and identification of any additional sources that will be addressed during implementation of the management plan;

f) A discussion of the extent to which pollutant mass has been reduced in the aquifer and identification of any additional mass removal that will be addressed during implementation of the management plan;

g) If necessary, information related to the availability of funds to implement the provisions of the management plan throughout the expected duration of the containment zone designation;

h) The proposed boundaries for the proposed containment zone pursuant to Section III.H.3.a.;

i) An evaluation of potential impacts to water quality, human health and the environment pursuant to Sections III.H.3.b. and c.;

j) A statement that the discharger believes that the site is not located in a critical recharge area, as required by Section III.H.3.d.;

k) Copies of maps and cross sections that clearly show the boundaries of the proposed containment zone and that show the locations where land use restrictions will apply. Maps must include at least four points of reference near the map corners. Reference points must be identified by latitude and longitude (accurate to within 50 feet), as appropriate for possible inclusion in a geographic information system (GIS) database; and

l) A management plan for review and approval. The management plan must contain provisions for:

1) source removal as appropriate;

2) pollutant mass removal from the aquifer as appropriate;

3) land use or engineering controls necessary to prevent the migration of pollution, including the proper abandonment of any wells within the vicinity of the containment zone that could provide a conduit for pollution migration beyond the containment zone boundary;

4) land use or engineering controls necessary to prevent water quality impacts and risks to human health and the environment;

5) mitigation measures, an implementation schedule for mitigation, and reporting requirements for compliance with mitigation measures;

6) a detailed description of the proposed monitoring program;

7) a detailed description of the method to be used by the discharger to evaluate monitoring data;

8) a specific protocol for actions to be taken if there is evidence that water quality objectives have been exceeded outside the containment zone as a result of the migration of pollutants from within the containment zone;

9) a detailed description of the frequency and content of reports to be submitted to the Regional Water Board;

10) detailed procedures and designs for well maintenance, replacement and decommissioning;

11) a protocol for submittal to and approval by the Executive Officer of minor modifications to the management plan as necessary to optimize monitoring and containment; and

12) a description of file and data base maintenance requirements.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on June 18, 1992, and amended at meetings of the State Water Resources Control Board held on April 21, 1994, and October 2, 1996.

_____

Maureen Marche
Administrative Assistant to the Board

EXHIBIT 2

Summary of Hi-Shear Delayed Responses to RWQCB Orders

Require Work Ordered by RWQCB	Original Due Date	Extension Due Dates Requested by Hi-Shear	Submittal Date
Submittal of chemical storage and use questionnaire for Hi-Shear Site.	9/30/18	12/30/2018 4/30/2019	4/30/2019
Module 1: Delineate the extent of VOC impacts to soil vapor and the vapor intrusion potential to the east of Crenshaw Boulevard.	3/4/2019	2/5/2020 3/13/2020	3/13/2020
Module II: Collect additional data to evaluate current VOC and metal impacts to onsite soil and delineate the extent of these impacts. Delineate the VOC impacts to onsite soil vapor and migration of soil vapor both onsite and offsite.	5/19/2019	12/16/2019 2/24/2020 3/9/2020	3/16/2020
Module III and addendum: Delineate the extent of VOC and metals impacts to soil and VOC impacts to soil vapor to the north, west, south of the Hi-Shear Site and east of the Site to Crenshaw Boulevard.	8/9/2019	3/27/2020 5/9/2020 6/1/2020 7/3/2020 8/3/2020 10/30/2020 12/31/2020	7/3/2020 Addendum unknown
Module IV: Delineate the lateral extent of the perched groundwater layer and evaluate VOCs, metals, 1,4-dioxane, hexavalent chromium, and perchlorate impacts to perched groundwater.	10/23/2019	5/25/2020 8/28/2020 10/30/2020 8/2/2021	Unknown
Module V and addendum: Delineate the lateral and vertical extent of VOCs, metals, 1,4-dioxane, hexavalent chromium, and perchlorate impact to groundwater down-gradient (east) of the Hi-Shear Site.	12/25/2019	1/21/2020 3/22/2020	4/3/2020 Addendum unknown
Update Modules I through III: Soil, Soil Vapor, and Groundwater Delineation Report	9/30/2020	10/30/2020	Unknown
Update March 2010 Site Conceptual Model	4/1/2019	7/31/2020 10/25/2020 11/20/2020 3/12/2021	Unknown

Require Work Ordered by RWQCB	Original Due Date	Extension Due Dates Requested by Hi-Shear	Submittal Date
Soil Vapor Extraction System Expansion	4/19/2019	9/25/2020 11/30/2020 3/12/2021 12/18/2020 5/28/2021	Unknown
Workplan to Conduct Flow and Transport Groundwater Modeling for the Onsite and Offsite Groundwater Contaminant Plumes	1/15/2020	5/15/2020	Unknown
Vapor Intrusion Response Plan Report	10/15/2020	11/30/2020	Unknown
SSD Restate Workplan	9/9/2020	11/30/2020 1/25/2021	Unknown

EXHIBIT 3

FILED
ENDORSED
2016 NOV -2 PM 2:41
GDSSC COURTHOUSE
SUPERIOR COURT
OF CALIFORNIA
SACRAMENTO COUNTY

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Attorneys for Petitioner
SUNOCO, INC.

BY FAX

SUPERIOR COURT OF CALIFORNIA

IN AND FOR THE COUNTY OF SACRAMENTO

SUNOCO, INC., a Delaware corporation,

Petitioner

v.

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD, a California State Agency,

Respondent;

JACK AND CAROLYN WESSMAN, as individuals; THE BRADLEY MINING CO., a defunct company; THE U.S. DEPARTMENT OF INTERIOR, a United States Federal Agency; MT. DIABLO QUICKSILVER CO., LTD., a defunct company, and the CALIFORNIA DEPARTMENT OF PARKS AND RECREATION, a California State Agency.

Real Parties In Interest.

Case No.: 34-2016-80002282

NOTICE OF ENTRY OF FINAL JUDGMENT AND ORDER DIRECTING ISSUANCE OF PEREMPTORY WRIT OF ADMINISTRATIVE MANDAMUS AND PEREMPTORY WRIT OF ADMINISTRATIVE MANDAMUS

Hearing: Sept. 9, 2016
Time: 9:00 a.m.
Dep't: 29
Hearing judge: Hon. Timothy M. Frawley
Action filed: Jan. 29, 2016

TO ALL PARTIES AND THEIR ATTORNEYS OF RECORD:

PLEASE TAKE NOTICE that the Court entered a Final Judgment and Order Directing Issuance of Peremptory Writ of Administrative Mandamus ("Final Judgment") on October 25, 2016. A true and correct filed-endorsed copy of the Final Judgment is attached hereto as Exhibit 1.

PLEASE TAKE FURTHER NOTICE that Deputy Clerk, Frank Temmerman, signed the Peremptory Writ of Administrative Mandamus ("Writ") ordered by the Final Judgment on October 25, 2016. A true and correct copy of the Writ is attached as Exhibit 2.

This notice of entry is being served on November 2, 2016.

DATED: November 2, 2016

EDGCOMB LAW GROUP, LLP

By: _____

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Attorneys for Petitioner
SUNOCO, INC.

FILED
ENDORSED
OCT 25 2016
By FRANK TEMMERMAN
Deputy Clerk

SUPERIOR COURT OF CALIFORNIA

IN AND FOR THE COUNTY OF SACRAMENTO

SUNOCO, INC., a Delaware corporation,

Petitioner

v.

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD, a California State Agency,

Respondent;

JACK AND CAROLYN WESSMAN, as individuals; THE BRADLEY MINING CO., a defunct company; THE U.S. DEPARTMENT OF INTERIOR, a United States Federal Agency; MT. DIABLO QUICKSILVER CO., LTD., a defunct company, and the CALIFORNIA DEPARTMENT OF PARKS AND RECREATION, a California State Agency.

Real Parties In Interest.

Case No.: 34-2016-80002282

[PROPOSED] FINAL JUDGMENT AND ORDER DIRECTING ISSUANCE OF PEREMPTORY WRIT OF ADMINISTRATIVE MANDAMUS

Hearing: Sept. 9, 2016
Time: 9:00 a.m.
Dep't: 29
Hearing judge: Hon. Timothy M. Frawley
Action filed: Jan. 29, 2016

R4-2021-0079 - RTC - 0045

RECEIVED
OCT 17 2016

This Petition for Administrative Mandamus was heard on September 9, 2016, before the Honorable Timothy M. Frawley, California Superior Court Judge, upon the Verified Petition of Petitioner Sunoco, Inc. ("Sunoco"), seeking a peremptory writ of administrative mandate directing Respondent Central Valley Regional Water Quality Control Board ("Board") to set aside its Cleanup and Abatement Order No. R5-2014-0124 ("CAO") as it pertains to Sunoco. The CAO orders six "Dischargers", including Sunoco, to clean up and abate the hazardous waste discharges from the inactive Mount Diablo Mercury Mine site ("Mt. Diablo site") in Contra Costa County.

Adam Baas, from the Edgcomb Law Group, LLP, appeared for Sunoco. Colleen Flannery and Gwynne Hunter, from the California Department of Justice, appeared for the Board. The Court having heard oral argument, and having reviewed the pleadings, administrative record ("Record") and briefing by the parties, entered its final Ruling on Submitted Matter on September 22, 2016 ("Ruling"). A copy of the Court's Ruling is attached hereto and incorporated by reference as **Exhibit A**.

Pursuant to the Court's Ruling, IT IS ORDERED that:

1. Without considering the argument to be determined on remand set forth below, the weight of the evidence in the Record is insufficient to sustain the Board's finding that Sunoco expressly or impliedly assumed all liabilities of Cordero Mining Company of Nevada ("Cordero").
2. A peremptory writ of mandate shall be issued by this Court commanding the Board to set aside its finding that Sunoco is properly named as a "Discharger" in the CAO based on the *Myers Industries* case documents, and Sunoco's cleanup efforts at the Mount Diablo site or the site involved in the *Myers Industries* case.
3. The Board's findings are not adequate to ascertain whether the Board's decision to name Sunoco as a Discharger in the CAO was based on the recital language in the 1973 Unanimous Written Consent of Cordero's Directors ("Consent"). The Court cannot

uphold a decision based on a theory that was not submitted to the trier of fact. In this case, the recital language in the Consent was not argued by the Prosecution Team at the administrative hearing and there is no evidence that the Board relied on this argument to support its finding that Sunoco was properly named as a "Discharger" in the CAO. An interlocutory remand shall be issued by this Court, remanding this matter to the Board for further determination on the argument, based on the recital language in the Consent, that Sunoco voluntarily assumed all known debts and liabilities of Cordero to facilitate Cordero's dissolution in 1975, and that such known debts and liabilities included the contamination at issue in the CAO. On remand, the Board may reopen the hearing to consider additional evidence related to the meaning of the recital language in the Consent.

4. The Board erred by refusing to consider whether the environmental harm at issue in this case is subject to apportionment.
5. A peremptory writ of mandate shall be issued by this Court commanding the Board on remand, if the Board finds that Sunoco is properly named as a "Discharger" in the CAO based on the recital language in the Consent, to consider and make findings on Sunoco's argument that there is a reasonable basis for apportionment.
6. The writ shall require the Board to make and file a Return with this Court within six months setting forth what the Board has done to comply with the writ.
7. Sunoco shall be entitled to recover its costs upon appropriate application to the Court.
8. This Court shall retain jurisdiction over this matter on remand.

DATE: 10/25/16

Timothy M. Frawley

HON. TIMOTHY M. FRAWLEY
California Superior Court Judge
County of Sacramento

EXHIBIT A

SUPERIOR COURT OF CALIFORNIA

COUNTY OF SACRAMENTO

SUNOCO, INC. **v.** **CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD**	Case Number: 34-2016-80002282 **RULING ON SUBMITTED MATTER** Date: September 9, 2016 Time: 9:00 a.m. Dept.: 29 Judge: Timothy M. Frawley

Proceeding: Petition for Writ of Mandate

Tentative Ruling: Granted in Part

Petitioner Sunoco, Inc. seeks a peremptory writ of administrative mandate directing Respondent Central Valley Regional Water Quality Control Board to set aside its Cleanup and Abatement Order No. R5-2014-0124 ("CAO") as it pertains to Sunoco. The court shall grant the petition in part, and remand this matter to the Board for further hearing.

Background Facts and Procedure

History of the Mine

The CAO relates to the Mount Diablo Mercury Mine, an inactive mercury mine located on the northeast slope of Mount Diablo in Contra Costa County. Mercury mining began at the site in 1863 and the mine operated intermittently until 1877. The mine then closed for over fifty years. In 1930, Mt. Diablo Quicksilver, Ltd. reopened the mine and operated it for six years, until 1936, producing an estimated 799 flasks (or 56,000 lbs.) of mercury.

R4-2021-00799 RTC 0049

From 1936 to 1947, Bradley Mining Company leased the site from Quicksilver and operated the mine, producing around 10,000 flasks (760,000 lbs.) of mercury, and generating about 91,000 tons of mine tailings.

From 1951 through 1954, Ronnie B. Smith and partners (the "Smith Partnership") leased the mine from Quicksilver and produced approximately 125 flasks of mercury by surface (open pit) mining methods.

During the Korean War, the Defense Minerals Exploration Administration (DMEA), a federal government agency in the U.S. Department of the Interior, contracted with private parties to operate the mine site under cost-sharing agreements. In 1953, the DMEA contracted with the Smith Partnership to explore for deep mercury ore. In 1954, John L. Jonas and John E. Johnson assumed the DMEA contract, producing 21 flasks of mercury.

From 1954 to 1956, the Cordero Mining Company of Nevada ("Cordero") leased the site from Quicksilver and conducted underground exploration activities at the mine site. Cordero's work included sinking a mine shaft, driving underground tunnels that connected new areas to pre-existing mine workings, and discharging mine waste. There is no record of any processing of mercury ore, or production of mercury flasks, during this time period.

In December of 1955, Cordero indefinitely suspended its exploration activities. The site remained idle until March of 1956, when Cordero's lease with Quicksilver was transferred to Nevada Scheelite, Inc., which began dewatering the site and conducted some prospecting activities. The amount of production for this period is uncertain.

Victoria Resources Corp. purchased the mine site in 1960 and owned it until 1969. The Guadalupe Mining Company owned the mine site from 1969 to 1974. The extent of operations and the amount of mercury produced during this period is unknown.

Jack and Carolyn Wessman purchased the site in 1974. The Wessmans have not conducted any mining operations at the site. The mine is currently inactive.

Based on available records, the most productive period for the mine is believed to have been the period from 1936 and 1950. Recorded mercury production for the mine exceeds 836,000 pounds. Mining activities have generated over 124,000 cubic yards of waste.

The site currently consists of an exposed open cut and various inaccessible underground shafts, adits, and drifts. Extensive mine waste rock (from extractive operations) and mine tailings (from processing mineral resources) cover the hill slope below the open cut. A portion of the mine tailings is located on land that is part of the Mount Diablo State Park.

Several springs and seeps discharge from the mine waste rock piles. The water discharged from the mine waste contains elevated levels of mercury and other metals. Three surface impoundments (ponds) at the base of the mine waste rock piles capture spring flow and surface runoff. However, the impoundments periodically overflow, discharging contaminants into Horse and Dunn Creeks, tributaries to March Creek, which drains to the San Joaquin River.

Both Dunn Creek and March Creek have been identified by the Board as "impaired water bodies" due to their high concentrations of mercury and other metals.

Clean Up Efforts

The Board may order a person who has caused or permitted waste to be discharged into waters of the state, or who has created a condition of pollution or nuisance, to clean up the waste or abate the effects of the waste. California Water Code section 13304 provides, in relevant part:

> A person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall, upon order of the regional board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts. (Wat. Code § 13304(a).)

On April 16, 2013, the Board issued Cleanup and Abatement Order No. RE-2013-0701, ordering seven "dischargers" to clean up and abate the hazardous waste discharges from the mine site. The seven dischargers named in the Order included the Wessmans, Bradley Mining, the U.S. Department of the Interior, Quicksilver, Kennametal, the California Department of Parks and Recreation, and Petitioner Sunoco. The Order did

not name the Smith Partnership, Jonas and Johnson, Victoria Resources, Guadalupe Mining, Cordero, or Nevada Scheelite.

Although Sunoco never leased, owned, or operated the mine site, the Board named Sunoco as a "discharger" based on its "corporate relationship" to Cordero. Likewise, the Board named Kennametal as a discharger based on its relationship to Nevada Scheelite.

Sunoco filed a Petition for Review and Rescission of the Order with the State Board, contending that Sunoco, as the former shareholder of a dissolved corporation, cannot be held responsible for Cordero's alleged discharges. Sunoco also argued that because Cordero is, at most, responsible for less than 5% of the mine waste, Cordero should not be held "jointly and severally" liable for the remediation costs.

On August 8, 2013, the Regional Board notified Sunoco that it would schedule a hearing to reconsider the Order. After a series of postponements, the Board held a hearing on August 7, 2014, to reconsider the Order. In advance of the hearing, the Prosecution Team argued that Sunoco and Kennametal should be held jointly and severally liable for remediation costs at the mine site because Sunoco's acquisition of Cordero resulted in a "de facto merger." The Prosecution Team also argued that Sunoco may be held liable based on an alter ego theory of shareholder liability.

At the hearing, the Prosecution Team recommended dropping the action against Kennametal and withdrawing the alter ego argument against Sunoco. (See AR, Item No. 21.) However, the Prosecution Team indicated it was prepared to move forward against Sunoco based on arguments that (1) there was a "*de facto* merger" between Sunoco and Cordero, and that (2) Sunoco expressly or impliedly assumed all of Cordero's (known and unknown) liabilities. The hearing was continued in order to allow supplemental evidence and/or briefing on the issue of whether Sunoco expressly or impliedly assumed liability for Cordero, and to allow the parties an opportunity to comment on the Prosecution Team's proposed removal of Kennametal from the CAO. (See AR, Item No. 6.)

At the October 10, 2014, hearing, the Prosecution Team presented evidence on whether Sunoco expressly or impliedly assumed Cordero's liabilities. The Prosecution Team's evidence included a verified answer, responses to interrogatories, correspondence, and a settlement agreement from a 1994 federal court action relating to the cleanup of the New Almaden Mine in Santa Clara County (the "Myers Industries Case"). The Prosecution Team argued that the documents – particularly the interrogatory responses -- show Sunoco "expressly assumed" liability for Cordero's

mining activities. The Prosecution Team also argued that Sunoco's conduct since the time of its admissions in the Myers Industries Case demonstrates an express or implied agreement to assume responsibility for Cordero's liabilities.

Ultimately, the Board found "insufficient" evidence of a *de facto* merger, but the Board found the evidence established that Sunoco "expressly or impliedly assumed" Cordero's liabilities.[1] The Board rejected Sunoco's request to apportion liability, concluding that Sunoco could be held "jointly and severally liable" for the remediation costs. The Board issued its CAO directing the named dischargers, including Sunoco, to investigate and cleanup the mine site by December 31, 2016. This petition followed.

Sunoco argues that the Board abused its discretion by finding that Sunoco is Cordero's "corporate successor" because it "expressly or impliedly assumed" Cordero's liabilities. Sunoco contends the evidence in the record shows that what transpired in 1972 (through 1975) was a routine dissolution and liquidation of a subsidiary corporation. Sunoco contends there is no evidence that Sunoco expressly or impliedly assumed all of Cordero's liabilities as part of that transaction. Rather, it contends, Sunoco assumed only those liabilities that had to be assumed under Nevada law to effectuate the dissolution, namely, responsibility for the Cordero Retirement and Stock Purchase Plans.

Sunoco argues the "admissions" made by it in relation to the Myers Industries Case were made in error, due to confusion because of another "Cordero Mining Company" incorporated in Delaware for the purpose of mining coal. Sunoco argues the statements also are irrelevant because they were made in unrelated litigation, nearly twenty years after Cordero was dissolved and liquidated.

Sunoco contends its mistaken "admission" of liability in unrelated litigation does not explain or excuse the absence of evidence of an agreement for Sunoco to assume Cordero's liabilities. Sunoco contends that to comply with the Statute of Frauds, any agreement to assume Cordero's liabilities was required to be in writing. Sunoco contends it is undisputed that no written agreement exists. Thus, the Board's finding of an implied agreement must fail.

Finally, even if Sunoco could be held responsible for Cordero's mining activities, Sunoco contends that common law principles of joint and several liability require the Board to apportion liability where, as here, there is a reasonable basis to allocate

[1] It is assumed that the Board applied a "preponderance of the evidence" standard, but the court notes that the Prosecution Team's initial brief suggested – *erroneously* – that a deferential "substantial evidence" standard governs the Regional Board's "review" of the CAO.

responsibility for the harm. Whether the Board applies a chronologic, geographic, or volumetric analysis, Sunoco contends that Cordero caused, at most, no more than 5% of the environmental harm, and therefore Sunoco should be responsible for no more than 5% of the cleanup.

The Board concedes that Cordero dissolved under Nevada law in 1975 via a "liquidation agreement." However, the Board contends that Sunoco expressly agreed, as part of that liquidation agreement, to assume "all existing liabilities" of Cordero.

The Board argues that the verified interrogatories and other documents from the Myers Industries Case further demonstrate that Sunoco expressly assumed Cordero's liabilities, including Cordero's liabilities for environmental harm. The Board contends that it reasonably rejected Sunoco's "self-serving argument" that the admissions in the Myers Industries Case were "mistakes" made by confused outside counsel. The Board argues that because there are "multiple writings" evidencing Sunoco's agreement to assume Cordero's liabilities, the agreement survives the Statute of Frauds.

Even if the court finds no express assumption of liability, the Board contends that "substantial evidence" shows that Sunoco impliedly assumed liability by cooperating with authorities in the Myers Industries case and at the Mount Diablo site.

The Board also argues that the law governing environmental cleanups supports the Board's decision to impose joint and several liability. The complicated nature of the operations at the site, and the commingled pollution, make it extremely difficult, if not impossible, to determine the relative contribution of each discharger. Thus, the Board acted within its discretion in refusing to divide responsibility based on the individual dischargers' respective contributions to the harm.

Standard of Review

Review of this case is governed by Code of Civil Procedure section 1094.5. (See Wat. Code § 13330.) The inquiry in a case under Civil Procedure Code section 1094.5 shall extend to questions whether the respondent has proceeded without, or in excess of jurisdiction; whether there was a fair trial; and whether there was any prejudicial abuse of discretion. Abuse of discretion is established if the agency has not proceeded in the manner required by law, the order or decision is not supported by the findings, or the findings are not supported by the evidence. (Civ. Proc. Code § 1094.5(b).)

California Water Code section 13330(d) specifies that this court must exercise its independent judgment on the evidence to determine if the Board abused its discretion

under section 1094.5(c). (Wat. Code § 13330(d).) Thus, in reviewing the sufficiency of the evidence, abuse of discretion is established if the findings of the Board are not supported by the weight of the evidence.

Discussion

As described above, Water Code section 13304 authorizes the Board to issue a cleanup order to any person who has caused or permitted waste to be discharged into waters of the state, or who has created a condition of pollution or nuisance. (Wat. Code § 13304.) A person subject to liability under this provision is commonly referred to as a "discharger."

In general, the scope of liability imposed by Water Code section 13304 has been interpreted broadly. Liability under section 13304 does not hinge on whether the defendant directly discharged the waste, or on whether the defendant owned or controlled the site of the discharge. Not only is the party who maintains a nuisance liable, but also the party or parties who created or assisted in its creation. (*City of Modesto Redevelopment Agency v. Superior Court* (2004) 119 Cal.App.4th 28, 37-38.)

In this case, it is undisputed that Sunoco never leased, owned, or operated the mine site, and never discharged waste at the site. For this reason, the Board does not seek to hold Sunoco liable as a direct discharger under the Water Code. The Board also does not seek to hold Sunoco liable as an indirect discharger based on its status as Cordero's parent corporation (sole shareholder),[2] or as Cordero's *alter ego*.[3] Rather, the Board seeks to hold Sunoco liable for Cordero's mining activities based on rules of corporate successor liability.

The rules of corporate successor liability generally apply to mergers, asset purchases, and stock acquisitions. For background purposes, the court shall briefly discuss these three types of transactions.

A merger occurs when two or more corporations combine into one.[4] The corporation into which another corporation or corporations are absorbed and which continues to exist is defined as the "surviving corporation." Merger is a statutory procedure, prescribed in detail by the Corporation Law. (See Corp. Code § 1100.) The procedure

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[2] The Board makes no attempt to trace and claw-back the assets distributed to Sunoco as Cordero's sole shareholder as part of the dissolution.

[3] Parent corporations or shareholders generally are not liable for a subsidiary corporation's acts, but they may be held liable if circumstances justify "piercing the corporate veil."

[4] A consolidation is a form of merger that occurs when two or more corporations merge to form a new corporation.

for a merger requires the board of directors of each corporation that desires to merge to approve an agreement of merger. In general, the shareholders also must approve the merger by a required percentage of votes. (See 2-12 Ballantine and Sterling California Corporation Laws §§ 252 & 258 (2015).)

A merger terminates the separate existence of the disappearing corporation(s). The surviving corporation succeeds to all the assets, rights, and property of the constituent corporation(s). The surviving corporation also is subject, without the requirement of an assumption agreement, to all of the debts and liabilities of the constituent corporations, including the known and unknown liabilities of the disappearing corporations, in the same manner as if the surviving corporation itself had incurred them. (*Ibid*; see also Corp. Code § 1107.)

In a stock acquisition, all or part of the stock of a corporation is acquired by another corporation, usually in exchange for cash or equity securities of the acquiring entity. In some cases, the acquiring entity will purchase all of the outstanding equity securities of the other corporation, making it a wholly-owned subsidiary. Sometimes, the acquiring entity will purchase only enough equity securities to produce control.[5] (See 2-12 Ballantine and Sterling California Corporation Laws §§ 252, 262; see also Corp. Code § 181.)

The "buyer" in a stock acquisition acquires the stock of the "seller" corporation, but the seller corporation remains a separate legal entity. Thus, the buyer corporation does not assume or become liable for the liabilities of the seller. The seller remains subject to all of its liabilities, both known and unknown.

In an asset acquisition, the buyer purchases all or part of the seller's assets pursuant to a contract between the buyer and seller. If a corporation proposes to sell all or substantially all of its assets, the terms of the sale must be approved by its board of directors and (usually) the shareholders. (Corp. Code § 1001.) If the buyer is in control of, or under common control with, the seller corporation, the principal terms of the sale generally must be approved by at least 90% of the voting power of the seller. (*Ibid*; see also 2-12 Ballantine and Sterling California Corporation Laws §§ 252, 257.)

In a typical sale of assets, the seller remains in existence, at least for a time, after the transaction. The shareholders of the selling corporation continue to own its stock. The seller may continue in existence as a going concern by holding or reinvesting the proceeds of the disposition of its assets. Alternatively, and more commonly, the seller

[5] If the acquiring entity does not purchase enough equity securities to obtain control, the transaction is not a corporate "acquisition."

will wind up its affairs and distribute its remaining property to its shareholders. (See 2-12 Ballantine and Sterling California Corporation Laws § 252.)

Under traditional common law, the buyer in an asset acquisition acquires only the seller's assets, not its liabilities. However, there are exceptions to this common law rule. A purchasing corporation may be held liable, as a successor, for the liabilities of the selling corporation where:

- The purchasing corporation expressly or impliedly agrees to assume the obligations of the seller.
- The transaction amounts to a *de facto* merger (or consolidation).
- The purchasing corporation is a "mere continuation" of the seller corporation.
- The transaction is fraudulently entered into to escape liability for debts. (*Ray v. Alad Corp.* (1977) 19 Cal.3d 22, 28; *Marks v. Minnesota Mining & Mfg. Co.* (1986) 187 Cal.App.3d 1429, 1436; *Maloney v. American Pharmaceutical Co.* (1988) 207 Cal.App.3d 282, 287; see also 1-3 Ballantine and Sterling California Corporation Laws § 54.)

In addition to these four traditional exceptions, some courts have recognized a public policy exception in strict product liability cases. (*Ibid*; see also Rocky Mt. Min. L. Inst. 9-1 1994 (2015).)

Sunoco argues that it cannot be held liable under a theory of "corporate successor liability" because there is no evidence in the record of a merger or asset transfer agreement between Sunoco and Cordero. According to Sunoco, there is no evidence that what transpired was anything other than a routine liquidation of Cordero. Sunoco is correct.

The weight of the evidence in the record shows that in 1972, pursuant to an Agreement and Plan of Liquidation, Cordero agreed to liquidate by selling or otherwise liquidating the company's assets, paying (or making provisions for) the company's debts, and distributing any remaining property to its sole shareholder, Sunoco.

A voluntary dissolution of a corporation may only be accomplished under the conditions described in the relevant state law, which, in this case, is Nevada law. (See *Greb v. Diamond International Corporation* (2013) 56 Cal.4th 243, 272.) Under Nevada law, when a voluntary dissolution is commenced, the corporation must cease to carry on its

business, except for the purpose of winding up and settling the corporation's affairs. (Nev. Rev. Stat. Ann. §§ 78.580, 78.585, 78.590.) The directors of the dissolving corporation become trustees with the responsibility to pay (or provide for) all known debts and liabilities of the corporation. If there is any balance remaining after all known debts and liabilities have been paid or adequately provided for, the remaining corporate assets are distributed to the shareholders.[6] (Nev. Rev. Stat. Ann. § 78.610; cf. Cal. Corp. § 1905.)

When a corporation has been duly and lawfully dissolved, its shareholders are not "successors" liable for the dissolved corporation's debts. (See *Potlatch Corp. v. Superior Court* (1984) 154 Cal.App.3d 1144, 1151.) That rule does not change merely because the shareholder happens to be another corporation. (*Ibid.*)

Here, Sunoco received Cordero's remaining net assets, but it did so as a matter of law by virtue of its status as the sole shareholder of Cordero. There is no evidence that Sunoco "purchased" Cordero's assets to continue the business of mining mercury as Cordero's "successor." Sunoco did not continue Cordero's mercury mining operations after dissolution. Thus, the evidence in the record is insufficient to hold Sunoco liable based on a theory of corporate successor liability.

However, this is not the end of the analysis because Sunoco nevertheless could have agreed, as a shareholder, to assume Cordero's liabilities. When a corporation is being dissolved, before any distributions can be made to the shareholders, the directors must determine that all known debts and liabilities of the corporation have been paid or adequately provided for. Most debts and liabilities are paid as part of the dissolution process, but some (usually long-term) debts and liabilities are not paid and are instead "provided for" either by assumption or guaranty, or by setting aside sufficient assets to pay the obligations when they come due. (See, e.g., Cal. Corp. Code § 2005.)

The payment of a debt or liability is deemed to be adequately "provided for" if payment has been assumed by a financially responsible person, including a shareholder. (*Ibid.*) Thus, while the parent of a dissolved corporation generally is not responsible for its liabilities, nothing prevents a parent from voluntarily assuming the subsidiary's liabilities as part of the dissolution process. The factual question presented in this case is whether Sunoco, as Cordero's parent and sole shareholder, voluntarily assumed Cordero's liabilities to facilitate the dissolution.

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[6] Once the corporation's assets have been properly distributed to its shareholders, the law severely restricts claims against those assets. (Nev. Rev. Stat. Ann. § 78.585.) A stockholder of a dissolved corporation is not liable for claims against the corporation in excess of the amount distributed to such stockholder. (Nev. Rev. Stat. Ann. § 78.597.)

The Board argues that Sunoco expressly or impliedly assumed all liabilities, including any contingent environmental liability, arising from Cordero's mining activities. In support of its argument, the Board relies on the following evidence:

- Cordero's Liquidation Agreement, in which (the Board contends) Sunoco "expressly agreed" to assume "all existing liabilities" of Cordero.

- The verified interrogatories[7] and other documents from the Myers Industries Case, in which Sunoco admitted that it is responsible for the liabilities of "Cordero Mining Company."

- Sunoco's cooperation with prior governmental efforts related to the Mount Diablo mine site.

Sunoco objects to the Board's reliance on the Liquidation Agreement, contending that this argument was not raised by the Prosecution Team at the administrative hearing and is contrary to the Prosecution Team's admissions that Sunoco only accepted "some liabilities" in the form of responsibility for the Retirement and Stock Purchase Plans and that Sunoco would not have agreed to assume unnecessary liability. (See AR, Item. No. 21 (at pp.4, 5, 8); Transcript of Oct. 10, 2014 Hearing, at p.127 [MTD 2854].) For these reasons, Sunoco contends the Board's "new argument" should be disregarded.

Even if the Liquidation Agreement is considered, Sunoco contends the Board is misrepresenting what it says. The language on which the Board relies is contained in a recital to the Unanimous Written Consent of Cordero's directors relating to Sunoco's assumption of liability for the Retirement and Stock Purchase Plans. The Consent states, in relevant part:

> WHEREAS, This Company was liquidated into Sun Oil Company (Delaware) effective December 31, 1972, pursuant to an Agreement and Plan of Liquidation between the Companies, dated December 31, 1972, and
>
> WHEREAS, Sun Oil Company (Delaware) pursuant to [the Agreement and Plan of Liquidation dated December 31, 1972] assumed all existing liabilities of this Company, now therefore be it

[7] The interrogatories are not in the administrative record, but excerpts of the interrogatories are included in the record and were considered by the court.

RESOLVED, That all responsibility for the administration of this Company's qualified Retirement and Stock Purchase Plans are transferred to Sun Oil Company (Delaware) together with all assets and liabilities relating to such Plans.

Based on the plain language of the Liquidation Agreement, Sunoco argues, it is clear that Sunoco did not accept all of Cordero's existing liabilities.[8] (See AR, Item. No. 78 [MTD2204-05].) The Agreement provides only for the payment of the "Corporation's debts and taxes," and does not state that Sunoco assumed "all existing liabilities" of Cordero. The recital language is not part of the Liquidation Agreement and cannot change its terms. According to Sunoco, the recital language merely reflects Sunoco's agreement to assume the liabilities associated with the qualified Retirement and Stock Purchase Plans.

The court agrees with Sunoco that, for purposes of this proceeding, the recital language should not be considered because it is unclear whether the Board relied on the recital language in finding that Sunoco expressly or impliedly assumed the liabilities of Cordero. The only evidence explicitly relied upon by the Board in its Order is the interrogatories. As a result, the Board's findings are not adequate to ascertain whether the Board's finding was based, in part, on the recital language. (See *Topanga Assoc. for Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515-17.) Where, as here, an agency's findings are not adequate, the appropriate remedy is to remand the matter so that proper findings can be made. (*See, e.g., Glendale Mem'l Hosp. & Health Ctr. v. State Dep't of Mental Health* (2001) 91 Cal.App.4th 129, 139-40.)

The case for remand is especially strong here because, as Sunoco has shown, the argument based on the recital language was (i) not raised by the Prosecution Team at the administrative hearing, and (ii) is inconsistent with the factual allegations made by the Prosecution Team at the administrative hearing. (See AR, Item. No. 21 (at pp.4, 5, 8); Transcript of Oct. 10, 2014 Hearing, at p.127 [MTD 2854].) The Prosecution Team did not take discovery or brief the meaning of the language suggesting that Sunoco

[8] Sunoco also argues that the phrase "existing liabilities" clearly does not include "unknown" environmental liabilities. However, under California law, environmental liability generally "exists" when the act occurs. (See *City of Colton v. Am. Promotional Events, Inc.* (C.D.Cal. 2010) 2010 U.S. Dist. LEXIS 138831, at p.37; *Hunt v. Ward* (1893) 99 Cal. 612, 615 [34 P. 335].) In any event, there is an abundance of evidence in the record suggesting that the possibility of environmental liability was known or should have been known during the time that Cordero conducted its mining activities. (See AR, Item No. 14 [Exhs. 7, 8, 10], Item No. 15 [Exh. 16], and Item Nos. 117, 119, 122, 125, 126, 127.) For example, according to a 1990 staff report, a public hearing was held in 1953 at which it was determined that wastes discharged from the mine constituted a "nuisance," requiring corrective action. (AR, Item No. 15 [Exh. 16].)

assumed "all existing liabilities" of Cordero. It is unsurprising therefore that Sunoco failed to address that issue at the hearing.

The court cannot uphold a decision based on a theory that was not submitted to the trier of fact. In this case, the recital language was not argued to the Board and there is no evidence in the record that the Board relied on it. Thus, the court agrees with Sunoco that, for purposes of this proceeding, the recital language should not be considered. The Board's finding of an express or implied assumption of liability must stand or fall based on the other evidence in the record, namely the Myers Industries Case documents and Sunoco's cleanup efforts at the Mount Diablo site.

In regard to the Myers Industries Case documents, the court agrees with Sunoco that the documents are not sufficient to establish Sunoco agreed to assume Cordero's liabilities. First, it should be obvious that the documents do not, in and of themselves, constitute an enforceable "agreement" between Sunoco and Cordero. There could be no agreement between Sunoco and Cordero because, by 1994, Cordero did not exist, having been dissolved nearly twenty years earlier.

The "admissions" made by Sunoco in the Myers Industries Case documents are, as they appear to be, unilateral statements by Sunoco in the course of unrelated litigation. The question is not whether the admissions constitute an "agreement" – as the Prosecution Team seemed to insinuate at the hearing – but whether the admissions prove (alone or in conjunction with the other evidence) that there was a prior oral agreement between Sunoco and Cordero for Sunoco to assume Cordero's contingent environmental liabilities.[9]

The Board may argue that the admissions are evidence of an understanding by Sunoco that it would be liable for Cordero's environmental liabilities. However, Sunoco presented evidence explaining that the "admissions" in the Myers Industries Case were a mistake, based on confusion regarding two similarly named companies, namely Cordero Mining Company of Nevada, which mined mercury, and Cordero Mining Company of Delaware, which mined coal.

The evidence in the record supports Sunoco's explanation. The evidence shows that in the same year that Cordero of Nevada dissolved, in 1975, Sunoco formed a separate "Cordero Mining Company" in Delaware for the purpose of mining coal ("Delaware Cordero I"). In 1983, Delaware Cordero I merged with another Sunoco subsidiary, Sunedco Coal Company, and Delaware Cordero I dissolved as a corporate entity.

[9] There is no evidence of a written agreement by Sunoco to assume Cordero's liabilities.

Years later, Sunedco took the name Cordero Mining Co. ("Delaware Cordero II") and continued operating in the coal mining business.[10]

In 1993, Sunoco sold the "Cordero Mining Co." (aka Delaware Cordero II) to Kennecott Corp, which was owned by Rio Tinto Limited. (AR, Item Nos. 86, 87, 88, 92B.)

The evidence also shows that in 1988, as part of a corporate restructuring, Sunoco's Board decided to distribute ("spin-off") to its shareholders all of the outstanding shares of Sun Exploration and Production Company. (Shortly after the spin-off, Sun Exploration and Production Company changed its name to Oryx Energy Company. [AR, Item No. 77, Exh. 14.]) The spin-off transaction was memorialized in a 1988 Distribution Agreement. (AR, Item No. 89.) As part of the spin-off, Sunoco's predecessor agreed to remain responsible for the "Sun Business Liabilities," which are defined to include the then-active "Cordero Mining Co." which was a subsidiary to Sunedco Coal Co. (aka, Delaware Cordero II) and the defunct "Cordero Mining Co. (DE)" (aka, Delaware Cordero I).

In connection with the Myers Industries Case, it appears that counsel looked to the Distribution Agreement and concluded that Sunoco had assumed liabilities related to the "Cordero Mining Co.," overlooking the fact that the Distribution Agreement actually refers only to the two Cordero Mining Companies that were incorporated in Delaware, and does not refer to the Cordero Mining Company that was incorporated (and dissolved) in Nevada. The obvious conclusion is that counsel confused the Distribution Agreement's reference to "Cordero Mining Co. (DE)" as a reference to (Nevada) Cordero, rather than Delaware Cordero I.

This is reflected in Sunoco's response to Interrogatory No. 2, which states that "[Cordero Mining Company] was subsequently spun-off to the shareholders of [Sunoco] on November 1, 1988." Cordero of Nevada was not involved in any spin-off; Delaware Cordero I, the coal company, was involved in the spin-off. (See AR, Item. No. 149 [MTD 3773].)

Sunoco's error was reasonable. Indeed, the Board made a similar error in 2009 when it issued a Cleanup and Abatement Order to Rio Tinto, alleging that (Nevada) Cordero was Rio Tinto's predecessor, having been purchased by Kennecott in 1993. As shown above, the Cordero Mining Co. purchased by Kennecott was a Delaware company, and it mined coal, not mercury. (AR, Item No. 84.) Rio Tinto notified the Board of the error. (*Ibid.*)

[10] The court takes judicial notice that there is or was a "Cordero" coal mine in Wyoming.

Sunoco has persuasively shown that the admissions made in the 1994 Myers Industries Case – a separate action involving a separate mine site in California – were the result of an unfortunate mistake, and not evidence of an oral agreement by Sunoco to assume Cordero's environmental liabilities. The correspondence and pleadings mistakenly refer to Cordero Mining Company of Delaware, a coal company, not Cordero of Nevada, the mercury mining company.

The other evidence relied on by the Prosecution Team – Sunoco's cleanup efforts at the Mount Diablo site – also does not support a finding of an express or implied agreement to assume Cordero's liabilities. Indeed, it is disturbing that the Board would seek to hold Sunoco's cooperation with the Board and the EPA against it, especially when Sunoco was responding to "emergency" conditions requiring "immediate" action. In any event, the evidence shows that Sunoco's cooperation was subject to an express reservation of rights. Sunoco stated that its silence should not be taken as an "assent to or admission of" the Board's factual and legal assertions. The court has little difficulty concluding that Sunoco's cleanup efforts cannot and should not be used as proof of an agreement by Sunoco to assume Cordero's liabilities.

With regard to the issue of apportionment, Sunoco argues that even if there were evidence that it assumed Cordero's liabilities, the Board abused its discretion by failing to conduct an apportionment analysis. The Board's position is that it is not required to consider apportionment because the Porter-Cologne Act imposes strict environmental liability. The court agrees with Sunoco that the Board should have considered apportionment, but the court does not decide whether apportionment was (or is) required in this case.

Courts have held that Water Code section 13304, defining who is a "responsible person," must be construed in light of the common law principles of public nuisance. (*City of Modesto Redevelopment Agency v. Superior Court* (2004) 119 Cal.App.4th 28, 36-38; see also *City of Lodi v. Randtron* (2004) 118 Cal.App.4th 337, 357.)

Under the common law applicable to nuisance cases, the starting point for divisibility of harm is section 433A of the Restatement (Second) of Torts. (*Burlington Northern & Santa Fe Ry. v. United States* (2009) 556 U.S. 599, 614.) Under the Restatement, where two or more persons cause a single and indivisible harm, each is subject to liability for the entire harm. But when two or more persons acting independently cause a distinct harm, or a single harm for which there is a reasonable basis for division according to the contribution of each, each is subject to liability only for the portion of the total harm that he has himself caused. (*Ibid*; see also 9 Witkin, Summary of California Law, Torts §§ 50, 67; Restatement (Second) of Torts, §§ 875, 881.) Thus,

apportionment is proper when "there is a reasonable basis for determining the contribution of each cause to a single harm." (*Burlington Northern & Santa Fe Ry.*, 556 U.S. at p.614; see also *California Orange Co. v. Riverside Portland Cement Co.* (1920) 50 Cal.App. 522, 525.)

The Board argues that *Burlington Northern* is distinguishable because it is a CERCLA case, and not decided under the Porter-Cologne Act, which imposes strict liability. However, this argument falls flat because CERCLA too is a "strict liability" statute. (*Standun, Inc. v. Fireman's Fund Ins. Co.* (1998) 62 Cal.App.4th 882, 890.) Thus, there is no material distinction between Porter-Cologne and CERCLA for purposes of the apportionment rule.

It is true that not all harms are capable of apportionment. Where two or more persons cause a single and indivisible harm, each is subject to liability for the entire harm. A defendant seeking to avoid joint and several liability bears the burden of proving that a reasonable basis for apportionment exists.

The problem in this case is that the Board seemingly refused to consider whether the environmental harm at issue in this case is subject to apportionment.[11] At minimum, the Board failed to make any findings on that issue. The court agrees with Sunoco that this was an abuse of discretion and, on remand, if the Board ultimately finds Sunoco to be a responsible person, the Board is directed to consider and determine whether the environmental harm at issue is capable of apportionment and, if so, to determine how much of the harm should be apportioned to Sunoco.

Disposition

Without considering the issue raised by the recital language, the court concludes that the weight of the evidence in the record is insufficient to sustain the Board's finding that Sunoco expressly or impliedly assumed all of Cordero's liabilities.[12]

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[11] At the hearing, the Board's advisory counsel informed the Board that it could undertake an apportionment analysis, but, for reasons that are not clear, the Board apparently decided not to do so. Before this court, the Board has attempted to show that apportionment is not possible, but the court believes this issue should be decided in the first instance by the Board, not by the court, as it is a mixed question of fact and law. For example, Sunoco contends that the evidence in the record shows that 88% of the mine's mercury pollution is "directly traceable" to certain "exposed mine tailings." If true, and if Sunoco can show that Cordero was not responsible for any of the pollution from the exposed mine tailings, then it theoretically would be unreasonable to hold Sunoco responsible for more than 12% of the pollution.

[12] Having concluded that there is insufficient evidence in the record to find that an oral agreement existed, it is unnecessary for the court to decide whether such an agreement would be void under the statute of frauds.

The court shall issue a peremptory writ of mandate commanding the Board to set aside its finding to the extent it is based on the Myers Industries Case documents and Sunoco's cleanup efforts at the Mount Diablo site. The court shall remand this matter to the Board for further hearing regarding the argument based on the language of the recital in the Consent. (See *Voices of the Wetlands v. State Water Resources Control Bd.* (2011) 52 Cal.4th 499, 534-535.) On remand, the Board may reopen the hearing to consider additional evidence related to the meaning of that language. On remand, if the Board finds that Sunoco is a responsible person, the Board also shall consider and make findings on Sunoco's argument that there is a reasonable basis for apportionment.

The writ shall require the Board to make and file a Return within six months setting forth what the Board has done to comply with the writ.

Counsel for Sunoco is directed to prepare a formal judgment (incorporating this ruling as an exhibit) and writ; submit them to opposing counsel for approval as to form; and thereafter submit them to the court for signature and entry of judgment in accordance with Rule of Court 3.1312. Sunoco shall be entitled to recover its costs upon appropriate application.

Dated: September 22, 2016

Hon. Timothy M. Frawley
California Superior Court Judge
County of Sacramento

CASE NUMBER: 34-2016-80002282
DEPARTMENT: 29
CASE TITLE: SUNOCO, INC. vs. CVRWQCB/Wessman

CERTIFICATE OF SERVICE BY MAILING
(C.C.P. Sec. 1013a(4))

I, the undersigned deputy clerk of the Superior Court of California, County of Sacramento, do declare under penalty of perjury that I did this date place a copy of the above entitled RULING in envelopes addressed to each of the parties, or their counsel of record as stated below, with sufficient postage affixed thereto and deposited the same in the United States Post Office at Sacramento, California.

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Dated: September 22, 2016

By: F. Temmerman
Deputy Clerk, Department 29
Superior Court of California,
County of Sacramento

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Attorneys for Petitioner
SUNOCO, INC.

SUPERIOR COURT OF CALIFORNIA

IN AND FOR THE COUNTY OF SACRAMENTO

SUNOCO, INC., a Delaware corporation,

Petitioner

v.

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD, a California State Agency,

Respondent;

JACK AND CAROLYN WESSMAN, as individuals; THE BRADLEY MINING CO., a defunct company; THE U.S. DEPARTMENT OF INTERIOR, a United States Federal Agency; MT. DIABLO QUICKSILVER CO., LTD., a defunct company, and the CALIFORNIA DEPARTMENT OF PARKS AND RECREATION, a California State Agency.

Real Parties In Interest.

Case No.: 34-2016-80002282

[PROPOSED] PEREMPTORY WRIT OF ADMINISTRATIVE MANDAMUS

Hearing: Sept. 9, 2016
Time: 9:00 a.m.
Dep't: 29
Hearing judge: Hon. Timothy M. Frawley
Action filed: Jan. 29, 2016

RECEIVED OCT 17 2016

The People of the State of California,

To the Central Valley Regional Water Quality Control Board ("Board"), respondent:

Good cause appearing from the verified petition for a writ of administrative mandamus on file in this proceeding,

YOU ARE HEREBY COMMANDED, by order of this Court made on 10/25/16, 2016, to:

1. Set aside Cleanup and Abatement Order No. R5-2014-0124 ("CAO") as it pertains to Sunoco, Inc. ("Sunoco"), which was named as a "Discharger" in that CAO based on a finding by the Board that Sunoco expressly or impliedly assumed the liabilities of Cordero Mining Company ("Cordero"), to the extent its finding was based on the *Myers Industries* Case documents, or Sunoco's cleanup efforts at the Mount Diablo site or the site involved in the *Myers Industries* case.
2. On remand, because the Board's findings are not adequate to ascertain whether the Board's finding that Sunoco was properly named as a Discharger in the CAO was based in part on the recital language in the 1973 Unanimous Written Consent of Cordero's Directors ("Consent") in the administrative record, the Board may conduct a further hearing regarding the argument, based on the recital language in the Consent, that Sunoco voluntarily assumed all known debts and liabilities of Cordero to facilitate Cordero's dissolution in 1975, and that such known debts and liabilities included the contamination at issue in the CAO. On remand, the Board may consider additional evidence related to the meaning of the recital language in the Consent.
3. On remand, if the Board finds that Sunoco is properly named as a "Discharger" in the CAO based on the recital language in the Consent, the Board shall consider and make findings on Sunoco's argument that there is a reasonable basis for apportionment.
4. File a Return within six months setting forth what the Board has done to comply with this writ.

DATE: 10/25/16

BY DEPUTY CLERK
FRANK TEMMERMAN

SUPERIOR COURT OF CALIFORNIA COUNTY OF SACRAMENTO

EXHIBIT 4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

MAY 24 1995

MEMORANDUM

SUBJECT: Final Policy Toward Owners of Property Containing Contaminated Aquifers

FROM: Bruce M. Diamond, Director
Office of Site Remediation Enforcement

TO: Regional Counsel (Region 1-10)
Waste Management Division Directors (Region 1-10)
Brownfields Coordinators (Regions 1-10)

Attached please find the final "Policy Toward Owners of Property Containing Contaminated Aquifers." This Policy states the agency's position that, subject to certain conditions, where hazardous substances have come to be located on or in a property solely as the result of subsurface migration in an aquifer from a source or sources outside the property, EPA will not take enforcement actions against the owner of such property to require the performance of response actions or the payment of response costs. Further, as outlined in the policy, EPA may consider de minimis settlements under Section 122(g)(1)(B) of CERCLA where necessary to protect such landowners from contribution suits.

The development of this policy was announced by the Administrator as part of the Superfund Administrative Reforms. It is also a component of the Agency's Brownfields Initiative to remove barriers to economic redevelopment.

The comments received from many Regional and Headquarters offices, as well as the Department of Justice, were very helpful in developing this Policy. I appreciate your assistance, especially given the short turnaround time.

EPA intends to publish this Policy in the Federal Register within the next 30 days.

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If you have any questions about this Policy, please call Ellen Kandell at 703-603-8996, mail code 2273-G or by FAX at 703-603-9117 or 603-9119.

Attachment

cc: Elliot Laws, OSWER
Lisa Friedman, OGC
Bruce Gelber, DOJ
Linda Boornazian, PPED
Sandra Connors, RSD
Steve Luftig, OERR
Larry Reed, HSED
Earl Salo, OGC
Crane Harris, OSWER

Policy Toward Owners of Property
Containing Contaminated Aquifers

I. STATEMENT OF POLICY

Based on the Agency's interpretation of CERCLA, existing EPA guidance, and EPA's Superfund program expertise, it is the Agency's position that where hazardous substances have come to be located on or in a property solely as the result of subsurface migration in an aquifer from a source or sources outside the property, EPA will not take enforcement action against the owner of such property to require the performance of response actions or the payment of response costs.[1] Further, EPA may consider de minimis settlements under Section 122(g)(1)(B) of CERCLA where necessary to protect such landowners from contribution suits.

This Policy is subject to the following conditions:

A) The landowner did not cause, contribute to, or exacerbate the release or threat of release of any hazardous substances, through an act or omission. The failure to take affirmative steps to mitigate or address groundwater contamination, such as conducting groundwater investigations or installing groundwater remediation systems, will not, in the absence of exceptional circumstances, constitute an "omission" by the landowner within the meaning of this condition. This policy may not apply where the property contains a groundwater well, the existence or operation of which may affect the migration of contamination in the affected aquifer. These cases will require fact-specific analysis.

B) The person that caused the release is not an agent or employee of the landowner, and was not in a direct or indirect contractual relationship with the landowner. In cases where the landowner acquired the property, directly or indirectly, from a person that caused the original release, application of this Policy will require an analysis of whether, at the time the property was acquired, the landowner knew or had reason to know of the disposal of hazardous substances that gave rise to the contamination in the aquifer.

[1] By this Policy, EPA does not intend to compromise or affect any right it possesses to seek access pursuant to Section 104(e) of CERCLA.

C) There is no alternative basis for the landowner's liability for the contaminated aquifer, such as liability as a generator or transporter under Section 107(a)(3) or (4) of CERCLA, or liability as an owner by reason of the existence of a source of contamination on the landowner's property other than the contamination that migrated in an aquifer from a source outside the property.

In appropriate circumstances, EPA may exercise its discretion under Section 122(g)(1)(B) to considerde minimis settlements with a landowner that satisfies the foregoing conditions. Such settlements may be particularly appropriate where such a landowner has been sued or threatened with contribution suits. EPA's Guidance on Landowner Liability and Section 122(g)(1)(B) De Minimis Settlements[2] should be consulted in connection with this circumstance.

In exchange for a covenant not to sue from the Agency and statutory contribution protection under Sections 113(f)(2) and 122(g)(5) of CERCLA, EPA may seek consideration from the landowner,[3] such as the landowner's full cooperation (including but not limited to providing access) in evaluating the need for and implementing institutional controls or any other response actions at the site.[4]

The Agency intends to use its Section 104(e) information gathering authority under CERCLA, 42 U.S.C. § 9604(e), as appropriate, to verify the presence of the conditions under which

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[2] See Guidance on Landowner Liability Under Section 107(a)(1) of CERCLA, De Minimis Settlements under Section 122 (g)(1)(B) of CERCLA, and Settlements with Prospective Purchasers of Contaminated Property, OSWER Directive No. 9835.9, June 6, 1989, 54 Fed. Reg. 34,235 (August 18, 1989) (hereinafter "Guidance on Landowner Liability and Section 122(g)(1)(B) De Minimis Settlements").

[3] A more complete discussion of the appropriate consideration that may be sought under Section 122(g)(1)(B) settlements is contained in Section IV.B.3.a. of Guidance on Landowner Liability and Section 122(g)(1)(B) De Minimis Settlements, supra note 2.

[4] The Agency has developed guidance which explains the authorities and procedures by which EPA obtains access or information. See Entry and Continued Access under CERCLA, OSWER Directive #9829.2, June 5, 1987; Guidance on Use and Enforcement of CERCLA Information Requests and Administrative Subpoenas, OSWER Directive 9834.4-A, August 25, 1988.

the Policy would be applied, unless the source of contamination and lack of culpability of the property owner are otherwise clear.[5] Accordingly, failure by an property owner to provide certified responses to EPA's information requests may, by itself, be grounds for EPA to decline to offer a Section 122(g)(1)(B) de minimis settlement.

II. DISCUSSION

A. Background

Nationwide there are numerous sites that are the subject of response actions under CERCLA due to contaminated groundwater. Approximately 85% of the sites on the National Priorities List have some degree of groundwater contamination. Natural subsurface processes, such as infiltration and groundwater flow, often carry contaminants relatively large distances from their sources. Thus, the plume of contaminated groundwater may be relatively long and/or extend over a large area. For this reason, it is sometimes difficult to determine the source or sources of such contamination.

Any person owning property to which contamination has migrated in an aquifer faces potential uncertainty with respect to liability as an "owner" under Section 107(a)(1) of CERCLA, 42 U.S.C. § 9601(a)(1), even where such owner has had no participation in the handling of hazardous substances, and has taken no action to exacerbate the release.

Some owners of property containing contaminated aquifers have experienced difficulty selling these properties or obtaining financing for development because prospective purchasers and lenders sometimes view the potential for CERCLA liability as a significant risk. The Agency is concerned that such unintended effects are having an adverse impact on property owners and on the ability of communities to develop or redevelop property.

EPA is issuing this policy to address the concerns raised by owners of property to which contamination has migrated in an aquifer, as well as lenders and prospective purchasers of such property. The intent of this policy is to lower the barriers to transfer of such property by reducing uncertainty regarding the

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[5] See Guidance on Landowner Liability and Section 122(g)(1)(B) De Minimis Settlements, supra note 2, for an outline of the types of information which should be provided by the landowner to support a request for a de minimis settlement.

possibility that EPA or third parties may take actions against these landowners.

B. Existing Agency Policy

This policy is related to other guidance that EPA has issued. The Agency has previously published guidance on issues of landowner liability and de minimis landowner settlements.[6] Moreover, in other EPA policies, EPA has asserted its enforcement discretion in determining which parties not to pursue.[7]

C. Basis for the Policy

1. The Section 107(b)(3) Defense

Section 107(a)(1) of CERCLA imposes liability on an owner or operator of a "facility" from which there is a release or threatened release of a hazardous substance.[8] A "facility" is defined under Section 101(9) as including any "area where a hazardous substance has . . . come to be located." The standard of liability imposed under Section 107 is strict, and the

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[6] See Guidance on Landowner Liability and Section 122(g)(1)(B) De Minimis Settlements, supra note 2. This guidance analyzes the language in Sections 107(b)(3) and 122(g)(1)(B) of CERCLA.

[7] See, e.g., Policy Towards Owners of Residential Property at Superfund Sites, OSWER Directive #9834.6, (July 3, 1991) (hereinafter "Residential Property Owners Policy") (stating Agency policy not to take enforcement actions against an owner of residential property unless homeowner's activities led to a release); National Priorities List for Uncontrolled Hazardous Waste Sites, 60 Fed. Reg. 20330, 20333 (April 25, 1995). In this notice the Residential Property Owners Policy was applied to "...residential property owners whose property is located above a groundwater plume that is proposed to or on the NPL, where the residential property owner did not contribute to the contamination of the site." See also, Interim Policy on CERCLA Settlements Involving Municipalities or Municipal Waste, OSWER Directive # 9834.13, (December 6, 1989).

[8] EPA has taken the position that lessees may be "owners" for purposes of liability. See Guidance on Landowner Liability and Section 122(g)(1)(B) De Minimis Settlements, supra note 2, footnote 10.

government need not prove that an owner contributed to the release in any manner to establish a prima facie case.[9] However, Section 107(b)(3) provides an affirmative defense to liability where the release or threat of release was caused solely by "an act or omission of a third party other than an employee or agent of the defendant, or than one whose act or omission occurs in connection with a contractual relationship existing directly or indirectly with the defendant . . ." In order to invoke this defense, the defendant must additionally establish, by a preponderance of the evidence, that "(a) he exercised due care with respect to the hazardous substance concerned taking into consideration the characteristics of such hazardous substance, in light of all relevant facts and circumstances, and (b) he took precautions against foreseeable acts or omissions of any such third party and the consequences that could foreseeably result from such acts or omissions." 42 U.S.C. § 9607(b)(3).

a. Due Care and Precautions

An owner of property may typically be unable to detect by reasonable means when or whether hazardous substances have come to be located beneath the property due to subsurface migration in an aquifer from a source or sources outside the property. Based on EPA's interpretation of CERCLA, it is the Agency's position that where the release or threat of release was caused solely by an unrelated third party at a location off the landowner's property, the landowner is not required to take any affirmative steps to investigate or prevent the activities that gave rise to the original release in order to satisfy the "due care" or "precautions" elements of the Section 107(b)(3) defense.

Not only is groundwater contamination difficult to detect, but once identified, it is often difficult to mitigate or address without extensive studies and pump and treat remediation. Based on EPA's technical experience and the Agency's interpretation of CERCLA, EPA has concluded that the failure by such an owner to take affirmative actions, such as conducting groundwater investigations or installing groundwater remediation systems, is not, in the absence of exceptional circumstances, a failure to exercise "due care" or "take precautions" within the meaning of Section 107(b)(3).

The latter conclusion does not necessarily apply in the case where the property contains a groundwater well and the existence or operation of this well may affect the migration of contamination in the affected aquifer. In such a case,

[9] See, e.g., U.S. v. R.W. Meyer, Inc., 889 F.2d 1497, 1507 (6th Cir. 1989)("CERCLA contemplates strict liability for landowners").

application of the "due care" and "precautions" tests of Section 107(b)(3) and evaluation of the appropriateness of a de minimis settlement under Section 122(g)(1)(B) require a fact-specific analysis of the circumstances, including, but not limited to, the impact of the well and/or the owner's use of it on the spread or containment of the contamination in the aquifer. Accordingly, this Policy does not apply in the case where the property contains a groundwater well, the existence or operation of which may affect the migration of contamination in the affected aquifer. In such a case, however, the landowner may choose to assert a Section 107(b)(3) defense, depending on the case-specific facts and circumstances, and EPA may still exercise its discretion to enter into a Section 122(g)(1)(B) de minimis settlement.

b. Contractual Relationship

The Section 107(b)(3) defense is not available if the act or omission causing the release occurred in connection with a direct or indirect contractual relationship between the defendant and the third party that caused the release. Under Section 101(35)(A) of CERCLA, a "contractual relationship" for this purpose includes any land contract, deed, or instrument transferring title to or possession of real property, except in limited specified circumstances. Thus, application of the defense in the circumstances addressed by this Policy requires an examination of whether the landowner acquired the property, directly or indirectly, from a person that caused the original release. An example of this scenario would be where the property at issue was originally part of a larger parcel owned by the person that caused the release. If the larger parcel was subsequently subdivided, and the subdivided property was eventually sold to the current landowner, there may be a direct or indirect "contractual relationship" between the person that caused the release and the current landowner.

Even if the landowner acquired the property, directly or indirectly, from a person that caused the original release, this may or may not constitute a "contractual relationship" within the meaning of Section 101(35)(A), precluding the availability of the Section 107(b)(3) defense. Land contracts or instruments transferring title are **not** considered "contractual relationships" if the land was acquired after the disposal or placement of the hazardous substances on, in or at the facility under Section 101(35)(A) and the landowner establishes, pursuant to Section 101(35)(A)(i), that, at the time of the acquisition, the landowner "did not know and had no reason to know that any hazardous substance which is the subject of the release . . . was disposed

of on, in, or at the facility."[10] Thus, in the subdivision scenario described above, the current landowner might still qualify for the Section 107(b)(3) defense if he or she did not know or have reason to know that the original landowner had disposed of hazardous substances elsewhere on the larger parcel.

2. Settlements Under Section 122(g)(1)(B)

To address concerns that strict liability under Section 107(a)(1) could cause inequitable results with respect to landowners who had not been involved in hazardous substance disposal activities, Congress authorized the Agency to enter into de minimis settlements with certain property owners under Section 122(g)(1)(B) of CERCLA, 42 U.S.C. § 9622 (g)(1)(B). Under this Section, when the Agency determines that a settlement is "practicable and in the public interest," it "shall as promptly as possible reach a final settlement" if the settlement "involves only a minor portion of the response costs at the facility concerned" and the Agency determines that the potentially responsible party: "(i) is an owner of the real property on or in which the facility is located; (ii) did not conduct or permit the generation, transportation, storage, treatment or disposal of any hazardous substance at the facility; and (iii) did not contribute to the release or threat of release .... through any act or omission."[11]

The requirements which must be satisfied in order for the Agency to consider a settlement with landowners under the de minimis settlement provisions of Section 122(g)(1)(B) are substantially the same as the elements which must be proved at trial in order for a landowner to establish a third party defense under Section 107(b)(3), as described above.[12]

D. Use of the Policy

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[10] Section 101(35)(A) also excludes from the definition of "contractual relationship" certain acquisitions of property by government entities and certain acquisitions by inheritance or bequest, so long as the other requirements of Section 101(35)(A) are met. See 42 U.S.C. § 101(35)(A)(ii) and (iii).

[11] A detailed discussion of each of these components of Section 122(g)(1)(B) and guidance on structuring settlements under this Section are provided in the Guidance on Landowner Liability and Section 122(g)(1)(B) De Minimis Settlements, supra note 2.

[12] Id.

This Policy does not constitute rulemaking by the Agency and is not intended and cannot be relied on to create a right or a benefit, substantive or procedural, enforceable at law or in equity, by any person. Furthermore, the Agency may take action at variance with this Policy.

For further information concerning this Policy, please contact Ellen Kandell in the Office of Site Remediation Enforcement at (703) 603-8996.

EXHIBIT 5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

Jan. 13, 2004

MEMORANDUM

SUBJECT: Interim Enforcement Discretion Guidance Regarding Contiguous Property Owners

FROM: Susan E. Bromm, Director /s/
Office of Site Remediation Enforcement

TO: Director, Office of Site Remediation and Restoration, Region I
Director, Emergency and Remedial Response Division, Region II
Director, Hazardous Site Cleanup Division, Region III
Director, Waste Management Division, Region IV
Directors, Superfund Division, Regions V, VI, VII and IX
Assistant Regional Administrator, Office of Ecosystems Protection and Remediation, Region VIII
Director, Office of Environmental Cleanup, Region X
Director, Office of Environmental Stewardship, Region I
Director, Environmental Accountability Division, Region IV
Regional Counsel, Regions II, III, V, VI, VII, IX, and X
Assistant Regional Administrator, Office of Enforcement, Compliance, and Environmental Justice, Region VIII

I. Introduction

The Small Business Liability Relief and Brownfields Revitalization Act, ("Brownfields Amendments"), Pub. L. No. 107-118, enacted in January 2002, amended the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), to provide important liability limitations for landowners who qualify as contiguous property owners, bona fide prospective purchasers, or innocent landowners (hereinafter "landowner liability protections" or "landowner provisions"). This memorandum discusses the new contiguous property owner provision, CERCLA § 107(q).

This memorandum is an interim guidance issued in the exercise of EPA's enforcement discretion. As EPA gains more experience implementing the Brownfields Amendments, the

Agency may revise and/or expand this guidance. EPA welcomes comments on the guidance and its implementation. Comments may be submitted to the EPA contact identified at the end of this guidance.

II. Discussion

EPA addresses four issues in this memorandum. First, EPA discusses the criteria a landowner must meet under the statute in order to qualify for the contiguous property owner liability protection. Second, EPA discusses the application of section 107(q) to current and former owners of property. Third, the Agency discusses the relationship between new section 107(q) and EPA's Residential Homeowner Policy and Contaminated Aquifers Policy. Finally, EPA discusses the mechanisms EPA may provide, in its discretion, to resolve the liability concerns of contiguous property owners.

A. Contiguous Property Owner Criteria

The new contiguous property owner provision, section 107(q), provides CERCLA liability protection to landowners who own property that is or may be contaminated, but is not the original source of the hazardous substance contamination. Specifically, the provision excludes from the definition of "owner" or "operator" under CERCLA § 107(a)(1) and (2) a person who owns property that is "contiguous to or otherwise similarly situated with respect to, and that is or may be contaminated by a release or threat of release of hazardous substances from" property owned by someone else. Congress intended this provision to protect landowners "that are essentially victims of pollution incidents caused by their neighbor's actions." S. Rep. No. 107-2, at 10 (2001).

To meet the contiguous property owner statutory criteria, a landowner must show that he:[1]

1. did not cause, contribute, or consent to the release or threatened release;
2. is not
   a. potentially liable for response costs at the facility, or "affiliated" with any such person through any direct or indirect familial relationship, or any contractual, corporate, or financial relationship (excluding such relationships created by a contract for the sale of goods or services), or
   b. the result of a reorganization of a business entity that was potentially liable;
3. takes reasonable steps to:
   a. stop any continuing release,
   b. prevent any threatened future release, and
   c. prevent or limit human, environmental, or natural resource exposure to any

[1] See CERCLA §§ 107(q)(1)(A)(i)-(viii). The statute places the burden of proof on the landowner. CERCLA § 107(q)(1)(B).

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hazardous substance released on or from property he owns;

4. provides full cooperation, assistance, and access to those authorized to conduct response actions or natural resource restoration;
5. is in compliance with any land use restrictions established or relied on in connection with a response action and does not impede the effectiveness or integrity of any institutional control employed in connection with a response action;
6. is in compliance with any request for information or administrative subpoena under CERCLA;
7. provides all legally required notices with respect to the discovery or release of any hazardous substance at the facility; and
8. conducted all appropriate inquiry in accordance with CERCLA § 101(35)(B) at the time of acquiring the property, and did not know or have reason to know that the property was or could be contaminated by a release or threat of release of a hazardous substance from property not owned or operated by him.

In March 2003, EPA issued a guidance document regarding many of these criteria, which also apply to the new bona fide prospective purchaser and amended innocent landowner liability protections. See "Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchaser, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability ("Common Elements")," Memorandum from Susan E. Bromm, Director, Office of Site Remediation Enforcement, U.S. EPA, March 6, 2003 ("Common Elements Guidance"). The Common Elements Guidance discusses the threshold criteria of performing "all appropriate inquiry" and demonstrating no "affiliation" with a liable party, as well as the following continuing obligations:

- compliance with land use restrictions and not impeding the effectiveness or integrity of institutional controls;
- taking "reasonable steps" with respect to hazardous substances affecting a landowner's property;
- providing cooperation, assistance and access;
- complying with information requests and administrative subpoenas; and
- providing legally required notices.

Regions analyzing whether a landowner may meet the statutory criteria of a contiguous property owner should consult the Common Elements Guidance.[2] Evaluating whether a landowner meets the criteria of section 107(q) will require careful, fact-specific analysis.

Many of the statutory criteria applicable to contiguous property owners also apply to bona fide prospective purchasers and innocent landowners. There are, however, a number of

[2] The Common Elements Guidance and accompanying reference sheet are available on EPA's website at www.epa.gov/enforcement/superfund by clicking on the topics link "Superfund Cleanup policy and guidance."

important differences among these protected landowners. For example, contiguous property owners differ from bona fide prospective purchasers because contiguous property owners cannot own the property that contains the source of the contamination ("source property"), whereas bona fide prospective purchasers may own the source property. In addition, landowners must acquire property after January 11, 2002, in order to qualify as bona fide prospective purchasers. In contrast, there is no date restriction on acquisitions for contiguous property owners. Further, bona fide prospective purchasers may buy property *with knowledge* that it is contaminated. In contrast, contiguous property owners must purchase the property *without knowledge, or reason to know*, that the property is or could be contaminated. Another important difference is that property owned by bona fide prospective purchasers may be subject to a "windfall lien," while that of a contiguous property owner is not.[3]

There also may be some differences between contiguous property owners and innocent landowners. For example, innocent landowners may own the property that is the source of contamination while contiguous property owners, by definition, may not own property that is the original source of the contamination.[4] In addition, section 107(q) specifically provides that EPA may, in its discretion, grant a contiguous property owner a no action assurance and/or protection against a cost recovery or contribution action under section 113(f). CERCLA § 107(q)(3). In contrast, the innocent landowner provision does not contain this language.[5]

While many of the statutory criteria for a contiguous property owner are discussed in the Common Elements Guidance, this memorandum discusses the following additional elements of section 107(q): (1) the landowner did not cause, contribute or consent to the release or threatened release, and (2) the landowner's property is contiguous to, or otherwise similarly situated with respect to, the property from which there is a release or threat of release.

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[3] Section 107(r) provides that the United States has a lien on a bona fide prospective purchaser's property where EPA has unrecovered response costs and its response action has increased the fair market value of the property. For more information regarding the windfall lien, see "Interim Enforcement Discretion Policy Concerning "Windfall Liens" Under Section 107(r) of CERCLA," Memorandum from Susan E. Bromm, Director, Office of Site Remediation Enforcement, U.S. EPA and Bruce S. Gelber, Chief, Environmental Enforcement Section, U.S. DOJ, July 16, 2003.

[4] A landowner who owns property contiguous to the source could also qualify as an innocent landowner, as long as the landowner meets the criteria in sections 107(b)(3) and 101(35)(A). As a result, there can be some overlap between the contiguous property owner and innocent landowner provisions.

[5] In appropriate cases, EPA may provide comfort/status letters to parties that are covered by a statutory provision, regulation, or specific enforcement discretion policy. "Policy on the Issuance of Comfort/Status Letters," Memorandum from Steven H. Herman, Assistant Administrator, Office of Enforcement and Compliance Assurance, November 8, 1996; reprinted at 62 Fed. Reg. 4,624 (January 30, 1997) ("Comfort/Status Letter Policy").

1. *Did not cause, contribute, or consent to the release*

Section 107(q)(1)(A)(i) provides that a landowner may qualify as a contiguous property owner if "the person did not cause, contribute, or consent to the release or threatened release." Section 107(q)(1)(A) makes clear that the contamination on the contiguous property owner's land giving rise to the incurrence of response costs must come from a release or threat of release from a different property; i.e., the property that is not owned or operated by the contiguous property owner. If the landowner bears some responsibility for the release, he cannot meet the statutory criteria of section 107(q). For example, if the landowner causes a release of hazardous substances to a groundwater plume by disposing of leaking drums on the property next door, then he would not qualify as a contiguous property owner.

EPA recognizes that there may be multiple, discrete (i.e., not commingled) releases on a landowner's property, some of which originated on the landowner's property, and others the landowner did not cause or contribute to as they migrated from another property not owned or operated by the landowner. In such cases, although the landowner may not meet the criteria of a contiguous property owner, EPA may exercise its enforcement discretion and not pursue the landowner with respect to the release(s) that migrated from the other property.

2. *Contiguous to, or otherwise similarly situated with respect to . . . .*

Section 107(q) covers a person who owns real property that is contiguous to or "otherwise similarly situated with respect to," and that is or may be contaminated by a release or threatened release of a hazardous substance from, real property that is not owned by that person. Section 107(q)(1)(A). Black's Law Dictionary defines "contiguous" as: "(1) [t]ouching at a point or along a boundary; adjoining. Texas and Oklahoma are contiguous; (2) near in time or sequence; successive. Contiguous thunder and lightening." Black's Law Dictionary 315 (7th ed. 1999). Neither the statute nor the legislative history defines the phrase "otherwise similarly situated with respect to."

EPA believes Congress' intent in enacting section 107(q) was to protect persons who own property that is or may be contaminated as a result of migration from another property that they do not own or operate, even if the property is not located immediately next door. As a result, in exercising its enforcement discretion and implementing section 107(q), EPA will analyze a number of case-specific facts, including whether the landowner's property has been impacted by a release from a contaminated property at a distance in the same or a similar way that it would have been impacted by a release from a contaminated property adjoining the landowner's property. This approach is consistent with EPA's "Final Policy Towards Owners of Property Containing Contaminated Aquifers," Memorandum from Bruce M. Diamond, Director, Office of Site Remediation Enforcement, May 24, 1995 ("Contaminated Aquifers Policy"), which states that EPA will not bring enforcement actions against owners of property that has been impacted by contaminated groundwater migrating from a neighboring source facility, even if that source facility is some distance away. The Contaminated Aquifers Policy recognizes that

"natural subsurface processes . . . often carry contaminants relatively large distances from their sources. Thus, the plume of contaminated groundwater may be relatively long and/or extend over a large area." Contaminated Aquifers Policy at 5.

B. Application of Section 107(q) to Current and Former Landowners

The liability protection of section 107(q) clearly applies to current owners of property who meet the criteria of that section. Indeed, much of the language in that provision is in the present tense, connoting current ownership (e.g., a person that owns real property; the person provides full cooperation assistance, the person takes reasonable steps). EPA notes that section 107(q)(1)(A) provides that persons who qualify as contiguous property owners shall not be considered owners or operators under 107(a)(1) (relating to *current* owners) *or* section 107(a)(2) (relating to persons who owned the property *at the time of disposal*). EPA recognizes that some courts, in examining the potential CERCLA liability of former landowners, have held that passive migration does not constitute disposal. As a result, these courts have not held former landowners who owned property contaminated solely as a result of passive migration liable under CERCLA § 107(a)(2).[6] Other courts have held that passive migration does constitute disposal and may give rise to liability under section 107(a)(2).[7] Notwithstanding this split in the circuits, in exercising its enforcement discretion, EPA may treat former landowners as protected section 107(q) parties, as long as those landowners met the statutory criteria of section 107(q) while they owned the property.

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[6] See, e.g., Niagara Mohawk Power Corp. v. Jones Chemical, Inc., 315 F.3d 171 (2d Cir. 2003) (holding that run-off kerosene from one property, passively moving over or through defendant's property, was not disposal on defendant's property); ABB Industrial Systems, Inc. v. Prime Technology, Inc., 120 F.3d 351,359 (2d Cir. 1997) (holding that prior owners and operators of a site are not liable under CERCLA for mere passive migration); United States v. CDMG Realty Co., 96 F.3d 706 (3d Cir. 1996) (holding that the passive spreading of contamination in a landfill does not constitute disposal); United States v. 150 Acres of Land, 204 F.3d 698, 706 (6th Cir. 2000) (construing "disposal" as the human activity that precedes the entry of a substance into the environment); Cf., Carson Harbor Village, Ltd. v. Unocal Corp., 270 F.3d 863 (9th Cir. 2001) (holding that gradual passive migration of tar-like and slag materials through soil was not disposal but indicating that other passive migration that fits within the plain meaning of the terms used to define "disposal" may give rise to liability under section 107(a)(2)).

[7] See, e.g. Crofton Ventures Ltd. Partnership, 258 F.3d 292 (4th Cir. 2001); Nurad Inc. v. William E. Hooper & Sons Co., 966 F.2d 837 (4th Cir. 1992) (citing United States v. Waste Ind., Inc. ,734 F.2d 159, 164-65 (4th Cir. 1984), holding that section 107(a)(2) imposes liability not only for active involvement in the dumping or placing of hazardous waste at the facility, but for ownership of the facility at the time hazardous waste was spilling or leaking from tanks); cert. denied sub nom Mumaw v. Nurad, Inc., 506 U.S. 940 (1992).

C. Relationship of Section 107(q) to Residential Homeowner Policy and Contaminated Aquifers Policy

The new contiguous property owner provision protects from CERCLA liability many landowners that EPA did not generally pursue, through the exercise of its enforcement discretion, prior to the passage of the Brownfields Amendments. See, e.g., "Policy Towards Owners of Residential Property at Superfund Sites," Memorandum from Don R. Clay, Assistant Administrator, Office of Solid Waste and Emergency Response, and Raymond B. Ludwiszewski, Acting Assistant Administrator, Office of Enforcement, July 3, 1991 ("Residential Homeowner Policy"); Contaminated Aquifers Policy. These policies are still in effect.[8] This section provides some background on these enforcement discretion policies and explains their relationship to the new contiguous property owner liability protection.

1. *Background on Residential Homeowner and Contaminated Aquifers Policies*

The Residential Homeowner Policy provides that EPA will generally not take CERCLA enforcement actions against an owner of residential property unless the residential homeowner's activities lead to a release or threat of release of hazardous substances resulting in the taking of a response action at a site. Residential Homeowner Policy at 1.

The Contaminated Aquifers Policy provides that, subject to certain conditions,[9] "where hazardous substances have come to be located on or in a property solely as the result of subsurface migration in an aquifer from a source or sources outside the property, EPA will generally not take enforcement action against the owner of such property to require the performance of response actions or the payment of response costs." Contaminated Aquifers Policy at 3.

Both the Residential Homeowner Policy and the Contaminated Aquifers Policy address

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[8] One aspect of the Contaminated Aquifers Policy has been changed by Section 107(q)(3). The Contaminated Aquifers Policy refers to "EPA's policy of not providing no action assurances." Contaminated Aquifers Policy at 2. However, as discussed *infra* at Section II.D, CERCLA § 107(q)(3) specifically states that EPA may, in its discretion, provide an assurance that no enforcement action under CERCLA will be initiated against a landowner who meets the criteria in section 107(q)(1).

[9] The conditions set forth in the policy are: (A) the landowner did not cause, contribute to, or exacerbate the release or threat of release of any hazardous substances, through an act or omission; (B) the person who caused the release is not an agent or employee of the landowner, and was not in a direct or indirect contractual relationship with the landowner; and (C) there is no alternative basis for the landowner's liability for the contaminated aquifer, such as liability as a generator or transporter under section 107(a)(3) or (4), or liability as an owner by reason of the existence of a source of contamination on the landowner's property other than the contamination that migrated in an aquifer from a source outside the property. Contaminated Aquifers Policy at 3-4.

conditions under which the Agency may exercise its enforcement discretion with respect to certain landowners. For example, under both policies, the Agency may consider whether the landowner: (1) did not cause or contribute to the release; (2) provides access when requested by the Agency; (3) complies with section 104(e) information requests; (4) cooperates with those taking response actions; and (5) complies with institutional controls, among other conditions. Many of these considerations are the same as, or similar to, the contiguous property owner criteria set forth in section 107(q)(1)(A).

Congress specifically references EPA's Contaminated Aquifers Policy in CERCLA § 107(q)(1)(D), as well as referring favorably to the policy in legislative history.[10] Section 107(q) provides that the "reasonable steps" required of a contiguous property owner in section 107(q)(1)(A)(iii) do not include conducting groundwater investigations or installing groundwater remediation systems, except in accordance with the Contaminated Aquifers Policy. On this point, the Contaminated Aquifers Policy provides that an owner covered by the policy need not take any affirmative steps to investigate or prevent the activities that gave rise to the original release, such as conducting groundwater investigations or installing groundwater remediation systems, in the absence of exceptional circumstances.[11] The policy may not apply, however, where the property contains a groundwater well, the existence or operation of which may affect the migration of contamination in the affected aquifer. Under the Contaminated Aquifers Policy, these cases merit fact-specific analysis. Id.

2. *Ways in which the Residential Homeowner and Contaminated Aquifers Policies may be broader than Section 107(q)*

In some ways, EPA's Residential Homeowner Policy and Contaminated Aquifers Policy may be broader (i.e., apply to more landowners) than the contiguous property owner liability protection in new section 107(q). For example, under the Residential Homeowner Policy, an owner of residential property can purchase with knowledge or reason to know that contamination was present on the site and still be covered by the policy. Similarly, the

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[10] S. Rep. No. 107-2, at 9-10, provides that the contiguous property owner liability protection is "similar to EPA guidance on the topic entitled Final Policy Toward Owners of Property Containing Contaminated Aquifers (OSWER Memorandum dated May 24, 1995), which clarifies that EPA will not bring enforcement actions against owners of property that has been impacted by contaminated groundwater migrating from a neighboring facility."

[11] The Contaminated Aquifers Policy discusses groundwater investigations and the installation of remedial groundwater systems in the context of the due care obligation of innocent landowners. Contaminated Aquifers Policy at 3. The policy concludes that failure to take the described affirmative steps to address contaminated groundwater does not, absent exceptional circumstances, constitute a failure to exercise "due care" or to take the required "precautions" within the meaning of the section 107(b)(3) affirmative defense. In order to invoke this defense, a party must show by a preponderance of the evidence that, among other things, he exercised due care with respect to the hazardous substance concerned and took precautions against foreseeable acts or omissions of third parties.

Contaminated Aquifers Policy may apply to a person who purchases property with knowledge of contamination in certain circumstances.[12] In contrast, section 107(q) provides that a person must purchase without knowledge or reason to know that the property is or could be contaminated in order to qualify for the contiguous property owner liability protection.

To the extent that the Residential Homeowner Policy and the Contaminated Aquifers Policy are broader than section 107(q), EPA may still apply these policies through the exercise of its enforcement discretion. In addition, EPA may consider providing parties who do not qualify as contiguous property owners pursuant to section 107(q), but are within EPA's Contaminated Aquifers Policy, with *de minimis* landowner settlements under section 122(g)(1)(B).[13] Similarly, EPA may, in its discretion, continue to provide comfort letters to parties covered by the Residential Homeowner or Contaminated Aquifers Policies, in keeping with the Agency's "Policy on the Issuance of Comfort/Status Letters," Memorandum from Steven H. Herman, Assistant Administrator, Office of Enforcement and Compliance Assurance, November 8, 1997; reprinted at 62 Fed. Reg. 4,624 (January 30, 1997) ("Comfort/Status Letter Policy"). That policy provides that, where EPA either plans to respond or in some manner already is responding at a site, EPA may upon request provide a "Federal Interest Letter," which addresses the applicability of an Agency Superfund policy, regulation or CERCLA statutory provision to a party or a particular set of circumstances. Comfort/Status Letter Policy at 4,625. Under the Comfort/Status Letter Policy, EPA uses comfort letters where they "may facilitate the cleanup and redevelopment of brownfields, where there is the realistic perception or probability of incurring Superfund liability, and where there is no other mechanism available to adequately address the party's concerns." Id. at 4,624.

3. *Ways in which Section 107(q) may be broader than the Residential Homeowner and Contaminated Aquifers Policies*

On the other hand, section 107(q) may be broader in some respects than EPA's Residential Homeowner and Contaminated Aquifers Policies. For example, the Residential Homeowner Policy applies only to owners of residential property, whereas the contiguous property owner liability protection applies to owners of any property, whether residential, commercial, or industrial, as long as the owner meets the criteria set forth in section 107(q)(1)(A). Similarly, the Contaminated Aquifers Policy applies only to groundwater contamination, whereas section 107(q) is not limited to groundwater contamination. Under

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[12] The Contaminated Aquifers Policy recommends an analysis of whether the landowner knew or had reason to know at the time of acquisition of the disposal of hazardous substances that gave rise to the contamination in the aquifer where the landowner acquired the property, directly or indirectly, from the person who caused the original release. Contaminated Aquifers Policy at 3.

[13] If a landowner qualifies as a contiguous property owner, EPA may in its discretion provide the landowner with a no action assurance letter or settlement pursuant to section 107(q)(3). See infra, Section II.D.

section 107(q), owners of property contaminated as a result of contamination that has migrated from another property, whether in the form of groundwater, air deposition, or other environmental media, may qualify as protected contiguous property owners, provided they meet the criteria set forth in section 107(q)(1)(A).

To the extent that a landowner meets the statutory criteria of a contiguous property owner, his statutory protection from liability should obviate the need to rely on EPA's Residential Homeowner or Contaminated Aquifers enforcement discretion policies.

D. Mechanisms to Resolve Contiguous Property Owner Liability Concerns: Assurance Letters and Settlements under Section 107(q)(3)

Section 107(q) confers CERCLA liability protection to landowners that meet the criteria in section 107(q)(1)(A), regardless of whether the landowners have sought and acquired input on their status from EPA. Nevertheless, Congress has specifically provided EPA with mechanisms the Agency may use, in its discretion, to resolve any remaining liability concerns of contiguous property owners. Section 107(q)(3) provides that the Administrator may issue an "assurance" that no enforcement action under CERCLA will be initiated against a contiguous property owner, and may grant "protection against a cost recovery or contribution action under section 113(f)." EPA believes these mechanisms should be used sparingly, because they are not necessary in order to confer liability protection on parties who qualify as contiguous property owners. Regions should provide section 107(q)(3) assurance letters and settlements only after evaluating the statutory criteria for a contiguous property owner, and determining that such a letter or settlement is necessary and appropriate given the relevant, fact-specific circumstances.

Generally, EPA may provide a section 107(q)(3) assurance letter in the following circumstances: (1) EPA receives a written request for such a letter from a landowner who demonstrates to the Agency that it meets the statutory criteria of a contiguous property owner; and (2) EPA has been involved at the landowner's property and/or the property or properties from which there is a release or threat of release (i.e., EPA has conducted a response action there).

Similarly, EPA may provide a contiguous property owner with a section 107(q)(3) settlement where: (1) EPA receives a written request for such a letter from a landowner who demonstrates to the Agency that it meets the statutory criteria of a contiguous property owner; (2) EPA has been involved at the landowner's property and/or the property or properties from which there is a release or threat of release (i.e., EPA has conducted a response action there); and additionally, (3) the landowner has been sued under CERCLA by third parties, or can demonstrate a real and substantial threat of such litigation.

The authority to provide no action assurance letters or settlements to contiguous property owners pursuant to section 107(q)(3) is delegated to the Regional Administrators, subject to the concurrence of the Assistant Administrator for Enforcement and Compliance

Assurance or his/her designee. Delegation 14-14-I "Small Business and Brownfields Liability Clarifications" (2003). In its discretion, EPA may consult with DOJ before issuing no action assurances or settlements under section 107(q)(3) for sites at which the United States is not involved in litigation. For sites where the United States is involved in litigation, EPA will consult with DOJ before issuing section 107(q)(3) assurance letters or settlements.

III. Conclusion

Evaluating whether a landowner meets the criteria of section 107(q) will require careful, fact-specific analysis by the regions as part of their exercise of enforcement discretion. This memorandum is intended to provide EPA personnel with some general guidance on the contiguous property owner provision. As noted at the outset, EPA is issuing this memorandum as an interim policy and will use the experience gained in its implementation to decide whether to revise or amend this policy in the future.

Questions and comments regarding this memorandum should be directed to Cate Tierney in OSRE's Regional Support Division (202-564-4254, Tierney.Cate@EPA.gov).

IV. Disclaimer

This memorandum is intended solely for the guidance of employees of EPA and it creates no substantive rights for any persons. It is not a regulation and does not impose legal obligations. EPA will apply the guidance only to the extent appropriate based on the facts.

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January 11, 2020

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COMMENTS OF HI-SHEAR CORPORATION TO RWQCB'S DRAFT CLEANUP AND ABATEMENT ORDER NO. R4-20XX-XXXX (11/30/2020)

Re: **Comments of Hi-Shear Corporation to RWQCB's Draft Cleanup and Abatement Order No. R4-20XX-XXXX**

Dear Ms. Purdy, Mr. Marley, Mr. Heath, Ms. Ly, Mr. Lin, and Ms. Austin:

On behalf of Hi-Shear Corporation ("Hi-Shear"), and no other parties or Respondents, this correspondence will serve to provide comment on, and request modifications to, portions of the Draft Cleanup and Abatement Order No. R4-20XX-XXXX (the "Draft CAO") dated November 30, 2020 issued by the Los Angeles Regional Water Quality Control Board ("RWQCB") to Hi-Shear and the following Respondents/Dischargers: the City of Torrance;

Magellan Aerospace, Middletown, Inc.; Excellon Technologies, LLC; Esterline Technologies Corporation; Robinson Helicopter Company; and Dasco Engineering Corporation (collectively "Respondents" and the "Other Responsible Parties"). The RWQCB has extended the public comment period for the Draft CAO to January 11, 2021.

Hi-Shear hereby provides comment on, and objection to, portions of the Draft CAO on grounds including that it: 1) imposes multi-million dollar obligations on Hi-Shear despite the absence of facts indicating that Hi-Shear is responsible for contamination that exists east of Crenshaw Blvd.; 2) imposes responsibility on Hi-Shear for reimbursement/payment of oversight costs attributable to the RWQCB's oversight of other Respondents, and despite the fact that Hi-Shear, and no other Respondent, has already paid hundreds of thousands of dollars in RWQCB oversight costs attributable to other Respondents; 3) is redundant with numerous other orders that have been previously issued to the Other Responsible Parties, but not aggressively enforced; 4) includes an unrealistic, premature and conflicting schedule of deadlines; and 5) contains numerous factual inaccuracies. Each of these comments is discussed below. Accordingly, Hi-Shear requests modification of the Draft CAO, and that it be removed as a Respondent under the Draft CAO.

I. Introduction

The properties addressed in the Draft CAO are commercial properties located east adjacent to the Hi-Shear Property (the "EA Properties") The EA Properties are further subdivided into the following three properties: EA Property 1 is identified with the property addresses of 24751 and 24777 Crenshaw Boulevard, Torrance, CA, and is currently occupied by South Bay Lexus (a vehicle dealership); EA Property 2 is identified with the property addresses of 24707, 24747 and 24701 Crenshaw Boulevard, Torrance, CA, and is currently occupied by Dasco Engineering Corporation (manufacturer of precision mechanical aircraft and space components); and EA Property 3 is identified with the property addresses of 2530 and 2540 Skypark Drive, Torrance, CA, and is currently occupied by Robinson Helicopter (hereinafter collectively referred to as the "Site").

In the Draft CAO, the RWQCB alleges that Hi-Shear and the Other Responsible Parties are responsible for the investigation, cleanup and abatement of discharges due to their current or prior ownership of the Site and/or their current or prior operations at the Site, which resulted in the discharge of wastes, including volatile organic compounds ("VOCs"), primarily trichloroethene ("TCE") and tetrachloroethene ("PCE"), perchlorate, 1-4-dioxane, metals, and total petroleum hydrocarbons, which are constituents of concern ("COCs") to the environment and human health.

II. There Is No Technical Justification For Imposing on Hi-Shear Additional Investigatory And Remedial Obligations For Contamination Detected East Of Crenshaw Blvd.

It is Hi-Shear's position, and general objection, that the Draft CAO is manifestly unjust to the extent that it requires Hi-Shear to investigate and remediate contamination which data has shown cannot reasonably be attributed to Hi-Shear. In this regard, the contaminant contributions from source locations (and therefore from the Other Responsible Parties) other than Hi-Shear have been documented, most recently in "Section 4.0 Potential Source Areas," with detailed discussion of the data in "Section 8.2 VOC in Soil Vapor," in the Interim Module III Report already submitted to the RWQCB by Hi-Shear's technical consultant, Genesis Engineering & Redevelopment, Inc. ("Genesis"). A copy of this Interim Module II Report is included herewith for ease of reference.

As has been discussed with the RWQCB during numerous recent meetings with Hi-Shear and its consultants, it is Hi-Shear's position that it is scientifically impossible for the known contamination on the Hi-Shear property to have migrated through the plume of contaminants emanating from the Other Responsible Parties' east adjacent properties ("East Adjacent Properties"), or to have off-gassed from the groundwater plume. Rather, the source of the contamination detected east of Crenshaw Blvd., and therefore the entirety of the liability for that contamination, is the Other Responsible Parties at the East Adjacent Properties, and/or other source parties yet to be identified through Hi-Shear's ongoing investigation.

C.1

Compounding the unjust nature of these requirements for Hi-Shear is the fact that Hi-Shear has been, and is currently performing the required investigative work on its own, without the participation of the Other Responsible Parties, despite data obtained by Hi-Shear showing the liability of the Other Responsible Parties. Hi-Shear therefore requests that the RWQCB enforce its numerous orders issued to the Other Responsible Parties instead of punishing the only party actually complying with the orders issued to it.

C.2

III. The Draft CAO's Lack of Project Oversight Sharing is Inequitable and Punitive in Nature for Hi-Shear.

The Draft CAO requires Hi-Shear to not only investigate, mitigate, and eventually remediate conditions attributable to the Other Responsible Parties, but also to on its own bear the extreme financial burden of funding the RWQCB's hundreds of thousands of dollars of oversight costs. This is inequitable and punitive in nature, and Hi-Shear therefore requests that the Draft CAO be modified to require that all oversight costs be borne entirely by the Other Responsible Parties until the amount of oversight costs paid by each Respondent has been equalized.

C.3

As the RWQCB correctly notes in the Draft CAO, Hi-Shear has to date been the only party that has performed any significant investigation and mitigation of the Site and surrounding

areas. In this regard, Hi-Shear has, on its own behalf and without the participation of any of the Other Responsible Parties, submitted the following technical reports in the last four (4) years: an *Interim Offsite Assessment Report* ("IOAR") dated September 9, 2016; a *Groundwater Remedial Implementation Report* ("GWRIR") dated September 7, 2017; a *Catalytic Oxidizer Soil Vapor Extraction System Remedial Progress Report* ("SVE Progress Report") dated April 30, 2018; a *Soil, Soil Vapor, and Groundwater Delineation – Module I* ("Module I") dated March 13, 2020; a *Soil, Soil Vapor, and Groundwater Delineation Report – Module II* ("Module II") dated March 16, 2020; a *Vapor Intrusion Response Plan* ("VIRP") dated March 20, 2020; a *Soil, Soil Vapor, and Groundwater Delineation Report – Module III – Interim Report* ("Interim Module III") dated July 3, 2020; a *Soil, Soil Vapor, and Groundwater Delineation Report* – Module V ("Module V") dated April 3, 2020; *Hi-Shear Module V Addendum - MW-39 Installation and Sampling* ("Module V Addendum") dated June 15, 2020; and an *Evaluation of Subsurface VOCs – 24701-24747 Crenshaw Boulevard & 2530-22540 Skypark Drive* ("Evaluation Report") dated February 23, 2018.

In addition, Hi-Shear and its consultants are currently involved in three (3) separate ongoing investigations and work plans: the original 2018 Delineation Work Plan, the completion of which has been delayed due to access issues, including at the Torrance Airport; the Vapor Intrusion Response Plan ("VIRP") in the City of Lomita; and the design and installation of a soil vapor extraction ("SVE") system. The technical findings from these additional scopes of work will likely result in the naming of additional responsible parties, which will further assist the RWQCB in allocating responsibility to expedite this cleanup process.

Unfortunately, however, the RWQCB continues to charge Hi-Shear for oversight services provided to the properties of the Other Responsible Parties. For years, Hi-Shear has requested that the RWQCB establish separate oversight accounts for the Other Responsible Parties, but this has still not been done. Despite numerous Orders to the Other Responsible Parties, and despite the RWQCB's repeated request that the Other Responsible Parties agree to the formation of a joint oversight account in order to simplify accounting and pro rata cost sharing, the Other Responsible Parties have repeatedly refused to comply.

Hi-Shear has attempted to resolve this inequitable oversight funding situation through years of direct discussions with the RWQCB and counsel for the Other Responsible Parties, with no success. As drafted, the Draft CAO effectively designates Hi-Shear as the party responsible for the oversight of all parcels, which is unduly punitive to Hi-Shear especially since the data clearly reflects that the Other Responsible Parties have greatly contributed to this regional contamination problem.

It is inequitable to require Hi-Shear to continue to fund 100% of the oversight for this massive project, including those shares of the Other Responsible Parties. Given Hi-Shear's decades of technical investigation and mitigation work to investigate and clean up the Site (with no assistance whatsoever from the Other Responsible Parties), the Draft CAO should rightfully

be amended to require that all oversight costs incurred are paid by the Other Responsible Parties until the costs paid by each party equal the amount that Hi-Shear has already paid. In addition, Hi-Shear requests that the RWQCB arrive at an appropriate allocation of oversight costs among the seven (7) Respondents named in the Draft CAO, whether through the establishment of separate oversight accounts or a defined pro rata cost sharing allocation in the CAO.

IV. The Draft CAO Imposes Obligations that are Overlapping, Vague and Redundant with Existing Orders, and Unjust to Hi-Shear, such that a Meeting with the RWQCB and all Respondents is Requested to Address and Define CAO Compliance Obligations.

As noted in the Draft CAO, the RWQCB has issued numerous prior orders to the Other Responsible Parties and Respondents in this matter. Significantly, the Draft CAO's obligations for additional investigatory and remedial work are largely redundant and overlapping with these prior orders, such that compliance obligations are unclear. While the text of the Draft CAO attempts to integrate the obligations set forth in these prior orders, this attempted integration has resulted in overlapping, confusing and undefined technical directives such that the compliance obligations of Hi-Shear, and the Other Responsible Parties, remain unclear.

C.3.5

Furthermore, it is Hi-Shear's position that the RWQCB must enforce its prior existing orders against the Other Responsible Parties prior to imposing additional obligations on Hi-Shear. It is patently unfair to require Hi-Shear to alone assume the extensive requirements of the Draft CAO when it has already spent millions of dollars in compliance while the other Responsible Parties and Respondents have stood by idly and done little to nothing.

In light of the foregoing, Hi-Shear requests that the RWQCB meet with all Respondents and Other Responsible Parties in an effort to properly define the CAO compliance and implementation required of each such Respondent and Other Responsible Party.

V. The Draft CAO Includes Numerous Specific Technical Deadlines that are Completely Unrealistic, Including Some Deadlines that will have Already Passed Prior to the CAO Even Being Finalized.

The Draft CAO calls for a significant number of technical report submissions and compliance deadlines within a very short period of time, and all of these dates are premature. For example, many of these proposed compliance deadlines are in January and February of 2021, prior to the date that the CAO will even be finalized, and well prior to the date that the necessary (and previously approved and ongoing) aspects of Hi-Shear's investigation will be completed. It is not in any way feasible to comply with the Time Schedule and deliverables set forth in the Draft CAO, and changes are warranted.

Hi-Shear submits that rather than including the numerous "hard date" deadlines, the deadlines in the Draft CAO should, as a triggering event for all following submission deadlines,

C.4 be listed as "xx number of days from the date of the RWQCB's final approval of the CAO." To require otherwise, and before all necessary data has been collected, will result in incomplete and potentially misleading technical submissions which would not be to anyone's benefit.

As one example of the many problems posed by the proposed deadlines, the Draft CAO's Time Schedule provides that the public comment period for the Draft CAO ends on January 11, 2021 (extended by the RWQCB from January 4, 2021). It is anticipated that the RWQCB will require some amount of time (e.g. 30 days) to address comments received and to approve the final CAO. However, because the Draft CAO includes multiple deadlines in January and February 2021 that will have passed even before the guiding document (the CAO) has been finalized, these proposed deadlines are premature and unreasonable, and compliance with them will result in submissions based on incomplete data.

Therefore, Hi-Shear requests that the entire Time Schedule of deliverables be removed from the Draft CAO, and that reasonable extended deadlines be included based on "xx number of days from the date of the RWQCB's final approval of the CAO." In addition, as noted above, Hi-Shear requests that a meeting be promptly scheduled with the RWQCB and all Respondents to discuss CAO compliance and a reasonable extended schedule for technical submittals.

VI. Requests for Modification of Fact Sections of Draft CAO

Hi-Shear requests that the following sections of the Draft CAO be modified as indicated to more accurately reflect the facts and current data:

1) Background, 2.

C.5 This section of the Draft CAO states that the location of the Site has primarily been leased for aviation/aerospace companies. While true, Hi-Shear believes it is also important for this section to note that electronics manufacturing (i.e. printed circuit boards) also occurred on the Lexus property. In addition, the widespread detection of Freon (which is widely used for cleaning electronics parts) near the Robinson Helicopter property suggests that electronics manufacturing may also have been occurring on that property. The Draft CAO also discusses circuit board fabrication by Excellon from 1979-2003 on Property 1. Hi-Shear requests that this statement be modified to include electronics manufacturing, as these processes appear to have significantly contributed to the release of VOC concentrations. Therefore, at a minimum, Hi-Shear requests that "electronics manufacturing" be included in the Draft CAO's description of the operational history of Lexus Property location.

2) Evidence of Waste Discharge, 4a.

In this section of the Draft CAO, the history of environmental investigations should also include groundwater monitoring. A citation for the "Third Tri-Annual 2019 Groundwater

C.6 Monitoring Report" by Genesis dated March 11, 2020 should be added to the investigation list. Thus, Hi-Shear respectfully requests that the RWQCB include in Section 4a the words "partial conditional approval of the investigation of Lexus property was issued by the RWQCB on 12/21/20."

3) Evidence of Waste Discharge, 4cvii.

C.7 In this section 4cvii of the Draft CAO, the results of the Interim July 3, 2020 Module III report are summarized. Although this section of the CAO states that concentration highs have been identified on several properties, Section 8.2 states that the concentration highs indicate source areas where VOC have been released into the subsurface including a source area to the east of Crenshaw Boulevard. Based on the RWQCB's receipt of this data, the Draft CAO should be modified to clearly state that these concentration highs have been recorded on properties where other contributing source areas are present, including the source area east of Crenshaw Boulevard, which remains to be defined through the investigation that remains ongoing.

4) Evidence of Waste Discharge, 4d.

C.8 In this section 4d of the Draft CAO, the EA Properties work plans have been reviewed by the RWQCB since the date that the Draft CAO was issued. In addition, partial conditional approval of the investigative work plan for the Lexus property was issued by the RWQCB on 12/21/20. Thus, this section 4d should be modified accordingly.

5) Summary of Findings from Investigations, 5bii.

C.9 This section 5bii of the Draft CAO does not discuss that 1,1-DCE was also detected in soil vapor on Property 1 at up to 86,700,000 µg/m3. This information should be discussed in this section because it is the highest concentration at which VOCs have been detected to date and because 1,1-DCE is an important tracer for evaluating releases from various properties. Thus, Hi-Shear respectfully requests that "1,1-DCE was also detected in soil vapor on Property 1 at up to 86,700,000 µg/m^3" is included in this section.

6) Summary of Findings from Investigations, 5ci.

C.10 In this section 5ci of the Draft CAO, it is unclear whether "onsite" is defined as the Hi-Shear Property, the EA Properties, or both. "Site" is not capitalized as defined earlier in the Draft CAO. Thus, Hi-Shear respectfully requests that the Draft CAO be modified to define whether "onsite" refers to the Hi-Shear Property, the East Adjacent ("EA") Properties, or both.

7) Summary of Findings from Investigations, 5ciii.

In this section 5ciii of the Draft CAO, it stipulates that groundwater degassing is the source of VOCs in soil vapor beneath the Hi-Shear and the EA properties. Hi-Shear regards this statement as highly misleading, since it ignores the process of vapor phase transport away from source areas in the unsaturated zone that are likely to be the main contributor to VOCs in soil vapor. Furthermore, there is ample evidence showing that groundwater degassing is not the major source of VOCs in soil vapor, in particular above the perched groundwater layer on Property 1. Thus, Hi-Shear respectfully requests that the RWQCB specify that the groundwater degassing is not the only source of VOCs in soil vapor beneath Hi-Shear, the EA properties, and east of Crenshaw Boulevard.

C.11

8) Authority – Legal Requirements, 20.

In this section, the RWQCB estimates that it will cost $2,000,000.00 to $5,000,000.00 to implement all the directives set forth in the Draft CAO. Hi-Shear notes that this cost estimate is unrealistically low and is based on data that remains incomplete. In this regard, Hi-Shear's consultants cannot, at this time, given the incomplete technical investigations that remain ongoing, and the overlapping and redundant obligations in the various orders, provide any realistic cost estimate for the implementation of the Draft CAO, other than to opine that the costs will be triple or quadruple those estimated in the Draft CAO. The huge cost of compliance with the Draft CAO reinforces the unjust nature of imposing further financial obligations on Hi-Shear, which is the only Respondent in compliance with all the orders that have been issued to it.

C.12

VII. Conclusion

It is fundamentally unfair to issue another order demanding that Hi-Shear perform many millions of dollars of additional work when it is the only Respondent that has complied with the RWQCB's existing orders in any meaningful fashion. In addition, the RWQCB's lack of successful enforcement of the pre-existing orders against the Other Responsible Parties has placed Hi-Shear in the unduly burdensome, cost-prohibitive and unfair position of funding the massive financial burden of CAO compliance and oversight funding on its own. Furthermore, as the submitted data reflects, there is no scientific basis for imposing any obligation whatsoever on Hi-Shear to conduct any investigations east of Crenshaw Blvd., as the data fully support Hi-Shear's position that its contamination has not migrated to that point.

Based on the foregoing, Hi-Shear respectfully requests that the Draft CAO be modified: to remove Hi-Shear (which has complied with all RWQCB orders and is currently implementing certain scope elements in the Draft CAO) as a Respondent under the CAO; to order that all Other Responsible Parties and Respondents pay all oversight costs going forward; to include revised submission and compliance deadlines for Respondents framed as "xx days from the date of the RWQCB's final approval of the CAO"; and to include the requested revisions and additional

facts as stated above, including a realistic, significantly higher, cost estimate for implementation of the Draft CAO.

In addition, Hi-Shear renews its request that the RWQCB pursue enforcement activities against the Respondents and Other Responsible Parties so that Hi-Shear does not continue to bear the entire oversight and technical funding burden for this massive investigation and cleanup project alone. Thank you for your consideration of Hi-Shear's comments and requests for modification of the Draft CAO, and we look forward to your response.

Very truly yours,

/David L. Evans/
DAVID L. EVANS
THOMAS P. SCHMIDT
JEFF W. POOLE

Exhibit 1: Interim Module III Report

Rutan & Tucker, LLP on behalf of the City of Torrance (R&T)

RUTAN
RUTAN & TUCKER, LLP

Richard Montevideo
Direct Dial: (714) 662-4642
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January 11, 2021

VIA ELECTRONIC MAIL

Mr. Hugh Marley
Assistant Executive Officer
Los Angeles Regional Water
Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013
hugh.marley@waterboards.ca.gov

Re: City of Torrance's Comments & Objections to Draft Cleanup And Abatement Order No. R4-20XX-XXXX

Site: Skypark Commercial Properties (Assessor Parcel No. 7377-006-906), 24701 – 24777 Crenshaw Boulevard and 2530, 2540, and 2600 Skypark Drive, Torrance, California (SCP NO. 1499)

Dear Mr. Marley:

This office represents the City of Torrance ("City" or "Torrance") in connection with the above referenced matter. These objections/comments are being provided in response to the Los Angeles Regional Water Quality Control Board's ("Regional Board") proposed Draft Cleanup and Abatement Order ("Draft Order") provided by the Regional Board by letter dated November 30, 2020. The Draft Order concerns the property known as the Hi-Shear property located at 2600 Skypark Drive, Torrance, CA ("Hi-Shear Property"), as well as the properties located at 24701 – 24777 Crenshaw Boulevard, Torrance, CA ("Property 1"), and 2530 Skypark Drive, Torrance, CA ("Property 2"), and 2540 Skypark Drive, Torrance, CA ("Property 3") (the Hi-Shear Property and Properties 1,2 and 3 are collectively referred to as the "Site").

Included with this letter as Exhibit 1, is GSI Environmental Inc.'s ("GSI") Technical Memorandum provided to the Regional Board in June of 2020 (Exhibit 1, "GSI June 2020 Tech Memo"), addressed to Ms. Renee Purdy, Executive Officer, and entitled "*Review and Analysis of Current Data on Historical Site Use and Environmental Conditions at the Hi-Shear Site, 2600 Skypark Drive, Torrance, CA*"). Included with this letter as Exhibit 2 and dated January 11, 2020, are GSI's Technical Comments submitted on behalf of the City of Torrance, in response to the Draft Order ("GSI Tech Comments").

D.1

In sum, and first, the Draft Order should not be issued as to Torrance because it is legally deficient and it would be an abuse of discretion by the Regional Board to name the City as a responsible party in any final order: the City is not a "*discharger*" for purposes of California Water Code ("CWC") sections 13304 and/or 13267; and no cost benefit analysis, as required under CWC sections 13225 and 13267, has been conducted as to any work proposed to be imposed on Torrance. Accordingly, if issued as drafted as to Torrance, the Draft Order would be in violation of CWC

sections 13304, 13267, 13225 and 13267, as well as State Water Resource Control Board Resolution No. 92-94 (Exhibit 3, "Resolution No. 92-49").

D.1.5

Second, after over 30 years of the Regional Board overseeing the assessment and remedial work conducted by Hi-Shear Corporation, now known as Lisi Aerospace (hereafter, "Hi-Shear"), it is time the Regional Board took specific enforcement action, through a cleanup and abatement order ("C&A Order") under CWC section 13304, against Hi-Shear, and particularly required Hi-Shear to take immediate action to "cleanup and abate" the extensive contamination it has caused over its 65 plus years of operation on the property located at 2600 Sky Park Drive, Torrance, CA ("Hi-Shear Property") (commencing its operations in 1954).

Unfortunately, and astonishingly, even with the proposed Draft Order, the Regional Board has failed to include any specific directives to Hi-Shear to move forward immediately to address the primary source of the contamination that has triggered the Regional Board's preparation of the Draft Order, contamination which has moved east of Crenshaw Boulevard and into residential neighborhoods within the City of Lomita. After 30 years of delay, the failure of the Regional Board to finally order Hi-Shear to expressly and directly address the contamination on and migrating from the Hi-Shear Property, is inexplicable, but a clear abuse of the Regional Board's discretion.

For the reasons set forth herein, the Draft Order is legally deficient and arbitrary and capricious, and if issued as drafted, would constitute an abuse of discretion and action contrary to law by the Regional Board.

I. THE DRAFT ORDER IS CONTRARY TO CWC §§ 13304 & 13307, AND RESOLUTION 92-49 AS IT FAILS TO INCLUDE SPECIFIC FINDINGS AND DIRECTIVES AS TO HI-SHEAR, TO ADDRESS THE HI-SHEAR SOURCE AREA

The Draft Order, on its face, is proposed to be issued under CWC sections 13304 and 13267. It requires the preparation and submission of a Conceptual Site Model, a Human Health Risk Assessment, the preparation and implementation of a series of Site Assessment Work Plans, ongoing "Groundwater Monitoring", as well as Interim and Final Remedial Action Plans. It is proposed to be issued against Hi-Shear, various prior and current operators on Properties 1, 2 and 3, as well as against the City of Torrance.

However, the Draft Order contains no specific findings relevant to Hi-Shear, other than a single paragraph, finding that: "*Hi-Shear has been an occupant as early as 1954. Activities performed on the property include the manufacture, production, assembly, and cleaning of fasteners for the aerospace industry. Wastes generated as part of the activities contained COCs, including TCE and PCE, perchlorate, 1.4-dioxane, metals, and total petroleum hydrocarbons*."

Nor does the Draft Order require any specific Conceptual Site Model, Human Health Risk Assessment, or Site Assessment Workplan or Interim or Final Remedial Action Plan with respect to the Hi-Shear Property in particular. Yet, as explained in the GSI June 2020 Tech. Memo: "*The TCE and PCE soil vapor and groundwater plumes represent a single plume emanating from the Hi-Shear Site*." The "key findings" of the GSI June 2020 Tech Memo are as follows:

> 1. Hi-Shear's operations involved the significant use and storage of TCE and PCE on the Hi-Shear Site, historical Hi-Shear operational Site features provided pathways for TCE and PCE to be released to the subsurface, and waste handling practices were documented to be poor in 1991.
>
> 2. Soil, soil vapor, and groundwater data identify releases of TCE and PCE at historical Hi- Shear operational Site features, and these releases have caused a soil vapor and groundwater plume beneath the Hi-Shear Site, EA Properties, and Residential Properties.
>
> 3. The TCE and PCE soil vapor and groundwater plumes represent a single plume emanating from the Hi-Shear Site.
>
> 4. TCE is the remedy driver for groundwater impacts both on the Hi-Shear Site and downgradient on the EA Properties and Residential Properties.

(Exhibit 1, p. 1.) The GSI June 2020 Tech. Memo also summarizes Hi-Shear's operations on the Hi-Shear Property as follows:

> The Hi-Shear aerospace fastener manufacturing operations includes and previously included fastener manufacturing, heat treatment, process coating, ordinance assembly, plating with inground plating pits, and parts cleaning. These operations typically had included the use, storage and handling of significant quantities of chlorinated solvents. The use of significant quantities of TCE and PCE at the Hi-Shear Site is consistent with typical aerospace manufacturing and the subsurface data at the Site. "Aerospace manufacturers often use large quantities of solvents in a variety of cleaning and degreasing operations including parts cleaning, process equipment cleaning, and surface preparation for coating applications," (United States Environmental Protection Agency [USEPA], 1998).
>
> Historical records obtained to date for the Hi-Shear Site identified equipment that typically involved the use of TCE and PCE and that was located throughout the Hi-Shear Site. Solvent degreasers were located at several buildings since at least 1968 and at least 18 underground storage tanks (USTs) were located at the Hi-Shear Site. The Hi-Shear operations included a distillation unit for the distillation of spent solvent and a wastewater treatment plant for treating industrial wastewater from the

> plating operations (Hygienetics, Inc., [Hygienetics], 1991). These features indicate the Hi-Shear operations were of considerable size and involved the use and storage of significant quantities of TCE and PCE.
>
> Historical features at the Hi-Shear Site include structures that are frequently associated with chemical releases to the subsurface. A shallow drywell was located on the Hi-Shear Site, and dry-wells historically were used for waste disposal. In addition, clarifiers, and USTs were located at the Hi-Shear Site, and these structures are prone to leakage and release of solvents.
>
> Historical records document that Hi-Shear waste handling practices were poor. Hi-Shear waste handling practices resulted in releases of TCE and PCE to the subsurface, including the discharge of waste to the sewer system that connected to the main sewer lines on Skypark Drive and Crenshaw Boulevard. TCE and PCE have been detected in samples collected from waste discharged to the sewer. The waste discharged at the Hi-Shear Site was associated with degradation of the sewer system.

(Exhibit 1, p. 4.) However, in spite of Hi-Shear's extensive usage of significant quantities of HVOCs for decades, as well as its documented poor handling practices and the United States Environmental Protection Agencies ("US EPA") findings regarding documented problems with aerospace manufacturers such as Hi-Shear, the Draft Order contains barely a mention of Hi-Shear's operations, and no discussion of Hi-Shear's heavy usage of halogenated volatile organic compounds ("HVOCs"), including specifically its handling of large quantities of both TCE and PCE, its operation of 18 underground storage tanks, its usage of several solvent degreasers, nor its operation of a "*distillation unit for the distillation of spent solvent and a wastewater treatment plant for treating industrial wastewater from the plating operations*."

D.2

Additionally, the Draft Order contains no discussion of the extensive soil, soil vapor and groundwater sampling test results from reports prior to 2016, conducted on the Hi-Shear Property, which test results show high levels of soil and groundwater contamination throughout the Hi-Shear Property, including environmental investigations/reports conducted on the Hi-Shear Property as early as 1990. No pre-2016 reports are discussed in the Draft Order, even though the Regional Board has been overseeing all of Hi-Shear's environmental assessment and cleanup activities since at least 1990.

In short, and for reasons that are inexplicable, the Draft Order is woefully deficient in its description of the extensive operations of Hi-Shear on the Hi-Shear Property, even though the evidence shows that Hi-Shear's operations and use of HVOC was extensive and that its operations resulted in significant contamination to the Hi-Shear Property and beyond. Correspondingly surprising, is the lack of any particular directives to Hi-Shear in the Draft Order, to require Hi-

Shear to fully assess and remediate the substantial amount of contamination on and migrating from the Hi-Shear Property.

Similarly inexplicably excluded from the Draft Order (but well-documented in the GSI June 2020 Tech Memo), is the 30 years of remedial investigations and feasibility studies conducted on the Hi-Shear Property which show that Hi-Shear is the principal source of the contamination in issue, including the contamination located east of Crenshaw Boulevard in the City of Lomita. And yet, the Regional Board has been the principal responsible governmental agency overseeing the assessment and cleanup of the Hi-Shear Property since at least 1990, but the Draft Order contains no discussion of this oversight prior to 2016, as if the Regional Board's involvement in the assessment and cleanup of the Hi-Shear Property prior to 2016 never existed.

D.3

In sum, there is no rational explanation for the Regional Board's failure, after over 30 years of overseeing Hi-Shear's assessment and cleanup activities, to still, to this day, recognize the extensive amount of data showing the substantial amounts of HVOCs handled by Hi-Shear over the course of its 65 years of operations; the significant amount of contamination caused by Hi-Shear's operations to the soil and groundwater beneath and migrating from the Hi-Shear Property that has led to the contamination in issue; and the need for Hi-Shear to take immediate action to address such extensive amounts of contamination in both soil, soil vapor and groundwater. (*See e.g.,* Attachment A to Exhibit 2 hereto, January 8, 2021 GSI *Response to Hi-Shear's Response and Comments to GSI's Technical Memorandum of 9 June 2020*, p. 2 ["*Hi-Shear has allowed TCE and PCE released to groundwater at the Hi-Shear property to migrate downgradient for over 30 years. Further, this 30-year failure to address the groundwater plume migrating from the Hi-Shear property has been allowed to continue under the oversight of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board). Even now, Hi-Shear continues to delay implementation of adequate remediation efforts at the Hi-Shear Property, which recent sampling by Hi-Shear's consultant only further documents is the primary source of TCE and PCE in groundwater and soil vapor that has migrated east of the Hi-Shear property.*"].)

As you are aware from prior communications, the City of Torrance filed a lawsuit against Hi-Shear in October of 2017 to force Hi-Shear to address the contamination caused by its operations. (See Exhibit 4 hereto.) **This lawsuit was in part necessary because the Regional Board has not acted responsibly under the Water Code in its overseeing the assessment and cleanup of the Hi-Shear Property contamination, and has not taken action over a 30 year period, to force Hi-Shear to address the contamination in any reasonably timely manner, including at any time in the 1990s, even though the Regional Board had been involved in the process for all such time**.

CWC section 13304 Order provides for the issuance of a cleanup and abatement order against a person who "***has discharged or discharges waste into waters of the state***" in violation of a waste discharge requirement or other order or prohibition, or where said person has "***caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or***

deposited where it is, or probably will be, discharged into waters of the state and creates, or threatens to create, condition of pollution or nuisance." (CWC § 13304(a), emphasis added.)

Water Code section 13307 then provides, in relevant part, as follows:

> (a) The state board and the Department of Toxic Substances Control shall concurrently establish policies and procedures consistent with this division that the state board's representatives and **the representatives of regional boards shall follow in overseeing and supervising** the activities of persons who are carrying out the investigation of, and cleaning up or abating the effects of, a discharge of a hazardous substance which creates, or threatens to create, a condition of contamination, pollution, or nuisance. The policies and procedures shall be consistent with the policies and procedures established pursuant to Section 25355.7 of the Health and Safety Code and shall include, but are not limited to, all of the following:
>
> > (1) **The procedures the state board and the regional boards will follow in making decisions as to when a person may be required to undertake an investigation to determine if an unauthorized hazardous substance discharge has occurred.**
> >
> > (2) **Policies for carrying out a phased, step-by-step investigation to determine the nature and extent of possible soil and groundwater contamination or pollution at a site.**
> >
> > (3) Procedures for identifying and utilizing the most cost-effective methods for detecting contamination or pollution and cleaning up or abating the effects of contamination or pollution**.**
> >
> > (4) **Policies for determining reasonable schedules for investigation and cleanup, abatement, or other remedial action at a site**. The policies shall recognize the dangers to public health and the waters of the state posed by an unauthorized discharge and the need to mitigate those dangers while at the same time taking into account, to the extent possible, the resources, both financial and technical, available to the person responsible for the discharge.

(CWC 13307(a); emphasis added.)

Additionally, in State Board Resolution No. 92-49 (Exhibit 3), adopted pursuant to the requirements of CWC section 13307, it specifically provides that the Regional Board "*shall*" consider "*evidence in the following categories.*" "*Documentation of historical or current activities, waste characteristics, chemical use, storage or disposal information, as documented by*

public records, responses to questionnaires, or other sources of information," along with various other information including but not limited to, "*Industry-wide operational practices that historically have led to discharges, such as leakage of pollutants from wastewater collection and conveyance systems, sumps, storage tanks, landfills, and clarifiers*" and evidence of "*poor management of materials or waste such as improper storage practices*."

Resolution No. 92-49 also requires that the Regional Board make a reasonable effort to identify the discharges associated with the discharge and specifically to issue 13304 orders "*based on findings*" as required in the other parts of Resolution No. 92-49, sections I.A. and I.B, which provide, in relevant part, as follows:

> I. The Regional Board **shall apply** the following procedures in determining whether a person **shall be required to investigate a discharge under WC Section 13267**, or to clean up waste and abate the effects of a discharge or a threat of a discharge **under WC Section 13304**. The Regional Board shall:
>
> A. Use any relevant evidence, whether direct or circumstantial, including, but not limited to, evidence in the following categories:
>
> 1. **Documentation of historical or current activities, waste characteristics, chemical use, storage or disposal information, as documented by public records, responses to questionnaires, or other sources of information**;
>
> 2. **Site characteristics and location in relation to other potential sources of a discharge**;
>
> 3. Hydrologic and hydrogeologic information, such as differences in upgradient and downgradient water quality;
>
> 4. **Industry-wide operational practices that historically have led to discharges, such as leakage of pollutants from wastewater collection and conveyance systems, sumps, storage tanks, landfills, and clarifiers;**
>
> 5. **Evidence of poor management of materials or wastes, such as improper storage practices** or inability to reconcile inventories;
>
> 6. Lack of documentation of responsible management of materials or wastes, such as lack of manifests or lack of documentation of proper disposal;

7. **Physical evidence, such as analytical data**, soil or pavement staining, distressed vegetation, or unusual odor or appearance;

8. Reports and complaints;

9. **Other agencies' records of possible or known discharge**; and ... .

B. **Make a reasonable effort to identify the dischargers associated with the discharge.** It is not necessary to identify all discharges for the Regional Water Board to proceed with requirements for a discharger to investigate and cleanup;

C. **Require one or more persons identified as a discharger associated with a discharge or threatened discharge subject to WC Section 13304 to undertake an investigation, based on findings of I.A and I.B above**; ... .

(Exhibit 3, Resolution No. 92-49, pp. 3-4; emphasis added.) In light of the requirements set forth in CWC sections 13304 and 13307, and Resolution 92-49, the Regional Board's failure to delineate the history of HI-Shear's operations and to describe the primary source area of the contamination, *i.e.*, the Hi-Shear Property, as well as to order Hi-Shear to take immediate action to address the extensive contamination on and migrating from the Hi-Shear property, constitutes a clear abuse of discretion by the Regional Board and action that is contrary to law.

D.4

The proposed Draft Order should be revised so that it provides a detailed description of the offending Hi-Shear operations, a comprehensive description of the data showing the location, types and levels of the contamination on and migrating from the Hi-Shear Property, inclusive of all the data generated starting in 1990, **and an order directing that Hi-Shear take immediate action to fully assess and cleanup all such contamination on and migrating from the Hi-Shear Property**. The Regional Board's issuance of such an order is long overdue, and it would be malfeasance on its part at this time to delay such an order any longer. (*See also* the discussion in the GSI Tech Comments on this defect with the Draft Order, Exhibit 2, hereto.)

II. THE INCLUSION OF TORRANCE IN THE DRAFT ORDER IS CONTRARY TO CWC §§ 13267, 13304 & 13307 AND RESOLUTION 92-49

There is no dispute that in this case, the City of Torrance never operated on any of the properties in question; nor is there any evidence that Torrance ever caused or in any way contributed to any of the contamination in issue. To this point, there are no findings anywhere in the Draft Order that Torrance ever caused or in any way contributed to any of the contamination in issue, and there is no evidence in the record that would in any way support such findings, had they been made.

Accordingly, naming the City as a "*discharger*" under CWC section 13304 in any final C&A Order, under the undisputed facts regarding this Site, would be contrary to law, and would constitutes an abuse of discretion.

With the exception of the flawed legal position set forth in footnote 2 of the Draft Order (discussed further below), the entire basis for including Torrance in the Draft Order is set forth in proposed finding 17 (on page 16) of the Draft Order, which reads as follows:

> The City of Torrance is a Discharger because, as the current owner of all of the Site, the City of Torrance was aware of the activities that resulted in the discharges of waste and had the ability to control those discharges through contractual relationships with entities who discharged as a result of their operations. Despite being aware of the contamination present on and under its property, the City of Torrance has not performed any investigation or remediation to stop the migration of contamination.

However, the Draft Order references no evidence to support the proposed finding that "*Torrance was aware of the activities that resulted in the discharges of waste*." Nor is Torrance aware of the existence of any such evidence. Yet, such evidence and supported findings are required pursuant to CWC sections 13304 and 13307 and Resolution 92-49, as well as by Code of Civil Procedure ("CCP") section 1094.5. (*See e.g.,* CCP § 1094.5(b) ["*Abuse of discretion is established if the respondent has not proceeded in the manner required by law, the order or decision is not supported by the findings, or the findings are not supported by the evidence*."]; *see also* Resolution No. 92-49, pp.. 3-4 [requiring the Regional Board to require "*a discharger associated with a discharge or threatened discharge subject to WC Section 13304 to undertake an investigation, based on findings of I.A and I.B above*"].)

In short, there is nothing in either CWC sections 13267, 13304 and 13307, or Resolution No. 92-49, that would allow the Regional Board to issue a C&A Order without making appropriate findings, and without sufficient evidence to support such findings.

D.5

Accordingly, under the plain language of CWC sections 13267, 13304 and 13307 and Resolution No. 92-49, any order to be issued against the City would need to include specific findings and particular facts/evidence to support those findings, to justify a determination that the City is a "*discharger*" that is "*associated with a discharge*" subject to CWC section 13304 or section 13267, *i.e.*, to support the issuance of a C&A Order against Torrance. No such findings have been made with the Draft Order, and no evidence exists to support such findings had they been made. Instead, as to Torrance, the Draft Order is entirely void of necessary facts and findings and is therefore contrary to the clear requirements of law.

In the Draft Order, the Regional Board relies upon the case of *Tesoro Refining & Marketing Company LLC v. Los Angeles Regional Water Quality Control Board* (2019) 42 Cal.App.5th 453

("Tesoro") to argue that "*the City of Torrance is liable for the cleanup of wastes at the Site regardless of its involvement in the activities that initially caused the pollution*." (Draft Order, p. 15, fn.2.) However, a review of the *Tesoro* case shows it does not support the Regional Board's argument in this regard, and in fact, supports Torrance's position that Torrance cannot lawfully be considered a "*discharger*" under these facts for purposes of CWC section 13304.

In *Tesoro*, *supra*, 42 Cal.App.5th 453, the issue was ***not*** whether a property owner was appropriately named in a C&A Order under CWC section 13304 as a "discharger", as the Regional Board suggests in its Draft Order, but instead whether Tesoro, the owner and operator of a number of pipelines in the City of Long Beach, was responsible for gasoline contamination that had been found in and around the pipelines. Tesoro argued that the discharges that caused the contamination did not arise from its pipelines, but even if they did, that the discharges arose before CWC section 13304 was adopted, and thus that Tesoro was not liable as a "*discharger*" thereunder.

The trial court denied Tesoro's petition for writ of mandate, and the Court of Appeal affirmed, holding that Tesoro was liable as a "*discharger*," finding, "*discharge is properly interpreted to embody the entire period during which pollution is introduced into the environment and thereafter actively migrates so as to threaten to pollute or to pollute groundwater*." (*Id*. at 473, emphasis added.) Importantly, the *Tesoro* Court made no finding that the term "*discharger*" includes a mere passive owner of property leased to a third party, where the owner did not initially or at any time discharge any of the waste in issue.

In essence, with the Draft Order, the Regional Board's interpretation of the term "*discharge*" would mean that the migration of the released chemicals should be attributed to a different *discharger* than the *actual discharger* of the chemicals; and yet, such an interpretation, as quoted above, is actually inconsistent with the holding of the Court in *Tesoro*. It is also inconsistent with the position espoused by the Regional Board in *Tesoro*.

In *Tesoro*, the Court found that: "*The State Board's interpretation of the term "discharge," as referring to the entire flow of the discharged waste* ***from its origin to the groundwater*** *advances the legislative purpose of protecting the quality of the water of the state*." (*Id*. at 475; emphasis added.) Thus, the interpretation taken by the Regional Board in *Tesoro* was essentially that the continuing migration of waste into the soil and groundwater, after the initial alleged "*discharge*" had occurred, is the continuation of that same "*discharge*," and not a new "*discharge*" by a different or additional party having no involvement with the operations or with the initial "*discharge*." (*See also e.g*., *Tesoro*, *supra*, 42 Cal.App.5th at 475, holding ["*The Regional Board's application of the State Board's definition of 'discharge' to encompass a continuous process—* ***from initial leak to the ongoing process of contaminating soils and groundwater*** *through the process of migration of toxic chemicals into a plume from pipeline to groundwater—will best attain the legislative purpose of the Porter-Cologne Act*."]; emphasis added.)

D.6

Also noteworthy and left out of the Regional Board's discussion of *Tesoro*, is the fact that the Regional Board's cleanup and abatement order in *Tesoro* did not include any of the owners of the property within which the pipelines in issue were located. (*Id.* at 464 ["*In April 2013, the Regional Board issued a "tentative cleanup and abatement order" (TCAO) to Tesoro*."]; *see also* the final C&A Order issued to Tesoro/BP in 2014, Exhibit 5 hereto, Regional Board Order No. R4-2013-0064, p. 2 [naming only the pipeline owners/operators as "*dischargers*" and not naming the property owner, the "City of Long Beach" - "*The Site is a public street owned by the City of Long Beach*."].)

In fact, the approach followed in *Tesoro*, of not naming the property owner in the cleanup and abatement order, is a common practice of the Regional Board. (*See e.g.*, Exhibit 6, Regional Board Order No. R4-2010-0202 [naming only the former operator of the property as the "*discharger*," *i.e.*, "The Gillette Company," in the cleanup and abatement order, and not naming the property owner, the "Higgins Trusts"]; *see also* Exhibit 7, Regional Board Order No. R4-2010-0044, p. 2, [naming the property owner as a "*secondary*" responsible party, to be responsible only where the alleged "*primary*" responsible parties, *i.e.*, the operators/alleged dischargers, do not address the requirements of the order].)

In sum, the Regional Board has no legal basis under these facts, to name the City of Torrance as a "*discharger*" in the Draft Order, and it would be an abuse of discretion and action contrary to law if the Regional Board ultimately determines to name the City in any such final C&A Order. There are no "findings" in the Draft Order where the Regional Board has concluded that the City is an actual "*discharger*," and finding 17 on page 16 of the Draft Order, is not only insufficient, it is also not supported by any evidence in the record.

III. THE DRAFT ORDER VIOLATES CWC §§ 13267 & 13307 AND RESOLUTION NO.. 92-49 BECAUSE NO COST/BENEFIT ANALYSIS WAS PERFORMED AS TO THE WORK STATED TO BE REQUIRED OF TORRANCE

As discussed above, the Draft Order is proposed to be issued under CWC sections 13304 and 13267, and requires the implementation of various assessments and investigations, as well as ongoing groundwater monitoring. However, when issuing any investigation, reporting and/or monitoring order to a local public agency, such as the City of Torrance, CWC section 13225(c) requires the Regional Board to conduct a cost-benefit analysis as to the local public agency in particular, where it provides as follows:

Each regional board, with respect to its region, shall do all of the following:

* * *

(c) Require as necessary any state or local agency to investigate and report on any technical factors involved in water quality control or to obtain and

> submit analyses of water; **provided that the burden, including costs, of such reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained therefrom**.

(CWC § 13225(c); *see also* CWC § 13165 ["*The state board may require any state or local agency to investigate and report on any technical factors involved in water quality control; provided that the burden, including costs, of such reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained therefrom*."].)

Simiarly, CWC section 13267(b)(1) expressly compels a cost benefit analysis before tge Regional Board may require any technical investigation, reporting or monitoring into alleged discharges of contamination, whether required of a local public agency or of a private party, where it requires the following:

> (b)(1) ...**The burden, including costs, of these reports shall bear a reasonable relationship** to the need for the report and the benefits to be obtained from the reports. In requiring those reports, **the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports**.

(CWC § 13267(b), emphasis added.)

Third, and consistent with CWC sections 13225, 13165 and 13267, Resolution No. 92-49 provides as follows regarding the preparation and evaluation of technical data, reports and cleanup proposals:

> III. The regional water board **shall implement the following procedures** to ensure that dischargers shall have the opportunity **to select cost-effective methods** for detecting discharges or threatened discharges and methods for cleaning up or abating the effects thereof. The regional water board shall:
>
> * * *
>
> **B. Consider whether the burden, including costs, of reports required of the discharger during the investigation and cleanup and abatement of a discharge bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports;**

In spite of the express requirements of CWC sections 13225, 13165 and 13267, as well as Resolution No. 92-49, the only finding in the Draft Order regarding the Regional Board's conducting of a cost/benefit analysis, is a pure conclusionary statement in Finding 20 on page 17, which reads, in pertinent part, as follows:

> As required by Water Code section 13267, the Regional Board has considered the burden and benefits of requiring these reports and has determine that the benefit to water quality and public health outweighs the costs of generating the required reports. Soil, soil vapor, and groundwater concentrations on- and off-Site are detected above their applicable screening levels that are protective of water quality and public health and have not been fully delineated. Regional Board staff, in reliance on best professional judgement and State Water Board data, estimates that compliance with Water Code section 13267 in this Order will cost approximately $2,000,000 to $5,000,000, depending upon the extent of the investigation needed. The benefits to be obtained of the required reports include protection of human health, drinking water, and elimination of soil, soil vapor, and groundwater contamination which currently impacts an entire community.

This finding cites to no evidence to support its conclusion of "*approximately $2,000,000 to $5,000,000*," and provides no breakdown of the estimated costs, and no explanation of the particular assessment or remedial work that is to be conducted for this estimated amount. Additionally, there is no explanation of any benefits from work to be conducted under the Draft Order, other than a very broad and general statement involving the "*protection of human health*," and there are clearly no "findings," let alone supporting evidence, for having a local public agency, *i.e.*, the City of Torrance, who clearly did not cause the contamination, conducting the work under the Draft Order.

Additionally, the Draft Order fails to explain the specific assessment and remedial work that is to be required of the City of Torrance, other than presumably to conduct all the same work that is to be conducted by all of the private parties proposed to be named in the Draft Order, including of Hi-Shear. As such, there is no cost/benefit analysis of any kind of the work required of Torrance, a local public agency, pursuant to CWC sections 13225(c) and 13165.

D.7

In short, the Draft Order contains insufficient findings to support the conducting of the necessary cost/benefit analysis under CWC sections 13225 13165 and 13267, and Resolution 92-49, and there is no reference to any evidence in the record that would support the one very general and conclusionary finding contained in the Draft Order. There is a particular failure to conduct a cost/benefit analysis for naming Torrance, a public agency, whose funds are public funds, as a responsible party, or for imposing any of the various requirements thereunder on the City, which is particularly alarming in this case, given there is no evidence the City has ever caused or in any way contributed to the contamination, and given that the Regional Board has identified various other parties it contends have actually caused or contributed to the contamination.

It is well established in California that when making findings, *"**[t]he Regional Board must ensure that sufficient evidence is analyzed to support its decision and that the evidence is summarized in an appropriate finding. . . .** '[T]he agency which renders the challenged decision must set forth findings to bridge the analytic gap between the raw evidence and ultimate decision*

or order." . . . While the findings need not be "extensive or detailed[,]" ***"mere conclusory findings without reference to the record are inadequate."*** (*Asociacion de Gente Unida por el Agua v. Central Valley Regional Water Quality Board* (2012) 210 Cal.App.4th 1255, 1281; emph. added [quoting *Environmental Protection Information Center v. California Dept. of Forestry & Fire Protection* (2008) 44 Cal.4th 459, 516]; *see also City of Carmel-by-the Sea v. Board of Supervisors* (1977) 71 Cal.App.3d 84, p. 92 [citing *Topanga Assn. for a Scenic Community*, *supra*, 11 Cal.3d 506 at 517, fn. 16.)

The State Board itself has repeatedly recognized that, when making findings in an order under issued under the Water Code, "*[a] regional board must make findings that 'bridge the analytic gap between raw evidence and ultimate decision or orde*r.'" (2002 Cal. ENV LEXIS 1, at *6, *In the Matter of the Petition of MR. KELLY ENGINEER / ALL STAR GASOLINE, INC*. For Review of Assessment of Administrative Civil Liability, Order No. 01-034 [citing and quoting (2001) Cal. ENV LEXIS 3, *In the Matter of the Petition of Las Virgenes Municipal Water District, et al*., Order No. WQ 2001-03, at p. 4 (citing *Topanga Assn. For a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515), (1995) Cal. ENV. LEXIS 25, *In the Matter of the Petition of the City and County of San Francisco, San Francisco Baykeeper, et al*., Order No. WQ 95-4, at p. 23, and (1994) Cal. ENV. LEXIS 10, *In the Matter of the Petition of the Cities of Palo Alto, Sunnyvale, and San Jose, et al*., Order No. WQ 94-8, at p. 8.].)

The Regional Board's failure to adopt sufficient findings or to reference any evidence showing it conducted an actual cost benefit analysis on any of the various investigation, monitoring and reporting requirements the Regional Board seeks to impose on the City of Torrance with the Draft Order, especially where there is no evidence the City caused or contributed to the contamination, and given that actual alleged "*dischargers*" have been named in the Draft Order who would be required to conduct this work, is action contrary to law, and a clear abuse of discretion by the Regional Board.

IV. CONCLUSION

For the foregoing reasons, in light of the 30 year delay on the part of the Regional Board to take any enforcement action or issue any cleanup and abatement order against Hi-Shear, the Draft Order would be contrary to law and would constitute an abuse of discretion by the Regional Board if it is not revised as discussed above, to include a discussion of the historical operations of Hi-Shear involving the storage, handling and disposal practices of the HVOCs in issue, the investigation and assessment reports and analytical data going back to 1990, and an order specifically directed at Hi-Shear to take immediate action to fully and completely assess and remediate the contamination on and migrating from the Hi-Shear Property.

Additionally, it would be an abuse of discretion by the Regional Board, and action contrary to law, if the City of Torrance is included as a named party in any final order, and if a cost benefit

analysis, as envisioned under CWC sections 13225, 13165 and 13267, is not first conducted as to Torrance, before requiring Torrance to conduct any of the work required under the Draft Order.

The City respectfully requests that the Regional Board act without further delay to require Hi-Shear, the principal, if not sole responsible party for the subject contamination, to once and for all "*cleanup and abate*" all of the contamination it is suspected of causing, and to otherwise issue a final C&A Oder that is consistent with State law.

Sincerely,

RUTAN & TUCKER, LLP

Richard Montevideo

RM:pj
Enclosures
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EXHIBIT INDEX

Exhibits To City of Torrance's Comments & Objections to Los Angeles Water Board Draft Cleanup And Abatement Order No. R4-20XX-XXXX

January 11, 2021

EXHIBIT	DOCUMENT	DATE
1.	GSI Environmental Inc.'s ("GSI") Technical Memorandum, *Review and Analysis of Current Data on Historical Site Use and Environmental Conditions at the Hi-Shear Site, 2600 Skypark Drive, Torrance, CA*	06/09/2020
2.	GSI's Technical Comments submitted on behalf of the City of Torrance, in response to the Draft Order (including Attachment A thereto - GSI 1/8/2021 Response to Hi-Shear's Response and Comments to GSI's Technical Memo of 9 June 2020)	01/11/2021
3.	State Water Resource Control Board Resolution No. 92-94	10/02/1996
4.	City of Torrance Complaint in *City of Torrance v. Hi-Shear, et al.,* USDC Case No. 2:17-cv-07732	10/23/2017
5.	LA Regional Board Cleanup & Abatement Order No. R4-2013-0064	09/18/2013
6.	LA Regional Board Cleanup & Abatement Order No. R4-2010-0202	11/10/2010
7.	LA Regional Board Cleanup & Abatement Order No. R4-2010-0044	07/30/2010

Exhibit 1

GSI ENVIRONMENTAL

TECHNICAL MEMORANDUM

TO: **Rene Purdy, Executive Officer, LA Regional Water Quality Control Board**

Cc: **Rutan & Tucker, LLP**

FROM: **Timothy F. Wood, P.G., CHG, Kate E. Richards, P.G., CHG, and Peter Scaramella**

RE: Review and Analysis of Current Data on Historical Site Use and Environmental Conditions at the Hi-Shear Site, 2600 Skypark Drive, Torrance, California

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GSI Environmental Inc. (GSI) has conducted a review of currently available historical records, Environmental Site Assessment reports, groundwater monitoring and remedial actions, and available analytical data for the groundwater plume containing chlorinated volatile organic compound (CVOC) concentrations (primarily trichloroethylene [TCE] and tetrachloroethene [PCE]) at the Hi-Shear Corporation ("Hi-Shear") site located at 2600 Skypark Drive, Torrance, California (referred to herein as the "Hi-Shear Site"). The Hi-Shear Site has been leased by H-Shear and its corporate successors (currently LISI Aerospace) since 1954 for the manufacture, production, assembly and cleaning of fasteners for the aerospace industry (Los Angeles Regional Water Quality Control Board [LARWQCB], 2020). Hi-Shear and its corporate successors are collectively referred to herein as "Hi-Shear."

This technical memorandum provides a preliminary summary of the Hi-Shear on-Site operations that involved the use of TCE and PCE and the results of Environmental Site Assessment activities that have identified significant source areas of TCE and PCE at the Hi-Shear Site to soil, soil vapor, and groundwater.

In addition, GSI has reviewed available soil vapor and groundwater data collected at the Hi-Shear Site and downgradient areas, which indicate that TCE and PCE are migrating in groundwater from the Hi-Shear Site to commercial and residential properties located east (and hydraulically downgradient) of the Hi-Shear Site.

Key findings of this review are:

1. Hi-Shear's operations involved the significant use and storage of TCE and PCE on the Hi-Shear Site, historical Hi-Shear operational Site features provided pathways for TCE and PCE to be released to the subsurface, and waste handling practices were documented to be poor in 1991.
2. Soil, soil vapor, and groundwater data identify releases of TCE and PCE at historical Hi-Shear operational Site features, and these releases have caused a soil vapor and groundwater plume beneath the Hi-Shear Site, EA Properties, and Residential Properties.
3. The TCE and PCE soil vapor and groundwater plumes represent a single plume emanating from the Hi-Shear Site.
4. TCE is the remedy driver for groundwater impacts both on the Hi-Shear Site and downgradient on the EA Properties and Residential Properties.

The narrative being forwarded by Hi-Shear's consultant (Genesis Engineering & Redevelopment,

Inc. [Genesis]) that there are two distinct plumes of soil vapor and groundwater is false and unsupported by the data. The plume was "bisected" in recent years from limited pilot test remediation efforts by Hi-Shear.

Background information related to this technical evaluation is presented below. The historical information and environmental site assessment data that support the key findings are presented in Sections 1 through 3.

Sources of Documents Reviewed

GSI obtained publicly available agency records and environmental site assessment reports from the following sources:

- South Coast Air Quality Management District (SCAQMD);
- Los Angeles County Sanitation Districts (LACSD) Industrial Waste Division; and
- State Water Resources Control Board (State Water Board) GeoTracker website.

Hi-Shear initiated operations at the Hi-Shear Site in the mid-1950s. However, the earliest environmental site assessment report identified by GSI was prepared in 1991.

Site Description

The approximately 12.25-acre Hi-Shear Site is identified within Los Angeles County Assessor's parcel number (APN) 7377-006-905. The Hi-Shear Site is bound to the south by the Torrance Municipal Airport, to the north by Skypark Drive, and to the west by Lowe's Home Improvement Center (Lowe's). The Hi-Shear Site historically included the area currently occupied by Lowe's until approximately 2006, when this portion of the Hi-Shear Site was subleased by Hi-Shear to La Caze Development and redeveloped.

The commercial properties located within APN 7377-006-905 and east of the Hi-Shear Site are referred to as the Eastern Adjacent Properties (EA Properties). The EA Properties are further subdivided into the following three properties:

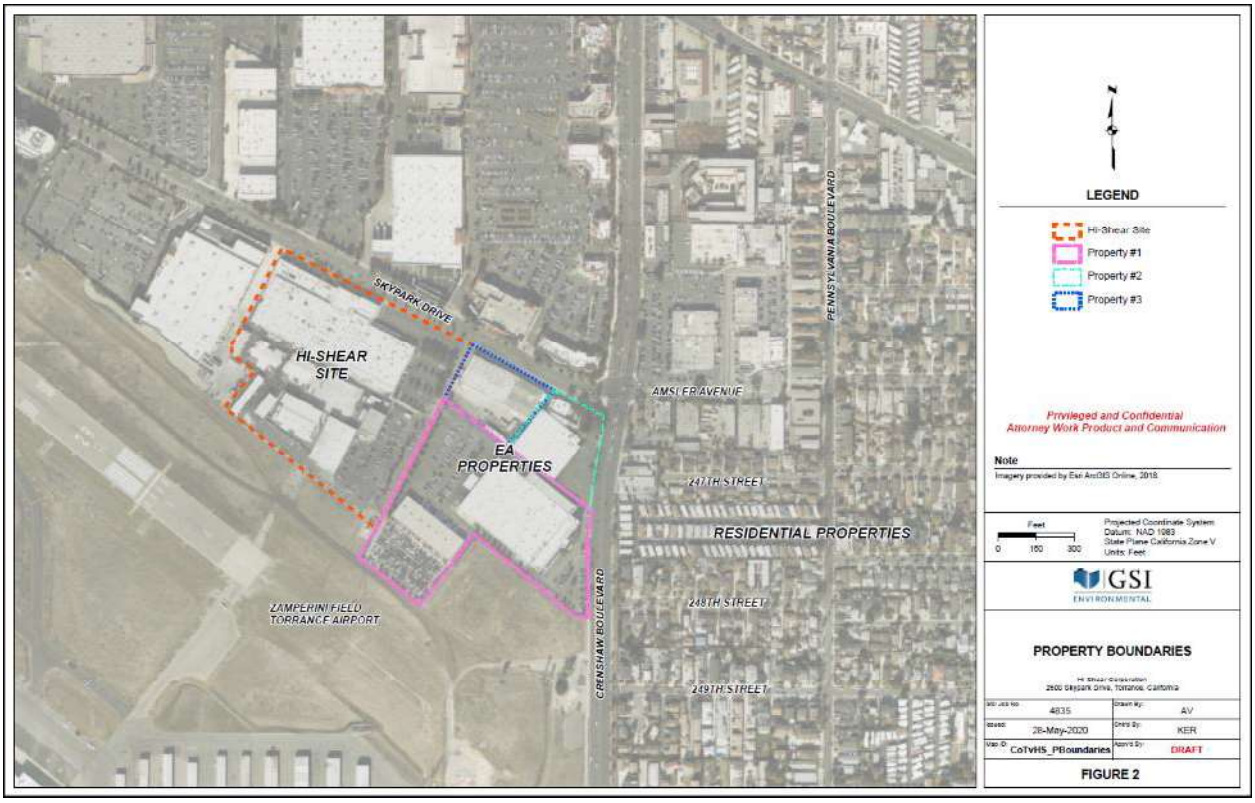
- EA Property 1 is identified with 24751 and 24777 Crenshaw Boulevard and currently occupied by South Bay Lexus (vehicle dealership);
- EA Property 2 is identified with 24707, 24747 and 24701 Crenshaw Boulevard and currently occupied by Dasco Engineering Corporation (manufacturer of precision mechanic aircraft and space components); and
- EA Property 3 is identified with 2530 and 2540 Skypark Drive and currently occupied by Robinson Helicopter.

The entire parcel APN 7377-006-906, which includes the Hi-Shear Site, Lowe's, and EA Properties, is owned by the City of Torrance and has been leased to commercial entities since 1954.

The residential neighborhood located within the City of Lomita and east of the EA Properties and of Crenshaw Boulevard, is herein referred as the "Residential Properties."

The Hi-Shear Site, EA Properties, and Residential Properties are shown on Exhibit 1 below.

Exhibit 1. Property Boundaries



Constituents of Concern (COCs) in Groundwater

The primary constituents of concern (COCs) in groundwater at the Hi-Shear and adjacent properties are TCE and PCE. Other detected VOCs include daughter products cis-1,2-dichloroethylene (cis-1,2-DCE) and vinyl chloride, as well as 1,1-dichloroethylene (1,1-DCE), 1,1,1-trichloroethane (1,1,1-TCA), trans-1,2-dichloroethylene (trans-1,2-DCE), 1,2-dichloroethane, 1,1,2-trichloroethane, benzene, toluene, ethylbenzene, hexavalent chromium, 1,4-dioxane, and perchlorate (Alta Environmental LP, [Alta], 2017). A review of available groundwater monitoring data indicates that TCE is the constituent detected at the highest concentrations and the remedy driver for groundwater impacts at the Hi-Shear Site, adjacent EA properties, and Residential Properties. For example, on-Site, the maximum historical measured TCE concentration (190,000 micrograms per liter [µg/L] in MW-3) is almost 12 times greater than the maximum measured historical concentration of PCE (16,000 µg/L in MW-3). In groundwater monitoring well MW-18 (which is located on the Hi-Shear Site and reported the highest TCE concentrations in August 2018), TCE concentrations have exceeded PCE concentrations by a factor of approximately 30 to 60 times (i.e., TCE concentrations are greater than 1 order-of-magnitude [OoM] than PCE).

1.0 Hi-Shear's operations involved the significant use and storage of TCE and PCE on the Hi-Shear Site, historical Hi-Shear operational Site features provided pathways for TCE and PCE to be released to the subsurface, and waste handling practices were documented to be poor in 1991.

The Hi-Shear aerospace fastener manufacturing operations includes and previously included fastener manufacturing, heat treatment, process coating, ordinance assembly, plating with in-ground plating pits, and parts cleaning. These operations typically had included the use, storage and handling of significant quantities of chlorinated solvents. The use of significant quantities of TCE and PCE at the Hi-Shear Site is consistent with typical aerospace manufacturing and the subsurface data at the Site. "Aerospace manufacturers often use large quantities of solvents in a variety of cleaning and degreasing operations including parts cleaning, process equipment cleaning, and surface preparation for coating applications," (United States Environmental Protection Agency [USEPA], 1998).

Historical records obtained to date for the Hi-Shear Site identified equipment that typically involved the use of TCE and PCE and that was located throughout the Hi-Shear Site. Solvent degreasers were located at several buildings since at least 1968 and at least 18 underground storage tanks (USTs) were located at the Hi-Shear Site. The Hi-Shear operations included a distillation unit for the distillation of spent solvent and a wastewater treatment plant for treating industrial wastewater from the plating operations (Hygienetics, Inc., [Hygienetics], 1991). These features indicate the Hi-Shear operations were of considerable size and involved the use and storage of significant quantities of TCE and PCE.

Historical features at the Hi-Shear Site include structures that are frequently associated with chemical releases to the subsurface. A shallow drywell was located on the Hi-Shear Site, and dry-wells historically were used for waste disposal. In addition, clarifiers, and USTs were located at the Hi-Shear Site, and these structures are prone to leakage and release of solvents.

Historical records document that Hi-Shear waste handling practices were poor. Hi-Shear waste handling practices resulted in releases of TCE and PCE to the subsurface, including the discharge of waste to the sewer system that connected to the main sewer lines on Skypark Drive and Crenshaw Boulevard. TCE and PCE have been detected in samples collected from waste discharged to the sewer. The waste discharged at the Hi-Shear Site was associated with degradation of the sewer system.

A summary of historical information that describes the operations, historical features, and waste handling practices at the Hi-Shear Site is provided below. Note that we have not attempted to summarize all of the information reviewed to date and additional information likely is available at the LARWQCB office and from other sources, which have not been available for review due to COVID-19 impacts to the LARWQCB file review procedures. As such, the information presented below is a preliminary summary of key findings. Based on the records reviewed to date, GSI believes additional historical information may be available in the LARWQCB's physical files with information relevant to the identification of the historical use and release of TCE and PCE on the Hi-Shear Site.

1.1 Hi-Shear operations used TCE and PCE since at least 1968

SCAQMD "Permit to Operate" records were obtained for the Hi-Shear Site using their searchable online database for Facility ID No. 11192 (Hi-Shear Corporation).[1] These records document

[1] https://www.aqmd.gov/nav/online-services/public-records/public-document-search

equipment that has been permitted for use at the Site since 1968, including equipment that utilizes TCE, PCE and other chlorinated solvents.

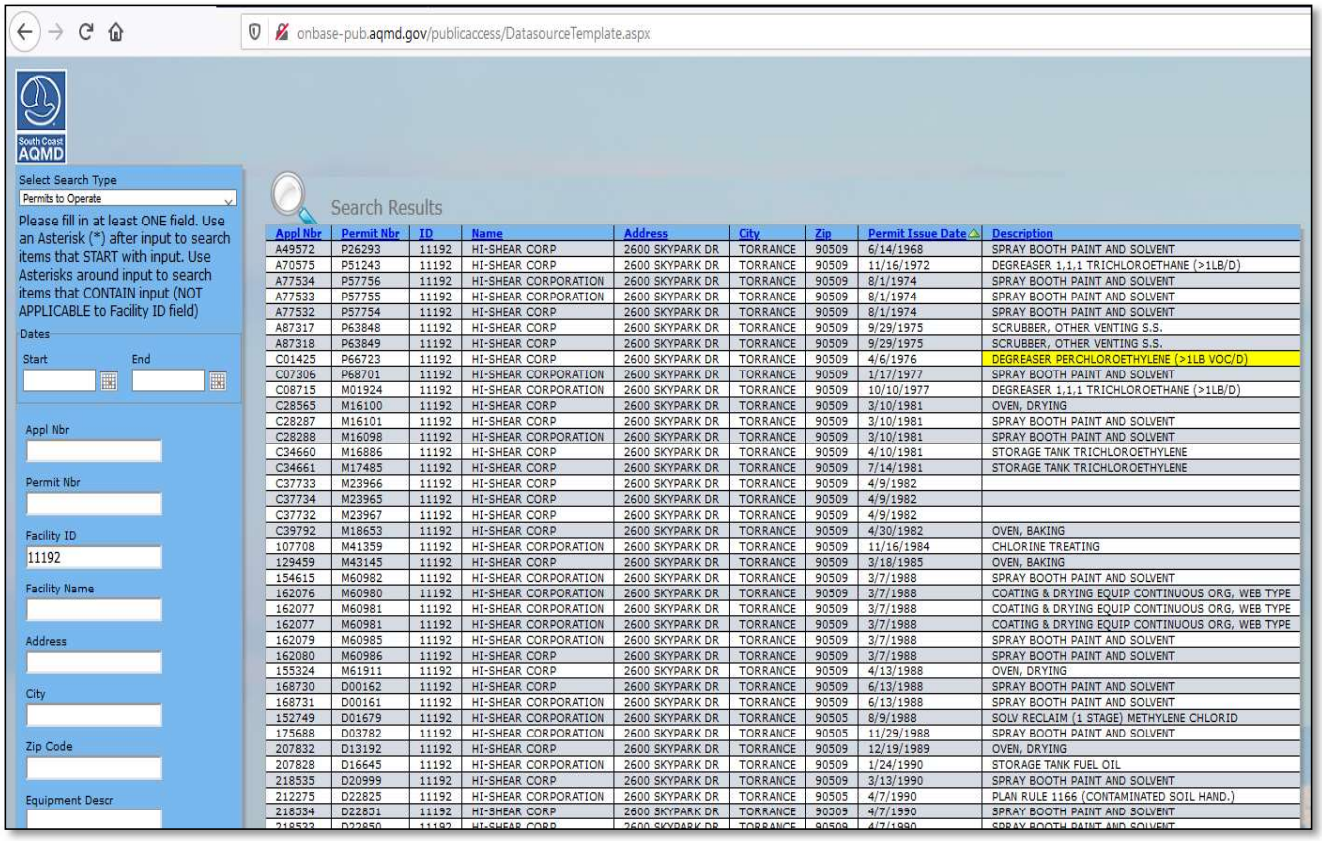
The list of equipment that has been operated by Hi-Shear under an SCAQMD permit for one or more years between 1968 and the present includes (listings verbatim from SCAQMD records):

- SPRAY BOOTH PAINT AND SOLVENT
- DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)
- SCRUBBER, OTHER VENTING S.S.
- DEGREASER PERCHLOROETHYLENE (>1LB VOC/D)
- STORAGE TANK TRICHLOROETHYLENE
- CHLORINE TREATING
- COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
- SOLV RECLAIM (1 STAGE) METHYLENE CHLORID
- STORAGE TANK FUEL OIL
- PLAN RULE 1166 (CONTAMINATED SOIL HAND.)
- I C E (50-500 HP) EM ELEC GEN-DIESEL
- I C E (50-500 HP) EM FIRE FGHT-DIESEL
- WASTE WATER EVAPORATION
- AFTERBURNER, DIRECT FLAME
- WASTE WATER TREATING (>50000 GAL/DAY)
- TANK, CADMIUM - PLATING
- TANK, SURFACE PREPARATION - OTHER ACIDS
- SOIL TREAT VAPOR EXTRACT OTHER VOC UNDER
- TANK, NITRIC ACID
- TANK, OTHER AQUEOUS SOLUTION
- SCRUBBER, PARTICULATES VENTING S.S.
- SCRUBBER, PARTICULATES VENTING M.S>
- TANK, SULFURIC/PHOSPHORIC ACID - ANODIZING
- SOLV RECLAIM STILL (1 STAGE) HYDROCARB
- DIP TANK COATING WAX
- DIP TANK COATING MISC
- OVEN, COOKING OR CURING
- SPRAY MACHINE - COATING
- SPRAY BOOTH(S) (1 - 5) W/ AFTERBURNER
- SOIL TREAT VAPOR EXTRACT GASOLINE UNDER

- SCRUBBER, OTHER VENTING M.S.
- SPRAY BOOTHS (>5) WITH AFTERBURNER
- SURFACE PREP TANK CONT. CHROMIC ACID
- SCRUBBER, TOXICS VENTING
- SOLVENTS MISC STRIPPING
- WASTE WATER TREATING (20000-50000 GAL/D)

The permit below is listed in SCAQMD records as Permit Number P66723 dated 6 April 1976 for "Degreaser Perchloroethylene (<1LB VOC/D)." The permit listing (Exhibit 1-1) establishes that Hi-Shear operated a PCE degreasing operation in addition to TCE storage tanks. The permit identifies a Detrex degreaser and solvent recovery still (Exhibit 1-2).

Exhibit 1-1. SCAQMD Permit Records for Hi-Shear Site



onbase-pub.aqmd.gov/publicaccess/DatasourceTemplate.aspx

South Coast AQMD

Select Search Type: Permits to Operate

Please fill in at least ONE field. Use an Asterisk (*) after input to search items that START with input. Use Asterisks around input to search items that CONTAIN input (NOT APPLICABLE to Facility ID field)

Dates: Start / End

Appl Nbr

Permit Nbr

Facility ID: 11192

Facility Name

Address

City

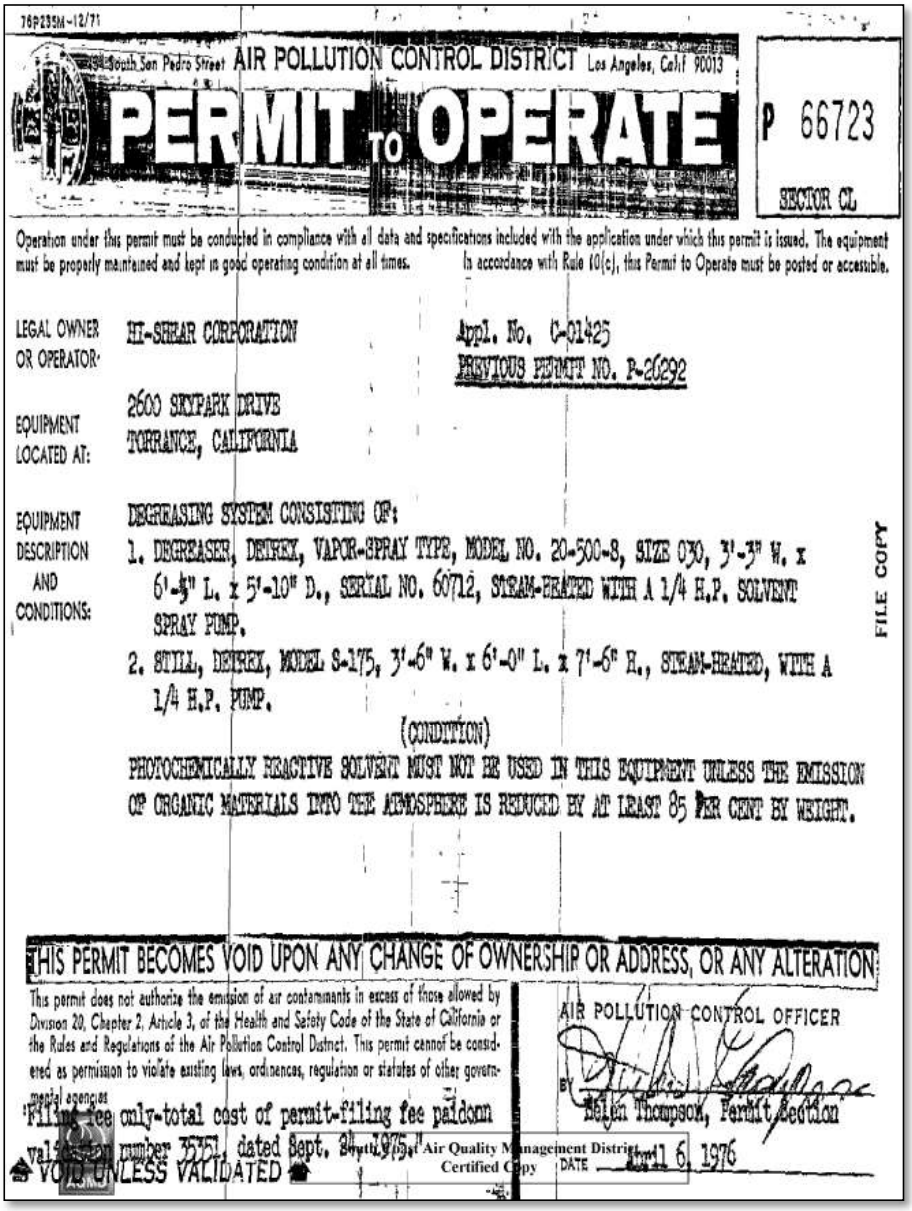
Zip Code

Equipment Descr

Search Results

Appl Nbr	Permit Nbr	ID	Name	Address	City	Zip	Permit Issue Date	Description
A49572	P26293	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	6/14/1968	SPRAY BOOTH PAINT AND SOLVENT
A70575	P51243	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	11/16/1972	DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)
A77534	P57756	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	8/1/1974	SPRAY BOOTH PAINT AND SOLVENT
A77533	P57755	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	8/1/1974	SPRAY BOOTH PAINT AND SOLVENT
A77532	P57754	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	8/1/1974	SPRAY BOOTH PAINT AND SOLVENT
A87317	P63848	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	9/29/1975	SCRUBBER, OTHER VENTING S.S.
A87318	P63849	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	9/29/1975	SCRUBBER, OTHER VENTING S.S.
C01425	P66723	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/6/1976	DEGREASER PERCHLOROETHYLENE (>1LB VOC/D)
C07306	P68701	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	1/17/1977	SPRAY BOOTH PAINT AND SOLVENT
C08715	M01924	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	10/10/1977	DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)
C28565	M16100	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/10/1981	OVEN, DRYING
C28287	M16101	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/10/1981	SPRAY BOOTH PAINT AND SOLVENT
C28288	M16098	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/10/1981	SPRAY BOOTH PAINT AND SOLVENT
C34660	M16886	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/10/1981	STORAGE TANK TRICHLOROETHYLENE
C34661	M17485	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	7/14/1981	STORAGE TANK TRICHLOROETHYLENE
C37733	M23966	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/9/1982	
C37734	M23965	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/9/1982	
C37732	M23967	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/9/1982	
C39792	M18653	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/30/1982	OVEN, BAKING
107708	M41359	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	11/16/1984	CHLORINE TREATING
129459	M43145	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/18/1985	OVEN, BAKING
154615	M60982	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	SPRAY BOOTH PAINT AND SOLVENT
162076	M60980	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
162077	M60981	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
162077	M60981	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
162079	M60985	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	SPRAY BOOTH PAINT AND SOLVENT
162080	M60986	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	SPRAY BOOTH PAINT AND SOLVENT
155324	M61911	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/13/1988	OVEN, DRYING
168730	D00162	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	6/13/1988	SPRAY BOOTH PAINT AND SOLVENT
168731	D00161	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	6/13/1988	SPRAY BOOTH PAINT AND SOLVENT
152749	D01679	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90505	8/9/1988	SOLV RECLAIM (1 STAGE) METHYLENE CHLORID
175688	D03782	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90505	11/29/1988	SPRAY BOOTH PAINT AND SOLVENT
207832	D13192	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	12/19/1989	OVEN, DRYING
207828	D16645	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	1/24/1990	STORAGE TANK FUEL OIL
218535	D20999	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/13/1990	SPRAY BOOTH PAINT AND SOLVENT
212275	D22825	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90505	4/7/1990	PLAN RULE 1166 (CONTAMINATED SOIL HAND.)
218534	D22851	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/7/1990	SPRAY BOOTH PAINT AND SOLVENT
218533	D22850	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/7/1990	SPRAY BOOTH PAINT AND SOLVENT

Exhibit 1-2. Permit for "Degreaser Perchloroethylene"



76P235M-12/71

9150 South San Pedro Street AIR POLLUTION CONTROL DISTRICT Los Angeles, Calif 90013

PERMIT TO OPERATE

P 66723

SECTOR CL

Operation under this permit must be conducted in compliance with all data and specifications included with the application under which this permit is issued. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 19(c), this Permit to Operate must be posted or accessible.

LEGAL OWNER OR OPERATOR: HI-SHEAR CORPORATION

Appl. No. C-01425
PREVIOUS PERMIT NO. P-26292

EQUIPMENT LOCATED AT: 2600 SKYPARK DRIVE
TORRANCE, CALIFORNIA

EQUIPMENT DESCRIPTION AND CONDITIONS:

DEGREASING SYSTEM CONSISTING OF:

1. DEGREASER, DETREX, VAPOR-SPRAY TYPE, MODEL NO. 20-500-8, SIZE 030, 3'-3" W. x 6'-½" L. x 5'-10" D., SERIAL NO. 60712, STEAM-HEATED WITH A 1/4 H.P. SOLVENT SPRAY PUMP.
2. STILL, DETREX, MODEL S-175, 3'-6" W. x 6'-0" L. x 7'-6" H., STEAM-HEATED, WITH A 1/4 H.P. PUMP.

(CONDITION)

PHOTOCHEMICALLY REACTIVE SOLVENT MUST NOT BE USED IN THIS EQUIPMENT UNLESS THE EMISSION OF ORGANIC MATERIALS INTO THE ATMOSPHERE IS REDUCED BY AT LEAST 85 PER CENT BY WEIGHT.

FILE COPY

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR ADDRESS, OR ANY ALTERATION

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 20, Chapter 2, Article 3, of the Health and Safety Code of the State of California or the Rules and Regulations of the Air Pollution Control District. This permit cannot be considered as permission to violate existing laws, ordinances, regulation or statutes of other governmental agencies.

AIR POLLUTION CONTROL OFFICER

BY Helen Thompson, Permit Section

Filing fee only-total cost of permit-filing fee paidon validation number 35751, dated Sept. 24, 1975.

Air Quality Management District Certified Copy

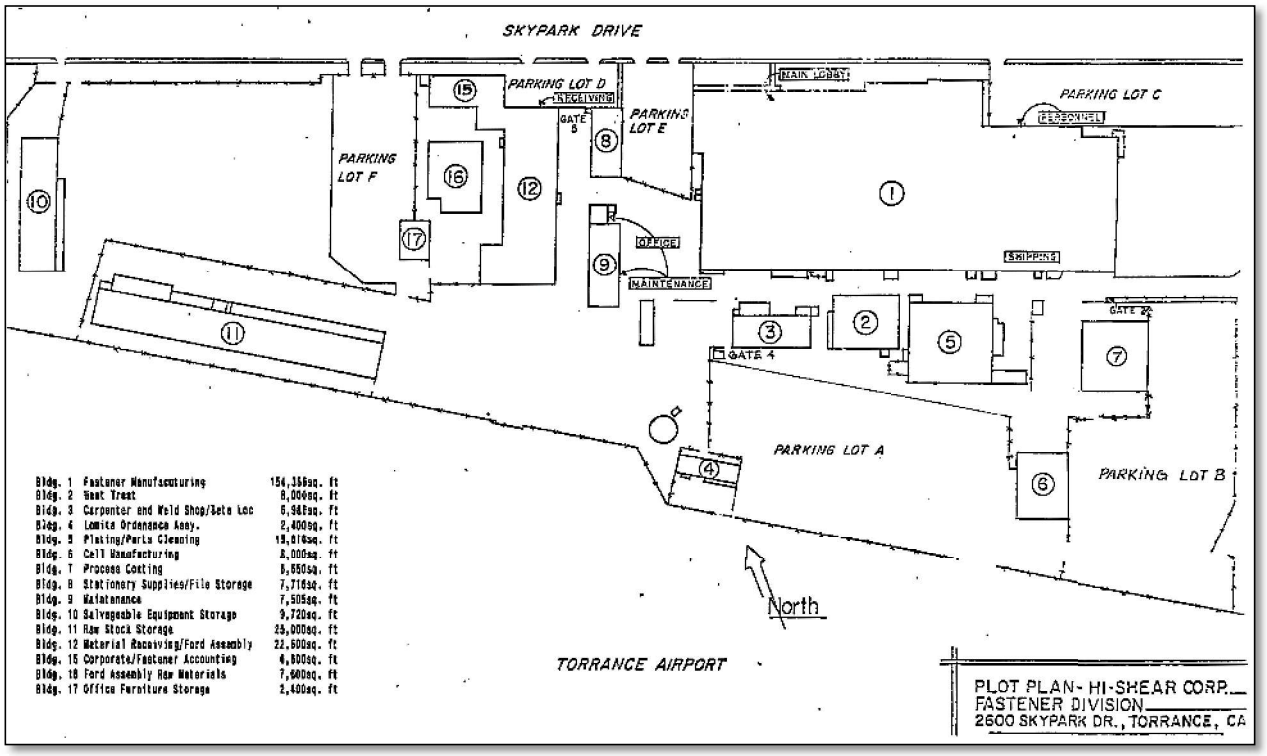
VOID UNLESS VALIDATED

DATE April 6, 1976

1.2 Hi-Shear operations involved extensive storage, handling and use of solvents

Hi-Shear operated a large-scale aerospace fastener manufacturing operation at the Hi-Shear Site. In 1991, a Phase I Environmental Site Assessment was performed at the Hi-Shear Site on behalf of Chemical Bank by Hygienetics (1991). The Hygienetics report included the following Site plan, which shows a large facility with significant manufacturing operations:

Exhibit 1-3. 1991 Site Plan (Hygienetics, 1991)



The Hygienetics report described the use and storage of chlorinated solvents, including the use of degreasers, at Heat Treat Building #2 and Plating/Parts Cleaning Building #5. The 1991 assessment summarized the USTs that were present at the Hi-Shear facility in 1991:

Exhibit 1-4. List of USTs at Hi-Shear in 1991 (Hygienetics, 1991)

UNDERGROUND STORAGE VESSELS
PAST AND PRESENT

NUMBER	LOCATION	CONTENTS	VOLUME
1*	Southeast of Bldg. #9	Waste Oil	?
2	North of Bldg. #5	Plating Clarifier	2,000 gal
3	East of Bldg. #5	Plating Clarifier	2,000 gal
4	East of Bldg. #5	East Plating Pit	50,000 gal
5	West of Bldg. #5	West Plating Pit	75,000 gal
6	Bldg. #1	Grind Oil	2,000 gal
7	Bldg. #1	Coolant Oil	800 gal
8	Bldg. #1	Grind Oil	2,000 gal
9	Bldg. #1	Water Sump	900 gal
10	Southwest of Bldg. #3	Waste Oil Sump	2,000 gal
11	Bldg. #3	Steam Clean Sump	275 gal
12*	West of Bldg. #3	Waste Oil	250 gal
13*	West of Bldg. #3	Waste Oil	250 gal
14*	West of Bldg. #3	Waste Oil	250 gal
15*	West of Bldg. #6	Gasoline	?
16*	West of Bldg. #6	Gasoline	?
17	South of Bldg. #3	Soap, Grease & Water	?
18	South of Bldg. #3	Soap, Grease & Water	?

The Hygienetics report describes poor tracking practices for the USTs:

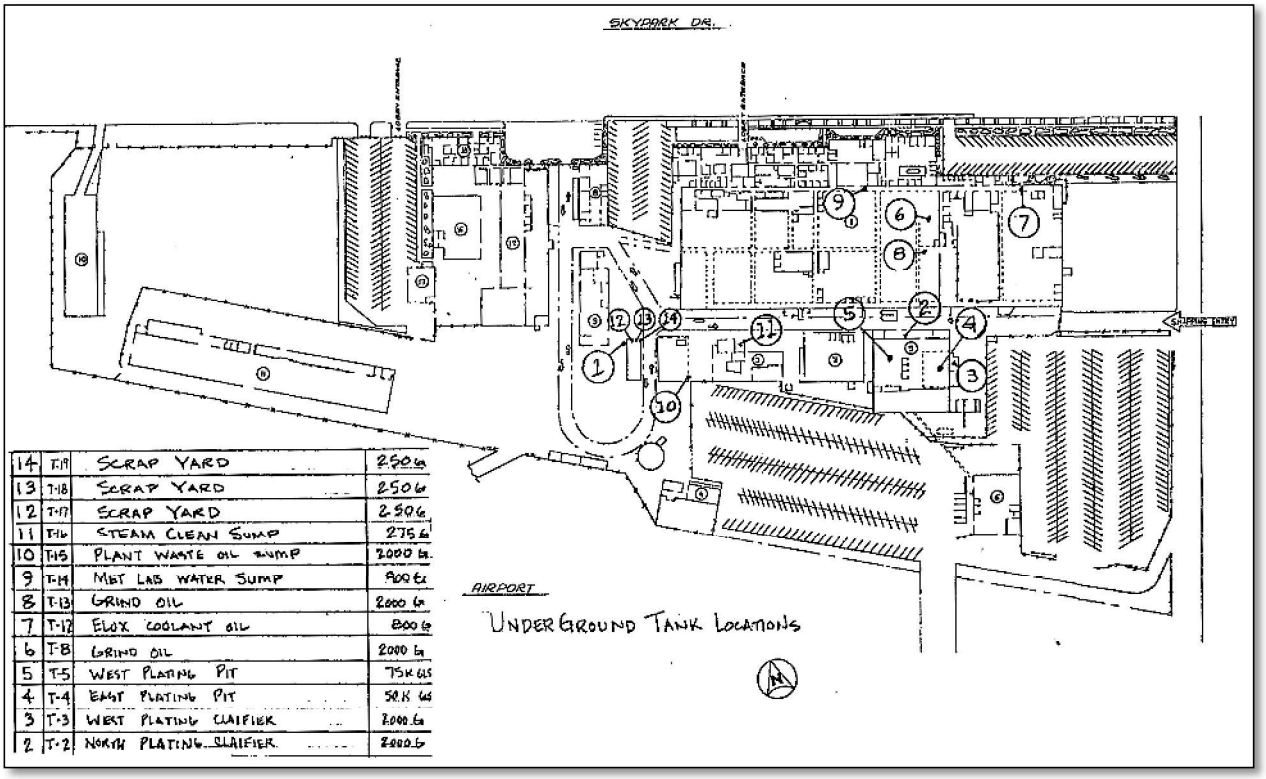
> *According to Hi-Shear, 11 underground storage tanks were registered. Of these 11 tanks, six have been removed and five still remain. However, it appears that there have been a total of 18 underground storage tanks on-Site (Hygienetics, 1991).*

In addition, Hygienetics noted that:

> *No documentation was available on-Site regarding the integrity testing of the tanks currently on-Site (Hygienetics, 1991).*

The Hygienetics presentation of the 18 USTs is included below as Exhibit 1-5.

Exhibit 1-5. 1991 Location of USTs Plan (Hygienetics, 1991)



At Building 5, two clarifiers and two plating pits were present in 1991 and the large capacity of the plating pits (50,000 and 75,000 gallons) indicate a large operation that would have involved significant quantities of solvents. The Hygienetics report also describes the degreasing operations at Building 5:

> *The southern part of Building #5 is dedicated to parts cleaning. Several degreasers are located here for removal of oil and grease with solvents (Hygienetics, 1991).*

Based on the SCAQMD permit records, the degreaser operations included the use of both TCE and PCE (Exhibit 1-1).

1.3 Historical site features provided pathways for release of solvents to subsurface

Historical Site features that provided pathways for the release of TCE and PCE to the subsurface include a drywell, clarifiers, USTs, and sewer lines.

Drywell

Based on a 1992 Floor Plan for the Process Coating Building by SM Daderian & Associates, a drywell with a drain leading to a 24-inch diameter by 18-inch long pipe filled with fist size stones and gravel was located at Building 3. Exhibit 1-6 shows the drywell detail and Exhibit 1-7 shows the complete floor plan that includes this detail.

Exhibit 1-6. 1992 Floor Plan Call Out showing Drywell Detail (Part of Exhibit 1-7)

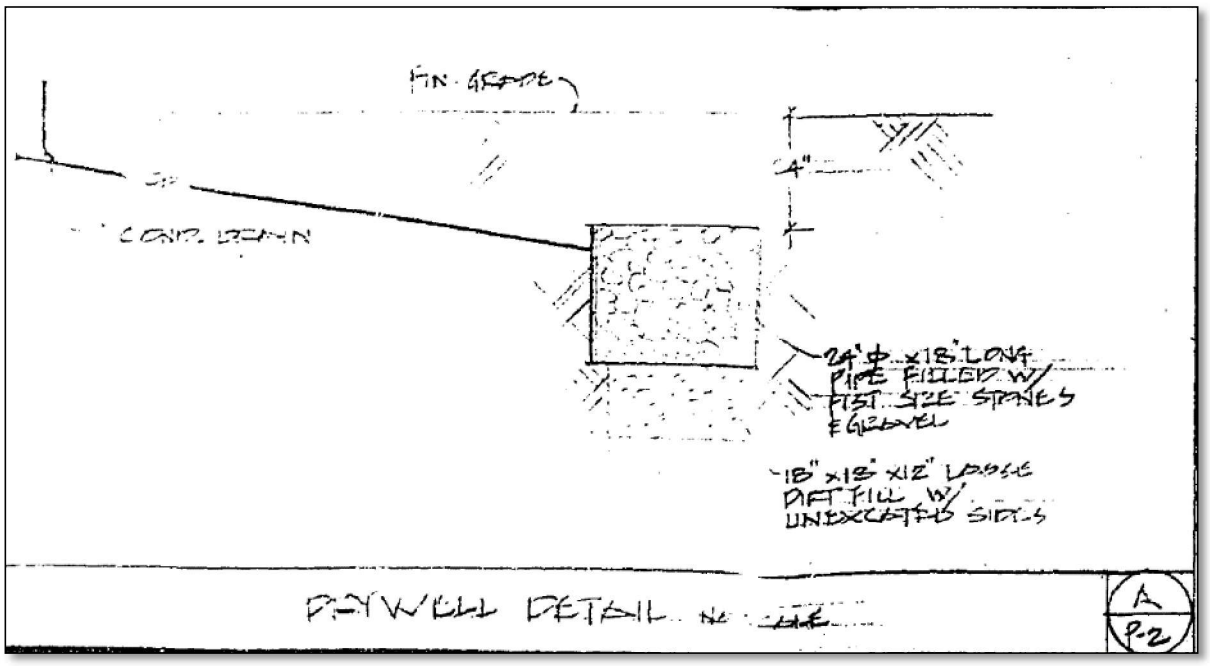
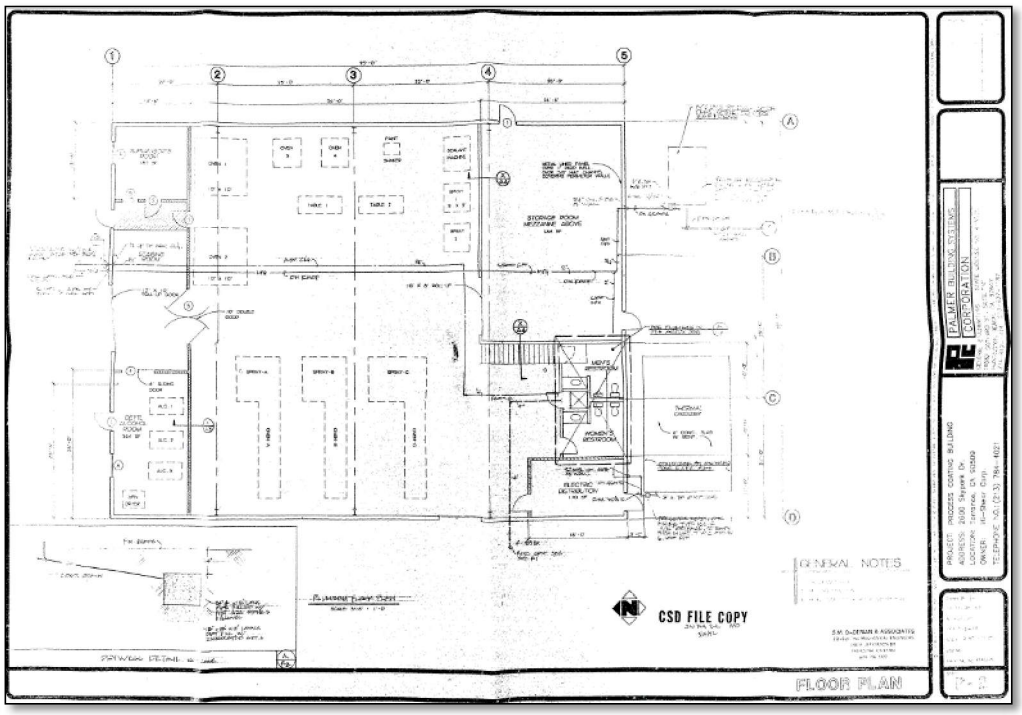


Exhibit 1-7. 1992 Floor Plan for the Process Coating Building Showing Drywell Detail



The dry well design provides a direct path to release liquids directly into soil.

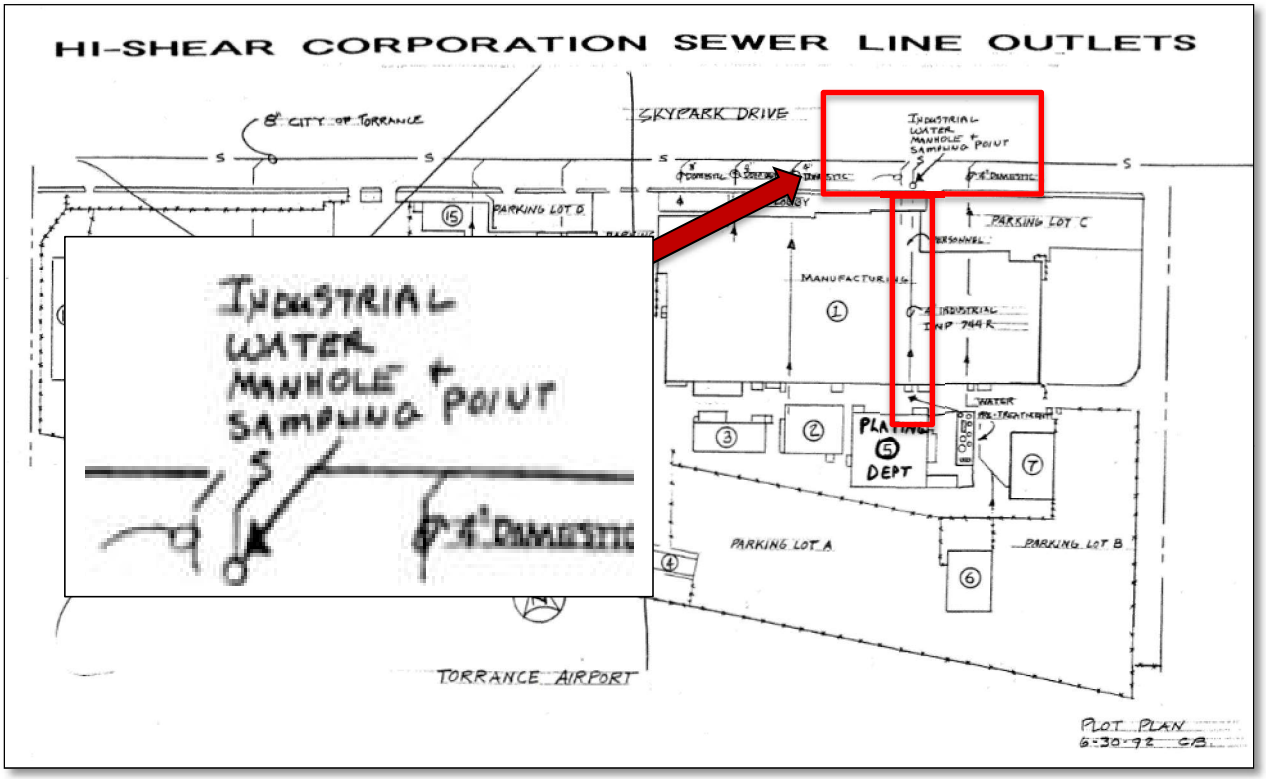
USTs and Clarifiers

As described above, at least 18 USTs, including in-ground plating pits and plating sumps, were located at the Hi-Shear Site. The Hygienetics report indicated that "[n]o documentation was available on-Site regarding the integrity testing of the tanks currently on-Site" (Hygienetics, 1991). USTs can leak from associated use activities including filling, dispensing, and storage through incidental and accidental spills, leaking piping and USTs from corrosion and compromise of seals and fittings. USTs are commonly associated with releases of VOCs to soil, soil vapor, and groundwater.

Sewer Lines Associated with Industrial Waste Water Discharge

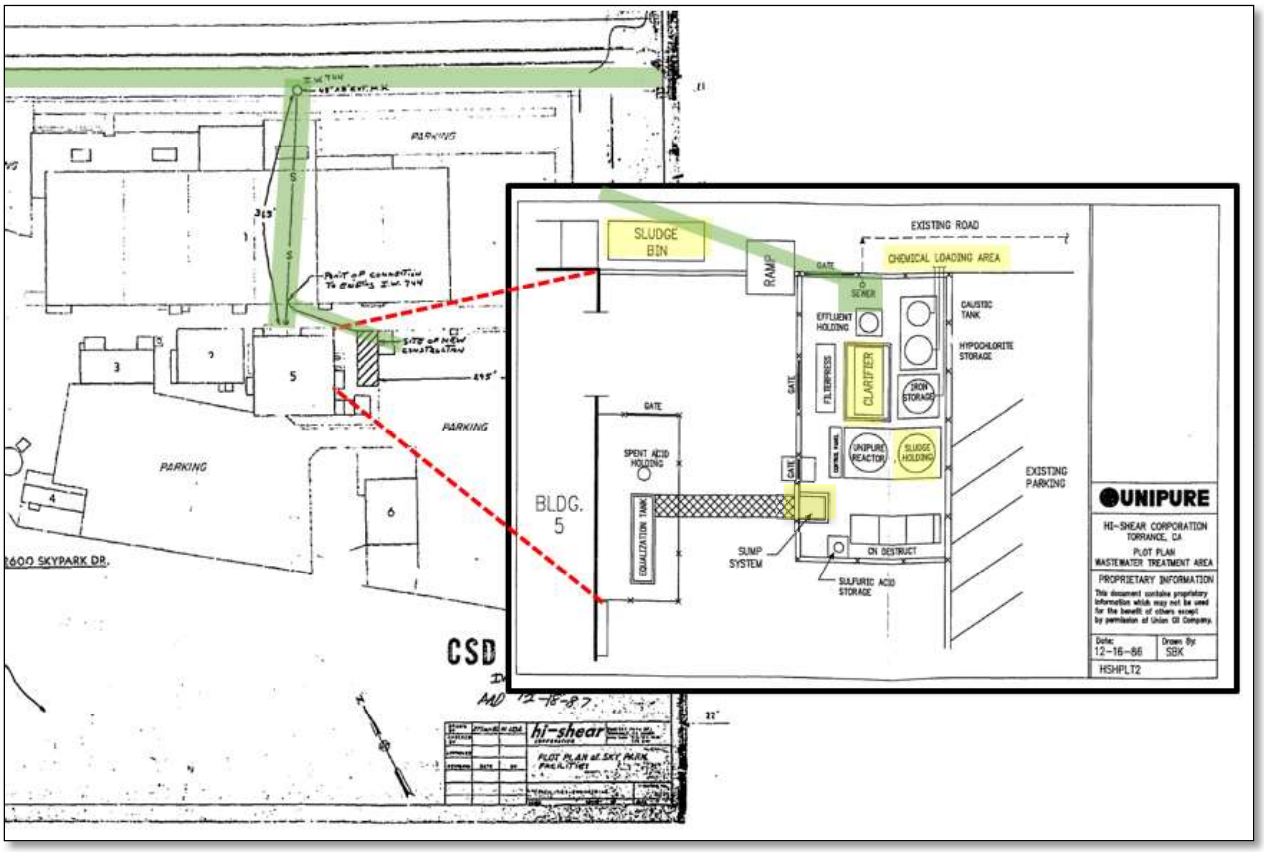
Records obtained from LACSD identify sewer lines between Building 5 and the sewer outfall identified as the "Industrial Water Manhole and Sampling Point" on the 1992 Plot Plan shown below (Exhibit 1-8). The sewer lines are shown to flow from the vicinity of Building 5 directly to the Industrial Water Manhole and Sampling Point.

Exhibit 1-8. 1992 Figure Identifying "Industrial Water Manhole and Sampling Point" and Sewer Lines



Additional LACSD records from 1986 identify the area to the east of Building 5 as having a clarifier, sump, sludge bin, and chemical loading area near a sewer inlet. The maps below identify the above ground features in yellow and the general location of the sewer lines in green (Exhibit 1-9).

Exhibit 1-9. 1986 and 1987 Figures Identifying Detail of Eastern Side of Building 5



Notes: Above ground features = Yellow; Sewer Lines = Green

Building 5 also contained two large (50,000 and 75,000 gallon) in-ground plating pits and a degreasing operation: The Hygeinetics report describes the degreasing operations at Building 5: "The southern part of Building #5 is dedicated to parts cleaning. Several degreasers are located here for removal of oil and grease with solvents" (Hygienetics, 1991). A plating pit and plating clarifier also were located at the southeast corner of Building 5 (Exhibit 1-5).

1.4 Historical records document the detection of TCE and PCE in discharge to the sewer system and degradation of sewer system due to Hi-Shear waste discharge

Hygienetics identified Hi-Shear had an Industrial Waste Water Discharge Permit since 1956 (Hygienetics, 1991). Plating operations at Hi-Shear generated two primary waste streams: (1) cyanide rinse water and (2) concentrated acid waste (Hygienetics, 1991). The Hygienetics report (1991) documented Hi-Shear acknowledged that discharges to the sewer by Hi-Shear degraded the main sewer line on Skypark Drive:

> *It appears that past discharges of acidic waste have dissolved the City of Torrance Skypark Drive sewer main in several places. Hi-Shear has agreed that this is most*

probably due to their discharge. A preliminary study was performed to determine if the manhole deterioration has resulted in the release of heavy metal contaminates into the exposed earth. Soil samples taken below the dissolved manhole indicate that all possible metal contaminants levels are within regulatory limits.

Soil samples were not analyzed for VOCs. However, discharges to the sewer by Hi-Shear likely has resulted in the release of TCE and PCE to the subsurface along the sewer main on Skypark Drive, which flows east to Crenshaw Boulevard.

In 1987, Hi-Shear built a waste treatment plant located east of Building 5 (Hygienetics, 1991). Despite the construction of this plant, industrial water discharge sample records indicate VOCs were present in industrial water discharge from the Hi-Shear Site. Industrial water discharge sample (IWS) analytical results from sampling events that included analysis for VOCs were obtained from LACSD files for the years 1989 through 2012. Twelve events identified concentrations of either PCE, TCE, or 1,1,1-TCA in IWS. Twelve events did not identify PCE, TCE, or 1,1,1-TCA, but used laboratory reporting limits for VOCs that exceeded 10 µg/L and three additional events used reporting limits for VOCs that exceeded 20 µg/L. After six sampling events in 1991 that identified concentrations of 1,1,1-TCA ranging to 1,040 µg/L, 1,1,1-TCA was only reported intermittently and not reported on 13 analytical reports that identified VOCs. The sampling events with reported VOC concentrations are identified in the table below (Exhibit 1-10).

Exhibit 1-10. IWS Events with Documented VOCs in Wastewater

Sampling Date	PCE (µg/L)	TCE (µg/L)	1,1,1-TCA (µg/L)
23 Jan 1989	**7.3**	<5	**110**
2 Feb 1989	<5	<5	**129**
25 Apr 1991	<5	<5	**220**
11 Oct 1991	<5	<5	**85**
6 Nov 1991	<5	<5	**370**
7 Nov 1991	<5	<5	**1040**
17 Feb 2000	**11**	<10	<10
7 Nov 2000	**1.5**	<0.5	NR
40 Apr 2002	**5.2**	<0.5	NR
25 Sep 2002	<1.0	**2.3**	NR
30 Apr 2010	<0.5	**2.9**	<0.5
4 Jun 2010	<2.0	**2.3**	<2

NR = Not Reported

Based on the evidence presented above, Hi-Shear has discharged PCE and TCE to the sewer system as well as acidic waste that had degraded the sewer system. This is an area where additional investigation is warranted by Hi-Shear.

1.5 Historical records document poor handling and tracking practices of hazardous waste in 1991

Hygienetics indicated that poor compliance with hazardous waste labeling and tracking requirements were observed during its 1991 assessment:

> *Hygienetics investigated Hi-Shear's compliance with RCRA regulations concerning hazardous waste. Hygienetics' investigation revealed that labeling of containers is the biggest non-compliance issue. Hygienetics did not observe proper hazardous waste stickers applied to any hazardous waste on-Site*
>
> *Additionally, accumulation dates were not provided on hazardous waste containers in the temporary storage areas. Hi-Shear representatives indicated that they have been cited for improper labeling of on-Site hazardous waste. (Hygienetics, 1991).*

In summary, historical records describe an extensive manufacturing operation that involved significant quantities of solvents, including TCE and PCE, at the Hi-Shear Site. Multiple historical Site features are potential pathways for TCE and PCE to enter the subsurface, including at least 18 USTs and the sewer system that received industrial waste discharge. Finally, historical records also describe poor waste handling practices.

2.0 Soil, soil vapor, and groundwater data identify releases of TCE and PCE at historical at features Hi-Shear operational Site features, and these releases have caused a soil vapor and groundwater plume beneath the Hi-Shear Site, EA Properties, and residential properties.

Hi-Shear detected TCE and PCE in soil samples collected in 1990 as part of an investigation following the removal of a waste oil UST. Subsequent investigations identified the presence of dense nonaqueous phase liquid (DNAPL) and TCE beneath the Hi-Shear Site and indicated that TCE in groundwater associated with sources at the Hi-Shear Site was migrating east of the Hi-Shear Site to the EA Properties and Residential Properties. Soil sampling at the Hi-Shear Site identified eight areas of potential concern (AOPCs) for releases of total petroleum hydrocarbons (TPH), TCE and PCE. Both TCE and PCE were detected in soil samples collected at five of the eight AOPCs. Hi-Shear's soil and groundwater investigations have identified TCE and PCE source areas at the Hi-Shear Site, TCE and PCE in groundwater beneath the Hi-Shear Site and acknowledged that the groundwater plume has migrated from the Hi-Shear Site east to the EA Properties.

2.1 Groundwater monitoring reports prepared on behalf of Hi-Shear acknowledge migration of impacted groundwater off-site in the early 1990s

Groundwater monitoring was initiated at the Hi-Shear Site in 1991 with the installation of monitoring wells at the "oil yard" area southeast of Building 9 to evaluate groundwater impacts associated with a release at a waste oil UST (identified as Tank 1 in Exhibit 1-5). In December 1988, the 2,000 gallon capacity, steel UST that was used to store waste machine cutting and cooling oils was removed and TPH was detected in soil samples at concentrations of 22,040 and 125,130 milligrams per kilogram (mg/kg) (Camp, Dresser & McKee, Inc. [CDM], 1991). Subsequently, four soil borings (HS1 to HS4) were advanced to depths of 40 to 60 feet bgs using hollow stem augers in May 1991 (CDM, 1991). Two soil samples were collected from each boring and analyzed for TPH and VOCs:

- TCE was detected in all eight soil samples at concentrations ranging from 5,400 micrograms per kilogram (µg/kg) (HS1 at 61.5 feet bgs) to 5,500,000 µg/kg (HS3 at 50.0 feet bgs).
- PCE was detected in all eight soil samples at concentrations ranging from 1,700 µg/kg (HS1 at 61.5 feet bgs) to 1,600,000 µg/kg (HS3 at 50.0 feet bgs) (CDM, 1991).

To evaluate if VOCs detected in soil had impacted groundwater, seven groundwater monitoring wells (MW-1 through MW-7) were installed at the Hi-Shear Site in 1991 and 1992 and one monitoring well (MW-8) was installed downgradient of the Hi-Shear facility at the Robinson Helicopter property in 1992. Groundwater monitoring was conducted in 1993 on behalf of Hi-Shear by Blasland, Bouck & Lee (BBL). BBL concluded a TCE plume was present in groundwater at the Hi-Shear Site, the flow of groundwater beneath the Hi-Shear Site was to the east, and the TCE plume extended off-Site to the east: "*The downgradient offsite well MW-8 contained 2,900 [µg/L] of TCE indicating that the contaminant plume has extended off-Site*" (BBL, 1993). For this sampling event, TCE was detected at a concentration of the 23,000 µg/L in monitoring well MW-3, which is located south of Building 3. Thus, Hi-Shear acknowledged in 1993 that a release of TCE at the Hi-Shear Site had resulted in a groundwater plume that extended to the EA Properties.

The BBL figures showing the groundwater elevation contours and estimated TCE plume area are included as Exhibits 2-1 and 2-2. Note that MW-8 is located east of MW-5 (shown in Exhibit 2-5).

Exhibit 2-1. Groundwater Elevation Contour (BBL, 1993)

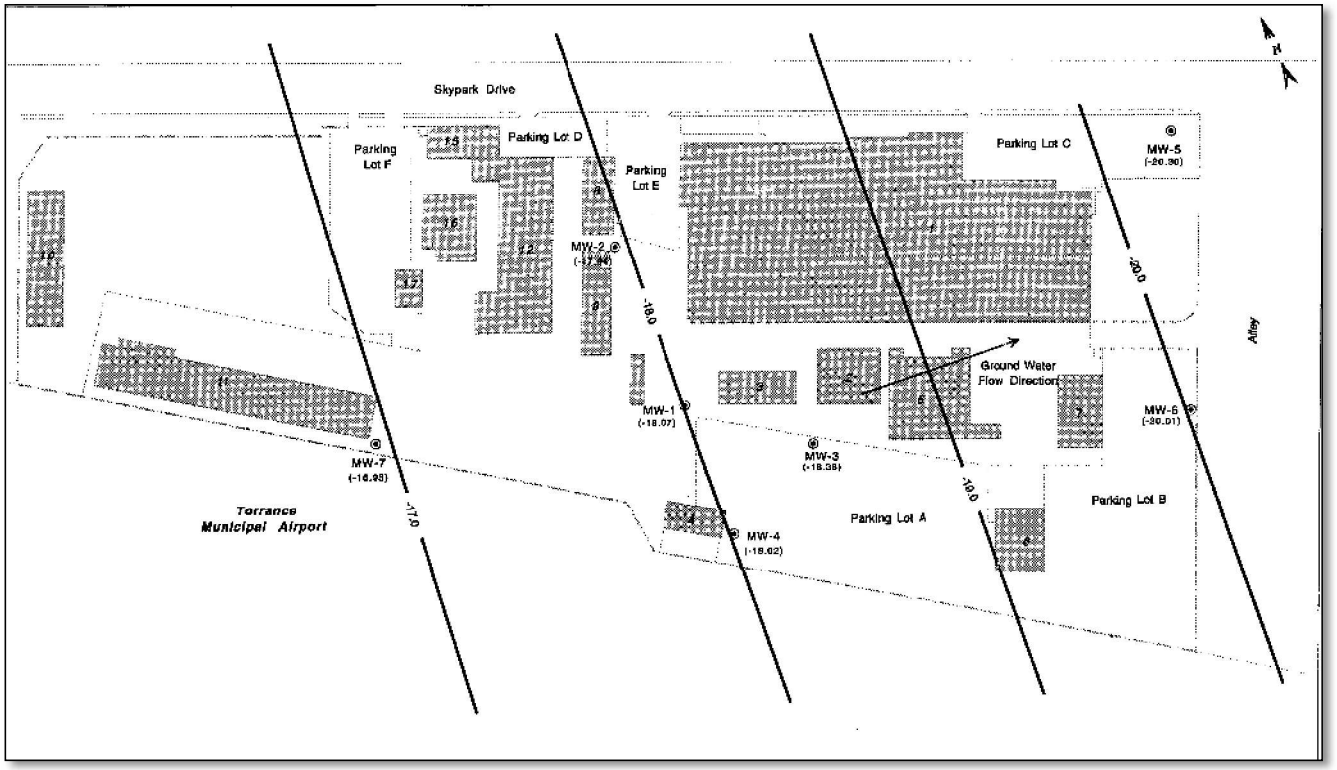
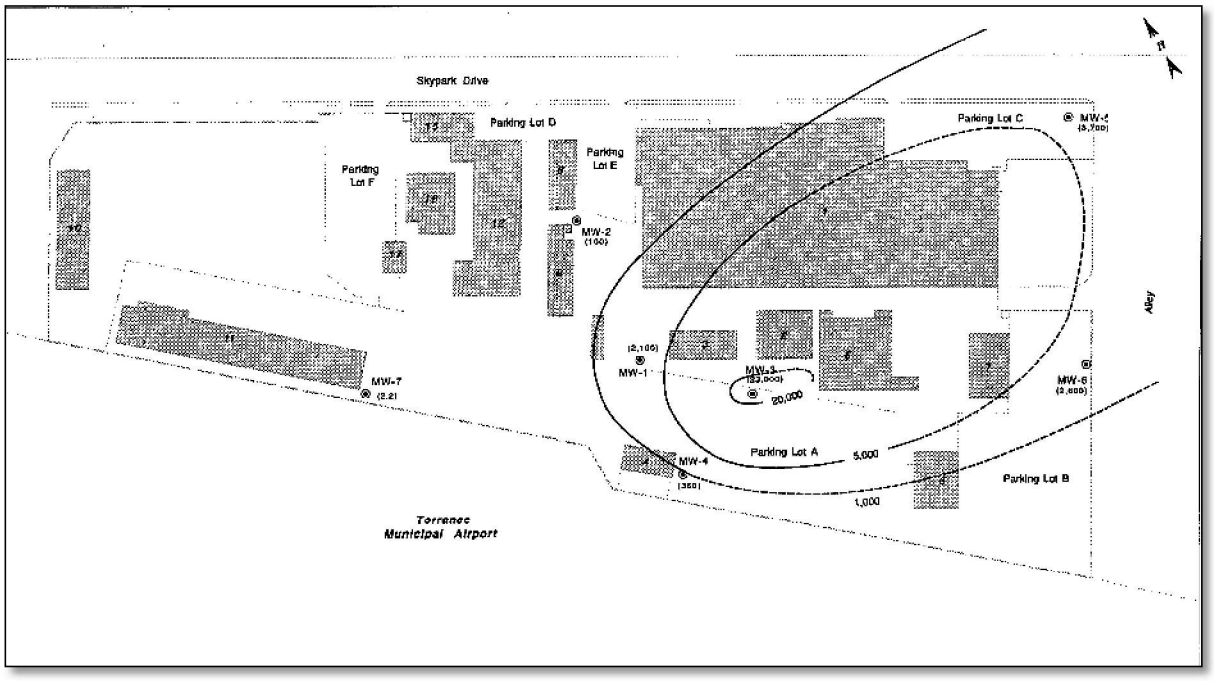
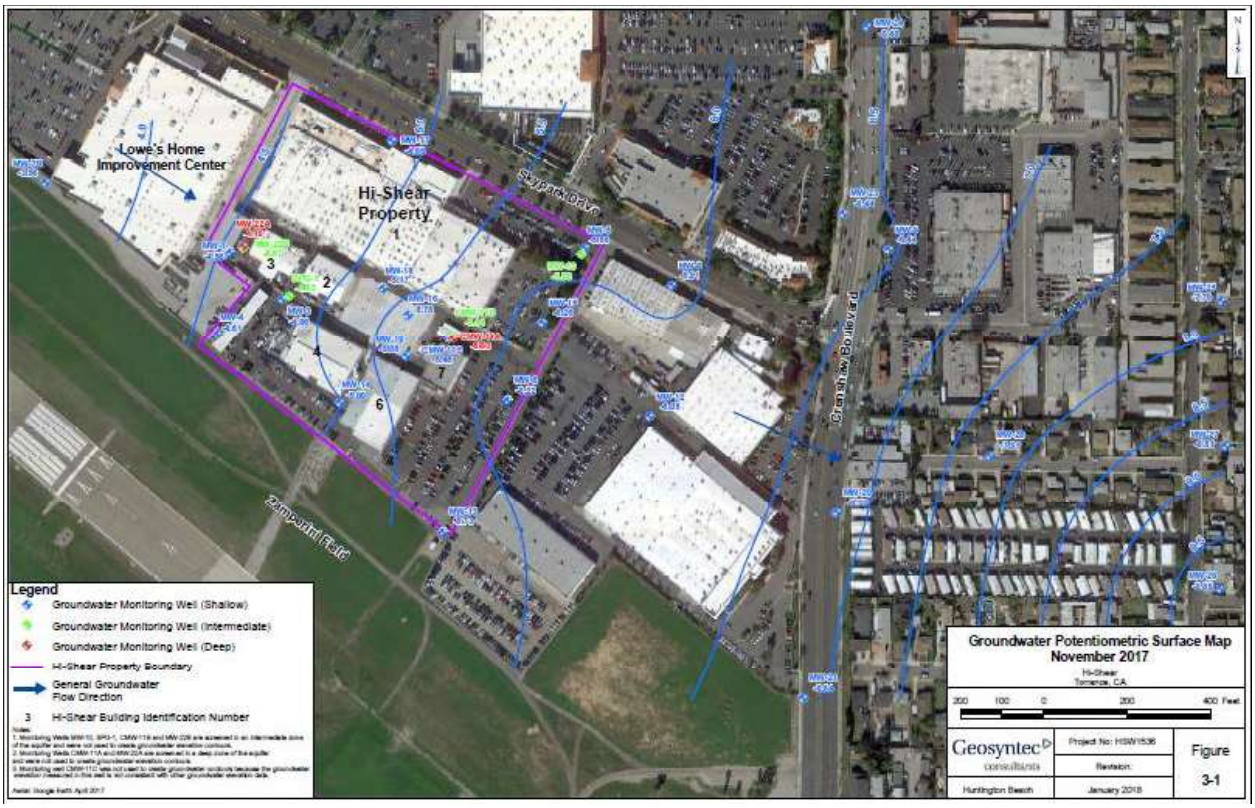


Exhibit 2-2. TCE Concentrations in Groundwater in 1993 (BBL, 1993)



Subsequent GW monitoring indicates the groundwater flow direction is generally toward the southeast perpendicular to the southeastern Hi-Shear Site boundary, resulting in groundwater moving from the Hi-Shear Site to the EA properties and residential properties, as shown on Exhibit 2-3 (Geosyntec Consultants, Inc. [Geosyntec], 2018).

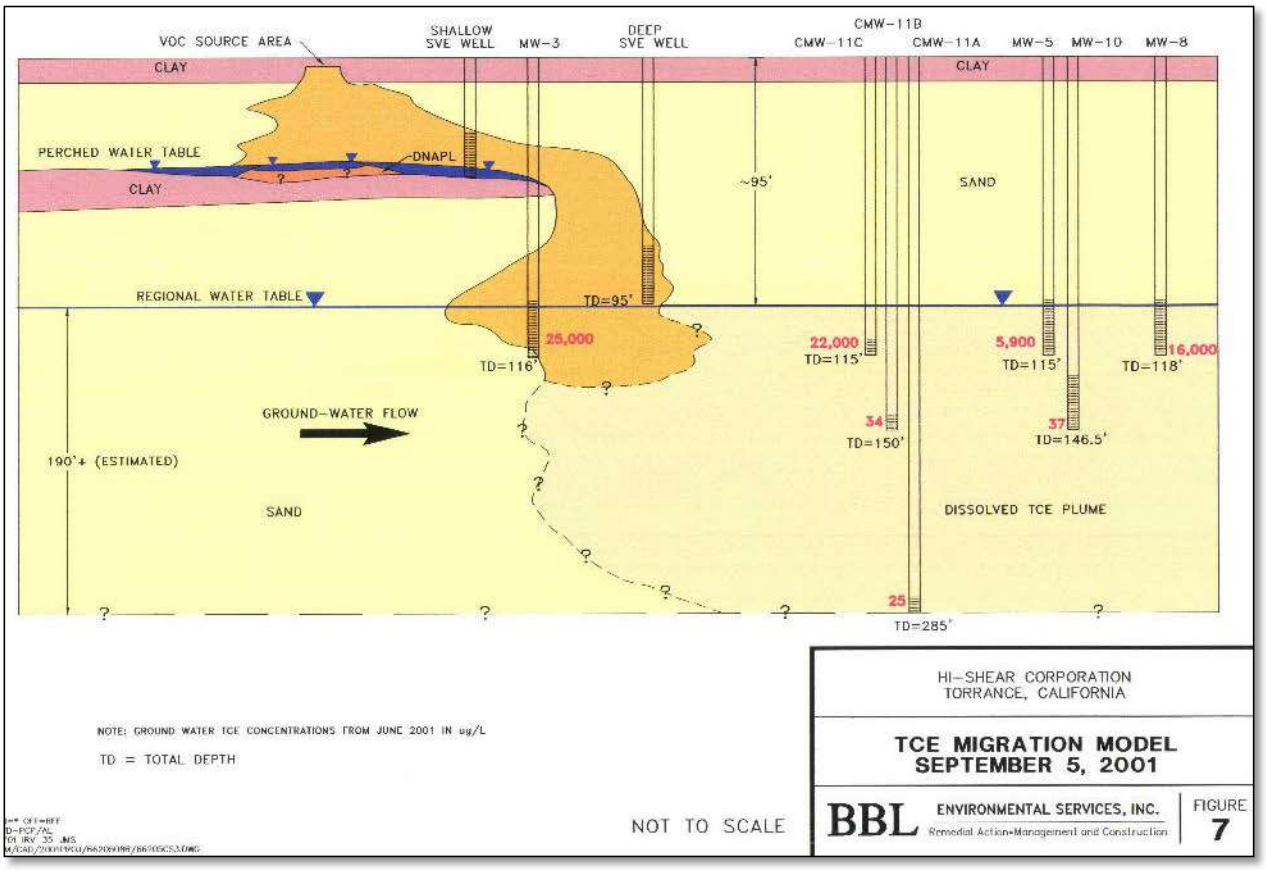
Exhibit 2-3. Groundwater Potentiometric Surfaces – November 2017



2.2 Hi-Shear site assessment reports acknowledge the presence of DNAPL beneath the Hi-Shear Site in 2001

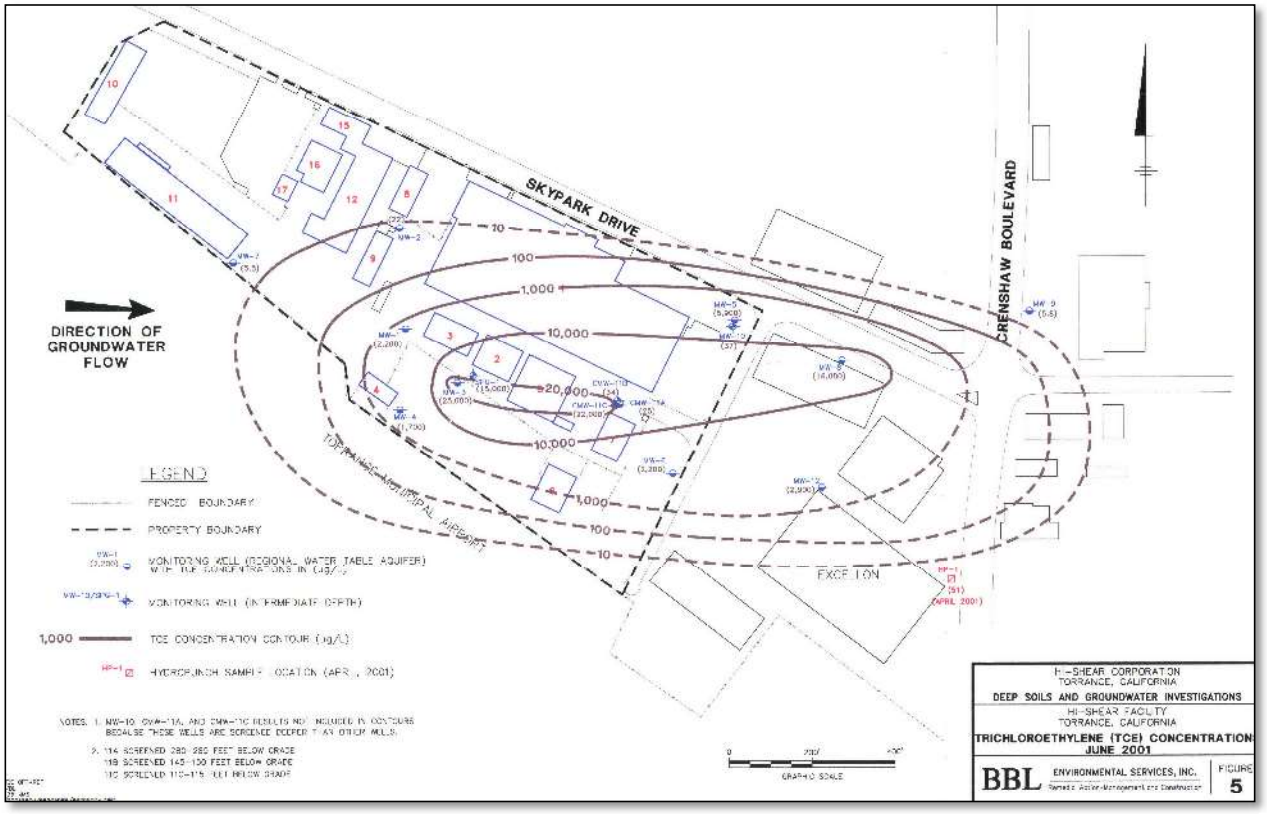
In 2001, five soil borings were advanced to depths of 95 feet bgs to evaluate VOC concentrations and the presence of dense nonaqueous phase liquid (DNAPL; chlorinated solvents TCE and PCE are liquids that are denser than water) in deeper soils at depths of 60 feet bgs to groundwater (~95 feet bgs). In a progress report of the soil investigation, BBL included a figure depicting the presence of DNAPL within the on-Site TCE plume:

Exhibit 2-4. TCE Migration Model prepared by BBL (2001)



Hi-Shear acknowledged TCE and DNAPL associated with a "VOC Source Area" upgradient of MW-3 that resulted in a "dissolved TCE plume" moving offsite and impacted groundwater at the EA Properties (MW-8 at Robinson Helicopter) and further east. The BBL progress report also included a plan view depiction of the TCE plume migrating from the Hi-Shear Site east to the EA Properties and Residential Properties.

Exhibit 2-5. TCE in Groundwater in 2001 (BBL, 2001)



In addition to TCE, PCE was detected in soil samples collected by BBL at the Hi-Shear Site. The results of TCE and PCE in soil samples collected by BBL in 2001 indicated that detection of elevated concentrations of PCE was coincident with elevated concentrations of TCE. For example, both the highest detected concentration of TCE and PCE in soil samples collected in 2001 were collected in samples collected at VPO-2, which was located south of Building 2:

- At 44 feet bgs, 4,100,000 µg/kg of TCE and 190,000 µg/kg of PCE,
- At 65 feet bgs, 120,000 µg/kg of TCE and 120,000 µg/kg of PCE, and
- At 90 feet bgs, 15,000 µg/kg of TCE and 5,200 µg/kg of PCE (BBL, 2001).

In comparison, one soil sample was collected at 50 feet bgs at the soil boring advanced for the installation of MW-12 at the EA Property 1. In this soil sample, TCE was detected at a concentration of 120 µg/kg and PCE was detected at a concentration of 67 µg/kg. The detected concentrations of PCE and TCE are over 4 orders of magnitude lower than PCE and TCE concentrations at VPO-2 and are not consistent with a release at the EA Property 1.

The site investigation data indicate that the source area for VOCs at the Hi-Shear Site is associated with both PCE and TCE.

2.3 Hi-Shear's environmental site assessment reports identify TCE and PCE release areas at the Hi-Shear Site

In 2010, a Site Conceptual Model (SCM) report was prepared for the Hi-Shear Site by Winefield & Associates, Inc. (W&A). As part of the SCM, the existing site characterization data was compiled and AOPCs for the release of VOCs to the subsurface were identified. As shown in Exhibit 2-6, eight AOPCs were identified.

Exhibit 2-6. AOPCs Identified in 2010 at Hi-Shear Site (W&A, 2010)

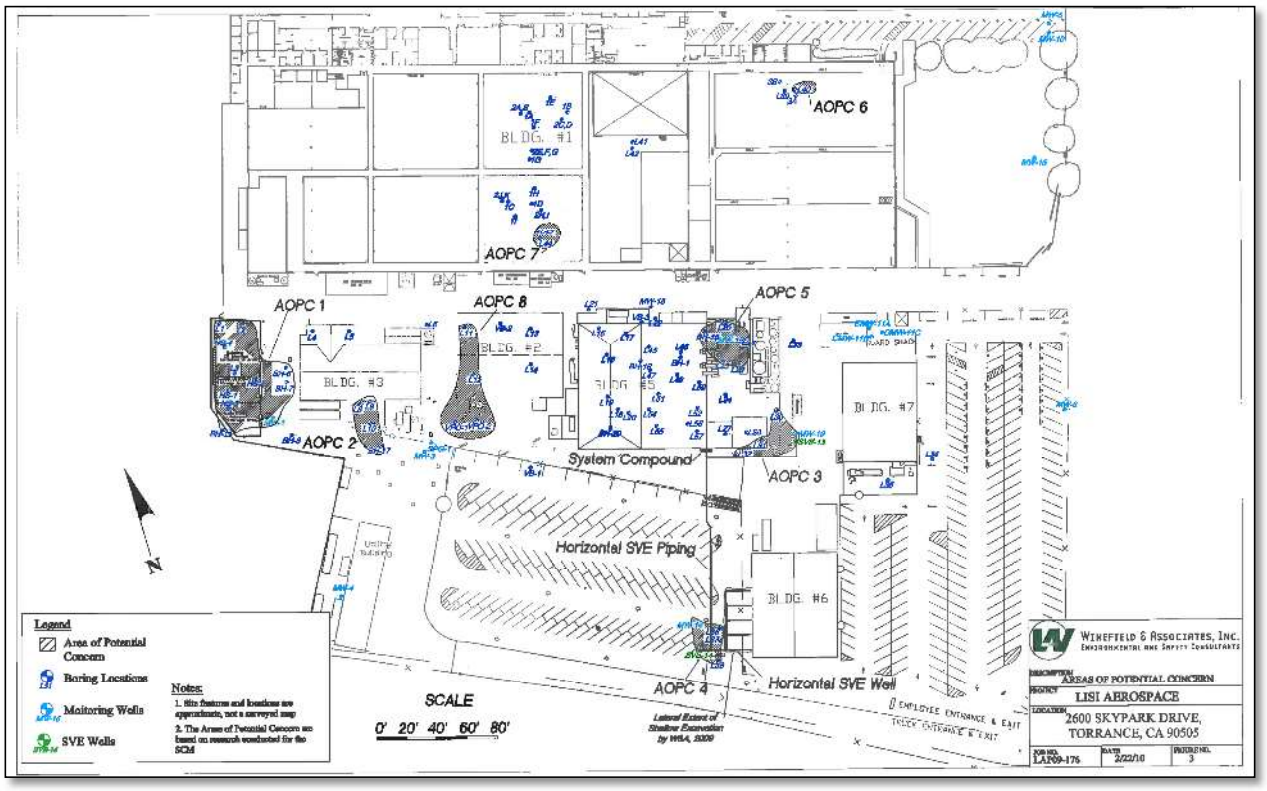


Exhibit 2-6 also shows that limited soil sampling was completed to investigate potential AOPCs and delineate areas associated with VOC release at the east portion of Building 1 (including areas around AOPC 8), Building 3 (where a dry-well was located and may still be present), exterior to Building 5 (south and east of AOPC 3; north and east of AOPC 5), Building 6, and Building 7.

A brief summary of soil data is presented in the 2010 SCM report for several AOPCs. Notably, the range of PCE, TCE, and TPH concentrations are presented by depth:

Exhibit 2-7. AOPC 1 Soil Data – Location of Former Waste Oil UST #1 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 10 feet & 25 to 50 Feet	11 to 840 (µg/kg)
TCE	5 to 70 feet	7 to 820 (µg/kg)
TPH	25 to 40 feet	84 to 1,034 (mg/kg)

Exhibit 2-8. AOPC 3 Soil Data – Southeast corner of Building 5 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 25 feet and 90 ft	30 to 1,600 µg/kg
TCE	5 to 45 feet and 60 to 90 ft	88 to 35,000 µg/kg
TPH	5 to 25 ft	380 to 2,372 mg/kg

Exhibit 2-9. AOPC 5 Soil Data – Northeast corner of Building 5 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 15 feet	12 to 150 µg/kg
TCE	5 to 15 feet	18 to 360 µg/kg

Exhibit 2-10. AOPC 7 Soil Data – Building 7 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 20 ft	50 to 250 µg/kg
TCE	5 to 20 ft	100 to 980 µg/kg
TPH	5 to 20 ft	230 to 9,461 mg/kg

The 2010 SCM Report summarizes significant concentrations of PCE and TCE in soil at multiple AOPCs across the Hi-Shear Site. PCE and TCE were detected in soil samples collected at depths from 5 feet to 90 feet bgs. Given the dates of operations at the Hi-Shear Site, these data indicate that a long-term source of both TCE and PCE was present that would impact groundwater at the Hi-Shear Site and migrate to downgradient off-Site properties.

3.0 The TCE and PCE soil vapor and groundwater plume represents a single plume emanating from the Hi-Shear Site

There is a single plume of TCE and PCE spread across the Hi-Shear Site, EA properties, and Residential Properties, which has emanated from the Hi-Shear Site. The current plume appearance of having "two lobes" is a result of incomplete remediation efforts along the Hi-Shear Site boundary. Groundwater monitoring data collected following completion of the Phase I remediation program indicate the current plume contains two areas of elevated TCE concentrations, separated by the area where the Phase I remediation program successfully reduced the contaminant mass. One high concentration area remains on the Hi-Shear Site in the vicinity of MW-18, and the other high concentration area is located on the EA properties in the vicinity of MW-12.

GSI conducted semi-analytical modeling of TCE fate and transport from the Hi-Shear source to downgradient properties, which showed that the observed groundwater conditions are indicative of a single source located in the vicinity of MW-18. Modeling of historical mass flux from the Hi-Shear Site to the EA properties indicates substantial mass loading of TCE to off-Site properties, with ongoing mass flux to downgradient properties. Furthermore, given the historical TCE and PCE concentrations, TCE is the remedy driver for groundwater impacts on the Hi-Shear Site and downgradient EA properties and Residential Properties.

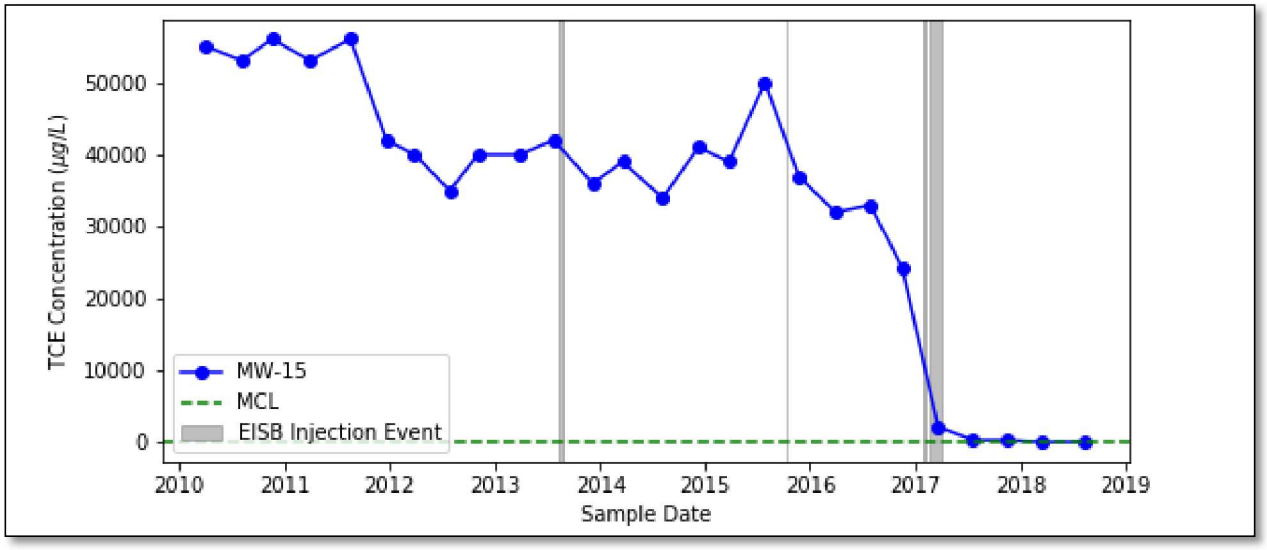
3.1 Groundwater Remedial Action Created the Current Groundwater Plume

Hi-Shear Corporation has implemented two pilot-scale and one full-scale remediation events. These events have included injection of bioremediation substrates (3DMe and HRC Primer), bioaugmentation culture (BDI Plus), and a chemical reductant (CRS). The dates of application and specific material injected were:

- August 12-22, 2013: Pilot-scale injections of 3DMe and HRC Primer through six injection wells (IW1 through IW6) screened from 87 to 112 feet below ground surface (bgs) and installed cross-gradient and upgradient of monitoring well MW-15 (Alta, 2014);
- October 13-15, 2015: Pilot-scale injections of 3DMe, CRS, and BDI Plus through the same six injection wells (IW1 through IW6) used in the August 2013 pilot test (Alta, 2016); and
- January 31 to April 5, 2017: Full-scale (Phase I) injections of 3DMe, CRS, and BDI Plus through 75 dual-nested injection wells (IW7 through IW81) screened from 88-98 feet bgs and 103-113 feet bgs and 2 previously installed single-cased wells IW3 and IW5 (Alta, 2017).

The results achieved at monitoring well MW-15, which is located downgradient of the source zone and along the Hi-Shear Site boundary, shows the success of the 2017 remedial action. Exhibit 3-1 summarizes the TCE concentrations measured over time at MW-15, along with the dates of remedial injections. As shown on Exhibit 3-1, TCE concentrations at MW-15 exhibited minimal response to the two pilot tests; however, significant reductions were achieved as a result of the more substantial remedial efforts of the full-scale Phase I program.

Exhibit 3-1. TCE concentrations over time in monitoring well MW-15.



The magnitude and extent of the TCE plume before treatment (2015) and after treatment (2018) are depicted on Exhibits 3-2 and 3-3, respectively. Exhibit 3-2 indicates a single plume emanating downgradient from a presumed source located in the vicinity of monitoring wells MW-3 and MW-18, which is the same area identified by BBL in 2001 with the highest concentrations of TCE in groundwater.

Exhibit 3-2. TCE groundwater plume in July 2015, before Hi-Shear Phase I remediation

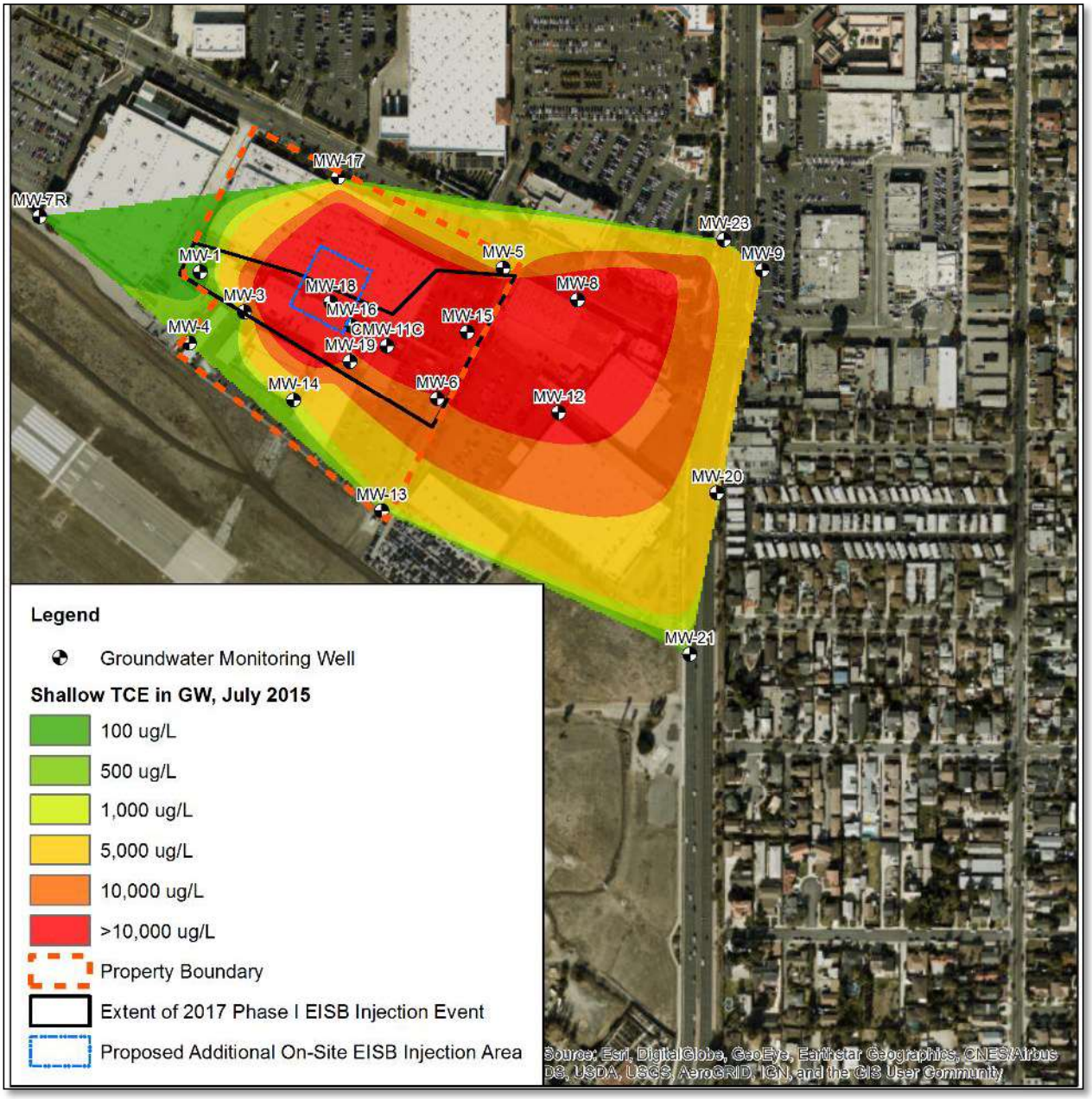
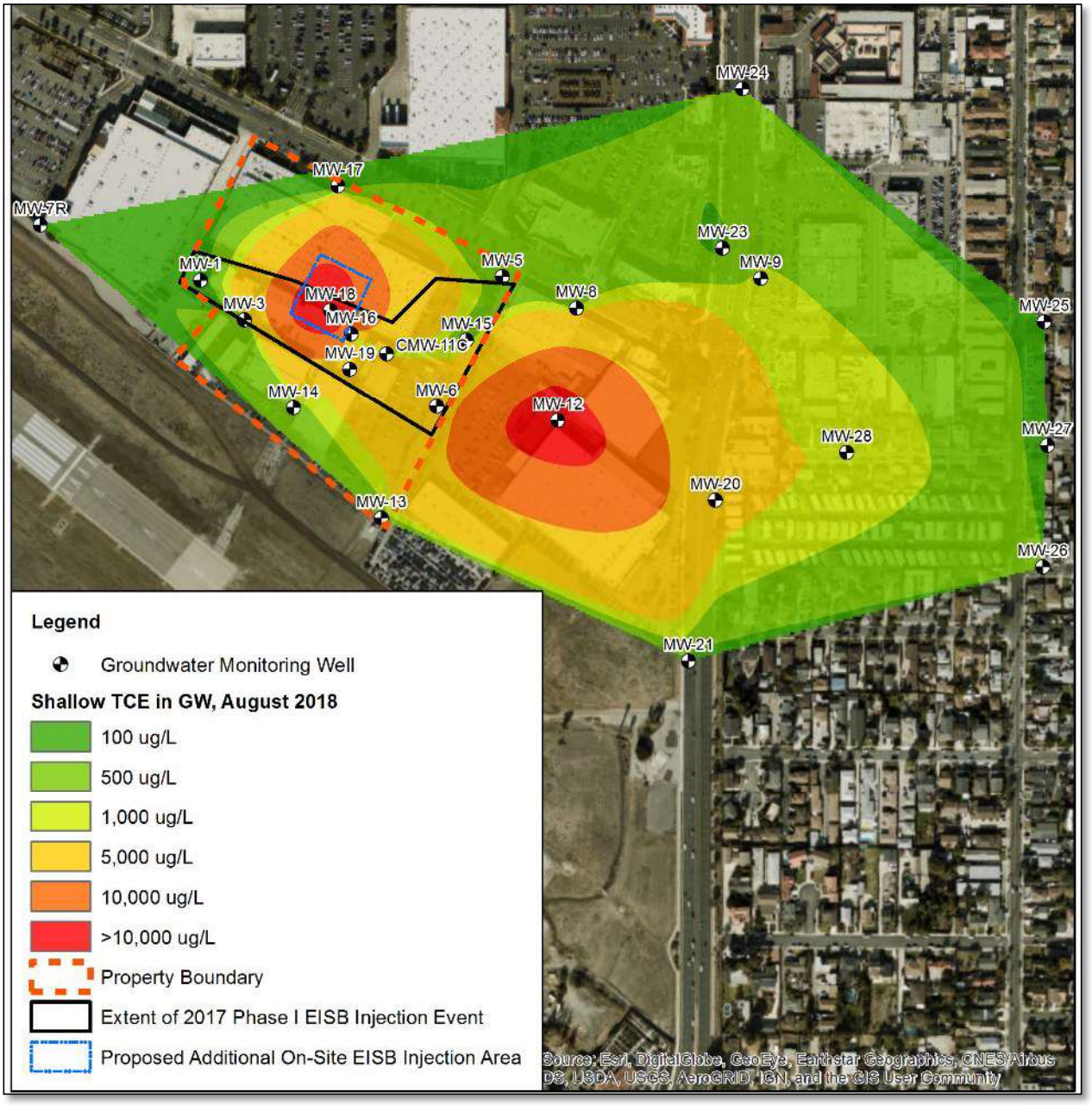


Exhibit 3-3 demonstrates that the 2017 full-scale Phase I injection program was effective in reducing TCE concentrations within the treatment zone, particularly in the area along and just upgradient of the Hi-Shear Site and EA properties boundary. As shown in this exhibit, the area of reduced concentrations in groundwater bisecting the former plume into two higher concentration lobes closely matches the shape of the injection area. Although not evident in this depiction, the density of the treatment injections along the eastern property boundary of the Hi-Shear Site was higher than other locations to the west. Combined with the higher source-area

initial concentrations in the MW-18 area, the resulting concentrations in groundwater correlate well with the completed injection program.

Two hot spots of elevated TCE concentrations exceeding 10,000 µg/L remain, one within the upgradient portion of the treatment zone near the MW-18 Hi-Shear source area; and one downgradient of the treatment zone in the vicinity of off-Site well MW-12. As discussed herein, the bifurcated plume is indicative of a single TCE plume with localized treatment and does not indicate the presence of a source around MW-12.

Exhibit 3-3. TCE groundwater plume in August 2018, after Hi-Shear Phase I remediation



3.2 TCE Plume Modeling of TCE shows a TCE source on the Hi-Shear Site in the vicinity of MW-18

The BIOCHLOR Natural Attenuation Decision Support System (Aziz et al., 2000) model (version 2.2) was utilized to simulate plume conditions based on Site-specific hydrogeologic and decay parameters. BIOCHLOR is a screening-level model that simulates natural attenuation of dissolved chlorinated solvents (e.g., TCE) and has the ability to simulate one-dimensional advection, three-dimensional dispersion, linear adsorption, and biotransformation via reductive dichlorination (the dominant biotransformation process at many chlorinated solvent sites). The model was originally designed to help answer questions like how far a dissolved chlorinated solvent plume will extend if no engineered controls or source area reduction measures are implemented.

Input parameters for BIOCHLOR were selected based on documented Site-specific conditions and historical analytical results from groundwater monitoring wells. An approximate groundwater seepage velocity of 130 feet per year was estimated based on a gradient of 0.001 to 0.002 foot/foot in the east-southeast direction in 2018, consistent with historical observations (Alta, 2017), a horizontal hydraulic conductivity of 50 feet per day (Genesis, 2018), and an assumed effective porosity of 0.2. The source thickness was assumed to be 25 feet thick and 200 feet wide. Representative historical concentrations of CVOCs in monitoring well MW-18, which was installed in the approximate area of a source zone, were used as source concentrations in groundwater.

First-order decay rates were calculated for each groundwater monitoring well following the approach described in Newell et al. (2002). Exhibit 3-4 presents the results for the 32 monitoring wells. As shown on Exhibit 3-4, 18 monitoring wells show a positive first-order decay rate, thus indicating decreasing concentrations, and seven monitoring wells indicate increasing concentrations (negative decay rate). First-order decay rates were not calculated for seven wells that had over 50% non-detect values. The median decay rate was approximately 0.1 per year, equating to a half-life of about 7 years, meaning that concentrations are expected to reduce by approximately half every 7 years. Based on the first-order decay rates presented in Exhibit 3-4, a biotransformation decay rate of 0.1 per year was used for TCE.

Exhibit 3-4. First-order decay rates calculated for monitoring wells

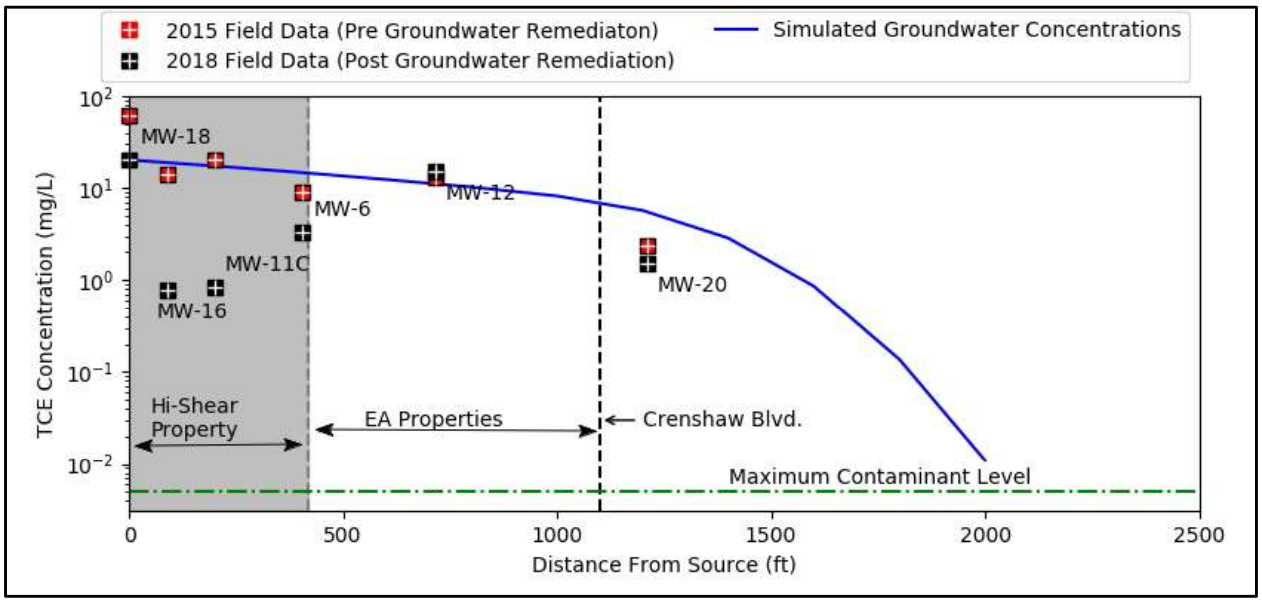
Well	K_{point} (1/yr)	Well	K_{point} (1/yr)
CMW-11A	ND	MW-15	0.667
CMW-11B	-0.0531	MW-16	0.183
CMW-11C	0.142	MW-17	0.303
MW-1	0.32	MW-18	0.126
MW-3	0.245	MW-19	0.128
MW-4	0.127	MW-20	0.0389
MW-5	0.0773	MW-21	-0.439
MW-6	-0.0929	MW-22A	ND
MW-7	0.146	MW-22B	ND
MW-7R	ND	MW-23	-0.234
MW-8	-0.0635	MW-24	ND
MW-9	-0.209	MW-25	ND
MW-10	0.176	MW-26	0.413
MW-12	-0.0725	MW-27	ND
MW-13	0.076	MW-28	0.127
MW-14	0.22	SPG-1	0.525

The simulated TCE profile shown in Exhibit 3-5, represents TCE concentrations in groundwater 30 years after a release on the Hi-Shear property near MW-18. This simulated TCE profile represents TCE concentrations with biodegradation, but without any remedial actions (i.e., without accounting for the recent 2017 enhanced in-situ bioremediation [EISB] injections). Exhibit 3-5 also shows measured TCE concentrations from before the full-scale injection event (July 2015 pre groundwater remediation; red) and after the full-scale injection event (August 2018 post groundwater remediation; black) measured in wells downgradient of MW-18 (presumed source), including MW-16, MW-11C, MW-6, MW-12, and MW-20.

Prior to the full-scale injection events in 2017, the historical TCE concentrations along the well transect (red squares) closely match the modeled TCE plume, indicating that the observed monitoring data are consistent with a single-source TCE plume migrating from the Hi-Shear property. Within the extent of the injections, the post groundwater remediation field data collected in 2018 (black squares) demonstrate a decrease in TCE concentrations below the simulated TCE profile, which highlights the effect the 2017 remedial action had on TCE concentrations within the injection area in groundwater. Downgradient of the property boundary and beyond the injection points, the TCE concentrations in 2018 (post groundwater remediation) more closely resemble the simulated TCE profile, with substantial TCE concentrations that exceed the MCL (extending approximately 1,000 feet downgradient of Crenshaw Boulevard). These findings support a single TCE plume that has emanated downgradient from the Hi-Shear property, with the observed bifurcation of the TCE plume (see Exhibit 3-3) resulting from the 2017 EISB injections and not

due to a second source of TCE downgradient of the Hi-Shear property. These modeling results indicate that a source of TCE in the vicinity of MW-18 has migrated downgradient at significant concentrations and was subsequently bifurcated from the limited Hi-Shear groundwater remediation efforts.

Exhibit 3-5. Simulated TCE concentrations without groundwater remediation shown as distance from the Hi-Shear source



3.3 TCE Mass Flux is leaving the Hi-Shear Site across the EA Properties Boundary

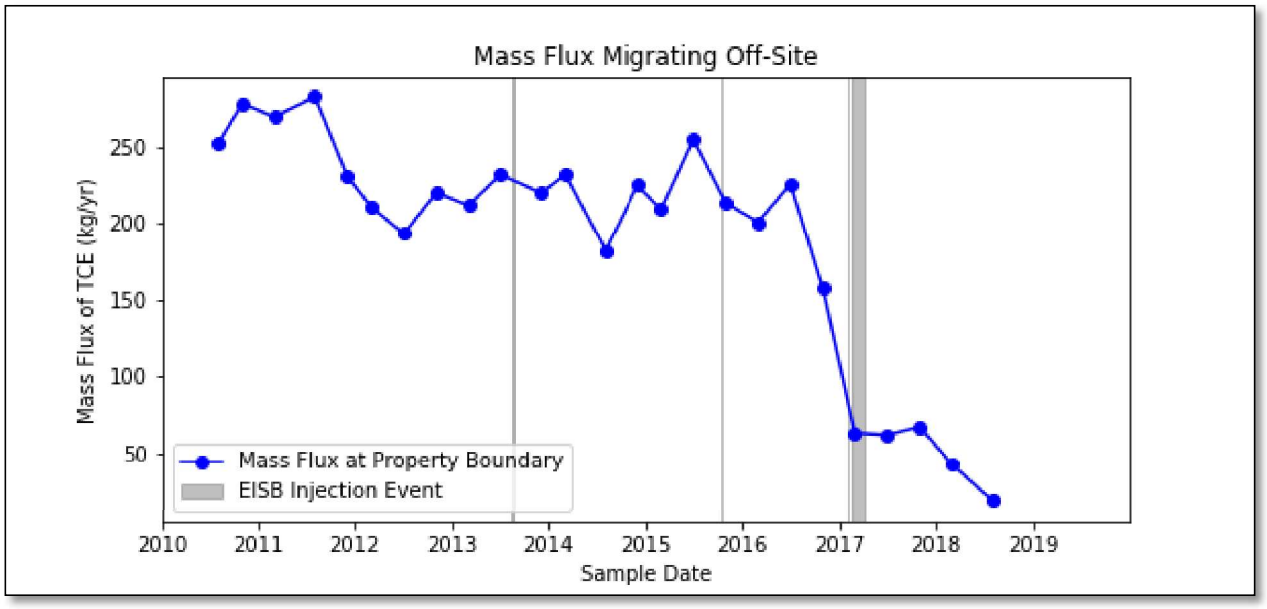
The GSI Mass Flux Toolkit (Farhat et al., 2011), which was developed for the Department of Defense ESTCP program, was utilized to estimate the mass flux currently leaving the Hi-Shear Site across the eastern property boundary, which is generally oriented perpendicular to groundwater flow. This mass flux represents the historical and ongoing loading of TCE (and other Site constituents) from the Hi-Shear Site to downgradient EA properties and Residential Properties.

A transect of monitoring wells across the eastern property boundary, generally oriented perpendicular to the predominant groundwater flow direction, was selected: MW-5, MW-15, MW-6, and MW-13. The Mass Flux Toolkit assumes that the ends of the transect are clean (i.e., contain a constituent concentration of 0 µg/L). Since the objective of this analysis was to estimate the mass flux of TCE across the eastern property boundary, not the width of the entire plume, the transect was truncated 1 foot beyond either terminal monitoring well (i.e., MW-5 to the north and MW-13 to the south). This assumption implies that the mass flux across the entire TCE plume is greater than the mass flux reported here. MW-10, which is located approximately 18 feet south of MW-5, was not used in this analysis because it is screened approximately 30 feet deeper than the other four monitoring wells utilized in this transect. Additional input parameters to the Mass Flux Toolkit include a representative hydraulic gradient of 0.0015 foot/foot and a horizontal hydraulic conductivity of 50 feet per day (Genesis, 2018). While the vertical extent of groundwater impacts has not been fully delineated, a 25-foot thickness was assumed here and represents the interval over which EISB injections were implemented (i.e., 88 to 113 feet bgs). The mass flux

was calculated for the time period for which monitoring data were collected from each of the four wells (i.e., August 2010 through August 2018).

Exhibit 3-6 illustrates the estimated mass flux across the eastern property boundary between wells MW-5 and MW-13. Approximately 230 kilogram (kg) of TCE per year migrated from the Hi-Shear Site to the EA properties between 2010 and 2017, with an unknown quantity having migrated prior to 2010. The 2017 full-scale Phase I EISB injections appear to have substantially reduced the mass flux across the eastern property boundary, but approximately 20 to 70 kg of TCE continue to migrate from the Hi-Shear Site to the EA properties annually, contributing to an ongoing release of TCE from the Hi-Shear to downgradient EA properties. Without additional significant groundwater remediation on the Hi-Shear Site, the rate of TCE migrating off-Site will continue to increase as the high TCE concentrations upgradient at a source, near MW-18, move downgradient and across the eastern property boundary.

Exhibit 3-6. Mass flux of TCE migrating from the Hi-Shear Site across the eastern property boundary, as calculated in the Mass Flux Toolkit



While monitoring data along Crenshaw Boulevard are more limited temporally, the mass flux of TCE was estimated across Crenshaw Boulevard with the following transect: MW-24, MW-23, MW-9, MW-20, and MW-21, with 100 feet included on either end of the transect to an assumed concentration of 0 µg/L TCE. Input concentrations were based on data collected between July 2016 and August 2018 from transect monitoring wells, which represents the period for which concentrations were measured in each of the monitoring wells. The total mass flux of TCE across Crenshaw Blvd. ranges from approximately 20 to 50 kg TCE per year, which represents the additional mass of TCE that continues to migrate across Crenshaw Blvd. each year.

4.0 TCE is the remedy driver for groundwater impacts both on the Hi-Shear Site and downgradient on the EA Properties and the Residential properties.

A review of available groundwater monitoring data indicates that TCE is the remedy driver for groundwater impacts on the Hi-Shear Site, EA Properties, and Residential Properties. For example, the maximum historical measured TCE concentration on the Hi-Shear Site (190,000 µg/L in MW-3) is almost 12 times greater than the maximum measured historical concentration of PCE (16,000 µg/L) in MW-3.

TCE has also in most sample locations been detected at concentrations exceeding PCE on the EA properties:

- MW-20: TCE is 5 to 34 times greater than PCE;
- MW-9 and MW-23: TCE is 3 to over 475 times greater than PCE; and
- MW-21: PCE concentrations typically exceed TCE concentrations, but both concentrations are relatively low (within 1 OoM of the MCL).

Downgradient of Crenshaw Boulevard within the Residential Properties:

- MW-28: TCE is 11 to 38 times greater than PCE; and
- MW-22A, MW-22B, MW-24, MW-25, MW-26, and MW-27: PCE has not been detected.

These data clearly identify that potential sources of PCE are not contributing significantly to the primary TCE plume migrating downgradient from documented Hi-Shear sources.

5.0 References

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Exhibit 2

GSI Project No. 4835

GSI ENVIRONMENTAL

11 January 2021

Mr. Hugh Marley
Assistant Executive Officer
Los Angeles Regional Water Quality Control Board
Site Cleanup Program Unit IV
320 West 4th Street, Suite 200
Los Angeles, CA 90013
hugh.marley@waterboards.ca.gov

Re: **City of Torrance Technical Comments to LARWQCB Draft Cleanup and Abatement Order No. R4-20XX-XXXX**
Skypark Commercial Properties (portion of Assessor Parcel No. 7377-006-906)
24701 – 24777 Crenshaw Boulevard and 2530, 2540, and 2600 Skypark Drive
Torrance, California (SCP NO. 1499)

Dear Mr. Marley:

On behalf of the City of Torrance (City), GSI Environmental Inc. (GSI) has prepared these comments to the draft Cleanup and Abatement Order (draft CAO) prepared by the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board), and transmitted to the City of Torrance in a letter dated 30 November 2020. The Los Angeles Water Board draft CAO directs asserted responsible parties associated with the Skypark Commercial Properties located at 24701 to 24777 Crenshaw Boulevard and 2530, 2540, and 2600 Skypark Drive, Torrance, California (the Site) to "assess, monitor, and cleanup waste and abate the effects of discharges of wastes," at the Skypark Commercial Properties.

The Skypark Commercial Properties are comprised of two sets of parcels, which are referred to in the draft CAO as the Hi-Shear Corporation (Hi-Shear) Property and the East Adjacent Properties (EA Properties), as follows:

- The Hi-Shear Property is identified with the property address of 2600 Skypark Drive, Torrance, CA, and has been leased by H-Shear and its corporate successor (LISI Aerospace) since 1954 for the manufacture, production, assembly, and cleaning of fasteners for the aerospace industry. Hi-Shear and its corporate successors are collectively referred to herein as "Hi-Shear."
- The commercial properties located east of the Hi-Shear Property are referred to as the EA Properties. The EA Properties are further subdivided into the following three properties:
    - EA Property 1 is identified with the property addresses of 24751 and 24777 Crenshaw Boulevard, Torrance, CA, and is currently occupied by South Bay Lexus (vehicle dealership);
    - EA Property 2 is identified with the property addresses of 24707, 24747 and 24701 Crenshaw Boulevard, Torrance, CA, and is currently occupied by Dasco Engineering Corporation (manufacturer of precision mechanical aircraft and space components); and

- EA Property 3 is identified with the property addresses of 2530 and 2540 Skypark Drive, Torrance, CA, and is currently occupied by Robinson Helicopter.

The draft CAO appears to be designed to generally address historical releases of volatile organic compounds (VOCs), most notably tetrachloroethene (PCE) and trichloroethene (TCE), but provides no description of the predominant VOC source areas, namely on the Hi-Shear Property, and provides no description of the historical Hi-Shear operations that resulted in the principal discharges of the VOCs of concern. In summary, as currently written, the draft CAO does not describe known source areas where releases of PCE and TCE occurred on the Hi-Shear Property; does not describe the historical operations conducted on the Hi-Shear Property that resulted in these releases; does not discuss the substantial data that had been generated on the Hi-Shear Property from prior environmental investigations dating back to 1991; and does not set forth any particular requirements directed at the Hi-Shear Property for the complete assessment and remediation of these known source areas. The draft CAO should therefore be revised to be consistent with State Board Resolution No. 92-49, and past Los Angeles Water Board CAOs at other sites throughout the Los Angeles Region, to focus on the known source areas or "hot spots" of the VOCs, and to direct particular remediation efforts at these known source areas.

Additional assessment at the downgradient portions of the Site (i.e., EA Properties) may be performed in parallel with the remediation of the "hot spot" areas on the Hi-Shear Property, and any final CAO that is issued at this time, may be subsequently revised to incorporate additional release areas identified from additional assessment work. However, the lack of any mention or direction in the draft CAO for immediate remediation of the known "hot spot" areas on the Hi-Shear Property will only result in significant additional delay in cleaning up the overall contamination to be addressed, and correspondingly, will allow unnecessary continued migration of PCE and TCE from the Hi-Shear Property, all to the detriment of the health and safety of the public and the environment.

The following are specific proposed comments to the identified sections of the draft CAO.

CAO Section – Site History

The Los Angeles Water Board provides limited information in this section regarding the Site activities involving Constituents of Concern. For the Hi-Shear Property, the draft CAO indicates "Wastes generated as part of the activities contained COCs, including TCE and PCE, perchlorate, 1,4-dioxane, metals, and total petroleum hydrocarbons." CAO's, including this draft CAO, in its discussion of identified responsible parties, should include specific information regarding the source areas where releases to soil, groundwater, and soil vapor are known to have occurred.

GSI had previously summarized the site characterization data identifying various release areas of PCE and TCE on the Hi-Shear Property, in a Technical Memorandum, dated 9 June 2020, as well as in a Power Point presentation provided to the Los Angeles Water Board in a virtual conference call on 12 August 2020. (Both documents have previously been provided to the Los Angeles Water Board and are included in Attachment A.[1]) None of the specific information regarding the Hi-Shear operations, nor the substantial TCE and PCE contamination discovered on the Hi-Shear Property from these operations, is discussed, however, in the draft CAO.

As described in the attached GSI Technical Memorandum and Power Point presentation, several historical features located at the Hi-Shear Property have provided pathways for releases of TCE and PCE to the subsurface and, correspondingly, the groundwater:

[1] On behalf of Hi-Shear, Hi-Shear's lawyers, Hamrick & Evans, responded and provided comments to GSI's 9 June 2020 technical memorandum in a letter dated 12 November 2020. GSI responded to the Hi-Shear's Hamrick & Evans' letter, which was provided to the Los Angeles Water Board on 8 January 2021, and is included herein as Attachment A.

- 18 underground storage tanks (USTs), including clarifiers, in-ground plating pits, and plating sumps, all utilized in the Hi-Shear operations;
- Sewer lines – historical records describe the detection of TCE and PCE in discharge to the sewer system and the degradation of the sewer system due to Hi-Shear waste discharge; and
- A drywell located and presumably previously utilized by Hi-Shear on the Hi-Shear Property.

The list of equipment that has been operated by Hi-Shear under numerous SCAQMD permits for one or more years between 1968 and the present, includes the following (listings verbatim from SCAQMD records):

- SPRAY BOOTH PAINT AND SOLVENT
- DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)
- SCRUBBER, OTHER VENTING S.S.
- DEGREASER PERCHLOROETHYLENE (>1LB VOC/D)
- STORAGE TANK TRICHLOROETHYLENE
- CHLORINE TREATING
- COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
- SOLV RECLAIM (1 STAGE) METHYLENE CHLORID
- STORAGE TANK FUEL OIL
- PLAN RULE 1166 (CONTAMINATED SOIL HAND.)
- I C E (50-500 HP) EM ELEC GEN-DIESEL
- I C E (50-500 HP) EM FIRE FGHT-DIESEL
- WASTE WATER EVAPORATION
- AFTERBURNER, DIRECT FLAME
- WASTE WATER TREATING (>50000 GAL/DAY)
- TANK, CADMIUM - PLATING
- TANK, SURFACE PREPARATION - OTHER ACIDS
- SOIL TREAT VAPOR EXTRACT OTHER VOC UNDER
- TANK, NITRIC ACID
- TANK, OTHER AQUEOUS SOLUTION
- SCRUBBER, PARTICULATES VENTING S.S.
- SCRUBBER, PARTICULATES VENTING M.S>
- TANK, SULFURIC/PHOSPHORIC ACID - ANODIZING
- SOLV RECLAIM STILL (1 STAGE) HYDROCARB
- DIP TANK COATING WAX
- DIP TANK COATING MISC
- OVEN, COOKING OR CURING
- SPRAY MACHINE - COATING

- SPRAY BOOTH(S) (1 - 5) W/ AFTERBURNER
- SOIL TREAT VAPOR EXTRACT GASOLINE UNDER
- SCRUBBER, OTHER VENTING M.S.
- SPRAY BOOTHS (>5) WITH AFTERBURNER
- SURFACE PREP TANK CONT. CHROMIC ACID
- SCRUBBER, TOXICS VENTING
- SOLVENTS MISC STRIPPING
- WASTE WATER TREATING (20000-50000 GAL/D)

A permit is listed in SCAQMD records as Permit Number P66723 dated 6 April 1976 for "Degreaser Perchloroethylene (<1LB VOC/D)." The permit listing establishes that Hi-Shear conducted a PCE degreasing operation on the Hi-Shear Property, in addition to Hi-Shear's use of various TCE storage tanks. Inexplicitly, in the draft CAO, the Los Angeles Water Board references degreasers identified as being used on EA Property 1, but does not identify or summarize any of the degreasers or other numerous pertinent historical site features for the Hi-Shear Property. The absence of a summary of historical site features and equipment where chemicals were historically used and handled on the Hi-Shear Property, is a material deficiency in the draft CAO, as, pursuant to California State Water Board Resolution No. 92-49, this historical information must be discussed in the draft CAO, and from an environmental consultant's standard of care perspective, must be incorporated into the overall conceptual site model and must be considered in the selection of site remediation activities.

CAO Section – Evidence of Waste Discharge and Basis for Section 13304 Order

TCE and PCE were detected in soil samples collected at the Hi-Shear Property in 1990 as part of an investigation following the removal of a waste oil UST, yet the draft CAO begins its history of environmental investigations of the Hi-Shear Property in 2016. Subsequent to 1990, various investigations identified the presence of dense nonaqueous phase liquid (DNAPL) beneath the Hi-Shear Property, and indicated that TCE in groundwater associated with sources at the Hi-Shear Property was migrating east towards the EA Properties and towards residential properties located east of Crenshaw.

Soil sampling at the Hi-Shear Property identified eight areas of potential concern (AOPCs) for releases of total petroleum hydrocarbons (TPH), TCE and PCE. Both TCE and PCE were detected in soil samples collected at five of the eight AOPCs. Hi-Shear's soil and groundwater investigations have identified significant TCE and PCE source areas on the Hi-Shear Property, substantial concentrations of TCE and PCE in groundwater beneath the Hi-Shear Property, and the existence of a groundwater plume migrating from the Hi-Shear Property east, to the EA Properties.

The draft CAO omits 26 years of reports and relevant information on the history of environmental investigations and groundwater monitoring. The relevant environmental investigation, and monitoring reports are available on the Los Angeles Water Board GeoTracker Website. Attachment B presents a summary of the 59 site assessment and investigation reports and 47 groundwater monitoring reports, available on the State Water Resources Control Board's GeoTracker Website prior to the 9 September 2016 Interim Offsite Assessment Report (IOAR) included in Section 4.a. of the draft CAO.

Regarding the glaring lack of data referenced in the draft CAO on the Hi-Shear Property, at a minimum, the draft CAO should be revised to include certain key environmental reports and the associated findings available for the Hi-Shear Property, summarized as follows:

- 3 May 1991, Hygienetics, Inc., (Hygienetics), Phase I Environmental Site Assessment (ESA) Report. The Hygienetics ESA was prepared for the Hi-Shear Property on behalf of Chemical Bank. The report:
    - Described the use and storage of chlorinated solvents, including the use of degreasers, at Heat Treat Building #2 and Plating/Parts Cleaning Building #5, and included a site plan showing a large facility with significant manufacturing operations and identified 18 USTs, including two plating pits with capacity of 50,000 and 75,000 gallons.
    - Included the construction details for a dry-well at Building #3.
    - Documented that Hi-Shear acknowledged that discharges to the sewer by Hi-Shear degraded the main sewer line on Skypark Drive.
- 15 May 1991, Camp, Dresser & McKee, Inc. (CDM), Report of Subsurface Soil Investigation at the Hi-Shear Torrance Facility. Following the removal of a waste oil UST at the "oil yard," soil contamination was identified and the CDM report described the results of soil sampling at four borings at the location of the former waste oil UST. These initial soil sampling results indicated that a significant TCE and PCE release had occurred at the Hi-Shear Property.
    - TCE was detected in all eight soil samples at concentrations ranging from 5,400 micrograms per kilogram (µg/kg) (HS1 at 61.5 feet bgs) to 5,500,000 µg/kg (HS3 at 50.0 feet bgs).
    - PCE was detected in all eight soil samples at concentrations ranging from 1,700 µg/kg (HS1 at 61.5 feet bgs) to 1,600,000 µg/kg (HS3 at 50.0 feet bgs).
- 21 September 2001, BBL Environmental Services, Inc., (BBL), Deep Soils and Groundwater Investigation Progress Report. The BBL report presented the following figures showing the nature and extent of TCE contamination (Attachment C):
    - TCE concentration contours in groundwater with the area of TCE-impact groundwater extending from sources at the Hi-Shear Property to areas East of Crenshaw; and.
    - TCE migration model that identified DNAPL at a perched water table and clay layer beneath the Hi-Shear Property and a "Dissolved TCE Plume" extending to MW-8 (located at EA Property 3) and beyond.
- 15 March 2010, Winefield & Associates, Inc., (W&A), Site Conceptual Model (SCM) Report. The SCM Report identified eight separate AOPCs for the release of VOCs to the subsurface and provided a summary of soil sampling data collected at these AOPCs. The SCM Report presented:
    - A figure depicting the estimated aerial extent of AOPCs 1 through 8;
    - A Conceptual Exposure Model identifying COPC sources, exposure pathways, and associated receptors at the Hi-Shear Property;
    - Fence diagrams (cross section) depicting soil lithology to approximately 110 feet below grade that identify in yellow-colored shading the "Estimated Extent of VOCs in Soil," which is depicted to impact shallow to deeper soils below the depth to groundwater at approximately 90 feet below grade, depicts impacting "Perched

Groundwater" and silt and clay soils at approximately 55 to 60 feet below grade, and identifies detected concentrations of TCE, PCE, and other VOCs throughout the vertical soil column beneath the Hi-Shear Property. The fence diagrams are included to this letter as Attachment D.

The absence of any material discussion of Hi-Shear operations on its property, and the lack of any discussion of the identified release areas and findings of the prior environmental assessments characterizing the nature and extent of contamination on the Hi-Shear Property, are substantial deficiencies with the draft CAO, and will hinder genuine efforts to remediate the impacted groundwater.

For example, a discussion of the eight AOPCs identified in the 2010 SCM Report, including the current status of investigation and remediation efforts, would result in the requirement of focused specified actions to address known source areas of TCE and PCE to the subsurface. The draft CAO should therefore be revised to be consistent with State Board Resolution No. 92-49, and to include a description of historical operations and known source areas on the Hi-Shear Property, as well as the particular characterization data on the Hi-Shear Property, and to direct an immediate cleanup effort of the Hi-Shear Property.

CAO Section – Required Actions

The draft CAO requires the development of a Site Conceptual Model, Site Assessment Work Plans, Human Health Risk Assessment, and Conducting Remedial Action, specifically through the preparation of an Interim Remedial Action Plan (IRAP) for "cleanup of wastes in soil, soil vapor, and groundwater originating from the Site based on current available environmental data."

The draft CAO goes on to list three required remedial action reports/work plans related to the Hi-Shear Property. Yet, the draft CAO does not identify any areas at the Hi-Shear Property where specific investigation or remediation actions should be focused. The draft CAO must thus be revised to identify actions warranted at the eight AOPCs listed in the 2010 SCM Report, as well as other areas at the Hi-Shear Property where additional investigation is warranted. For example, historical records documented the detection of TCE and PCE in discharges to the sewer system at the Hi-Shear Property, as well as the degradation of the sewer system due to Hi-Shear waste discharges.[2] Clearly, assessment of the sewer system at the Hi-Shear Property is necessary, and the draft CAO should be revised to explicitly direct this assessment.

Site investigation data identify that the Hi-Shear Property is the primary un-mitigated source of TCE and PCE to groundwater and soil vapor in the area. The subsurface data, which has been collected for the Hi-Shear Property for over 30 years under Los Angeles Water Board oversight, overwhelmingly identify the need for remediation on the Hi-Shear Property. There is thus no technical basis for further delay in requiring remediation of the identified areas of TCE and PCE release on the Hi-Shear Property.

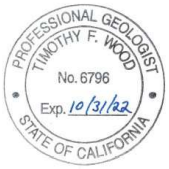
The draft CAO therefore should be revised to identify the specific source areas at the Hi-Shear Property, the operations of Hi-Shear that caused the contamination in these source areas, and to require immediate remediation of the known source areas, including immediate remediation of the groundwater migrating from the Hi-Shear Property. These known source areas were identified by Hi-Shear's consultants under Los Angeles Water Board oversight, starting in the early 1990s.

[2] This information is presented in Section 1.3 of the 9 June 2020 GSI Technical Memorandum.

Should you have any questions or comments regarding this letter, please contact either of the undersigned at 949.679.1070.

Sincerely,

GSI Environmental Inc.



Timothy F. Wood, PG, CHG
Principal Geologist

Peter Scaramella
Senior Risk Assessor

Attachments

Attachment A – 8 January 2021 GSI Letter to Los Angeles Water Board with GSI 9 June 2020 Technical Memorandum and 12 August 2020 Power Point Presentation
Attachment B – Chronology of Site Assessment, Investigation, and Monitoring Reports at the Hi-Shear Property prior to September 2016
Attachment C – Figures 5 and 7, BBL, 2001, Deep Soils and Groundwater Investigation Progress Report
Attachment D – Figures 10 and 11, W&A, 2010, "Known VOC Contamination in Soil," Site Conceptual Model

cc:

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Julian Ly, LA Regional Quality Control Board (Jillian.Ly@waterboards.ca.gov)
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Attachments

GSI Job No.: 4835
Issued: 11 January 2021

GSI ENVIRONMENTAL

Attachment A

8 January 2021 GSI Letter to Los Angeles Water Board with GSI 9 June 2020 Technical Memorandum and 12 August 2020 Power Point Presentation

GSI Project No. 4835

08 January 2021

Dr. Arthur Health, Environmental Program Manager
Ms. Jillian Ly, Unit Chief
Site Cleanup Program Unit IV
Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Transmitted via email

Re: **Response to Hi-Shear's Response and Comments to GSI's Technical Memorandum of 9 June 2020**
Skypark Commercial Properties (Assessor Parcel No. 7377-006-906)
24701 – 24777 Crenshaw Boulevard and 2530, 2540, and 2600 Skypark Drive
Torrance, California (SCP NO. 1499)

Dear Dr. Health and Ms. Ly:

GSI Environmental Inc. (GSI) has prepared this response on behalf of the City of Torrance (City) to the 12 November 2020 letter prepared by Hamrick & Evans, LLP (Hamrick & Evans) on behalf of Hi-Shear Corporation (Hi-Shear). The Hamrick & Evans letter provided responses and comments to GSI's 9 June 2020 Technical Memorandum regarding a "Review and Analysis of Current Data on Historical Site Use and Environmental Conditions at the Hi-Shear Site, 2600 Skypark Drive, Torrance, California."

The GSI technical memorandum provided a preliminary summary of the Hi-Shear on-site operations that involved the use of the chlorinated solvent trichloroethene (TCE) and tetrachloroethene (PCE), and the results of Environmental Site Assessment activities that have identified significant source areas of TCE and PCE at the Hi-Shear Property to soil, soil vapor, and groundwater. In a webinar presentation to the Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board) on 12 August 2020, GSI summarized the analysis and findings presented in the technical memorandum as well as the results of soil vapor data collected by Hi-Shear in January, March, and April 2020.[1] GSI's 9 June 2020 Technical Memorandum and 12 August 2020 PowerPoint (PPT) presentation are attached to this letter.

In their 12 November 2020 letter, Hamrick & Evans states that the GSI Technical Memorandum concludes that "there were no HVOC releases at the East Adjacent Properties and that the HVOCs detected there have migrated solely from the Hi-Shear Property." This statement is a misrepresentation of the results and GSI's discussion thereof, presented in the GSI Technical Memorandum. As stated in the Technical Memorandum, Hi-Shear's consultant (Genesis Engineering & Redevelopment, Inc. [Genesis]) has advanced the narrative that there are two distinct plumes of soil vapor and groundwater at the Skypark Properties. Hi-Shear's position is false and unsupported by the data, and the appearance of a "bisected" plume in recent years is the result of limited pilot test remediation efforts by Hi-Shear.

The objective of our Technical Memorandum was to respond to Hi-Shear's mischaracterization of the soil vapor and groundwater conditions, and to summarize the areas at the Hi-Shear Property where known or suspected releases of PCE and TCE occurred, and where remediation efforts should be directed immediately with the issuance of a Cleanup and Abatement Order (CAO) issued directly for the Hi-Shear Property. As the TCE and PCE soil vapor and groundwater plumes represent a single plume emanating from the Hi-Shear Property, cleanup efforts should be

[1] Genesis Engineering & Redevelopment, Inc. (Genesis), 2020. Soil, Soil Vapor, and Groundwater Delineation, Module III – Interim Report, Skypark-Crenshaw Environmental Task Force, July 3.

initiated at the Hi-Shear Property in parallel with further investigation efforts at the downgradient areas.

Hi-Shear has allowed TCE and PCE released to groundwater at the Hi-Shear property to migrate downgradient for over 30 years. Further, this 30-year failure to address the groundwater plume migrating from the Hi-Shear Property has been allowed to continue under the oversight of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board). Even now, Hi-Shear continues to delay implementation of adequate remediation efforts at the Hi-Shear Property, which recent sampling by Hi-Shear's consultant only further documents is the primary source of TCE and PCE in groundwater and soil vapor that has migrated east of the Hi-Shear Property.

The Hamrick & Evans letter presented two lines of criticism (Comments A and B) to the GSI Technical Memorandum. We are responding to each line of criticism below:

Hamrick & Evans Comment A: *The GSI Technical Memorandum Fails to Consider Historic Publicly Available Operational Documents Associated with the East Adjacent Properties*

As stated in the first line of the 9 June 2020 GSI Technical Memorandum, GSI conducted a review of currently available historical records, Environmental Site Assessment reports, groundwater monitoring and remedial actions, and available analytical data for the groundwater plume containing CVOC concentrations (primarily TCE and PCE) at the Hi-Shear Property because to date, no CAO has been issued for the Hi-Shear Property despite the identification of significant releases of VOCs to the subsurface for over 30 years. GSI did not indicate that a similar review was performed for the EA Properties.

Historical Site use information for other properties located in the vicinity of the Hi-Shear Property, including the EA Properties, was provided by the City of Torrance to the Los Angeles Board under separate cover. In addition, work plans for characterization at EA Property 1 were submitted to Los Angeles Board in August 2020.[2] The results of the additional assessment activities may indicate the need for remediation efforts at the EA Properties, but this possible result does not alter the fact that significant primary source areas remain at the Hi-Shear Property that require remediation.

GSI does not "ascribe complete responsibility to Hi-Shear" as dramatically and falsely asserted by Hamrick & Evans in its letter, but instead, GSI points to the multiple lines of evidence that indicate the Hi-Shear Property is the primary un-mitigated source of TCE and PCE to groundwater and soil vapor in the area. The subsurface data, which has been collected for the Hi-Shear Property for over 30 years under Los Angeles Water Board oversight, identify the need for remediation on the Hi-Shear Property.

There is no technical basis for further delay in remediation of the Hi-Shear Property, and continued delay will only further exacerbate the subsurface migration of the groundwater and soil vapor plumes. The Los Angeles Water Board is pursuing other parties for investigation of the EA Properties, yet extensive historical and subsurface data exists supporting that a CAO is warranted for the Hi-Shear Property specifically.

Hamrick & Evans Comment B: *The Torrance GSI Technical Memorandum Fails to Include and Address Existing Technical Data*.

Hamrick & Evans indicates that the maximum concentrations of 1,1-dichloroethene (1,1-DCE) and PCE in soil vapor are higher at the EA Properties than the Hi-Shear Property, and "There is no plausible mechanism by which VOC migration on the Hi-Shear Property onto the East Adjacent Properties could possibly produce *higher* VOC concentrations on the East Adjacent properties than on the H-Shear property."

[2] MK Environmental Consulting, Inc., 2020, Data Gap Workplan, 24751-24777 Crenshaw Boulevard, Torrance, CA, August 21; Ramboll US Corporation, 2020, Data Gap Work Plan, 24751/24777 Crenshaw Boulevard, Torrance, California, August.

The Hamrick and Evans evaluation ignores that soil vapor sampling at the Hi-Shear Property only occurred after soil vapor extraction (SVE) was implemented at select areas from March 1999 to November 2002.[3] No soil vapor sampling was completed at the Hi-Shear Property prior to the implementation of SVE. Thus, a comparison of maximum VOC concentrations in soil vapor at the Hi-Shear Property and EA Properties is disingenuous and technically unsupportable, and part of the Hi-Shear Team's apparent continued attempt to put forth a false narrative deflecting responsibility for impacts to the subsurface from Hi-Shear's operations.

We note that Hamrick & Evans omitted PCE data collected at the Hi-Shear property that is higher than the maximum concentrations presented in their letter and, more importantly, we note that soil vapor sampling was conducted at the Hi-Shear Property after soil vapor extraction had been performed, thus a direct comparison of maximum reported concentrations in soil vapor is not appropriate.

Hamrick & Evans also compares 1,1-DCE and PCE concentrations in groundwater samples collected at the regional groundwater table beneath the Hi-Shear Property to perched groundwater collected at the EA Properties. Similar to soil vapor on the Hi-Shear Property, incomplete remedial efforts on the Hi-Shear Property have distorted the pattern of VOC migration since their release. Based on its evaluation, Hamrick & Evans concludes, "It is simply implausible for VOC to "de-gas" from regional groundwater, migrate 30 feet up through the unsaturated zone and a semi-confining clay unit, and result in higher concentrations in perched groundwater than in regional groundwater." We agree that this migration pathway is implausible. However, Hamrick & Evans further concludes that "the presence of HVOCs in perched groundwater can only be the result of independent release on the [EA] Properties."

Additional assessment is required to determine the source of VOCs at perched groundwater beneath the EA Properties. It also remains to be determined if perched groundwater at the EA Properties is impacting the downgradient regional groundwater. The proposed data gap assessment at EA Properties 1 may further delineate the presence and extent of a perched groundwater zone and potentially identify sources of VOCs. Regardless, what is currently known is that VOC releases at the Hi-Shear Property have impacted regional groundwater, and remediation efforts at the Hi-Shear Property should not be delayed to further evaluate the perched zone.

Hamrick & Evans outline a series of criticisms of GSI's use of BIOCHLOR, which are directly addressed below to highlight the continued obfuscation of data by the Hi-Shear Team.

Initial criticisms:

1. Hamrick & Evans: *The model can simulate only a single source with a constant concentration through time when all of the data indicate that there are multiple sources contributing TCE to groundwater.*

   GSI RESPONSE: As described in the GSI Technical Memo, BIOCHLOR is a screening level model and was utilized in this instance to help evaluate how far the TCE plume could extend if no engineered controls or source area reduction measures were implemented. While the current implementation does not seek to capture every single source, the modeling results indicate that a source of TCE in the vicinity of MW-18, having source concentrations consistent with those observed historically at MW-18, would be capable of migrating downgradient at significant concentrations, similar to those observed at the site. Furthermore, the modeling results support the observation that the groundwater plume was subsequently bifurcated from the limited Hi-Shear groundwater remediation efforts.

[3] Winefield & Associates, Inc., (W&A), 2010. Site Conceptual Model, LISI Aerospace, 2600 Skypark Drive, Torrance, California 90505, March 15.

2. Hamrick & Evans: *Transport can only be modeled in one direction (1D) when the plume has clearly spread in three directions (3D).*

   GSI RESPONSE: BIOCHLOR models advection (i.e., the bulk flow of water) as a 1D process but does simulate dispersion (i.e., the spreading of contaminants in groundwater) as a 3D process. As such, the model does account for 3D spreading of contaminants.

Additional Criticisms:

1. Hamrick & Evans: *The model assumes that source concentration is constant over time. This assumption ignores the source removal activities that include operation of the SVE system at the Hi-Shear Property that has been estimated to have removed 100,000 pounds of VOC. Therefore, the source concentration has not been constant over time. In addition, all monitoring wells on the Hi-Shear Property have shown gradually decreasing VOC concentrations over time, which also supports decreasing source concentration over time.*

   GSI RESPONSE: SVE systems primarily remove soil vapor, not dissolved groundwater concentrations. Thus, while the SVE system may have partially remediated any DNAPL or vapors in the vadose zone, the SVE system would likely not have affected any DNAPL submerged under the water table and in contact with the groundwater-bearing unit. Thus, modeling the groundwater source concentration as constant is a reasonable assumption, even with removal of contaminant mass by a SVE system.

2. Hamrick & Evans: *The source is placed near MW-18 in the center of the site. However, the main source area (i.e., where the highest soil and soil vapor VOC concentrations have been detected) is along the western boundary of the Site near MW-1 and approximately 400 feet east of MW-18. Not only are there multiple source areas, which contradicts the model's fundamental assumptions, but the largest source area was not even chosen to be the starting point of the model, further detracting from its reliability.*

   GSI RESPONSE: The source was placed near MW-18, the monitoring well location with the highest historical TCE concentrations in groundwater. While there may be other potential sources contributing to soil or soil vapor concentrations, the focus of the BIOCHLOR screening model was to evaluate groundwater sources. Historical concentrations in MW-1 were typically between 10,000 and 20,000 micrograms per liter (µg/L; max ~30,000 µg/L) between 1992 and 2004, and concentrations have been below 100 ug/L since approximately 2004. In contrast, TCE concentrations in MW-18 historically were over 40,000 ug/L until the 2017 EISB injection event, indicating that a source of TCE to **groundwater** is in the vicinity of MW-18.

3. Hamrick & Evans: *The model assumes that TCE is added to groundwater only in the source area on the Hi-Shear site. This assumption ignores the addition of TCE to groundwater resulting from the degradation of PCE in groundwater as well as dissolution of TCE into groundwater from soil vapor all along the flow path.*

   GSI RESPONSE: TCE concentrations in groundwater at the Hi-Shear Property are more than an order of magnitude greater than PCE concentrations, and at many locations, PCE has not been detected historically. Thus, including PCE breakdown to TCE in the modeling process would not affect the overall conclusions of the model that a source of TCE in the vicinity of MW-18, having source concentrations consistent with those observed historically at MW-18, would be capable of migrating downgradient at significant concentrations, similar to those observed at the Hi-Shear Property, EA Properties, and east of Crenshaw Boulevard.

4. Hamrick & Evans: *The model assumes that TCE degrades in accordance with first order decay. However, there are no site-specific first order decay rates that have been measured and the rates were calculated by literature-derived values. The biodegradation rate of TCE is highly dependent of site-specific conditions and the modelers provide no justification that the literature-derived rates are appropriate for this site. Furthermore, negative first order rate constants were calculated for seven (7) (aka 30%) of the twenty-three (23) wells. A negative rate constant means that TCE concentration is increasing, and almost one third of the calculated rate constants indicate TCE is added to groundwater outside of the single modeled source area. TCE concentrations can increase by adding TCE to groundwater along the flow path (i.e., additional source areas) or by PCE degradation. Neither of these processes are acknowledged whatsoever in the Torrance GSI Technical Memorandum, nor are they simulated in the model.*

   GSI RESPONSE: As clearly documented on pg. 29 of the GSI Technical Memorandum, site-specific first order decay rates were calculated from historical groundwater monitoring data, and no literature-derived values were used in the modeling approach presented in GSI's Technical Memorandum.

5. Hamrick & Evans: *The TCE decay rate used in the modeling equates to a 50% concentration decrease every seven (7) years. The data for TCE concentrations over time shown in the Module V report and all groundwater-monitoring reports indicate that there was no concentration decrease between 1991 and 2001 while the model predicts a greater than 50% decrease over that 10-year period. Therefore, the TCE decay rate set forth in the model is inconsistent with environmental data that has been part of the public record for almost two decades.*

   GSI RESPONSE: The first-order decay rate is an average among all wells, and thus any individual well will not track the half-life every seven years.

In summary, as outlined above and described in the GSI Technical Memo, BIOCHLOR is a screening level model that was used to evaluate how far the TCE plume from an identified Hi-Shear source area to groundwater could extend if no engineered controls or source area reduction measures were implemented. While this evaluation does not seek to capture every single potential source, the modeling results indicate that a source of TCE in the vicinity of MW-18, having source concentrations consistent with those observed historically at MW-18, would be capable of migrating downgradient at significant concentrations, similar to those observed at the Hi-Shear Property, EA Properties, and east of Crenshaw Boulevard. Furthermore, the modeling results support the observation that the groundwater plume was subsequently bifurcated due to the limited Hi-Shear groundwater remediation efforts.

Finally, Hamrick & Evans' criticisms regarding potential source areas at adjacent properties or modeling assumptions do not alter the known sources areas for VOCs at the Hi-Shear Property,

which have plainly not been adequately remediated, and have resulted in a regional groundwater plume that extends far beyond the Hi-Shear Property and east of Crenshaw Boulevard.

As shown in our Technical Memorandum, Hi-Shear's own consultants have acknowledged the significant sources of TCE and PCE and the presence of DNAPL at the Hi-Shear property, as well as the migration of VOCs in groundwater from the Hi-Shear Property to downgradient properties since the early 1990s.

The incomplete remediation efforts at the Hi-Shear property have not addressed the Hi-Shear source areas and must be remediated to adequately address the groundwater plume that extends East of Crenshaw Boulevard.

Should you have any questions or comments regarding this request, please contact one of the undersigned at 949.679.1070.

Sincerely,

GSI Environmental Inc.

Timothy F. Wood, PG, CHG
Principal Geologist

Peter Scaramella
Senior Risk Assessor

cc: Hugh Marley, Los Angeles Water Board
Kevin Lin, LA Regional Quality Control Board
Aram Chaparyan, City of Torrance, City Manager
Travis Van Ligten, Esq., Rutan & Tucker, LLP
Alan Fenstermacher, Esq., Rutan & Tucker, LLP
Richard Montevideo, Esq., Rutan & Tucker, LLP

Attachments:
9 June 2020 GSI Technical Memorandum to Los Angeles Water Board
12 August 2020 GSI PowerPoint Presentation to Los Angeles Water Board

GSI ENVIRONMENTAL

TECHNICAL MEMORANDUM

TO: **Rene Purdy, Executive Officer, LA Regional Water Quality Control Board**

Cc: **Rutan & Tucker, LLP**

FROM: **Timothy F. Wood, P.G., CHG, Kate E. Richards, P.G., CHG, and Peter Scaramella**

RE: Review and Analysis of Current Data on Historical Site Use and Environmental Conditions at the Hi-Shear Site, 2600 Skypark Drive, Torrance, California

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GSI Environmental Inc. (GSI) has conducted a review of currently available historical records, Environmental Site Assessment reports, groundwater monitoring and remedial actions, and available analytical data for the groundwater plume containing chlorinated volatile organic compound (CVOC) concentrations (primarily trichloroethylene [TCE] and tetrachloroethene [PCE]) at the Hi-Shear Corporation ("Hi-Shear") site located at 2600 Skypark Drive, Torrance, California (referred to herein as the "Hi-Shear Site"). The Hi-Shear Site has been leased by H-Shear and its corporate successors (currently LISI Aerospace) since 1954 for the manufacture, production, assembly and cleaning of fasteners for the aerospace industry (Los Angeles Regional Water Quality Control Board [LARWQCB], 2020). Hi-Shear and its corporate successors are collectively referred to herein as "Hi-Shear."

This technical memorandum provides a preliminary summary of the Hi-Shear on-Site operations that involved the use of TCE and PCE and the results of Environmental Site Assessment activities that have identified significant source areas of TCE and PCE at the Hi-Shear Site to soil, soil vapor, and groundwater.

In addition, GSI has reviewed available soil vapor and groundwater data collected at the Hi-Shear Site and downgradient areas, which indicate that TCE and PCE are migrating in groundwater from the Hi-Shear Site to commercial and residential properties located east (and hydraulically downgradient) of the Hi-Shear Site.

Key findings of this review are:

1. Hi-Shear's operations involved the significant use and storage of TCE and PCE on the Hi-Shear Site, historical Hi-Shear operational Site features provided pathways for TCE and PCE to be released to the subsurface, and waste handling practices were documented to be poor in 1991.
2. Soil, soil vapor, and groundwater data identify releases of TCE and PCE at historical Hi-Shear operational Site features, and these releases have caused a soil vapor and groundwater plume beneath the Hi-Shear Site, EA Properties, and Residential Properties.
3. The TCE and PCE soil vapor and groundwater plumes represent a single plume emanating from the Hi-Shear Site.
4. TCE is the remedy driver for groundwater impacts both on the Hi-Shear Site and downgradient on the EA Properties and Residential Properties.

The narrative being forwarded by Hi-Shear's consultant (Genesis Engineering & Redevelopment,

Inc. [Genesis]) that there are two distinct plumes of soil vapor and groundwater is false and unsupported by the data. The plume was "bisected" in recent years from limited pilot test remediation efforts by Hi-Shear.

Background information related to this technical evaluation is presented below. The historical information and environmental site assessment data that support the key findings are presented in Sections 1 through 3.

Sources of Documents Reviewed

GSI obtained publicly available agency records and environmental site assessment reports from the following sources:

- South Coast Air Quality Management District (SCAQMD);
- Los Angeles County Sanitation Districts (LACSD) Industrial Waste Division; and
- State Water Resources Control Board (State Water Board) GeoTracker website.

Hi-Shear initiated operations at the Hi-Shear Site in the mid-1950s. However, the earliest environmental site assessment report identified by GSI was prepared in 1991.

Site Description

The approximately 12.25-acre Hi-Shear Site is identified within Los Angeles County Assessor's parcel number (APN) 7377-006-905. The Hi-Shear Site is bound to the south by the Torrance Municipal Airport, to the north by Skypark Drive, and to the west by Lowe's Home Improvement Center (Lowe's). The Hi-Shear Site historically included the area currently occupied by Lowe's until approximately 2006, when this portion of the Hi-Shear Site was subleased by Hi-Shear to La Caze Development and redeveloped.

The commercial properties located within APN 7377-006-905 and east of the Hi-Shear Site are referred to as the Eastern Adjacent Properties (EA Properties). The EA Properties are further subdivided into the following three properties:

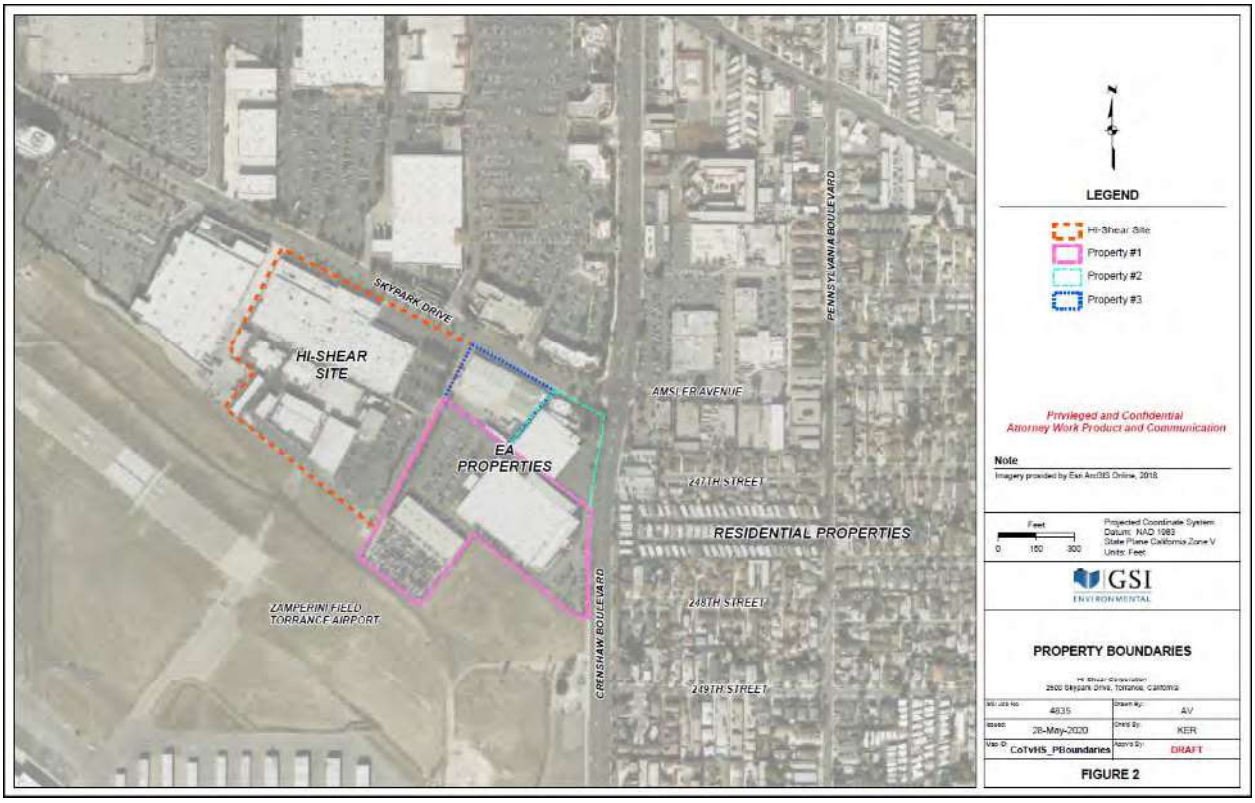
- EA Property 1 is identified with 24751 and 24777 Crenshaw Boulevard and currently occupied by South Bay Lexus (vehicle dealership);
- EA Property 2 is identified with 24707, 24747 and 24701 Crenshaw Boulevard and currently occupied by Dasco Engineering Corporation (manufacturer of precision mechanic aircraft and space components); and
- EA Property 3 is identified with 2530 and 2540 Skypark Drive and currently occupied by Robinson Helicopter.

The entire parcel APN 7377-006-906, which includes the Hi-Shear Site, Lowe's, and EA Properties, is owned by the City of Torrance and has been leased to commercial entities since 1954.

The residential neighborhood located within the City of Lomita and east of the EA Properties and of Crenshaw Boulevard, is herein referred as the "Residential Properties."

The Hi-Shear Site, EA Properties, and Residential Properties are shown on Exhibit 1 below.

Exhibit 1. Property Boundaries



Constituents of Concern (COCs) in Groundwater

The primary constituents of concern (COCs) in groundwater at the Hi-Shear and adjacent properties are TCE and PCE. Other detected VOCs include daughter products cis-1,2-dichloroethylene (cis-1,2-DCE) and vinyl chloride, as well as 1,1-dichloroethylene (1,1-DCE), 1,1,1-trichloroethane (1,1,1-TCA), trans-1,2-dichloroethylene (trans-1,2-DCE), 1,2-dichloroethane, 1,1,2-trichloroethane, benzene, toluene, ethylbenzene, hexavalent chromium, 1,4-dioxane, and perchlorate (Alta Environmental LP, [Alta], 2017). A review of available groundwater monitoring data indicates that TCE is the constituent detected at the highest concentrations and the remedy driver for groundwater impacts at the Hi-Shear Site, adjacent EA properties, and Residential Properties. For example, on-Site, the maximum historical measured TCE concentration (190,000 micrograms per liter [µg/L] in MW-3) is almost 12 times greater than the maximum measured historical concentration of PCE (16,000 µg/L in MW-3). In groundwater monitoring well MW-18 (which is located on the Hi-Shear Site and reported the highest TCE concentrations in August 2018), TCE concentrations have exceeded PCE concentrations by a factor of approximately 30 to 60 times (i.e., TCE concentrations are greater than 1 order-of-magnitude [OoM] than PCE).

1.0 Hi-Shear's operations involved the significant use and storage of TCE and PCE on the Hi-Shear Site, historical Hi-Shear operational Site features provided pathways for TCE and PCE to be released to the subsurface, and waste handling practices were documented to be poor in 1991.

The Hi-Shear aerospace fastener manufacturing operations includes and previously included fastener manufacturing, heat treatment, process coating, ordinance assembly, plating with in-ground plating pits, and parts cleaning. These operations typically had included the use, storage and handling of significant quantities of chlorinated solvents. The use of significant quantities of TCE and PCE at the Hi-Shear Site is consistent with typical aerospace manufacturing and the subsurface data at the Site. "Aerospace manufacturers often use large quantities of solvents in a variety of cleaning and degreasing operations including parts cleaning, process equipment cleaning, and surface preparation for coating applications," (United States Environmental Protection Agency [USEPA], 1998).

Historical records obtained to date for the Hi-Shear Site identified equipment that typically involved the use of TCE and PCE and that was located throughout the Hi-Shear Site. Solvent degreasers were located at several buildings since at least 1968 and at least 18 underground storage tanks (USTs) were located at the Hi-Shear Site. The Hi-Shear operations included a distillation unit for the distillation of spent solvent and a wastewater treatment plant for treating industrial wastewater from the plating operations (Hygienetics, Inc., [Hygienetics], 1991). These features indicate the Hi-Shear operations were of considerable size and involved the use and storage of significant quantities of TCE and PCE.

Historical features at the Hi-Shear Site include structures that are frequently associated with chemical releases to the subsurface. A shallow drywell was located on the Hi-Shear Site, and dry-wells historically were used for waste disposal. In addition, clarifiers, and USTs were located at the Hi-Shear Site, and these structures are prone to leakage and release of solvents.

Historical records document that Hi-Shear waste handling practices were poor. Hi-Shear waste handling practices resulted in releases of TCE and PCE to the subsurface, including the discharge of waste to the sewer system that connected to the main sewer lines on Skypark Drive and Crenshaw Boulevard. TCE and PCE have been detected in samples collected from waste discharged to the sewer. The waste discharged at the Hi-Shear Site was associated with degradation of the sewer system.

A summary of historical information that describes the operations, historical features, and waste handling practices at the Hi-Shear Site is provided below. Note that we have not attempted to summarize all of the information reviewed to date and additional information likely is available at the LARWQCB office and from other sources, which have not been available for review due to COVID-19 impacts to the LARWQCB file review procedures. As such, the information presented below is a preliminary summary of key findings. Based on the records reviewed to date, GSI believes additional historical information may be available in the LARWQCB's physical files with information relevant to the identification of the historical use and release of TCE and PCE on the Hi-Shear Site.

1.1 Hi-Shear operations used TCE and PCE since at least 1968

SCAQMD "Permit to Operate" records were obtained for the Hi-Shear Site using their searchable online database for Facility ID No. 11192 (Hi-Shear Corporation).[1] These records document

[1] https://www.aqmd.gov/nav/online-services/public-records/public-document-search

equipment that has been permitted for use at the Site since 1968, including equipment that utilizes TCE, PCE and other chlorinated solvents.

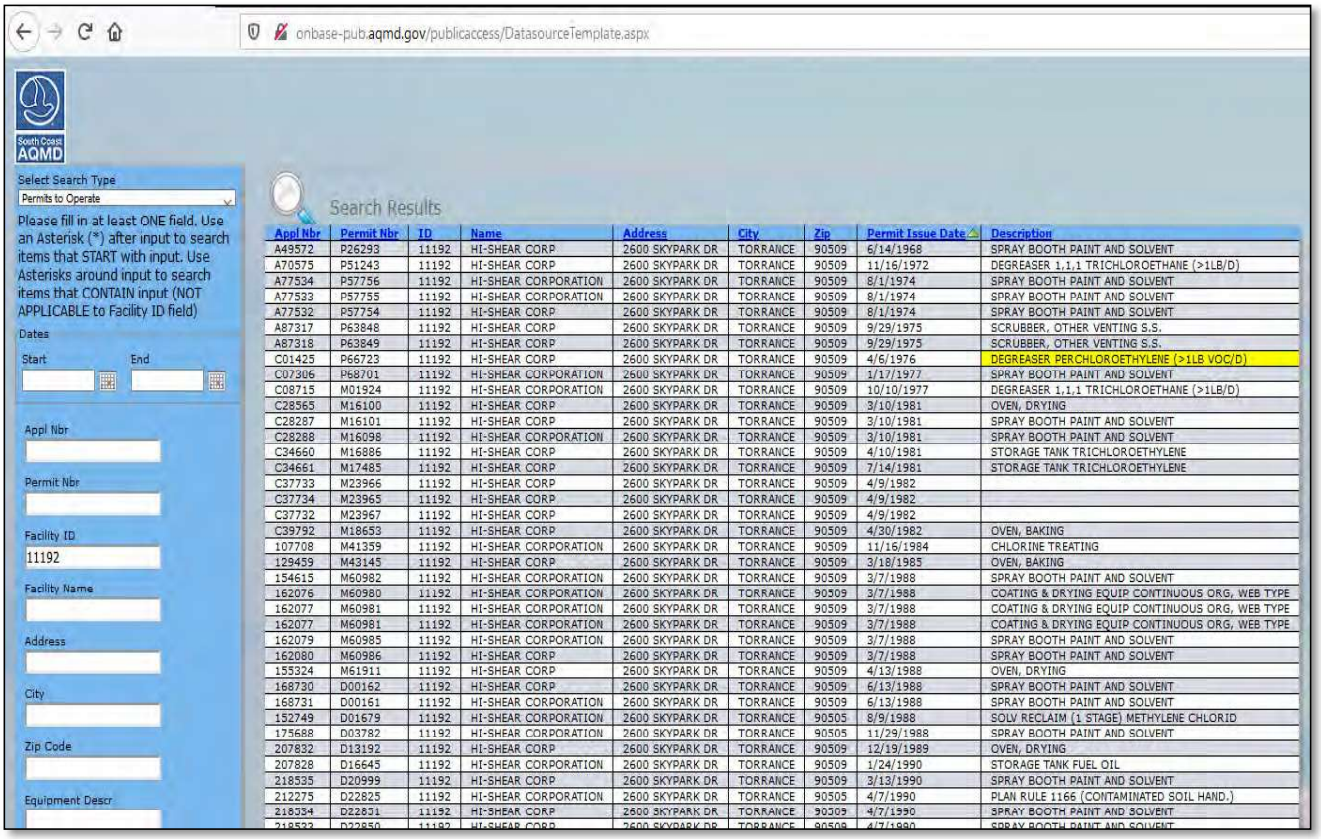
The list of equipment that has been operated by Hi-Shear under an SCAQMD permit for one or more years between 1968 and the present includes (listings verbatim from SCAQMD records):

- SPRAY BOOTH PAINT AND SOLVENT
- DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)
- SCRUBBER, OTHER VENTING S.S.
- DEGREASER PERCHLOROETHYLENE (>1LB VOC/D)
- STORAGE TANK TRICHLOROETHYLENE
- CHLORINE TREATING
- COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
- SOLV RECLAIM (1 STAGE) METHYLENE CHLORID
- STORAGE TANK FUEL OIL
- PLAN RULE 1166 (CONTAMINATED SOIL HAND.)
- I C E (50-500 HP) EM ELEC GEN-DIESEL
- I C E (50-500 HP) EM FIRE FGHT-DIESEL
- WASTE WATER EVAPORATION
- AFTERBURNER, DIRECT FLAME
- WASTE WATER TREATING (>50000 GAL/DAY)
- TANK, CADMIUM - PLATING
- TANK, SURFACE PREPARATION - OTHER ACIDS
- SOIL TREAT VAPOR EXTRACT OTHER VOC UNDER
- TANK, NITRIC ACID
- TANK, OTHER AQUEOUS SOLUTION
- SCRUBBER, PARTICULATES VENTING S.S.
- SCRUBBER, PARTICULATES VENTING M.S>
- TANK, SULFURIC/PHOSPHORIC ACID - ANODIZING
- SOLV RECLAIM STILL (1 STAGE) HYDROCARB
- DIP TANK COATING WAX
- DIP TANK COATING MISC
- OVEN, COOKING OR CURING
- SPRAY MACHINE - COATING
- SPRAY BOOTH(S) (1 - 5) W/ AFTERBURNER
- SOIL TREAT VAPOR EXTRACT GASOLINE UNDER

- SCRUBBER, OTHER VENTING M.S.
- SPRAY BOOTHS (>5) WITH AFTERBURNER
- SURFACE PREP TANK CONT. CHROMIC ACID
- SCRUBBER, TOXICS VENTING
- SOLVENTS MISC STRIPPING
- WASTE WATER TREATING (20000-50000 GAL/D)

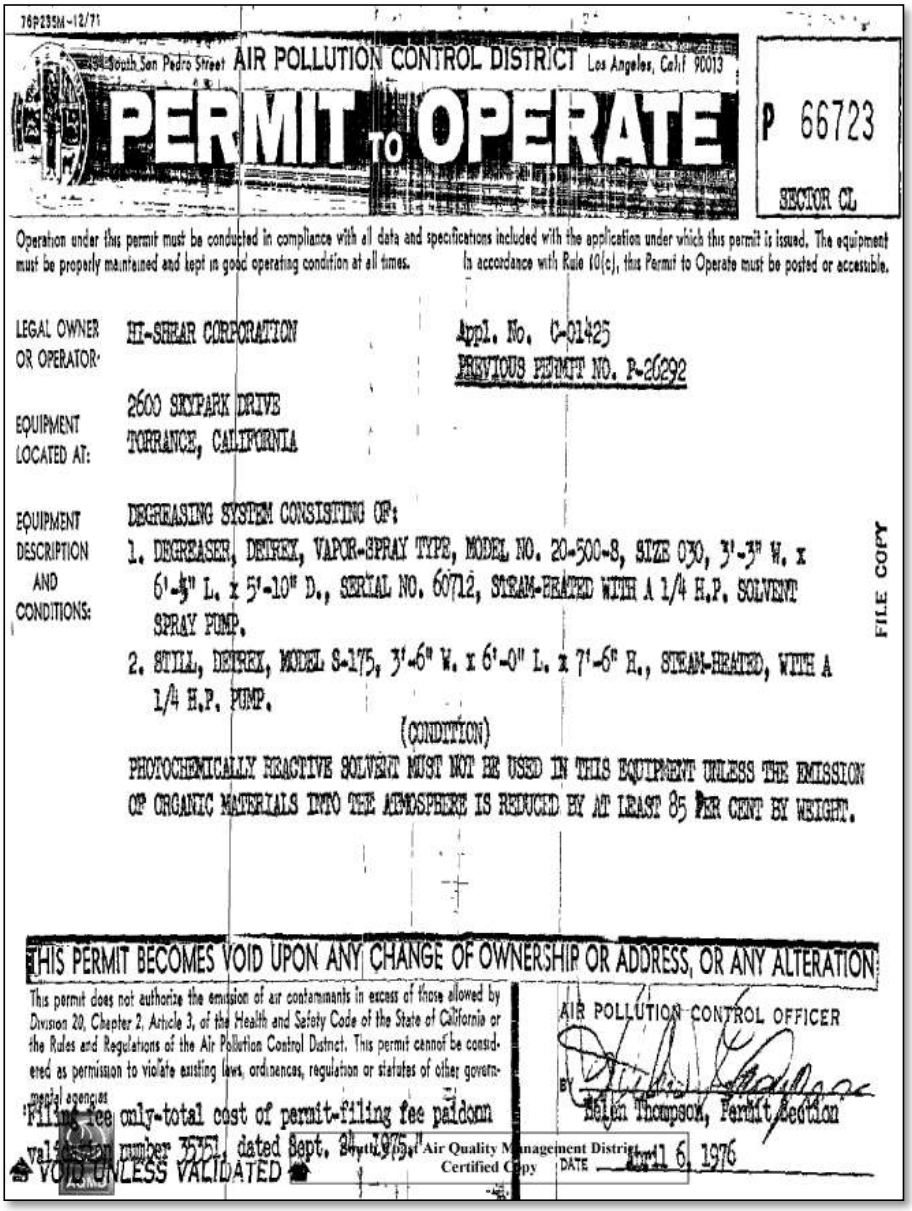
The permit below is listed in SCAQMD records as Permit Number P66723 dated 6 April 1976 for "Degreaser Perchloroethylene (<1LB VOC/D)." The permit listing (Exhibit 1-1) establishes that Hi-Shear operated a PCE degreasing operation in addition to TCE storage tanks. The permit identifies a Detrex degreaser and solvent recovery still (Exhibit 1-2).

Exhibit 1-1. SCAQMD Permit Records for Hi-Shear Site



Appl Nbr	Permit Nbr	ID	Name	Address	City	Zip	Permit Issue Date	Description
A49572	P26293	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	6/14/1968	SPRAY BOOTH PAINT AND SOLVENT
A70575	P51243	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	11/16/1972	DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)
A77534	P57756	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	8/1/1974	SPRAY BOOTH PAINT AND SOLVENT
A77533	P57755	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	8/1/1974	SPRAY BOOTH PAINT AND SOLVENT
A77532	P57754	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	8/1/1974	SPRAY BOOTH PAINT AND SOLVENT
A87317	P63848	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	9/29/1975	SCRUBBER, OTHER VENTING S.S.
A87318	P63849	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	9/29/1975	SCRUBBER, OTHER VENTING S.S.
C01425	P66723	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/6/1976	DEGREASER PERCHLOROETHYLENE (>1LB VOC/D)
C07306	P68701	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	1/17/1977	SPRAY BOOTH PAINT AND SOLVENT
C08715	M01924	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	10/10/1977	DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)
C28565	M16100	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/10/1981	OVEN, DRYING
C28287	M16101	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/10/1981	SPRAY BOOTH PAINT AND SOLVENT
C28288	M16098	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/10/1981	SPRAY BOOTH PAINT AND SOLVENT
C34660	M16886	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/10/1981	STORAGE TANK TRICHLOROETHYLENE
C34661	M17485	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	7/14/1981	STORAGE TANK TRICHLOROETHYLENE
C37733	M23966	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/9/1982	
C37734	M23965	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/9/1982	
C37732	M23967	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/9/1982	
C39792	M18653	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/30/1982	OVEN, BAKING
107708	M41359	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	11/16/1984	CHLORINE TREATING
129459	M43145	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/18/1985	OVEN, BAKING
154615	M60982	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	SPRAY BOOTH PAINT AND SOLVENT
162076	M60980	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
162077	M60981	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
162077	M60981	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
162079	M60985	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	SPRAY BOOTH PAINT AND SOLVENT
162080	M60986	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	SPRAY BOOTH PAINT AND SOLVENT
155324	M61911	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/13/1988	OVEN, DRYING
168730	D00162	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	6/13/1988	SPRAY BOOTH PAINT AND SOLVENT
168731	D00161	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	6/13/1988	SPRAY BOOTH PAINT AND SOLVENT
152749	D01679	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90505	8/9/1988	SOLV RECLAIM (1 STAGE) METHYLENE CHLORID
175688	D03782	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90505	11/29/1988	SPRAY BOOTH PAINT AND SOLVENT
207832	D13192	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	12/19/1989	OVEN, DRYING
207828	D16645	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	1/24/1990	STORAGE TANK FUEL OIL
218535	D20999	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/13/1990	SPRAY BOOTH PAINT AND SOLVENT
212275	D22825	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90505	4/7/1990	PLAN RULE 1166 (CONTAMINATED SOIL HAND.)
218534	D22831	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/7/1990	SPRAY BOOTH PAINT AND SOLVENT
218533	D22850	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/7/1990	SPRAY BOOTH PAINT AND SOLVENT

Exhibit 1-2. Permit for "Degreaser Perchloroethylene"



76P235M-12/71

9150 South San Pedro Street AIR POLLUTION CONTROL DISTRICT Los Angeles, Calif 90013

PERMIT TO OPERATE

P 66723

SECTOR CL

Operation under this permit must be conducted in compliance with all data and specifications included with the application under which this permit is issued. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 10(c), this Permit to Operate must be posted or accessible.

LEGAL OWNER OR OPERATOR: HI-SHEAR CORPORATION

Appl. No. C-01425
PREVIOUS PERMIT NO. P-26292

EQUIPMENT LOCATED AT: 2600 SKYPARK DRIVE
TORRANCE, CALIFORNIA

EQUIPMENT DESCRIPTION AND CONDITIONS:

DEGREASING SYSTEM CONSISTING OF:

1. DEGREASER, DETREX, VAPOR-SPRAY TYPE, MODEL NO. 20-500-8, SIZE 030, 3'-3" W. x 6'-½" L. x 5'-10" D., SERIAL NO. 60712, STEAM-HEATED WITH A 1/4 H.P. SOLVENT SPRAY PUMP.
2. STILL, DETREX, MODEL S-175, 3'-6" W. x 6'-0" L. x 7'-6" H., STEAM-HEATED, WITH A 1/4 H.P. PUMP.

(CONDITION)

PHOTOCHEMICALLY REACTIVE SOLVENT MUST NOT BE USED IN THIS EQUIPMENT UNLESS THE EMISSION OF ORGANIC MATERIALS INTO THE ATMOSPHERE IS REDUCED BY AT LEAST 85 PER CENT BY WEIGHT.

FILE COPY

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR ADDRESS, OR ANY ALTERATION

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 20, Chapter 2, Article 3, of the Health and Safety Code of the State of California or the Rules and Regulations of the Air Pollution Control District. This permit cannot be considered as permission to violate existing laws, ordinances, regulation or statutes of other governmental agencies.

AIR POLLUTION CONTROL OFFICER

BY Helen Thompson, Permit Section

Filing fee only-total cost of permit-filing fee paidcon validation number 35751, dated Sept. 24th, 1975.

South Coast Air Quality Management District Certified Copy

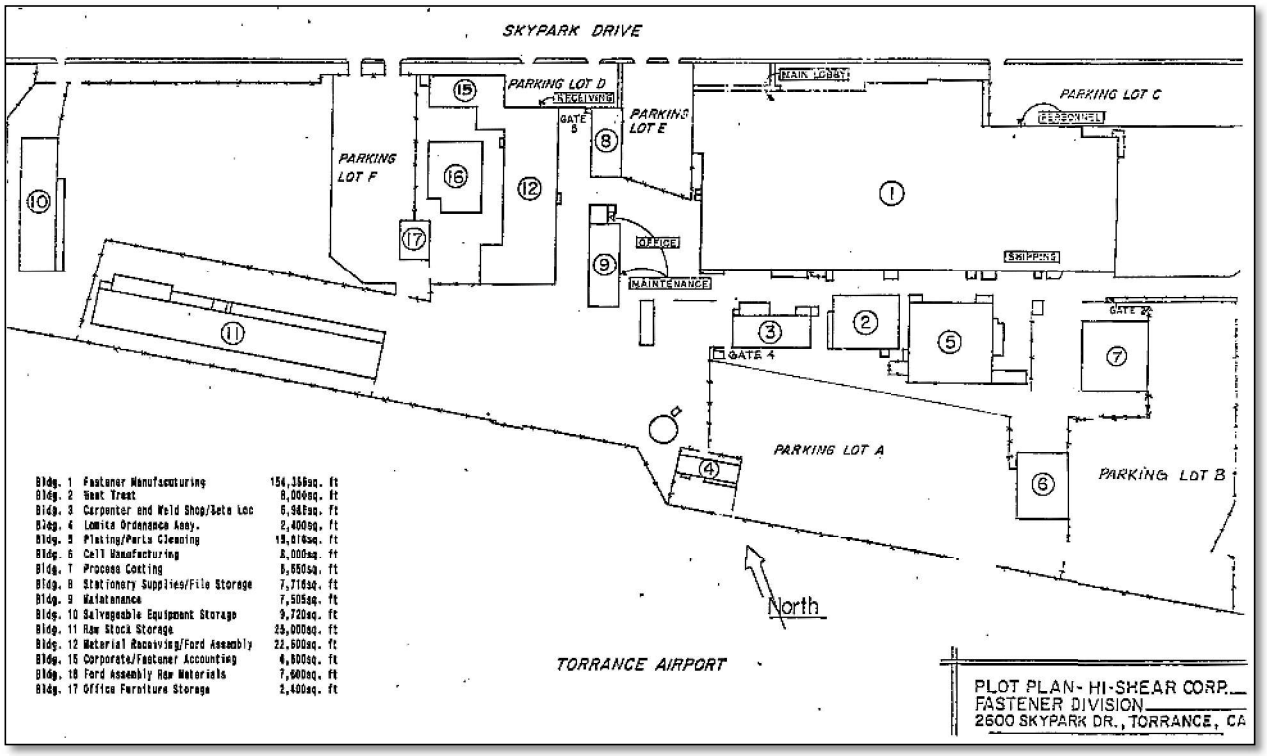
VOID UNLESS VALIDATED

DATE April 6, 1976

1.2 Hi-Shear operations involved extensive storage, handling and use of solvents

Hi-Shear operated a large-scale aerospace fastener manufacturing operation at the Hi-Shear Site. In 1991, a Phase I Environmental Site Assessment was performed at the Hi-Shear Site on behalf of Chemical Bank by Hygienetics (1991). The Hygienetics report included the following Site plan, which shows a large facility with significant manufacturing operations:

Exhibit 1-3. 1991 Site Plan (Hygienetics, 1991)



The Hygienetics report described the use and storage of chlorinated solvents, including the use of degreasers, at Heat Treat Building #2 and Plating/Parts Cleaning Building #5. The 1991 assessment summarized the USTs that were present at the Hi-Shear facility in 1991:

Exhibit 1-4. List of USTs at Hi-Shear in 1991 (Hygienetics, 1991)

UNDERGROUND STORAGE VESSELS
PAST AND PRESENT

NUMBER	LOCATION	CONTENTS	VOLUME
1*	Southeast of Bldg. #9	Waste Oil	?
2	North of Bldg. #5	Plating Clarifier	2,000 gal
3	East of Bldg. #5	Plating Clarifier	2,000 gal
4	East of Bldg. #5	East Plating Pit	50,000 gal
5	West of Bldg. #5	West Plating Pit	75,000 gal
6	Bldg. #1	Grind Oil	2,000 gal
7	Bldg. #1	Coolant Oil	800 gal
8	Bldg. #1	Grind Oil	2,000 gal
9	Bldg. #1	Water Sump	900 gal
10	Southwest of Bldg. #3	Waste Oil Sump	2,000 gal
11	Bldg. #3	Steam Clean Sump	275 gal
12*	West of Bldg. #3	Waste Oil	250 gal
13*	West of Bldg. #3	Waste Oil	250 gal
14*	West of Bldg. #3	Waste Oil	250 gal
15*	West of Bldg. #6	Gasoline	?
16*	West of Bldg. #6	Gasoline	?
17	South of Bldg. #3	Soap, Grease & Water	?
18	South of Bldg. #3	Soap, Grease & Water	?

The Hygienetics report describes poor tracking practices for the USTs:

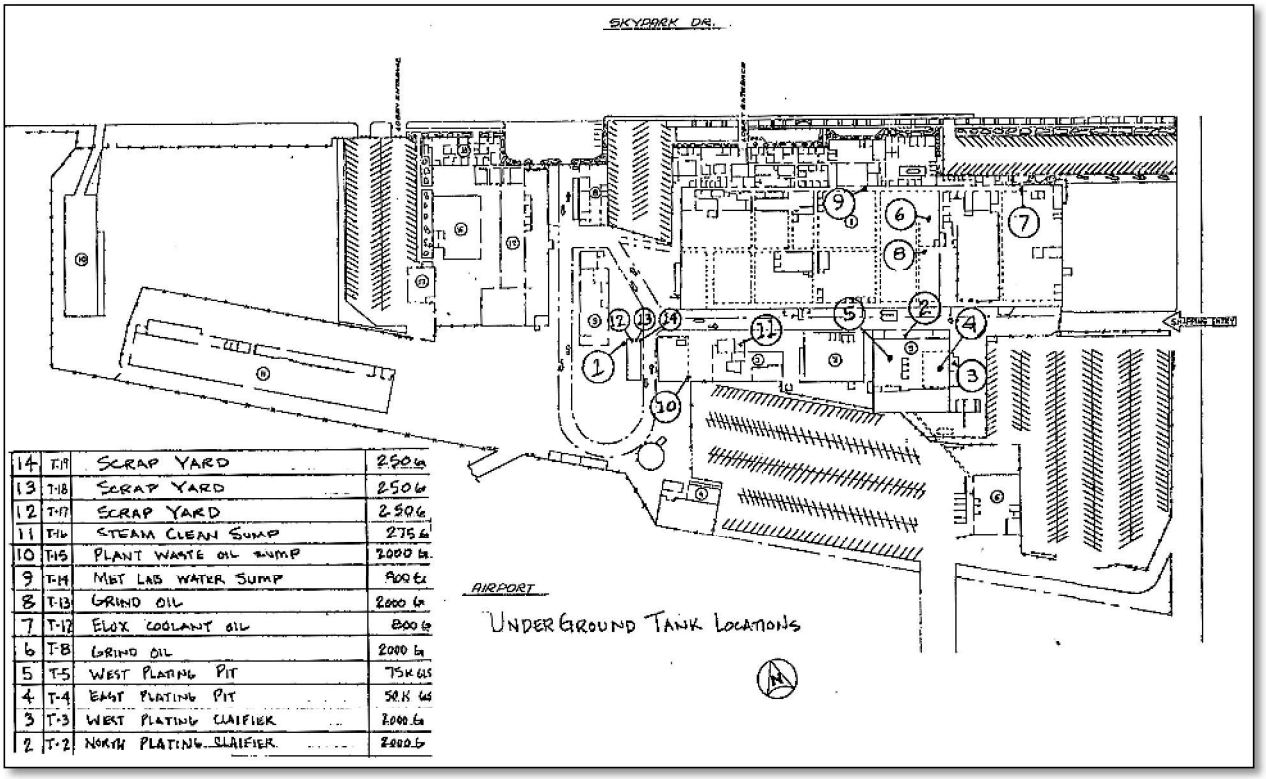
> *According to Hi-Shear, 11 underground storage tanks were registered. Of these 11 tanks, six have been removed and five still remain. However, it appears that there have been a total of 18 underground storage tanks on-Site (Hygienetics, 1991).*

In addition, Hygienetics noted that:

> *No documentation was available on-Site regarding the integrity testing of the tanks currently on-Site (Hygienetics, 1991).*

The Hygienetics presentation of the 18 USTs is included below as Exhibit 1-5.

Exhibit 1-5. 1991 Location of USTs Plan (Hygienetics, 1991)



At Building 5, two clarifiers and two plating pits were present in 1991 and the large capacity of the plating pits (50,000 and 75,000 gallons) indicate a large operation that would have involved significant quantities of solvents. The Hygienetics report also describes the degreasing operations at Building 5:

> *The southern part of Building #5 is dedicated to parts cleaning. Several degreasers are located here for removal of oil and grease with solvents (Hygienetics, 1991).*

Based on the SCAQMD permit records, the degreaser operations included the use of both TCE and PCE (Exhibit 1-1).

1.3 Historical site features provided pathways for release of solvents to subsurface

Historical Site features that provided pathways for the release of TCE and PCE to the subsurface include a drywell, clarifiers, USTs, and sewer lines.

Drywell

Based on a 1992 Floor Plan for the Process Coating Building by SM Daderian & Associates, a drywell with a drain leading to a 24-inch diameter by 18-inch long pipe filled with fist size stones and gravel was located at Building 3. Exhibit 1-6 shows the drywell detail and Exhibit 1-7 shows the complete floor plan that includes this detail.

Exhibit 1-6. 1992 Floor Plan Call Out showing Drywell Detail (Part of Exhibit 1-7)

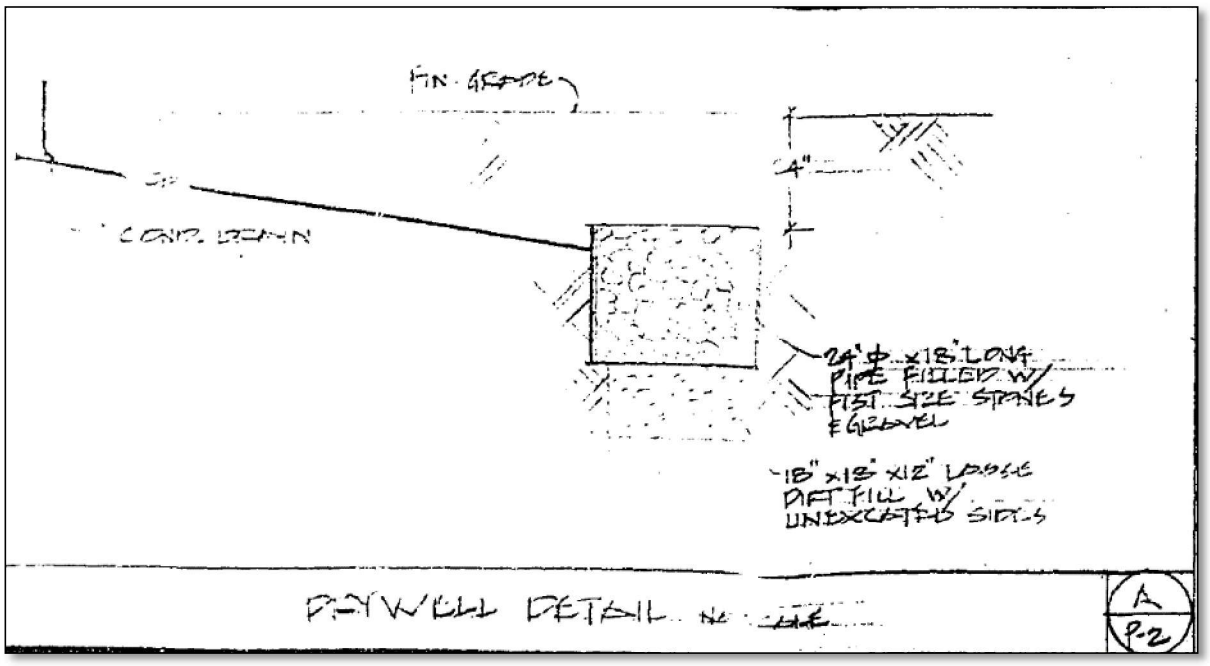
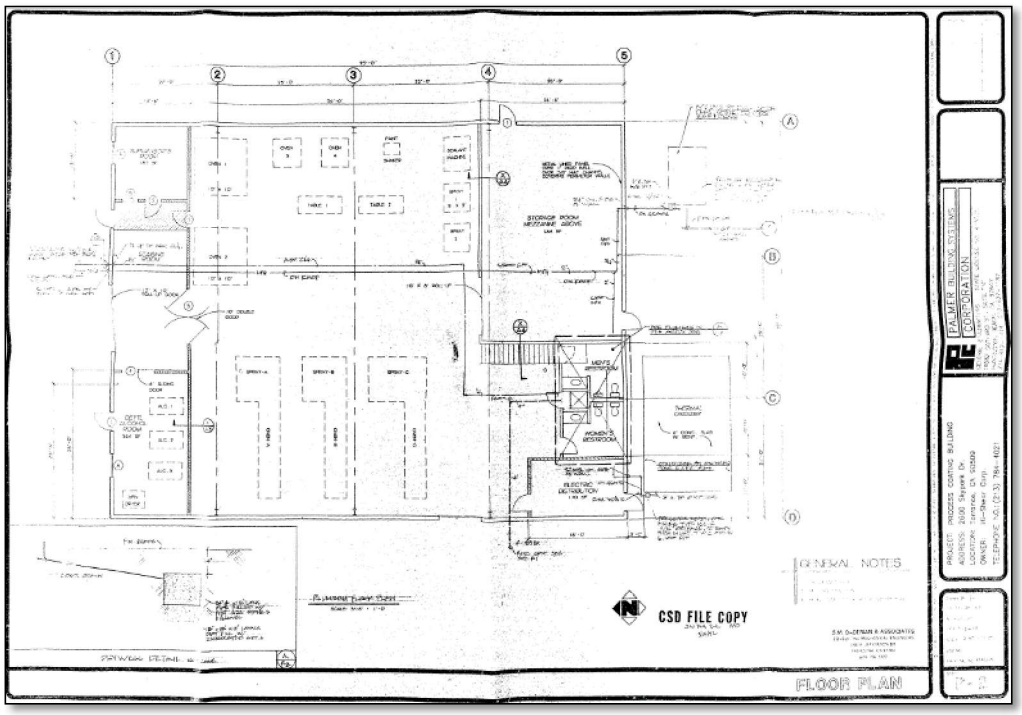


Exhibit 1-7. 1992 Floor Plan for the Process Coating Building Showing Drywell Detail



The dry well design provides a direct path to release liquids directly into soil.

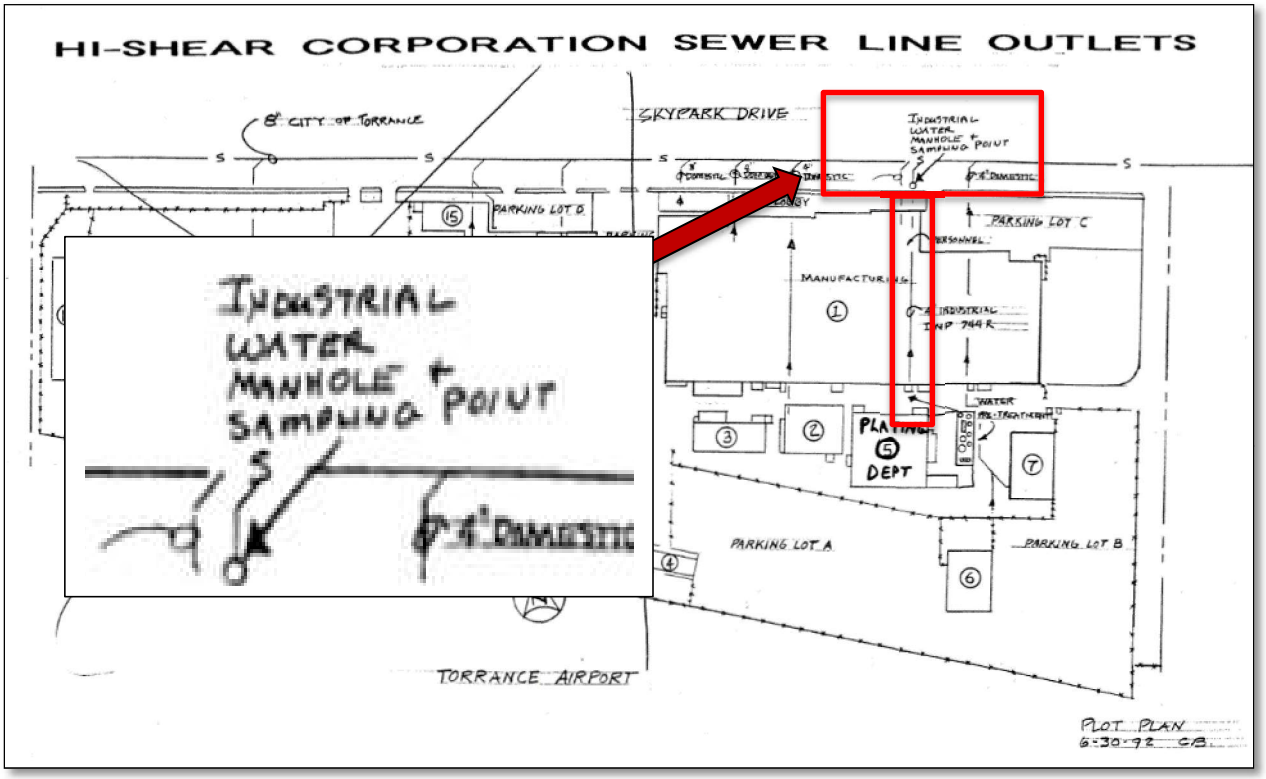
USTs and Clarifiers

As described above, at least 18 USTs, including in-ground plating pits and plating sumps, were located at the Hi-Shear Site. The Hygienetics report indicated that "[n]o documentation was available on-Site regarding the integrity testing of the tanks currently on-Site" (Hygienetics, 1991). USTs can leak from associated use activities including filling, dispensing, and storage through incidental and accidental spills, leaking piping and USTs from corrosion and compromise of seals and fittings. USTs are commonly associated with releases of VOCs to soil, soil vapor, and groundwater.

Sewer Lines Associated with Industrial Waste Water Discharge

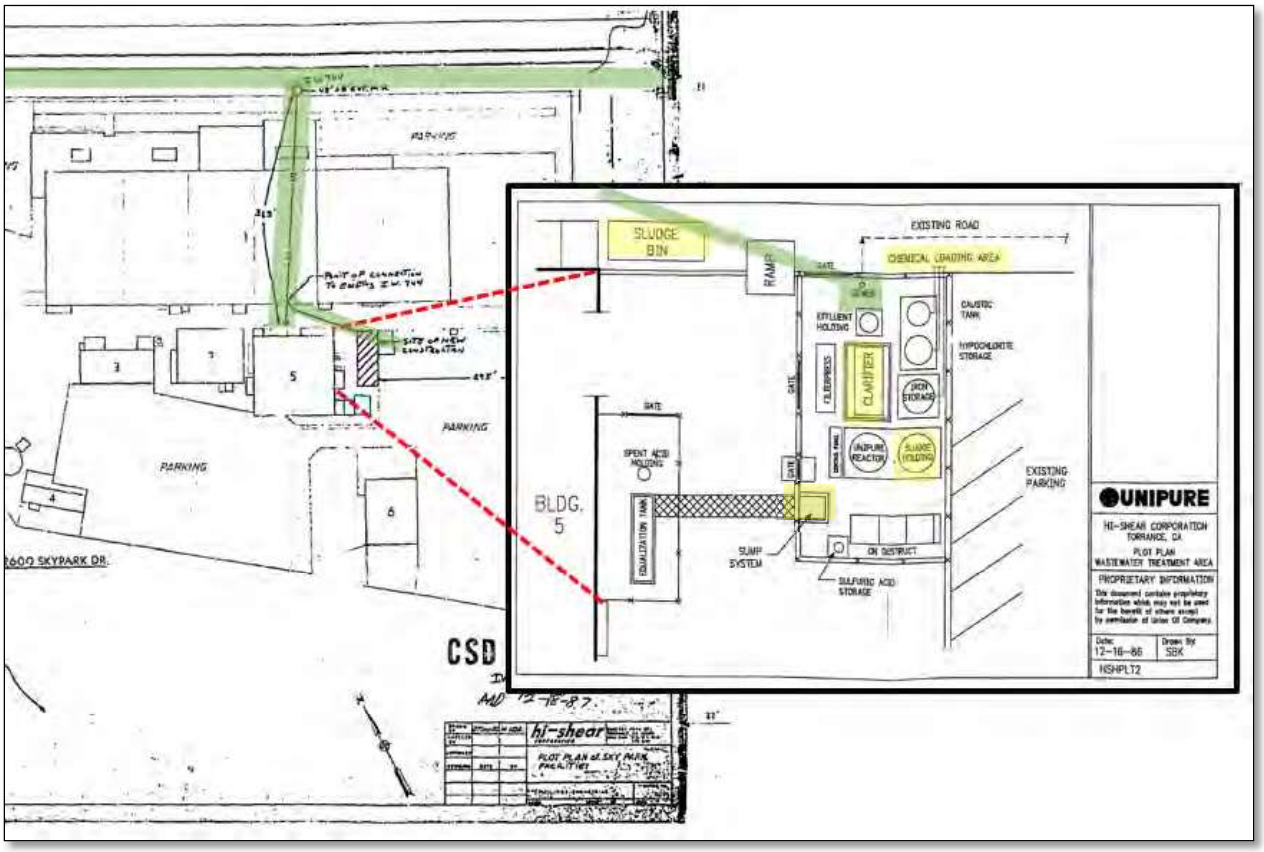
Records obtained from LACSD identify sewer lines between Building 5 and the sewer outfall identified as the "Industrial Water Manhole and Sampling Point" on the 1992 Plot Plan shown below (Exhibit 1-8). The sewer lines are shown to flow from the vicinity of Building 5 directly to the Industrial Water Manhole and Sampling Point.

Exhibit 1-8. 1992 Figure Identifying "Industrial Water Manhole and Sampling Point" and Sewer Lines



Additional LACSD records from 1986 identify the area to the east of Building 5 as having a clarifier, sump, sludge bin, and chemical loading area near a sewer inlet. The maps below identify the above ground features in yellow and the general location of the sewer lines in green (Exhibit 1-9).

Exhibit 1-9. 1986 and 1987 Figures Identifying Detail of Eastern Side of Building 5



Notes: Above ground features = Yellow; Sewer Lines = Green

Building 5 also contained two large (50,000 and 75,000 gallon) in-ground plating pits and a degreasing operation: The Hygeinetics report describes the degreasing operations at Building 5: "The southern part of Building #5 is dedicated to parts cleaning. Several degreasers are located here for removal of oil and grease with solvents" (Hygienetics, 1991). A plating pit and plating clarifier also were located at the southeast corner of Building 5 (Exhibit 1-5).

1.4 Historical records document the detection of TCE and PCE in discharge to the sewer system and degradation of sewer system due to Hi-Shear waste discharge

Hygienetics identified Hi-Shear had an Industrial Waste Water Discharge Permit since 1956 (Hygienetics, 1991). Plating operations at Hi-Shear generated two primary waste streams: (1) cyanide rinse water and (2) concentrated acid waste (Hygienetics, 1991). The Hygienetics report (1991) documented Hi-Shear acknowledged that discharges to the sewer by Hi-Shear degraded the main sewer line on Skypark Drive:

> *It appears that past discharges of acidic waste have dissolved the City of Torrance Skypark Drive sewer main in several places. Hi-Shear has agreed that this is most*

probably due to their discharge. A preliminary study was performed to determine if the manhole deterioration has resulted in the release of heavy metal contaminates into the exposed earth. Soil samples taken below the dissolved manhole indicate that all possible metal contaminants levels are within regulatory limits.

Soil samples were not analyzed for VOCs. However, discharges to the sewer by Hi-Shear likely has resulted in the release of TCE and PCE to the subsurface along the sewer main on Skypark Drive, which flows east to Crenshaw Boulevard.

In 1987, Hi-Shear built a waste treatment plant located east of Building 5 (Hygienetics, 1991). Despite the construction of this plant, industrial water discharge sample records indicate VOCs were present in industrial water discharge from the Hi-Shear Site. Industrial water discharge sample (IWS) analytical results from sampling events that included analysis for VOCs were obtained from LACSD files for the years 1989 through 2012. Twelve events identified concentrations of either PCE, TCE, or 1,1,1-TCA in IWS. Twelve events did not identify PCE, TCE, or 1,1,1-TCA, but used laboratory reporting limits for VOCs that exceeded 10 µg/L and three additional events used reporting limits for VOCs that exceeded 20 µg/L. After six sampling events in 1991 that identified concentrations of 1,1,1-TCA ranging to 1,040 µg/L, 1,1,1-TCA was only reported intermittently and not reported on 13 analytical reports that identified VOCs. The sampling events with reported VOC concentrations are identified in the table below (Exhibit 1-10).

Exhibit 1-10. IWS Events with Documented VOCs in Wastewater

Sampling Date	PCE (µg/L)	TCE (µg/L)	1,1,1-TCA (µg/L)
23 Jan 1989	**7.3**	<5	**110**
2 Feb 1989	<5	<5	**129**
25 Apr 1991	<5	<5	**220**
11 Oct 1991	<5	<5	**85**
6 Nov 1991	<5	<5	**370**
7 Nov 1991	<5	<5	**1040**
17 Feb 2000	**11**	<10	<10
7 Nov 2000	**1.5**	<0.5	NR
40 Apr 2002	**5.2**	<0.5	NR
25 Sep 2002	<1.0	**2.3**	NR
30 Apr 2010	<0.5	**2.9**	<0.5
4 Jun 2010	<2.0	**2.3**	<2

NR = Not Reported

Based on the evidence presented above, Hi-Shear has discharged PCE and TCE to the sewer system as well as acidic waste that had degraded the sewer system. This is an area where additional investigation is warranted by Hi-Shear.

1.5 Historical records document poor handling and tracking practices of hazardous waste in 1991

Hygienetics indicated that poor compliance with hazardous waste labeling and tracking requirements were observed during its 1991 assessment:

> *Hygienetics investigated Hi-Shear's compliance with RCRA regulations concerning hazardous waste. Hygienetics' investigation revealed that labeling of containers is the biggest non-compliance issue. Hygienetics did not observe proper hazardous waste stickers applied to any hazardous waste on-Site*
>
> *Additionally, accumulation dates were not provided on hazardous waste containers in the temporary storage areas. Hi-Shear representatives indicated that they have been cited for improper labeling of on-Site hazardous waste. (Hygienetics, 1991).*

In summary, historical records describe an extensive manufacturing operation that involved significant quantities of solvents, including TCE and PCE, at the Hi-Shear Site. Multiple historical Site features are potential pathways for TCE and PCE to enter the subsurface, including at least 18 USTs and the sewer system that received industrial waste discharge. Finally, historical records also describe poor waste handling practices.

2.0 Soil, soil vapor, and groundwater data identify releases of TCE and PCE at historical at features Hi-Shear operational Site features, and these releases have caused a soil vapor and groundwater plume beneath the Hi-Shear Site, EA Properties, and residential properties.

Hi-Shear detected TCE and PCE in soil samples collected in 1990 as part of an investigation following the removal of a waste oil UST. Subsequent investigations identified the presence of dense nonaqueous phase liquid (DNAPL) and TCE beneath the Hi-Shear Site and indicated that TCE in groundwater associated with sources at the Hi-Shear Site was migrating east of the Hi-Shear Site to the EA Properties and Residential Properties. Soil sampling at the Hi-Shear Site identified eight areas of potential concern (AOPCs) for releases of total petroleum hydrocarbons (TPH), TCE and PCE. Both TCE and PCE were detected in soil samples collected at five of the eight AOPCs. Hi-Shear's soil and groundwater investigations have identified TCE and PCE source areas at the Hi-Shear Site, TCE and PCE in groundwater beneath the Hi-Shear Site and acknowledged that the groundwater plume has migrated from the Hi-Shear Site east to the EA Properties.

2.1 Groundwater monitoring reports prepared on behalf of Hi-Shear acknowledge migration of impacted groundwater off-site in the early 1990s

Groundwater monitoring was initiated at the Hi-Shear Site in 1991 with the installation of monitoring wells at the "oil yard" area southeast of Building 9 to evaluate groundwater impacts associated with a release at a waste oil UST (identified as Tank 1 in Exhibit 1-5). In December 1988, the 2,000 gallon capacity, steel UST that was used to store waste machine cutting and cooling oils was removed and TPH was detected in soil samples at concentrations of 22,040 and 125,130 milligrams per kilogram (mg/kg) (Camp, Dresser & McKee, Inc. [CDM], 1991). Subsequently, four soil borings (HS1 to HS4) were advanced to depths of 40 to 60 feet bgs using hollow stem augers in May 1991 (CDM, 1991). Two soil samples were collected from each boring and analyzed for TPH and VOCs:

- TCE was detected in all eight soil samples at concentrations ranging from 5,400 micrograms per kilogram (µg/kg) (HS1 at 61.5 feet bgs) to 5,500,000 µg/kg (HS3 at 50.0 feet bgs).
- PCE was detected in all eight soil samples at concentrations ranging from 1,700 µg/kg (HS1 at 61.5 feet bgs) to 1,600,000 µg/kg (HS3 at 50.0 feet bgs) (CDM, 1991).

To evaluate if VOCs detected in soil had impacted groundwater, seven groundwater monitoring wells (MW-1 through MW-7) were installed at the Hi-Shear Site in 1991 and 1992 and one monitoring well (MW-8) was installed downgradient of the Hi-Shear facility at the Robinson Helicopter property in 1992. Groundwater monitoring was conducted in 1993 on behalf of Hi-Shear by Blasland, Bouck & Lee (BBL). BBL concluded a TCE plume was present in groundwater at the Hi-Shear Site, the flow of groundwater beneath the Hi-Shear Site was to the east, and the TCE plume extended off-Site to the east: "*The downgradient offsite well MW-8 contained 2,900 [µg/L] of TCE indicating that the contaminant plume has extended off-Site*" (BBL, 1993). For this sampling event, TCE was detected at a concentration of the 23,000 µg/L in monitoring well MW-3, which is located south of Building 3. Thus, Hi-Shear acknowledged in 1993 that a release of TCE at the Hi-Shear Site had resulted in a groundwater plume that extended to the EA Properties.

The BBL figures showing the groundwater elevation contours and estimated TCE plume area are included as Exhibits 2-1 and 2-2. Note that MW-8 is located east of MW-5 (shown in Exhibit 2-5).

Exhibit 2-1. Groundwater Elevation Contour (BBL, 1993)

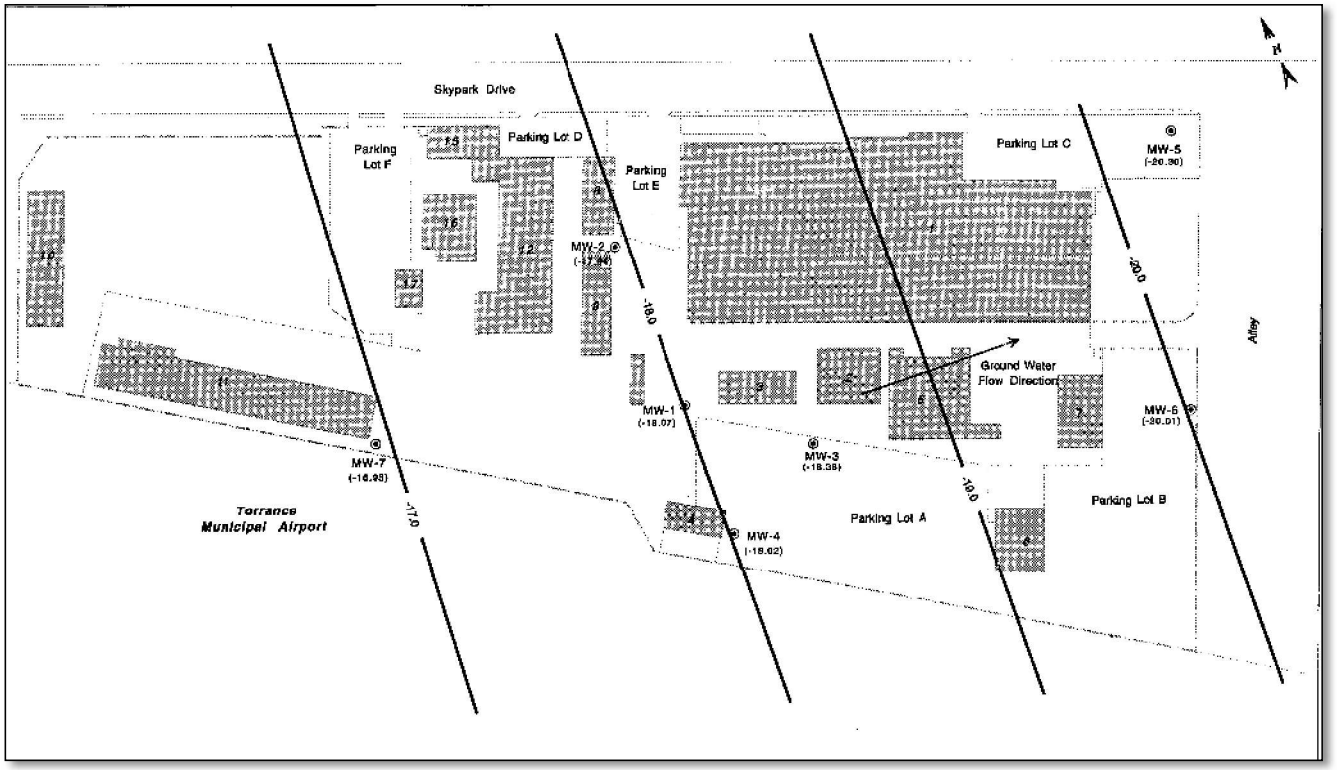
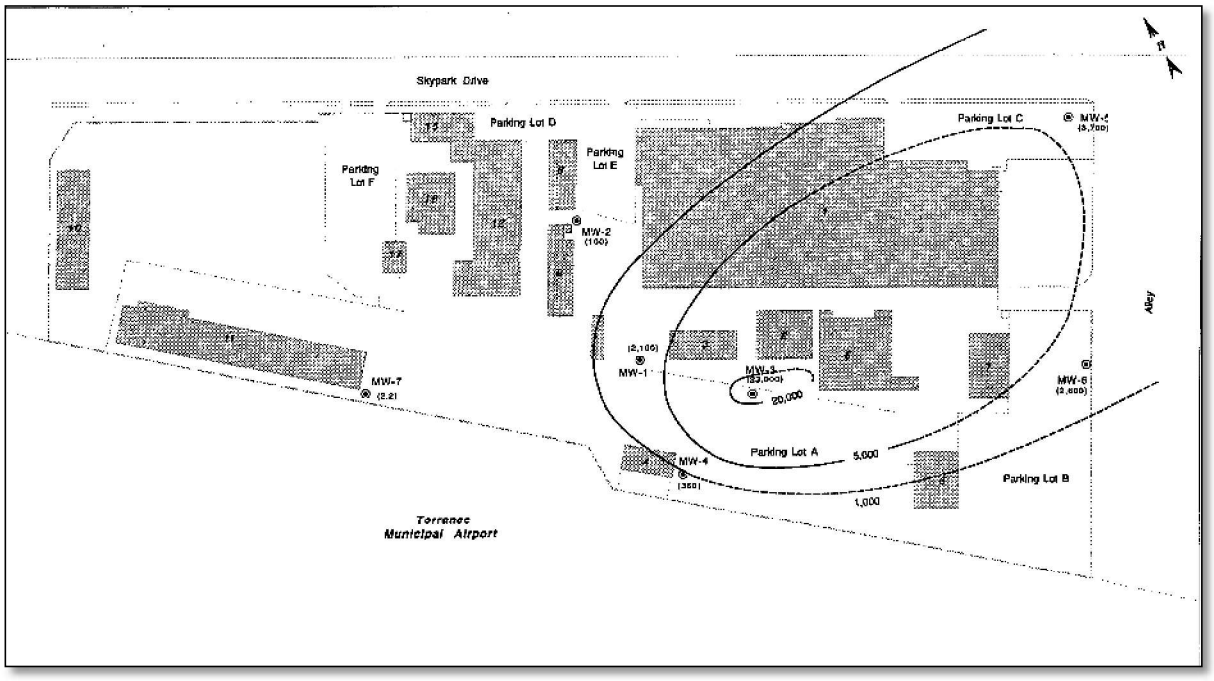
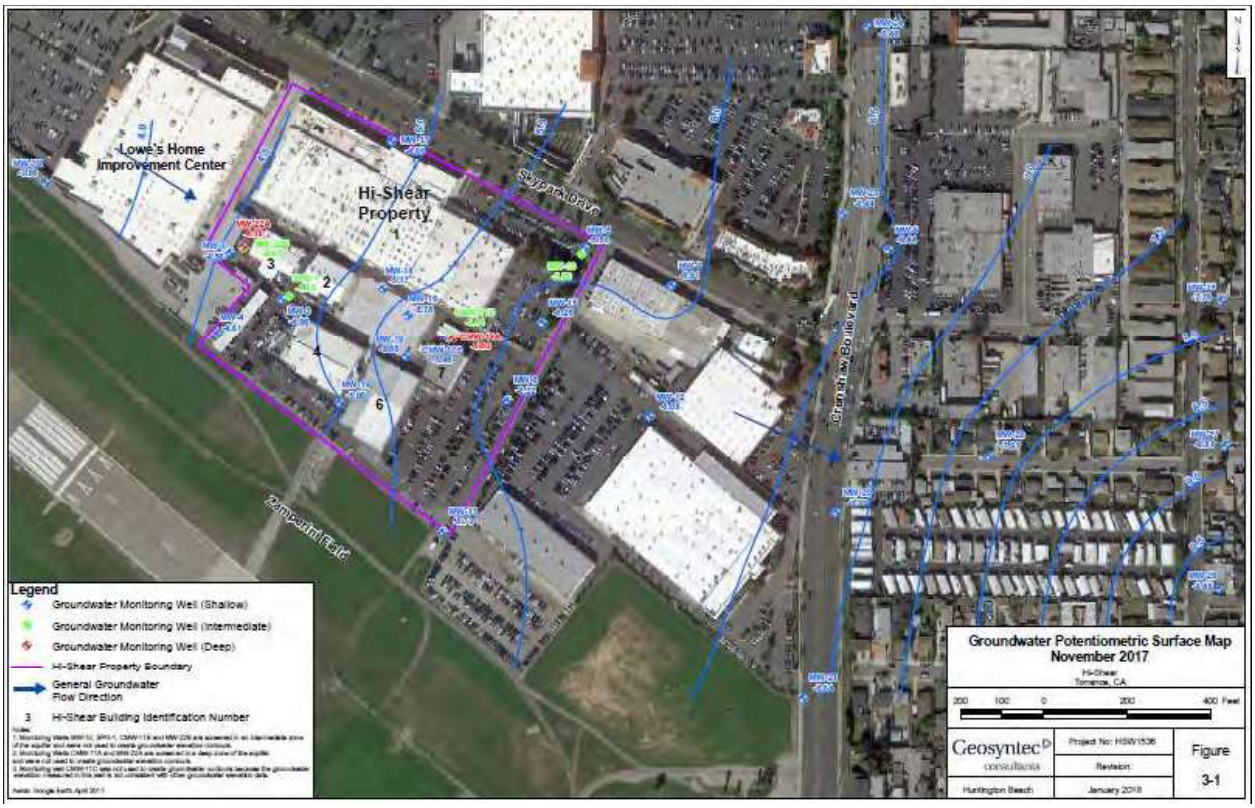


Exhibit 2-2. TCE Concentrations in Groundwater in 1993 (BBL, 1993)



Subsequent GW monitoring indicates the groundwater flow direction is generally toward the southeast perpendicular to the southeastern Hi-Shear Site boundary, resulting in groundwater moving from the Hi-Shear Site to the EA properties and residential properties, as shown on Exhibit 2-3 (Geosyntec Consultants, Inc. [Geosyntec], 2018).

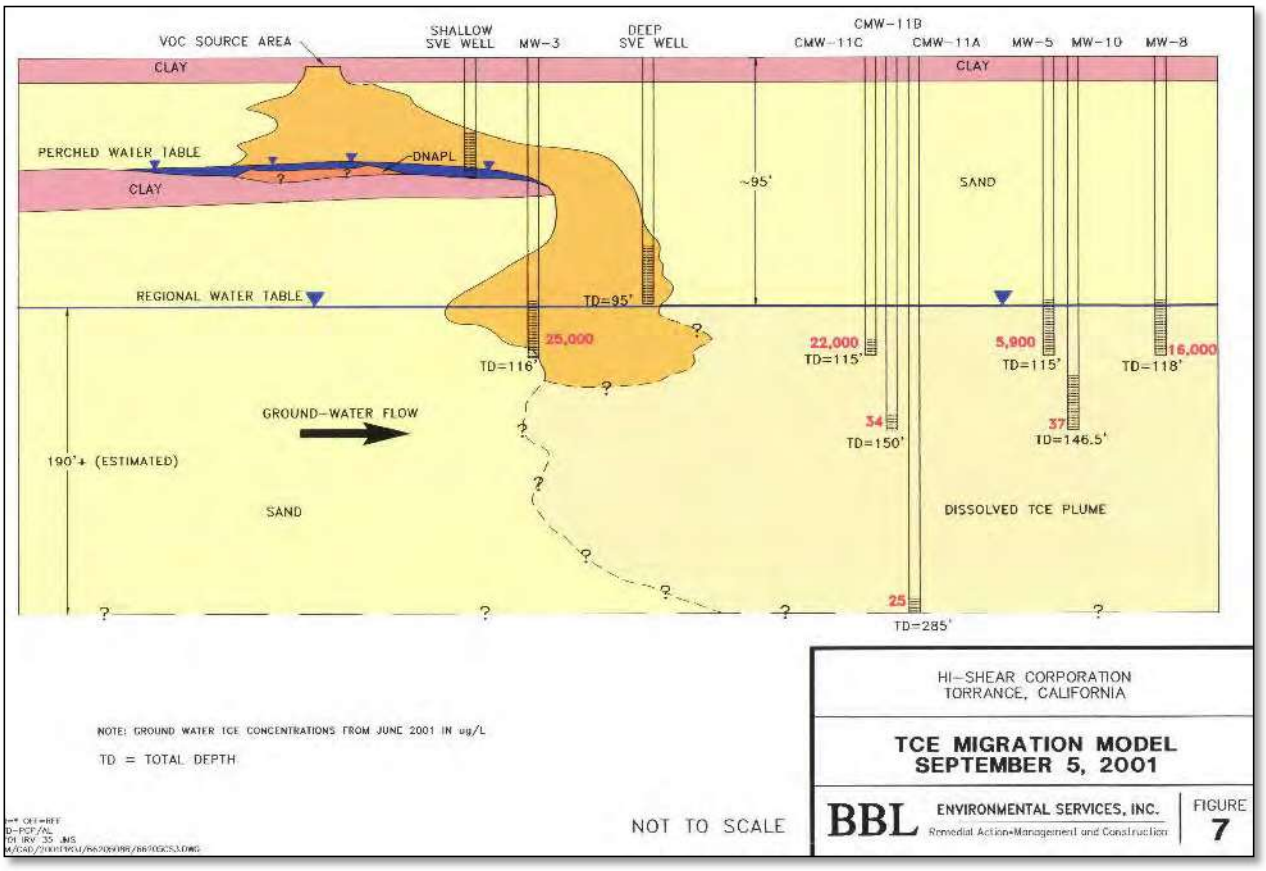
Exhibit 2-3. Groundwater Potentiometric Surfaces – November 2017



2.2 Hi-Shear site assessment reports acknowledge the presence of DNAPL beneath the Hi-Shear Site in 2001

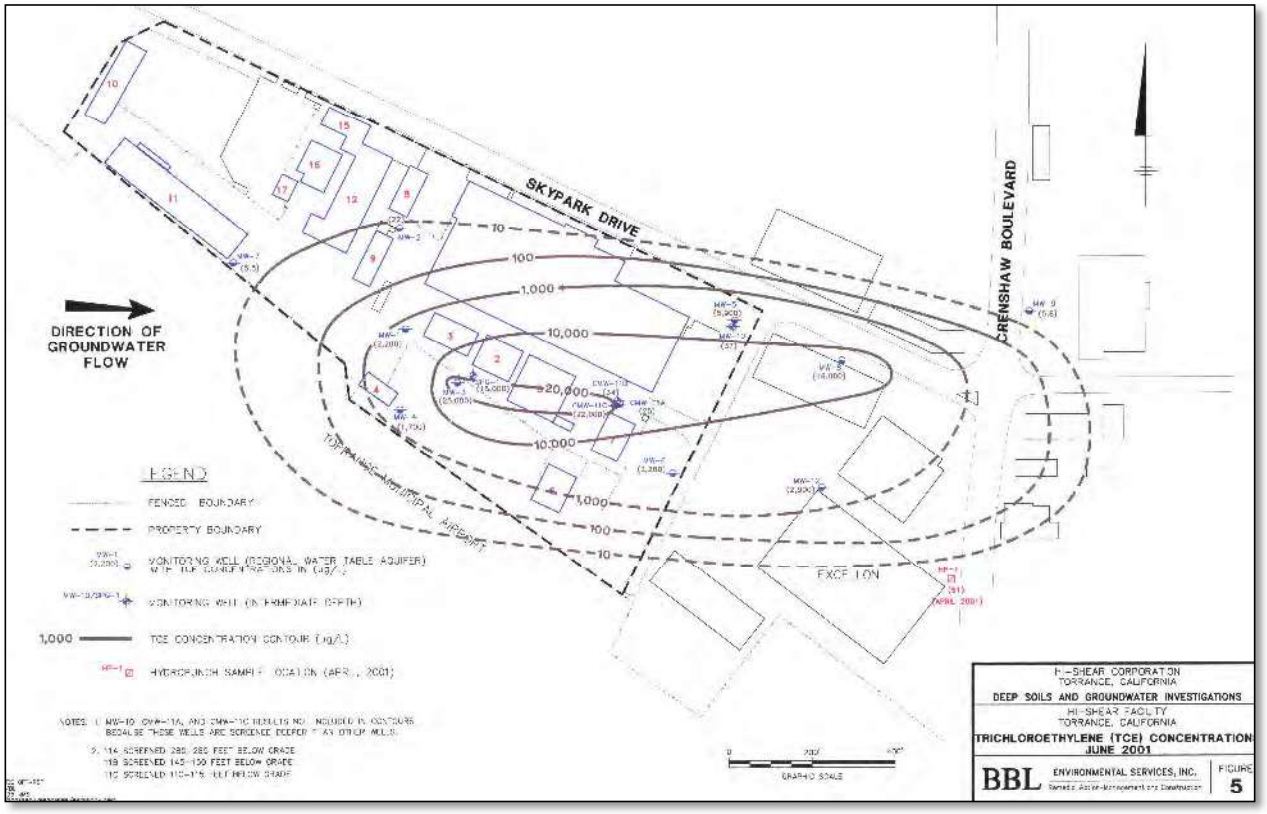
In 2001, five soil borings were advanced to depths of 95 feet bgs to evaluate VOC concentrations and the presence of dense nonaqueous phase liquid (DNAPL; chlorinated solvents TCE and PCE are liquids that are denser than water) in deeper soils at depths of 60 feet bgs to groundwater (~95 feet bgs). In a progress report of the soil investigation, BBL included a figure depicting the presence of DNAPL within the on-Site TCE plume:

Exhibit 2-4. TCE Migration Model prepared by BBL (2001)



Hi-Shear acknowledged TCE and DNAPL associated with a "VOC Source Area" upgradient of MW-3 that resulted in a "dissolved TCE plume" moving offsite and impacted groundwater at the EA Properties (MW-8 at Robinson Helicopter) and further east. The BBL progress report also included a plan view depiction of the TCE plume migrating from the Hi-Shear Site east to the EA Properties and Residential Properties.

Exhibit 2-5. TCE in Groundwater in 2001 (BBL, 2001)



In addition to TCE, PCE was detected in soil samples collected by BBL at the Hi-Shear Site. The results of TCE and PCE in soil samples collected by BBL in 2001 indicated that detection of elevated concentrations of PCE was coincident with elevated concentrations of TCE. For example, both the highest detected concentration of TCE and PCE in soil samples collected in 2001 were collected in samples collected at VPO-2, which was located south of Building 2:

- At 44 feet bgs, 4,100,000 µg/kg of TCE and 190,000 µg/kg of PCE,
- At 65 feet bgs, 120,000 µg/kg of TCE and 120,000 µg/kg of PCE, and
- At 90 feet bgs, 15,000 µg/kg of TCE and 5,200 µg/kg of PCE (BBL, 2001).

In comparison, one soil sample was collected at 50 feet bgs at the soil boring advanced for the installation of MW-12 at the EA Property 1. In this soil sample, TCE was detected at a concentration of 120 µg/kg and PCE was detected at a concentration of 67 µg/kg. The detected concentrations of PCE and TCE are over 4 orders of magnitude lower than PCE and TCE concentrations at VPO-2 and are not consistent with a release at the EA Property 1.

The site investigation data indicate that the source area for VOCs at the Hi-Shear Site is associated with both PCE and TCE.

2.3 Hi-Shear's environmental site assessment reports identify TCE and PCE release areas at the Hi-Shear Site

In 2010, a Site Conceptual Model (SCM) report was prepared for the Hi-Shear Site by Winefield & Associates, Inc. (W&A). As part of the SCM, the existing site characterization data was compiled and AOPCs for the release of VOCs to the subsurface were identified. As shown in Exhibit 2-6, eight AOPCs were identified.

Exhibit 2-6. AOPCs Identified in 2010 at Hi-Shear Site (W&A, 2010)

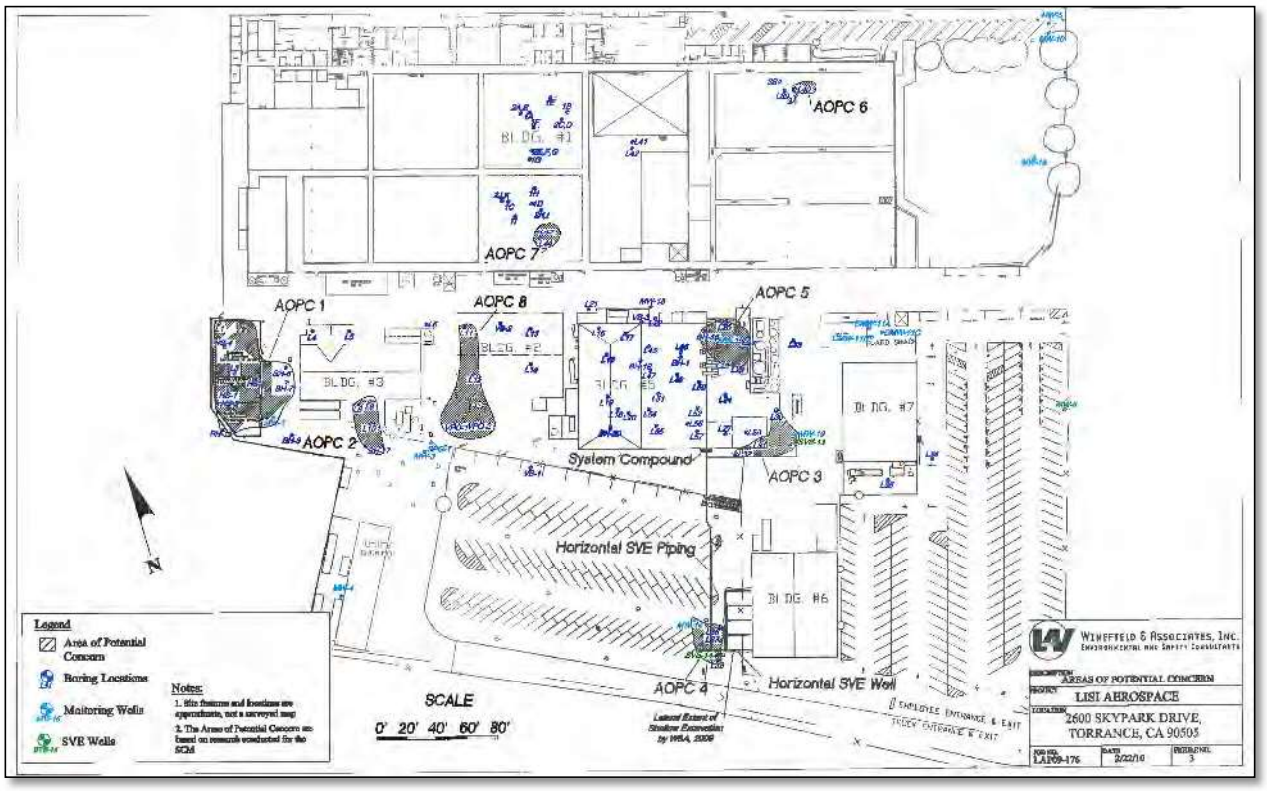


Exhibit 2-6 also shows that limited soil sampling was completed to investigate potential AOPCs and delineate areas associated with VOC release at the east portion of Building 1 (including areas around AOPC 8), Building 3 (where a dry-well was located and may still be present), exterior to Building 5 (south and east of AOPC 3; north and east of AOPC 5), Building 6, and Building 7.

A brief summary of soil data is presented in the 2010 SCM report for several AOPCs. Notably, the range of PCE, TCE, and TPH concentrations are presented by depth:

Exhibit 2-7. AOPC 1 Soil Data – Location of Former Waste Oil UST #1 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 10 feet & 25 to 50 Feet	11 to 840 (µg/kg)
TCE	5 to 70 feet	7 to 820 (µg/kg)
TPH	25 to 40 feet	84 to 1,034 (mg/kg)

Exhibit 2-8. AOPC 3 Soil Data – Southeast corner of Building 5 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 25 feet and 90 ft	30 to 1,600 µg/kg
TCE	5 to 45 feet and 60 to 90 ft	88 to 35,000 µg/kg
TPH	5 to 25 ft	380 to 2,372 mg/kg

Exhibit 2-9. AOPC 5 Soil Data – Northeast corner of Building 5 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 15 feet	12 to 150 µg/kg
TCE	5 to 15 feet	18 to 360 µg/kg

Exhibit 2-10. AOPC 7 Soil Data – Building 7 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 20 ft	50 to 250 µg/kg
TCE	5 to 20 ft	100 to 980 µg/kg
TPH	5 to 20 ft	230 to 9,461 mg/kg

The 2010 SCM Report summarizes significant concentrations of PCE and TCE in soil at multiple AOPCs across the Hi-Shear Site. PCE and TCE were detected in soil samples collected at depths from 5 feet to 90 feet bgs. Given the dates of operations at the Hi-Shear Site, these data indicate that a long-term source of both TCE and PCE was present that would impact groundwater at the Hi-Shear Site and migrate to downgradient off-Site properties.

3.0 The TCE and PCE soil vapor and groundwater plume represents a single plume emanating from the Hi-Shear Site

There is a single plume of TCE and PCE spread across the Hi-Shear Site, EA properties, and Residential Properties, which has emanated from the Hi-Shear Site. The current plume appearance of having "two lobes" is a result of incomplete remediation efforts along the Hi-Shear Site boundary. Groundwater monitoring data collected following completion of the Phase I remediation program indicate the current plume contains two areas of elevated TCE concentrations, separated by the area where the Phase I remediation program successfully reduced the contaminant mass. One high concentration area remains on the Hi-Shear Site in the vicinity of MW-18, and the other high concentration area is located on the EA properties in the vicinity of MW-12.

GSI conducted semi-analytical modeling of TCE fate and transport from the Hi-Shear source to downgradient properties, which showed that the observed groundwater conditions are indicative of a single source located in the vicinity of MW-18. Modeling of historical mass flux from the Hi-Shear Site to the EA properties indicates substantial mass loading of TCE to off-Site properties, with ongoing mass flux to downgradient properties. Furthermore, given the historical TCE and PCE concentrations, TCE is the remedy driver for groundwater impacts on the Hi-Shear Site and downgradient EA properties and Residential Properties.

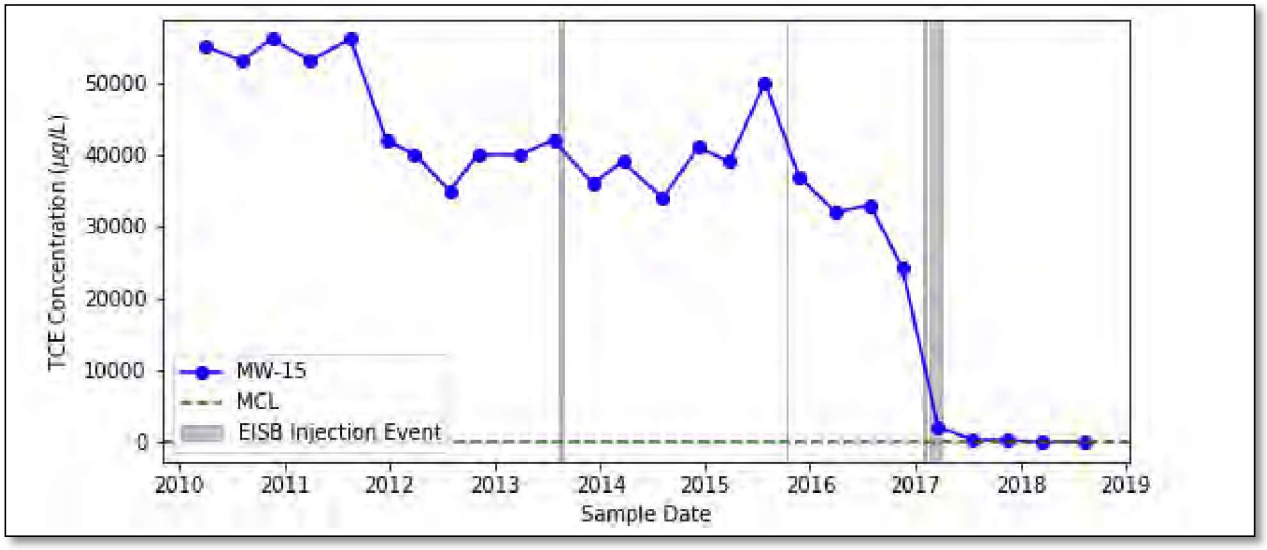
3.1 Groundwater Remedial Action Created the Current Groundwater Plume

Hi-Shear Corporation has implemented two pilot-scale and one full-scale remediation events. These events have included injection of bioremediation substrates (3DMe and HRC Primer), bioaugmentation culture (BDI Plus), and a chemical reductant (CRS). The dates of application and specific material injected were:

- August 12-22, 2013: Pilot-scale injections of 3DMe and HRC Primer through six injection wells (IW1 through IW6) screened from 87 to 112 feet below ground surface (bgs) and installed cross-gradient and upgradient of monitoring well MW-15 (Alta, 2014);
- October 13-15, 2015: Pilot-scale injections of 3DMe, CRS, and BDI Plus through the same six injection wells (IW1 through IW6) used in the August 2013 pilot test (Alta, 2016); and
- January 31 to April 5, 2017: Full-scale (Phase I) injections of 3DMe, CRS, and BDI Plus through 75 dual-nested injection wells (IW7 through IW81) screened from 88-98 feet bgs and 103-113 feet bgs and 2 previously installed single-cased wells IW3 and IW5 (Alta, 2017).

The results achieved at monitoring well MW-15, which is located downgradient of the source zone and along the Hi-Shear Site boundary, shows the success of the 2017 remedial action. Exhibit 3-1 summarizes the TCE concentrations measured over time at MW-15, along with the dates of remedial injections. As shown on Exhibit 3-1, TCE concentrations at MW-15 exhibited minimal response to the two pilot tests; however, significant reductions were achieved as a result of the more substantial remedial efforts of the full-scale Phase I program.

Exhibit 3-1. TCE concentrations over time in monitoring well MW-15.



The magnitude and extent of the TCE plume before treatment (2015) and after treatment (2018) are depicted on Exhibits 3-2 and 3-3, respectively. Exhibit 3-2 indicates a single plume emanating downgradient from a presumed source located in the vicinity of monitoring wells MW-3 and MW-18, which is the same area identified by BBL in 2001 with the highest concentrations of TCE in groundwater.

Exhibit 3-2. TCE groundwater plume in July 2015, before Hi-Shear Phase I remediation

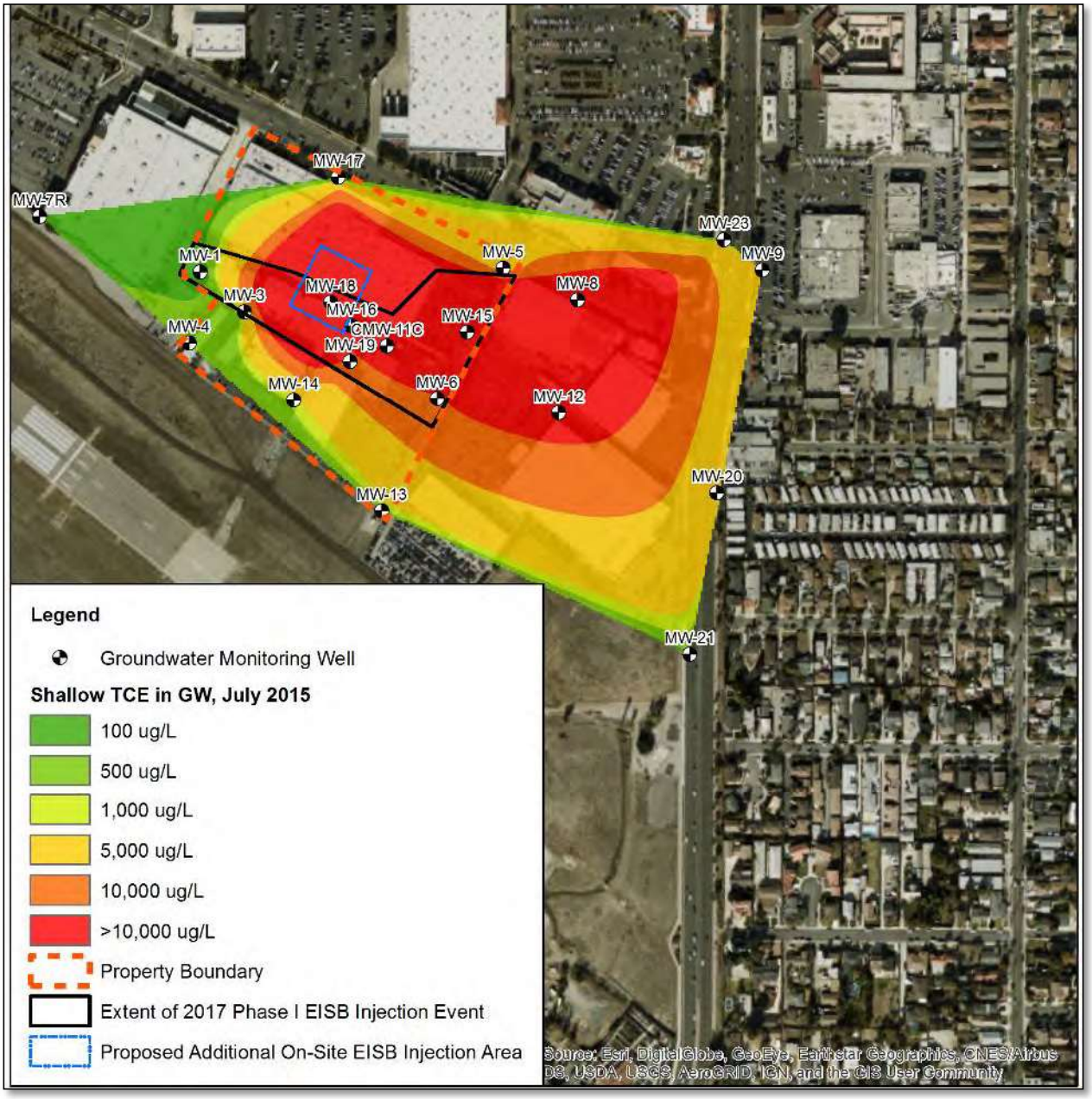
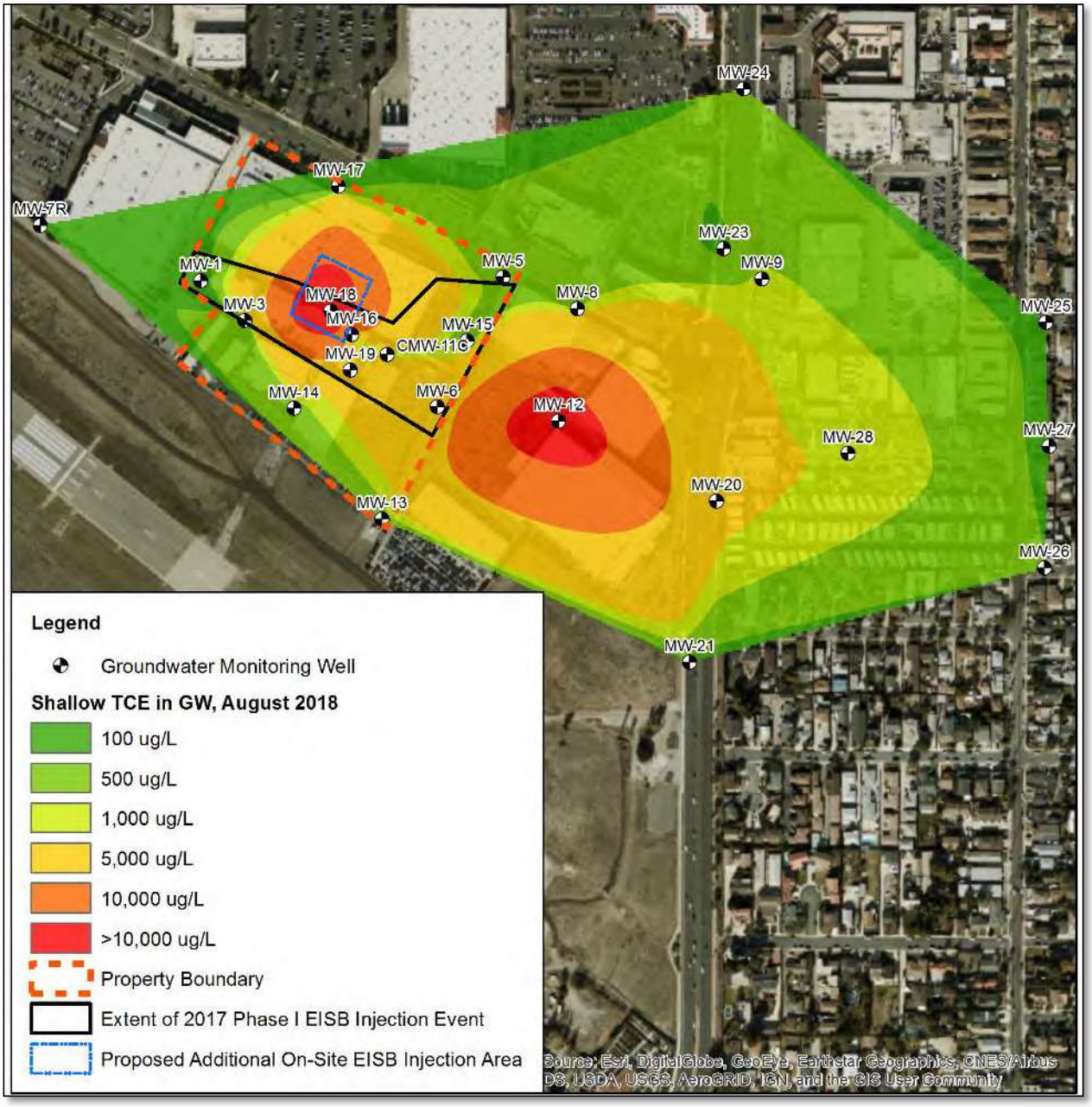


Exhibit 3-3 demonstrates that the 2017 full-scale Phase I injection program was effective in reducing TCE concentrations within the treatment zone, particularly in the area along and just upgradient of the Hi-Shear Site and EA properties boundary. As shown in this exhibit, the area of reduced concentrations in groundwater bisecting the former plume into two higher concentration lobes closely matches the shape of the injection area. Although not evident in this depiction, the density of the treatment injections along the eastern property boundary of the Hi-Shear Site was higher than other locations to the west. Combined with the higher source-area

initial concentrations in the MW-18 area, the resulting concentrations in groundwater correlate well with the completed injection program.

Two hot spots of elevated TCE concentrations exceeding 10,000 µg/L remain, one within the upgradient portion of the treatment zone near the MW-18 Hi-Shear source area; and one downgradient of the treatment zone in the vicinity of off-Site well MW-12. As discussed herein, the bifurcated plume is indicative of a single TCE plume with localized treatment and does not indicate the presence of a source around MW-12.

Exhibit 3-3. TCE groundwater plume in August 2018, after Hi-Shear Phase I remediation



3.2 TCE Plume Modeling of TCE shows a TCE source on the Hi-Shear Site in the vicinity of MW-18

The BIOCHLOR Natural Attenuation Decision Support System (Aziz et al., 2000) model (version 2.2) was utilized to simulate plume conditions based on Site-specific hydrogeologic and decay parameters. BIOCHLOR is a screening-level model that simulates natural attenuation of dissolved chlorinated solvents (e.g., TCE) and has the ability to simulate one-dimensional advection, three-dimensional dispersion, linear adsorption, and biotransformation via reductive dichlorination (the dominant biotransformation process at many chlorinated solvent sites). The model was originally designed to help answer questions like how far a dissolved chlorinated solvent plume will extend if no engineered controls or source area reduction measures are implemented.

Input parameters for BIOCHLOR were selected based on documented Site-specific conditions and historical analytical results from groundwater monitoring wells. An approximate groundwater seepage velocity of 130 feet per year was estimated based on a gradient of 0.001 to 0.002 foot/foot in the east-southeast direction in 2018, consistent with historical observations (Alta, 2017), a horizontal hydraulic conductivity of 50 feet per day (Genesis, 2018), and an assumed effective porosity of 0.2. The source thickness was assumed to be 25 feet thick and 200 feet wide. Representative historical concentrations of CVOCs in monitoring well MW-18, which was installed in the approximate area of a source zone, were used as source concentrations in groundwater.

First-order decay rates were calculated for each groundwater monitoring well following the approach described in Newell et al. (2002). Exhibit 3-4 presents the results for the 32 monitoring wells. As shown on Exhibit 3-4, 18 monitoring wells show a positive first-order decay rate, thus indicating decreasing concentrations, and seven monitoring wells indicate increasing concentrations (negative decay rate). First-order decay rates were not calculated for seven wells that had over 50% non-detect values. The median decay rate was approximately 0.1 per year, equating to a half-life of about 7 years, meaning that concentrations are expected to reduce by approximately half every 7 years. Based on the first-order decay rates presented in Exhibit 3-4, a biotransformation decay rate of 0.1 per year was used for TCE.

Exhibit 3-4. First-order decay rates calculated for monitoring wells

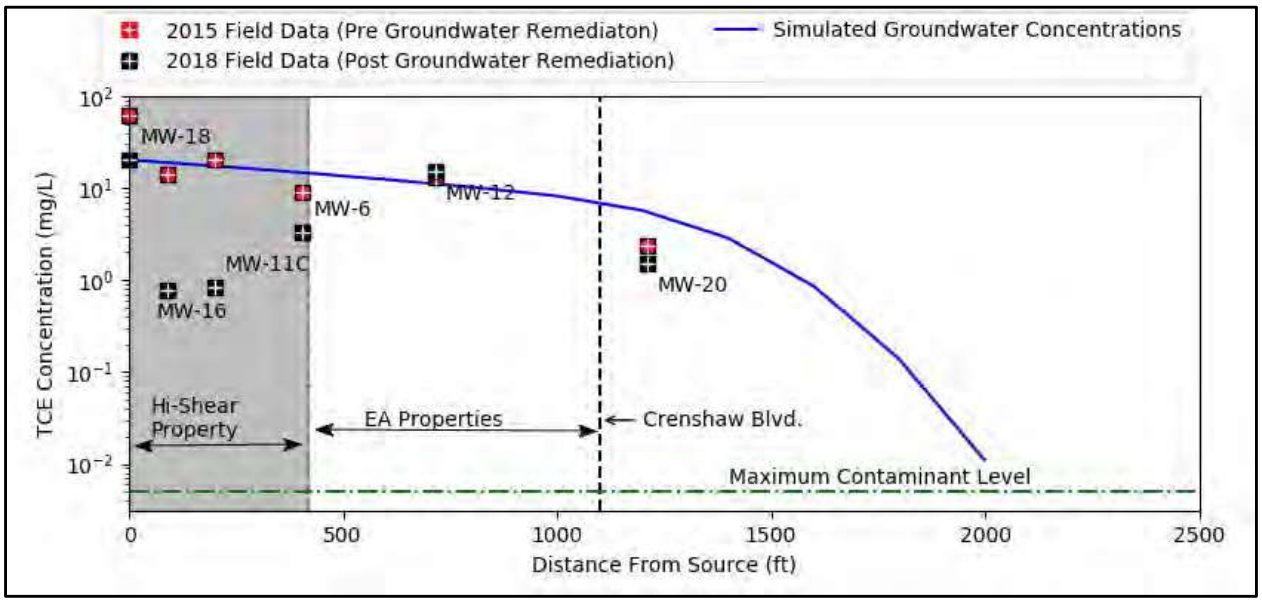
Well	K_{point} (1/yr)	Well	K_{point} (1/yr)
CMW-11A	ND	MW-15	0.667
CMW-11B	-0.0531	MW-16	0.183
CMW-11C	0.142	MW-17	0.303
MW-1	0.32	MW-18	0.126
MW-3	0.245	MW-19	0.128
MW-4	0.127	MW-20	0.0389
MW-5	0.0773	MW-21	-0.439
MW-6	-0.0929	MW-22A	ND
MW-7	0.146	MW-22B	ND
MW-7R	ND	MW-23	-0.234
MW-8	-0.0635	MW-24	ND
MW-9	-0.209	MW-25	ND
MW-10	0.176	MW-26	0.413
MW-12	-0.0725	MW-27	ND
MW-13	0.076	MW-28	0.127
MW-14	0.22	SPG-1	0.525

The simulated TCE profile shown in Exhibit 3-5, represents TCE concentrations in groundwater 30 years after a release on the Hi-Shear property near MW-18. This simulated TCE profile represents TCE concentrations with biodegradation, but without any remedial actions (i.e., without accounting for the recent 2017 enhanced in-situ bioremediation [EISB] injections). Exhibit 3-5 also shows measured TCE concentrations from before the full-scale injection event (July 2015 pre groundwater remediation; red) and after the full-scale injection event (August 2018 post groundwater remediation; black) measured in wells downgradient of MW-18 (presumed source), including MW-16, MW-11C, MW-6, MW-12, and MW-20.

Prior to the full-scale injection events in 2017, the historical TCE concentrations along the well transect (red squares) closely match the modeled TCE plume, indicating that the observed monitoring data are consistent with a single-source TCE plume migrating from the Hi-Shear property. Within the extent of the injections, the post groundwater remediation field data collected in 2018 (black squares) demonstrate a decrease in TCE concentrations below the simulated TCE profile, which highlights the effect the 2017 remedial action had on TCE concentrations within the injection area in groundwater. Downgradient of the property boundary and beyond the injection points, the TCE concentrations in 2018 (post groundwater remediation) more closely resemble the simulated TCE profile, with substantial TCE concentrations that exceed the MCL (extending approximately 1,000 feet downgradient of Crenshaw Boulevard). These findings support a single TCE plume that has emanated downgradient from the Hi-Shear property, with the observed bifurcation of the TCE plume (see Exhibit 3-3) resulting from the 2017 EISB injections and not

due to a second source of TCE downgradient of the Hi-Shear property. These modeling results indicate that a source of TCE in the vicinity of MW-18 has migrated downgradient at significant concentrations and was subsequently bifurcated from the limited Hi-Shear groundwater remediation efforts.

Exhibit 3-5. Simulated TCE concentrations without groundwater remediation shown as distance from the Hi-Shear source



3.3 TCE Mass Flux is leaving the Hi-Shear Site across the EA Properties Boundary

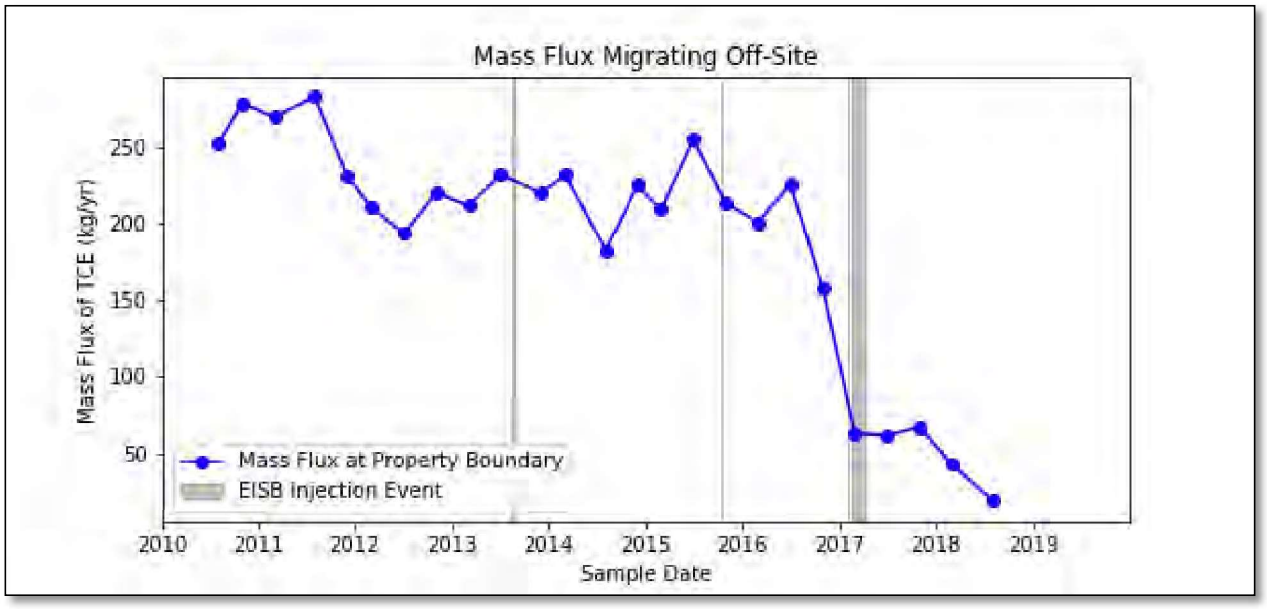
The GSI Mass Flux Toolkit (Farhat et al., 2011), which was developed for the Department of Defense ESTCP program, was utilized to estimate the mass flux currently leaving the Hi-Shear Site across the eastern property boundary, which is generally oriented perpendicular to groundwater flow. This mass flux represents the historical and ongoing loading of TCE (and other Site constituents) from the Hi-Shear Site to downgradient EA properties and Residential Properties.

A transect of monitoring wells across the eastern property boundary, generally oriented perpendicular to the predominant groundwater flow direction, was selected: MW-5, MW-15, MW-6, and MW-13. The Mass Flux Toolkit assumes that the ends of the transect are clean (i.e., contain a constituent concentration of 0 µg/L). Since the objective of this analysis was to estimate the mass flux of TCE across the eastern property boundary, not the width of the entire plume, the transect was truncated 1 foot beyond either terminal monitoring well (i.e., MW-5 to the north and MW-13 to the south). This assumption implies that the mass flux across the entire TCE plume is greater than the mass flux reported here. MW-10, which is located approximately 18 feet south of MW-5, was not used in this analysis because it is screened approximately 30 feet deeper than the other four monitoring wells utilized in this transect. Additional input parameters to the Mass Flux Toolkit include a representative hydraulic gradient of 0.0015 foot/foot and a horizontal hydraulic conductivity of 50 feet per day (Genesis, 2018). While the vertical extent of groundwater impacts has not been fully delineated, a 25-foot thickness was assumed here and represents the interval over which EISB injections were implemented (i.e., 88 to 113 feet bgs). The mass flux

was calculated for the time period for which monitoring data were collected from each of the four wells (i.e., August 2010 through August 2018).

Exhibit 3-6 illustrates the estimated mass flux across the eastern property boundary between wells MW-5 and MW-13. Approximately 230 kilogram (kg) of TCE per year migrated from the Hi-Shear Site to the EA properties between 2010 and 2017, with an unknown quantity having migrated prior to 2010. The 2017 full-scale Phase I EISB injections appear to have substantially reduced the mass flux across the eastern property boundary, but approximately 20 to 70 kg of TCE continue to migrate from the Hi-Shear Site to the EA properties annually, contributing to an ongoing release of TCE from the Hi-Shear to downgradient EA properties. Without additional significant groundwater remediation on the Hi-Shear Site, the rate of TCE migrating off-Site will continue to increase as the high TCE concentrations upgradient at a source, near MW-18, move downgradient and across the eastern property boundary.

Exhibit 3-6. Mass flux of TCE migrating from the Hi-Shear Site across the eastern property boundary, as calculated in the Mass Flux Toolkit



While monitoring data along Crenshaw Boulevard are more limited temporally, the mass flux of TCE was estimated across Crenshaw Boulevard with the following transect: MW-24, MW-23, MW-9, MW-20, and MW-21, with 100 feet included on either end of the transect to an assumed concentration of 0 µg/L TCE. Input concentrations were based on data collected between July 2016 and August 2018 from transect monitoring wells, which represents the period for which concentrations were measured in each of the monitoring wells. The total mass flux of TCE across Crenshaw Blvd. ranges from approximately 20 to 50 kg TCE per year, which represents the additional mass of TCE that continues to migrate across Crenshaw Blvd. each year.

4.0 TCE is the remedy driver for groundwater impacts both on the Hi-Shear Site and downgradient on the EA Properties and the Residential properties.

A review of available groundwater monitoring data indicates that TCE is the remedy driver for groundwater impacts on the Hi-Shear Site, EA Properties, and Residential Properties. For example, the maximum historical measured TCE concentration on the Hi-Shear Site (190,000 µg/L in MW-3) is almost 12 times greater than the maximum measured historical concentration of PCE (16,000 µg/L) in MW-3.

TCE has also in most sample locations been detected at concentrations exceeding PCE on the EA properties:

- MW-20: TCE is 5 to 34 times greater than PCE;
- MW-9 and MW-23: TCE is 3 to over 475 times greater than PCE; and
- MW-21: PCE concentrations typically exceed TCE concentrations, but both concentrations are relatively low (within 1 OoM of the MCL).

Downgradient of Crenshaw Boulevard within the Residential Properties:

- MW-28: TCE is 11 to 38 times greater than PCE; and
- MW-22A, MW-22B, MW-24, MW-25, MW-26, and MW-27: PCE has not been detected.

These data clearly identify that potential sources of PCE are not contributing significantly to the primary TCE plume migrating downgradient from documented Hi-Shear sources.

5.0 References

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GSI ENVIRONMENTAL

HI-SHEAR SITE
2600 SKYPARK DRIVE
TORRANCE, CA 90505

Timothy Wood, PG, CHG
Bita Tabatabai, PE
Peter Scaramella
Kate Richards, PG, CHG

August 12, 2020 Water Board Meeting

INTRODUCTION

- **On behalf of the City of Torrance, GSI Environmental has been reviewing documents pertaining to the Hi-Shear Site since 2018.**
- **GSI Environmental has reviewed available Site documents dating back to 1991**
- **GSI Environmental Inc., 2020, Technical Memorandum, 9 June**

Timothy Wood, PG, CHG
Principal Geologist

Bita Tabatabai, PE
Principal Engineer

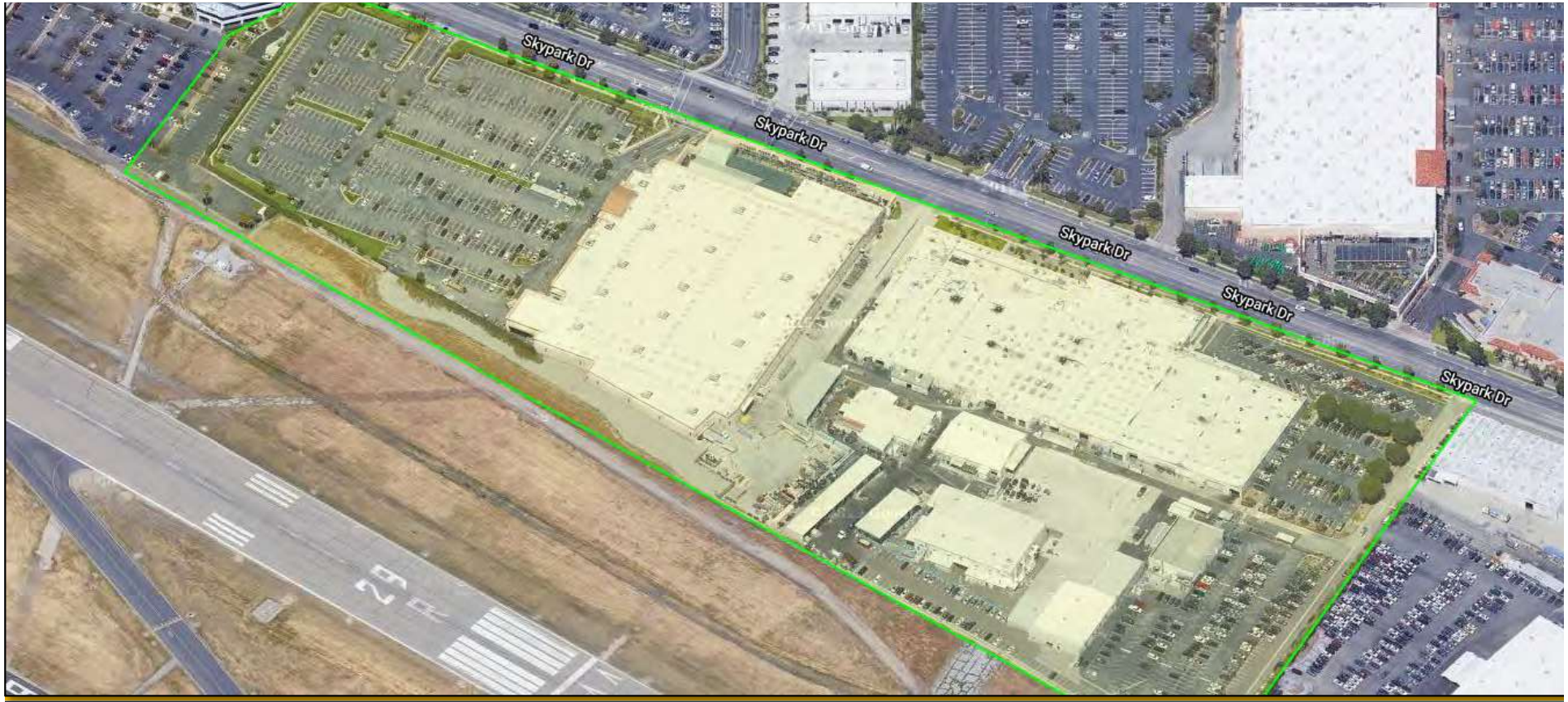
Kate E. Richards, PG, CHG
Senior Hydrogeologist

Peter Scaramella
Senior Risk Assessor

PRESENTATION OVERVIEW

- Hi-Shear historical use of TCE and PCE
- Site characterization data
- TCE and PCE groundwater and soil vapor plume
- Recent soil vapor data
- Next steps for Hi-Shear on-site remediation

➡ ***Based on soil vapor concentrations and the groundwater plume, a Cleanup and Abatement Order is warranted for Hi-Shear Site***



HI-SHEAR HISTORICAL USE OF TCE AND PCE

Timothy Wood, PG, CHG
Principal Geologist

RWQCB INVOLVEMENT AT HI-SHEAR

- 1992 to 2005 – Groundwater investigation and monitoring reports submitted by Hi-Shear's consultant to RWQCB
- 2005 to 2007 – RWQCB SLIC Case No. 218
  - Oversight for redevelopment of western portion of Hi-Shear Site (La Caze Development)
- 2009 – RWQCB issues 13267 Order to Hi-Shear
- 2016 to 2017 – RWQCB issues 13267 letters to EA Properties:
  - 18 Apr 2016 – South Bay Lexus and City of Torrance
  - 10 Oct 2017 – Magellan Aerospace (former Aeronca Facility)
  - 10 Oct 2017 – Excellon Automation
- 2019 and 2020 – RWQCB issues 13267 and 13383 Orders to Hi-Shear
- 13 Jan 2020 – RWQCB issues 13267 letter Re EA Properties
- 12 May 2020 – RWQCB issues 13267 letter Re EA Properties

➢ ***Timeline based on documents available on GeoTracker***

HI-SHEAR HISTORICAL SITE USE

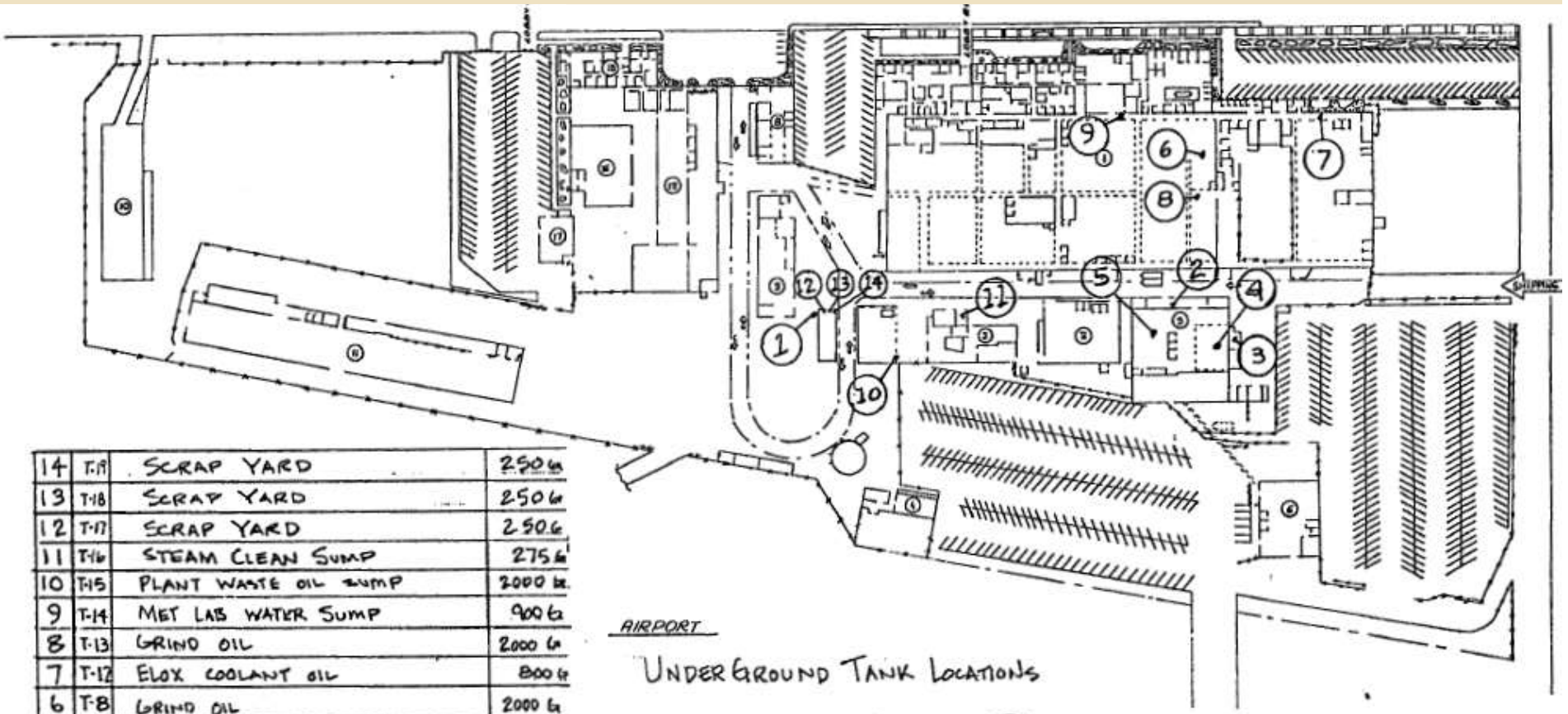
Hi-Shear Site has been leased by Hi-Shear and its corporate successors (currently LISI Aerospace) since 1954.

Hi-Shear Site features provided pathways for release of solvents to subsurface

- **18 underground storage tanks (USTs), including:**
  - **Waste oil UST associated with release of TCE and PCE**
  - **Plating pits (75,000- and 50,000-gallon capacity)**
- **Drywell historically located at Building 3**
- **Sewer Lines Associated with Industrial Wastewater Discharge**
- **Documentation of poor compliance with hazardous waste labeling and tracking requirements (Hygienetics 1991)**

1991 MAY 5 – ENVIRONMENTAL SITE ASSESSMENT; HYGIENETICS

Partial summary of USTs:



14	T-19	SCRAP YARD	250 G
13	T-18	SCRAP YARD	250 G
12	T-17	SCRAP YARD	250 G
11	T-16	STEAM CLEAN SUMP	275 G
10	T-15	PLANT WASTE OIL SUMP	2000 G
9	T-14	MET LAB WATER SUMP	900 G
8	T-13	GRIND OIL	2000 G
7	T-12	ELOX COOLANT OIL	800 G
6	T-8	GRIND OIL	2000 G
5	T-5	WEST PLATING PIT	75K GS
4	T-4	EAST PLATING PIT	50.K G
3	T-3	WEST PLATING CLAIFIER	2000 G
2	T-2	NORTH PLATING CLAIFIER	2000 G

1991 MAY 5 – ENVIRONMENTAL SITE ASSESSMENT; HYGIENETICS

Partial summary of USTs:

TABLE 2

UNDERGROUND STORAGE VESSELS
PAST AND PRESENT

NUMBER	LOCATION	CONTENTS	VOLUME
1*	Southeast of Bldg. #9	Waste Oil	?
2	North of Bldg. #5	Plating Clarifier	2,000 gal
3	East of Bldg. #5	Plating Clarifier	2,000 gal
4	East of Bldg. #5	East Plating Pit	50,000 gal
5	West of Bldg. #5	West Plating Pit	75,000 gal
6	Bldg. #1	Grind Oil	2,000 gal
7	Bldg. #1	Coolant Oil	800 gal
8	Bldg. #1	Grind Oil	2,000 gal
9	Bldg. #1	Water Sump	900 gal
10	Southwest of Bldg. #3	Waste Oil Sump	2,000 gal
11	Bldg. #3	Steam Clean Sump	275 gal
12*	West of Bldg. #3	Waste Oil	250 gal
13*	West of Bldg. #3	Waste Oil	250 gal
14*	West of Bldg. #3	Waste Oil	250 gal
15*	West of Bldg. #6	Gasoline	?
16*	West of Bldg. #6	Gasoline	?
17	South of Bldg. #3	Soap, Grease & Water	?
18	South of Bldg. #3	Soap, Grease & Water	?

User: ltrapp

SCAQMD Facility Equipment List Report

Run Date : 04/14/2020 10:10 AM

Facility: 11192 HI-SHEAR CORPORATION
Last Inspection: 01/08/2010 On Hold: N Suspended: N
Contact: CAROL GRUBER (310) 7844083 RECLAIM: N
Location Address: 2600 SKYPARK DR, TORRANCE 90505-2975 Sector:LC
Mailing Address: 2600 SKYPARK DR, TORRANCE 90505-2975 Sector:LC
Instruction:

Status: Active
TS: TS-74 Toxics: Non-chrome Plating
TITLE V: N AIRS ID: 0603702296

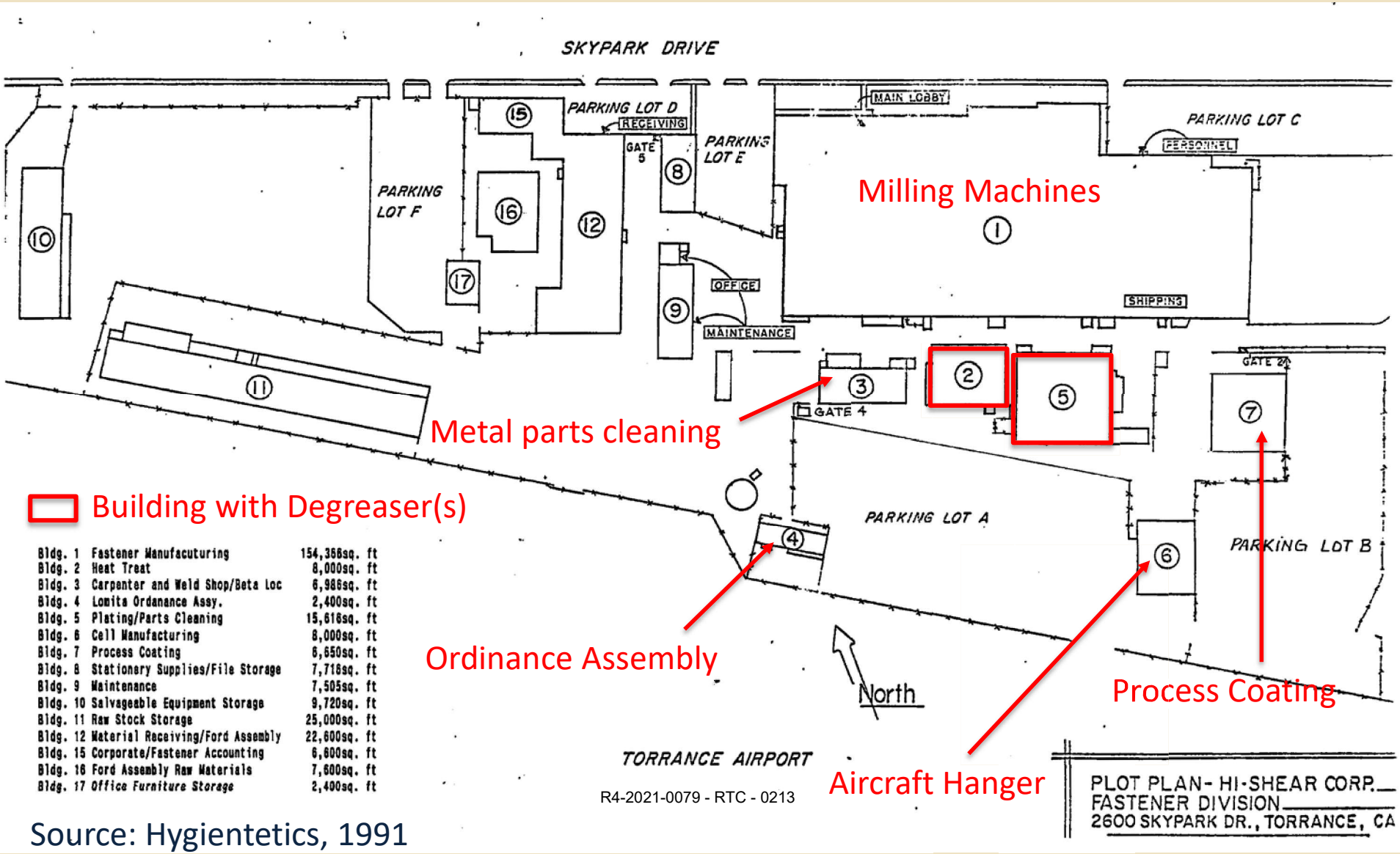
MR: A 5 SIC: 3451 Team: X
Quarter: 0100 - inspect in 2nd quarter, every year
Assignment: 481956
Inspector: EE02 ELEANOR F ELEAZAR
Inspection Date:
Disposition:

Application No.	Permit No.	Permit Issue Date	Permit Status	Equipment Category		BCAT/CCAT Description	Application Date	Application Status
A87318	P63849	09/29/1975	INACTIVE	000285	BCAT	TANK CHROME PLATING HEXAVALENT	01/01/1990	PERMIT TO OPERATE GRANTED
C01425	P66723	04/06/1976	INACTIVE	000222	BCAT	DEGREASER PERCHLOROETHYLENE (>1lb VOC/d)	01/01/1900	PERMIT TO OPERATE GRANTED
C07306	P68701	01/17/1977	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1900	PERMIT TO OPERATE GRANTED
C08715	M01924	10/10/1977	INACTIVE	000221	BCAT	DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)	01/01/1990	PERMIT TO OPERATE GRANTED
C28287	M16101	03/10/1981	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1900	PERMIT TO OPERATE GRANTED
C28288	M16098	03/10/1981	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1990	PERMIT TO OPERATE GRANTED
C28565	M16100	03/10/1981	INACTIVE	000265	BCAT	OVEN, DRYING	01/01/1900	PERMIT TO OPERATE GRANTED
C34660	M16886	04/10/1981	INACTIVE	420900	BCAT	STORAGE TANK TRICHLOROETHYLENE	01/01/1900	PERMIT TO OPERATE GRANTED
C34661	M17485	07/14/1981	INACTIVE	420900	BCAT	STORAGE TANK TRICHLOROETHYLENE	01/01/1900	PERMIT TO OPERATE GRANTED
C37732	M23967	04/09/1982	INACTIVE	40	CCAT	SCRUBBER, OTHER VENTING S.S.	01/01/1990	PERMIT TO OPERATE GRANTED
C37733	M23966	04/09/1982	INACTIVE	40	CCAT	SCRUBBER, OTHER VENTING S.S.	01/01/1990	PERMIT TO OPERATE GRANTED
C37734	M23965	04/09/1982	INACTIVE	40	CCAT	SCRUBBER, OTHER VENTING S.S.	01/01/1900	PERMIT TO OPERATE GRANTED
C39792	M18653	04/30/1982	INACTIVE	000264	BCAT	OVEN, BAKING	01/01/1990	PERMIT TO OPERATE GRANTED
C42860	M26931		INACTIVE	000265	BCAT	OVEN, DRYING	01/01/1900	PERMIT TO OPERATE GRANTED
Z02577	909641		INACTIVE	70	CCAT	CONTROL ETO STERILIZATION HOSPITAL	01/01/1900	PERMIT TO OPERATE GRANTED
Z02577	909641		INACTIVE	248915	BCAT	SERV STAT STORAGE & DISPENSING GASOLINE	01/01/1900	PERMIT TO OPERATE GRANTED
A49572	P26293	06/14/1968	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1990	PERMIT TO OPERATE GRANTED
A70575	P51243	11/16/1972	INACTIVE	000221	BCAT	DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)	01/01/1900	PERMIT TO OPERATE GRANTED
A77532	P57754	08/01/1974	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1990	PERMIT TO OPERATE GRANTED
A77533	P57755	08/01/1974	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1900	PERMIT TO OPERATE GRANTED
A77534	P57756	08/01/1974	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1900	PERMIT TO OPERATE GRANTED
A87317	P63848	09/29/1975	INACTIVE	40	CCAT	SCRUBBER, OTHER VENTING S.S.	01/01/1990	PERMIT TO OPERATE GRANTED
A87317	P63848	09/29/1975	INACTIVE	000281	BCAT	TANK CHEMICAL MILLING	01/01/1990	PERMIT TO OPERATE GRANTED
A87318	P63849	09/29/1975	INACTIVE	40	CCAT	SCRUBBER, OTHER VENTING S.S.	01/01/1990	PERMIT TO OPERATE GRANTED

Inspector: _____ Date: _____ Reviewed By: _____ Date: _____

Inspector: _____ Date: _____ Reviewed By: _____ Date: _____

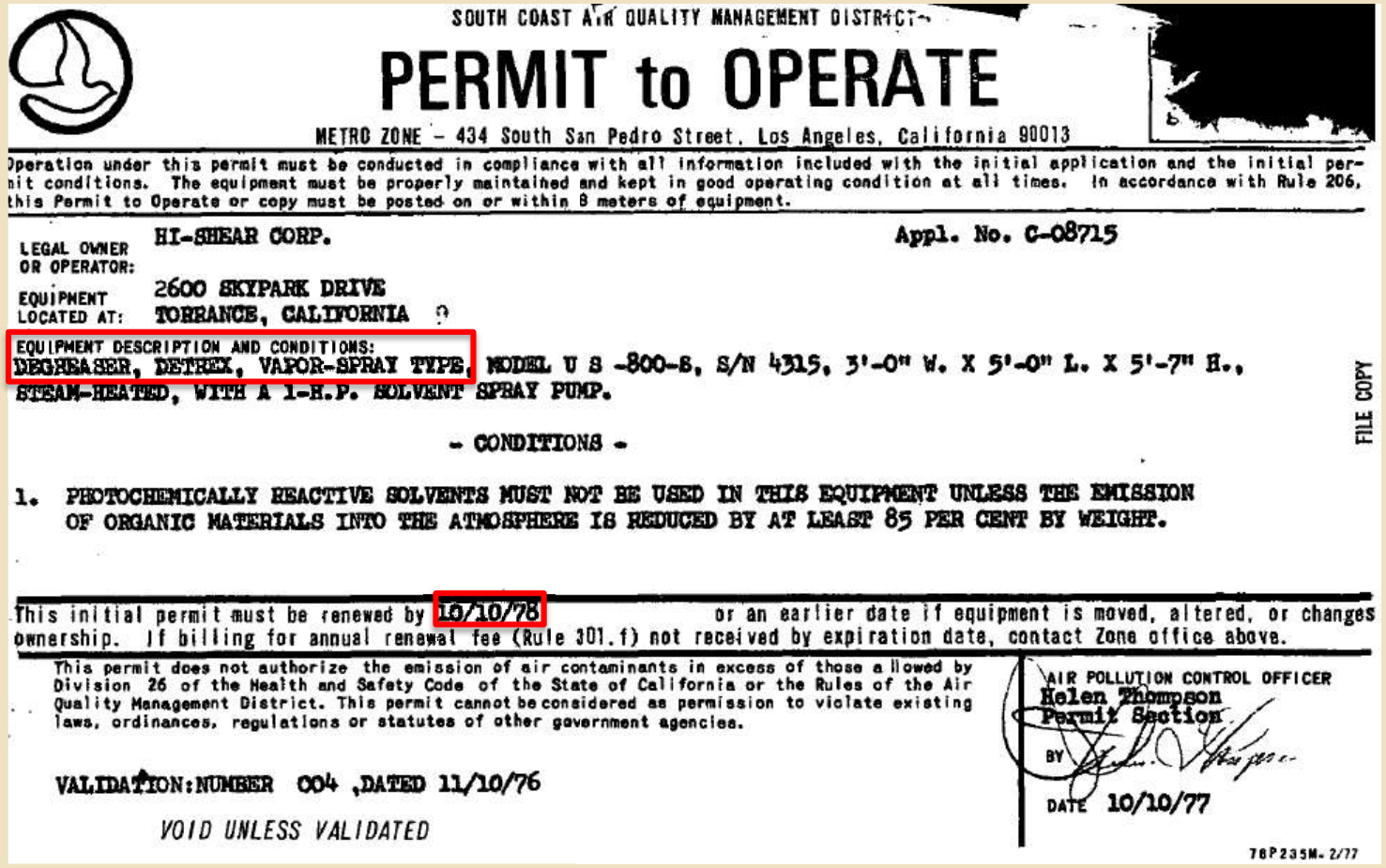
HI-SHEAR SITE PLAN



Bldg. 1	Fastener Manufacuturing	154,366sq. ft
Bldg. 2	Heat Treat	8,000sq. ft
Bldg. 3	Carpenter and Weld Shop/Beta Loc	6,986sq. ft
Bldg. 4	Lomita Ordanance Assy.	2,400sq. ft
Bldg. 5	Plating/Parts Cleaning	15,616sq. ft
Bldg. 6	Cell Manufacturing	8,000sq. ft
Bldg. 7	Process Coating	6,650sq. ft
Bldg. 8	Stationary Supplies/File Storage	7,718sq. ft
Bldg. 9	Maintenance	7,505sq. ft
Bldg. 10	Salvageable Equipment Storage	9,720sq. ft
Bldg. 11	Raw Stock Storage	25,000sq. ft
Bldg. 12	Material Receiving/Ford Assembly	22,600sq. ft
Bldg. 15	Corporate/Fastener Accounting	6,600sq. ft
Bldg. 16	Ford Assembly Raw Materials	7,600sq. ft
Bldg. 17	Office Furniture Storage	2,400sq. ft

Source: Hygientetics, 1991

SCAQMD RECORDS FOR HI-SHEAR – DETREX DEGREASERS



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PERMIT to OPERATE

METRO ZONE – 434 South San Pedro Street, Los Angeles, California 90013

Operation under this permit must be conducted in compliance with all information included with the initial application and the initial permit conditions. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 206, this Permit to Operate or copy must be posted on or within 8 meters of equipment.

LEGAL OWNER OR OPERATOR: HI-SHEAR CORP. Appl. No. C-08715

EQUIPMENT LOCATED AT: 2600 SKYPARK DRIVE TORRANCE, CALIFORNIA

EQUIPMENT DESCRIPTION AND CONDITIONS:
DEGREASER, DETREX, VAPOR-SPRAY TYPE, MODEL U S -800-S, S/N 4315, 3'-0" W. X 5'-0" L. X 5'-7" H., STEAM-HEATED, WITH A 1-H.P. SOLVENT SPRAY PUMP.

FILE COPY

- CONDITIONS -

1. PHOTOCHEMICALLY REACTIVE SOLVENTS MUST NOT BE USED IN THIS EQUIPMENT UNLESS THE EMISSION OF ORGANIC MATERIALS INTO THE ATMOSPHERE IS REDUCED BY AT LEAST 85 PER CENT BY WEIGHT.

This initial permit must be renewed by 10/10/78 or an earlier date if equipment is moved, altered, or changes ownership. If billing for annual renewal fee (Rule 301.f) not received by expiration date, contact Zone office above.

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the Rules of the Air Quality Management District. This permit cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

AIR POLLUTION CONTROL OFFICER
Helen Thompson
Permit Section
BY
DATE 10/10/77

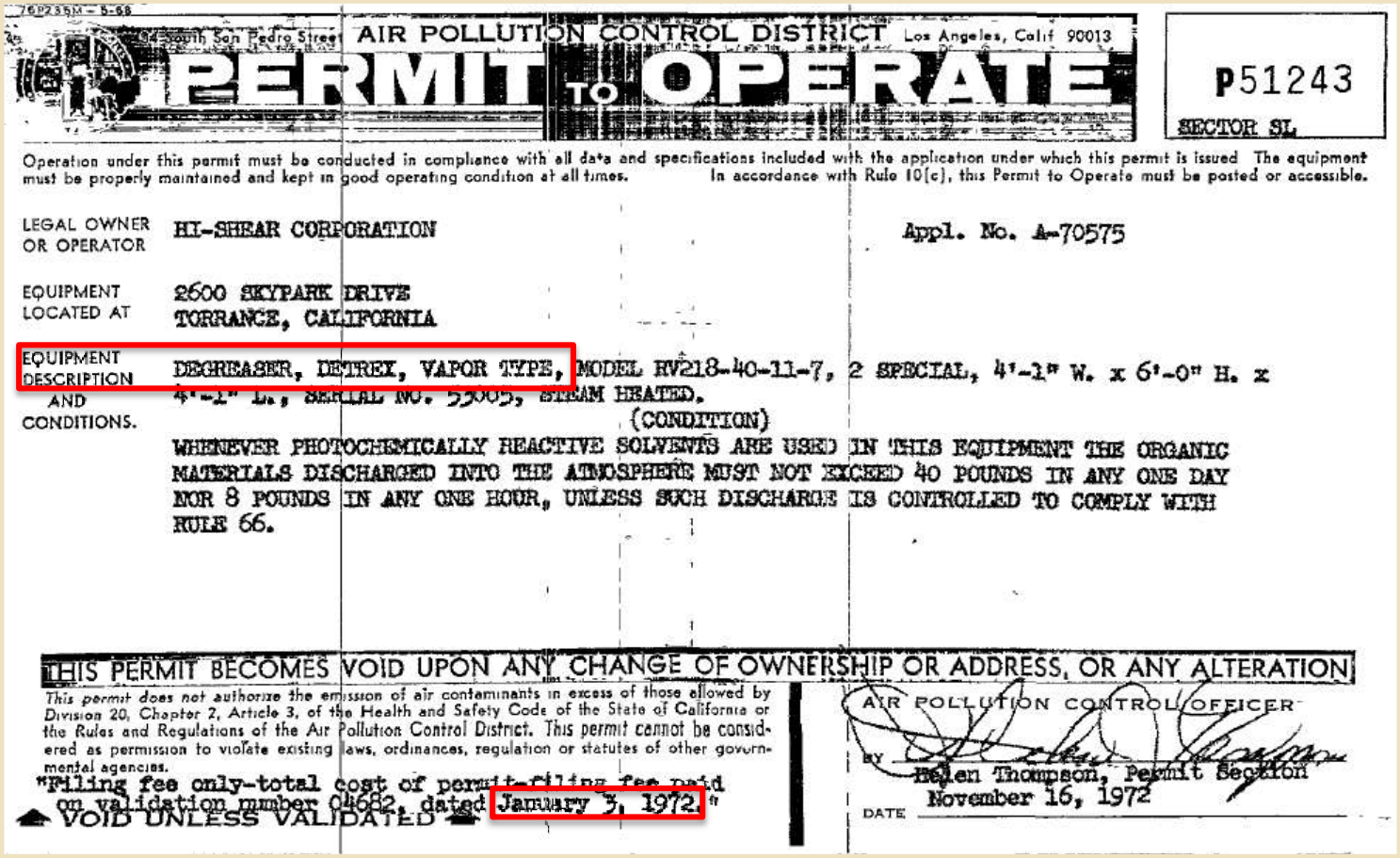
VALIDATION: NUMBER 004 ,DATED 11/10/76

VOID UNLESS VALIDATED

78P235M-2/77

Source: SCAQMD file review

SCAQMD RECORDS FOR HI-SHEAR – DETREX DEGREASERS



76P235M – 5-68

AIR POLLUTION CONTROL DISTRICT Los Angeles, Calif 90013

PERMIT TO OPERATE

P51243

SECTOR SL

Operation under this permit must be conducted in compliance with all data and specifications included with the application under which this permit is issued. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 10(c), this Permit to Operate must be posted or accessible.

LEGAL OWNER OR OPERATOR: HI-SHEAR CORPORATION

Appl. No. A-70575

EQUIPMENT LOCATED AT: 2600 SKYPARK DRIVE
TORRANCE, CALIFORNIA

EQUIPMENT DESCRIPTION AND CONDITIONS: DEGREASER, DETREX, VAPOR TYPE, MODEL HV218-40-11-7, 2 SPECIAL, 4'-1" W. x 6'-0" H. x 4'-2" L., SERIAL NO. 55005, STEAM HEATED.

(CONDITION)

WHENEVER PHOTOCHEMICALLY REACTIVE SOLVENTS ARE USED IN THIS EQUIPMENT THE ORGANIC MATERIALS DISCHARGED INTO THE ATMOSPHERE MUST NOT EXCEED 40 POUNDS IN ANY ONE DAY NOR 8 POUNDS IN ANY ONE HOUR, UNLESS SUCH DISCHARGE IS CONTROLLED TO COMPLY WITH RULE 66.

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR ADDRESS, OR ANY ALTERATION

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 20, Chapter 2, Article 3, of the Health and Safety Code of the State of California or the Rules and Regulations of the Air Pollution Control District. This permit cannot be considered as permission to violate existing laws, ordinances, regulation or statutes of other governmental agencies.

Filing fee only-total cost of permit-filing fee paid on validation number 01682, dated January 3, 1972.

VOID UNLESS VALIDATED

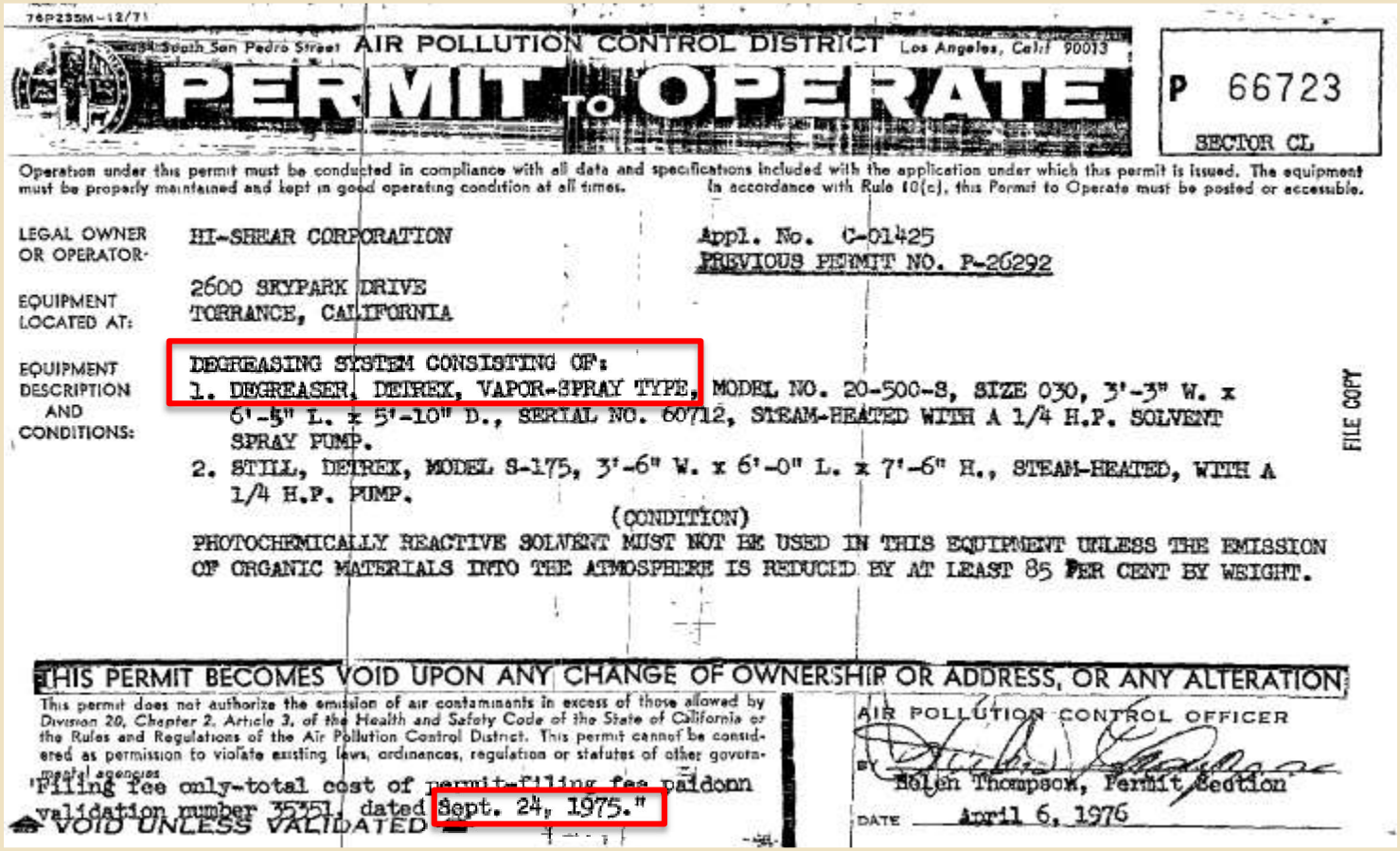
AIR POLLUTION CONTROL OFFICER

BY Helen Thompson, Permit Section

DATE November 16, 1972

Source: SCAQMD file review

SCAQMD RECORDS FOR HI-SHEAR – DETREX DEGREASERS



76P235M-12/71

9424 South San Pedro Street AIR POLLUTION CONTROL DISTRICT Los Angeles, Calif 90013

PERMIT TO OPERATE

P 66723

SECTOR CL

Operation under this permit must be conducted in compliance with all data and specifications included with the application under which this permit is issued. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 10(c), this Permit to Operate must be posted or accessible.

LEGAL OWNER OR OPERATOR: HI-SHEAR CORPORATION

Appl. No. C-01425
PREVIOUS PERMIT NO. P-26292

EQUIPMENT LOCATED AT: 2600 SKYPARK DRIVE
TORRANCE, CALIFORNIA

EQUIPMENT DESCRIPTION AND CONDITIONS:

DEGREASING SYSTEM CONSISTING OF:

1. DEGREASER, DETREX, VAPOR-SPRAY TYPE, MODEL NO. 20-500-S, SIZE 030, 3'-3" W. x 6'-5" L. x 5'-10" D., SERIAL NO. 60712, STEAM-HEATED WITH A 1/4 H.P. SOLVENT SPRAY PUMP.
2. STILL, DETREX, MODEL S-175, 3'-6" W. x 6'-0" L. x 7'-6" H., STEAM-HEATED, WITH A 1/4 H.P. PUMP.

FILE COPY

(CONDITION)

PHOTOCHEMICALLY REACTIVE SOLVENT MUST NOT BE USED IN THIS EQUIPMENT UNLESS THE EMISSION OF ORGANIC MATERIALS INTO THE ATMOSPHERE IS REDUCED BY AT LEAST 85 PER CENT BY WEIGHT.

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR ADDRESS, OR ANY ALTERATION

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 20, Chapter 2, Article 3, of the Health and Safety Code of the State of California or the Rules and Regulations of the Air Pollution Control District. This permit cannot be considered as permission to violate existing laws, ordinances, regulation or statutes of other governmental agencies.

"Filing fee only-total cost of permit-filing fee paidonn validation number 35351, dated Sept. 24, 1975."

VOID UNLESS VALIDATED

AIR POLLUTION CONTROL OFFICER

BY Helen Thompson, Permit Section

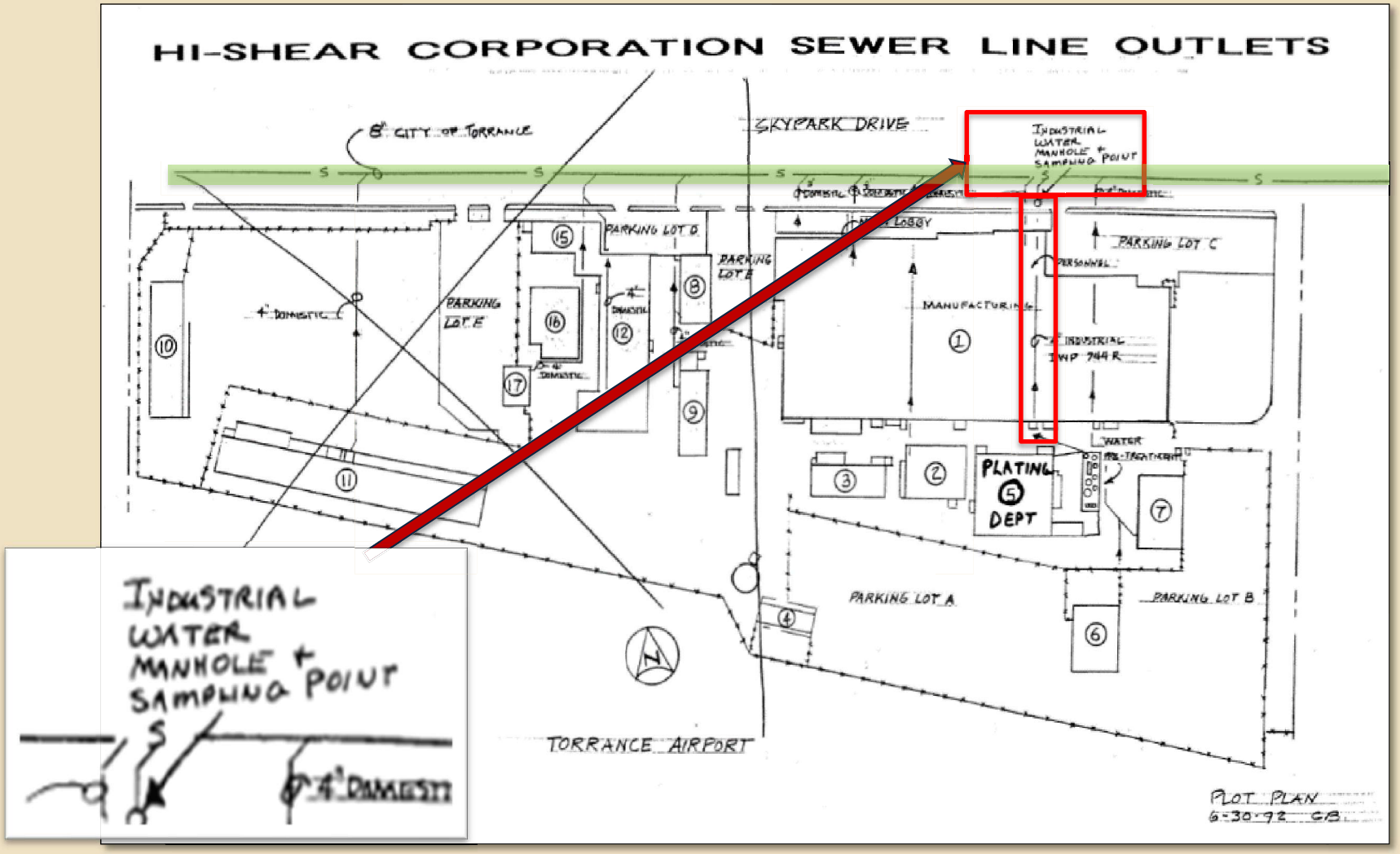
DATE April 6, 1976

Source: SCAQMD file review

HI-SHEAR DISCHARGE TO SEWER

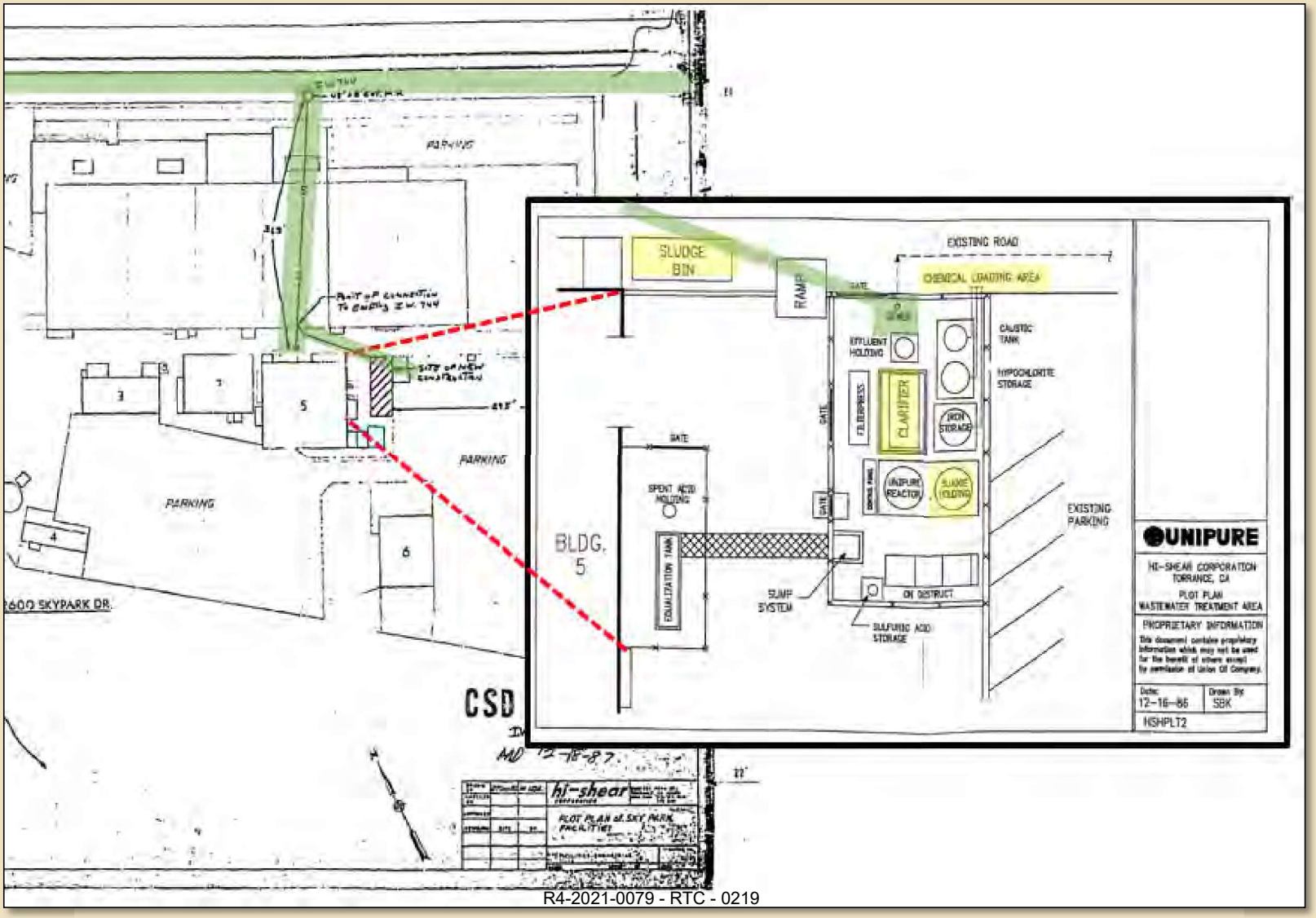
- **Industrial water discharge samples (IWS) for 1989 through 2012 indicate VOCs released to sewer.**
  - **PCE, TCE or 1,1,1-TCA detected in 12 sampling events.**
- **1991 Environmental Assessment report documented Hi-Shear acknowledged that discharges to the sewer by Hi-Shear degraded the main sewer line on Skypark Drive:**
  - ***It appears that past discharges of acidic waste have dissolved the City of Torrance Skypark Drive sewer main in several places. Hi-Shear has agreed that this is most probably due to their discharge. A preliminary study was performed to determine if the manhole deterioration has resulted in the release of heavy metal contaminates into the exposed earth. Soil samples taken below the dissolved manhole indicate that all possible metal contaminants levels are within regulatory limits.***

HI-SHEAR SITE PLAN



Source: Hygienetics, 1991

HI-SHEAR SITE PLAN



Source: Hygienetics, 1991

SITE CHARACTERIZATION DATA

Timothy Wood, PG, CHG
Principal Geologist

HI-SHEAR SITE CHARACTERIZATION

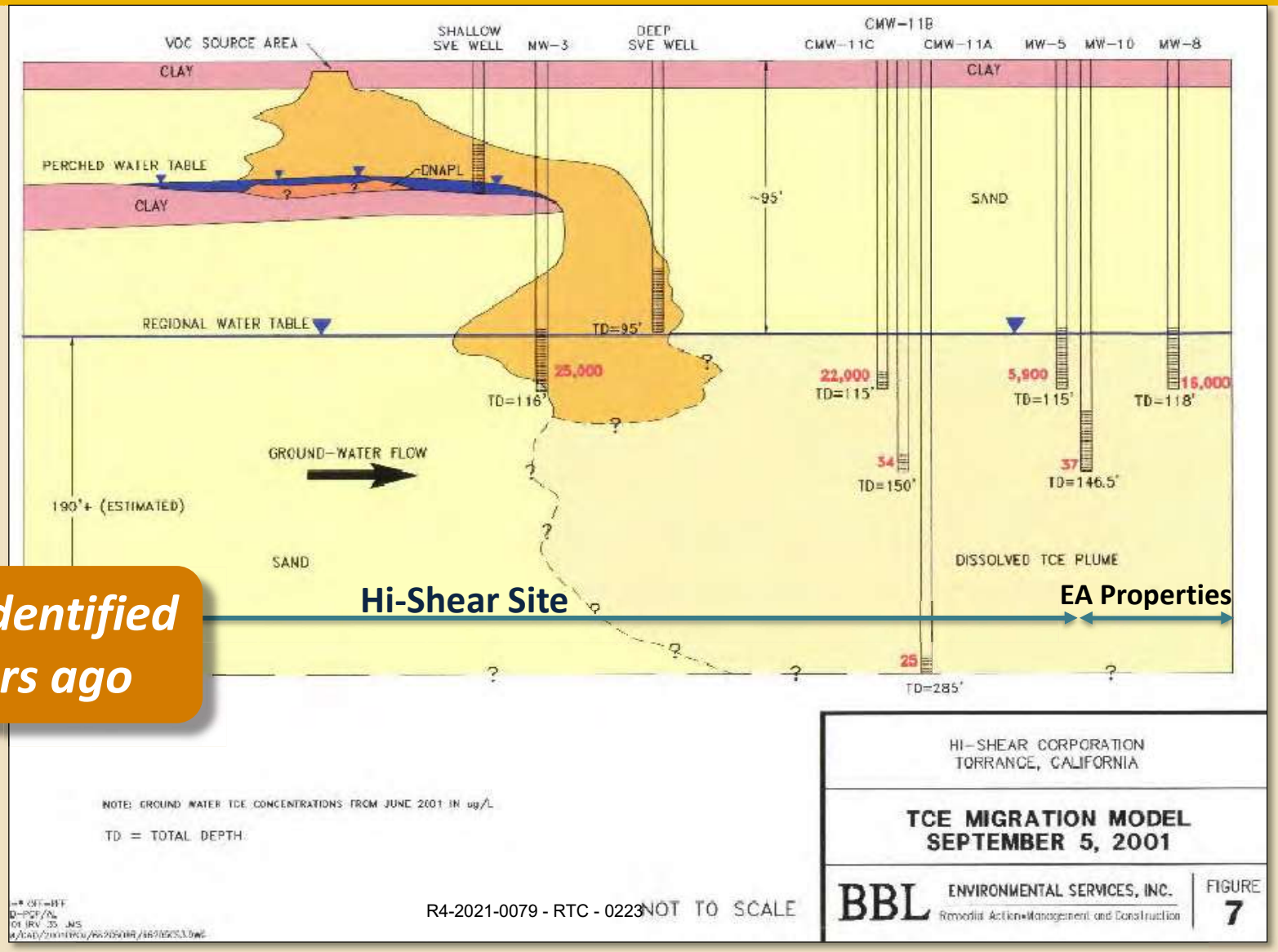
- **Groundwater monitoring reports prepared on behalf of Hi-Shear acknowledge migration of VOCs in groundwater off-site in the early 1990s**
- **Hi-Shear site assessment reports acknowledge the presence of DNAPL beneath the Hi-Shear Site in 2001**
- **Hi-Shear's environmental site assessment reports identify TCE and PCE release areas at the Hi-Shear Site**
  - ***Additional sampling at historical Site features will likely identify additional source areas for TCE and PCE***

SITE ASSESSMENT AND REMEDIATION TIMELINE

- 1992 to 2005 – Groundwater investigation and monitoring reports submitted by Hi-Shear's consultant to RWQCB
  - July 1998 – Remedial Action Plan (RAP) submitted to RWQCB
- March 1999 – SVE initiated
- 2005 to 2007 – RWQCB SLIC Case No. 218
  - Oversight for redevelopment of western portion of Site (La Caze Development)
  - RWQCB Issued letters regarding remediation activities (SVE)
- 2009 – RWQCB issues 13627 Order to Hi-Shear
  - May 2012 – RAP addendum submitted to RWQCB
- August 2013: Pilot-scale injections near well MW-15
- October 2015: Pilot-scale injections near well MW-15
- 2016 to 2017 – RWQCB issues 13267 letters to EA Properties
- January 31 to April 5, 2017: Full-scale (Phase I) injections through 75 dual-nested injection wells 2 previously installed single-cased wells IW3 and IW5
- April 2018 - SVE system shut down for repairs and system redesign
- 2019 and 2020 – RWQCB issues 13267 and 13383 Orders to Hi-Shear

➡ *To date no clean up and abatement order has been issued*

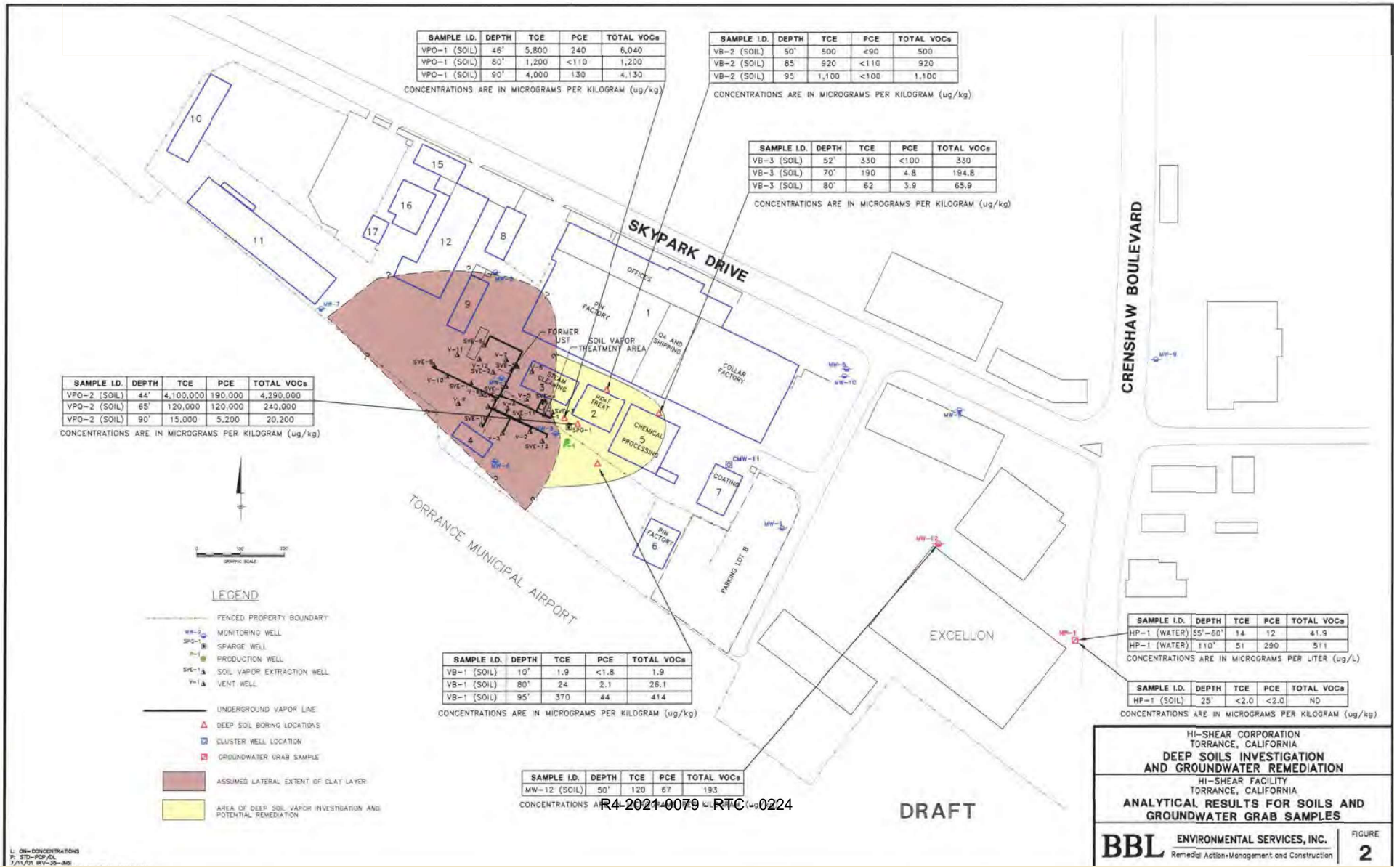
TCE MIGRATION MODEL PREPARED ON BEHALF OF HI-SHEAR



DNAPL identified 20 years ago

R4-2021-0079 - RTC - 0223

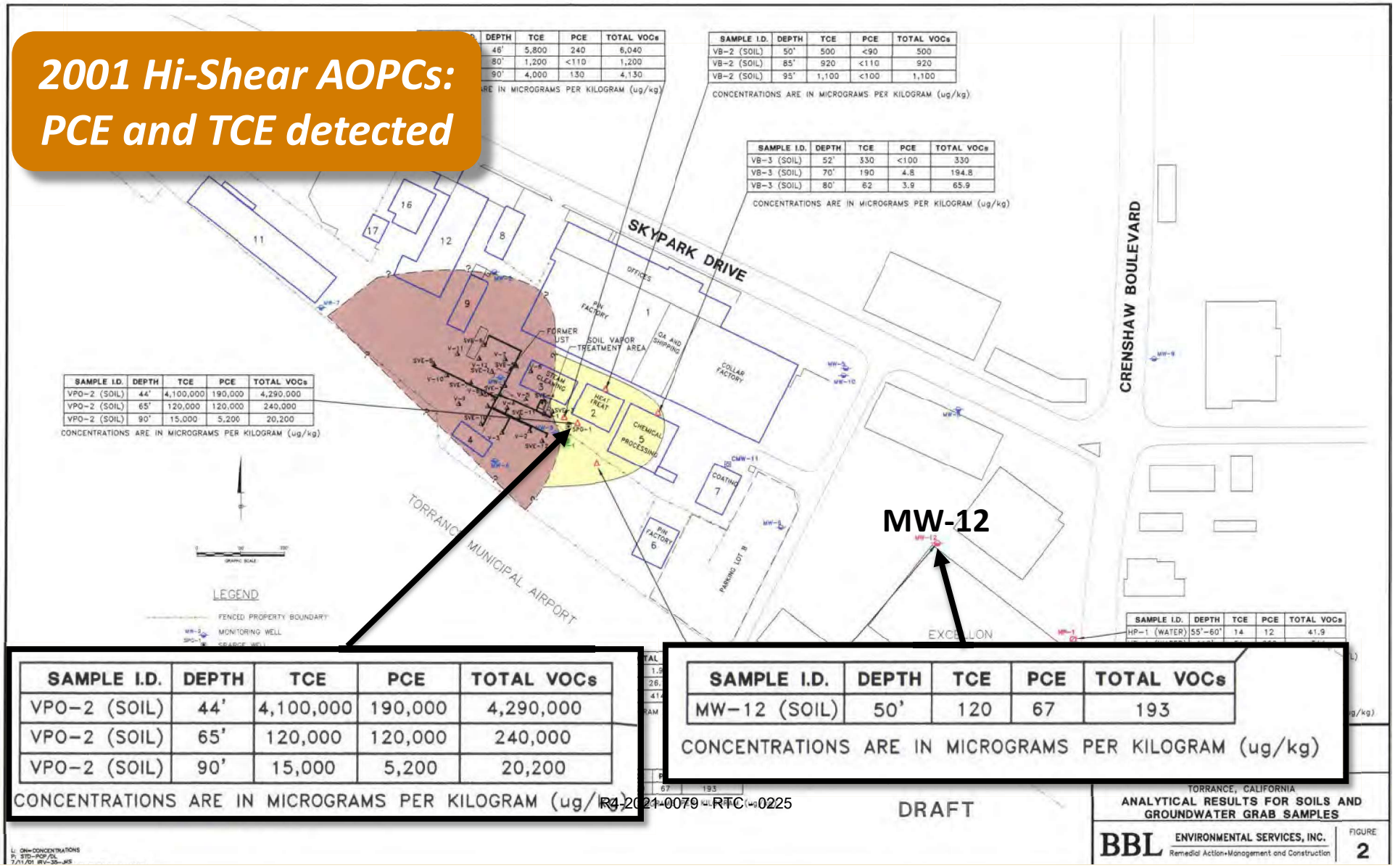
2001 SEP 21 – DEEP SOILS AND GROUNDWATER INVESTIGATION PROGRESS REPORT; BBL



R4-2021-0079 RTC 0224

2001 SEP 21 – DEEP SOILS AND GROUNDWATER INVESTIGATION PROGRESS REPORT; BBL

2001 Hi-Shear AOPCs: PCE and TCE detected



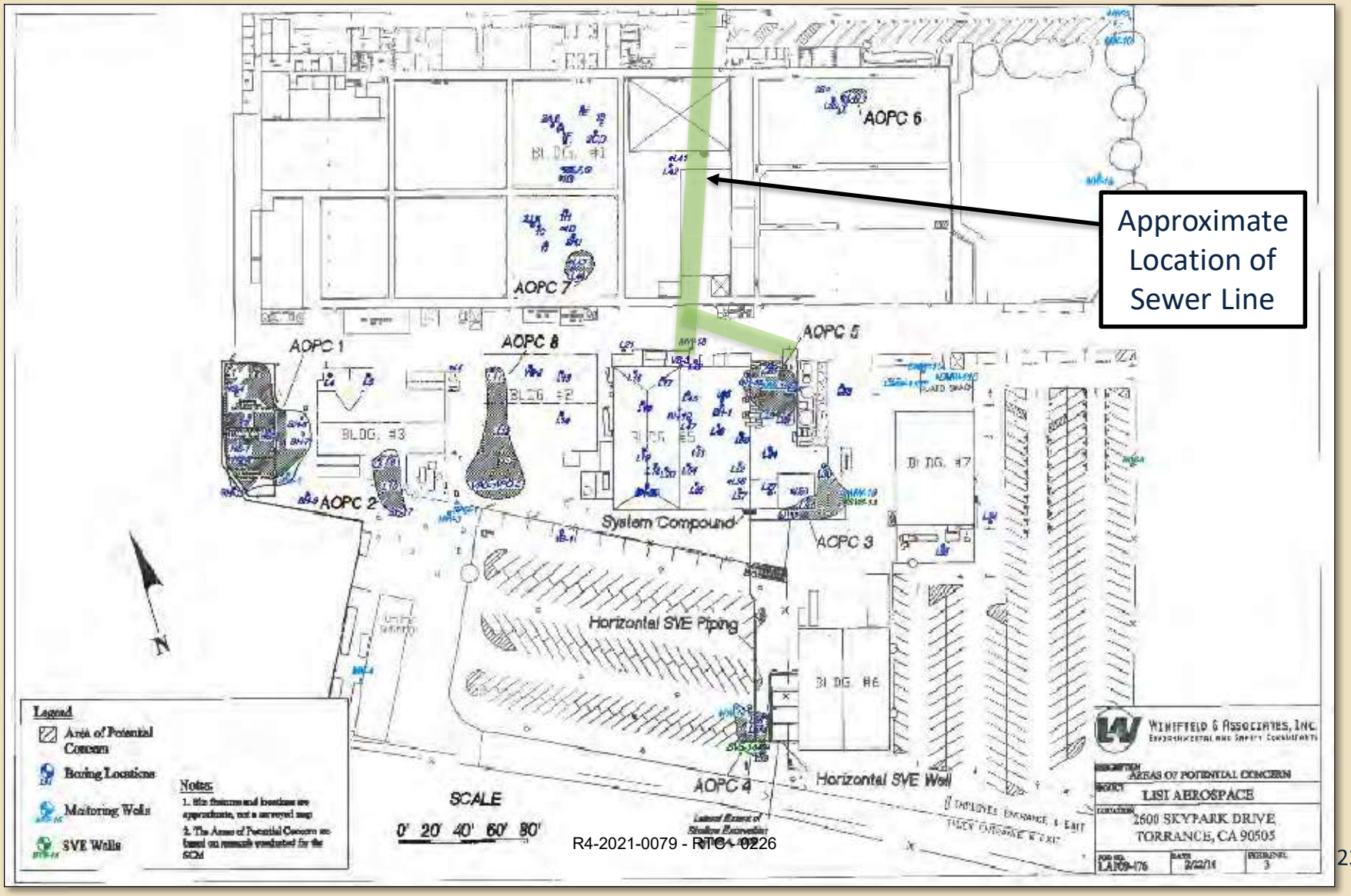
SAMPLE I.D.	DEPTH	TCE	PCE	TOTAL VOCs
VPO-2 (SOIL)	44'	4,100,000	190,000	4,290,000
VPO-2 (SOIL)	65'	120,000	120,000	240,000
VPO-2 (SOIL)	90'	15,000	5,200	20,200

CONCENTRATIONS ARE IN MICROGRAMS PER KILOGRAM (ug/kg)

SAMPLE I.D.	DEPTH	TCE	PCE	TOTAL VOCs
MW-12 (SOIL)	50'	120	67	193

CONCENTRATIONS ARE IN MICROGRAMS PER KILOGRAM (ug/kg)

AREAS OF POTENTIAL CONCERN (W&A 2010)



SOIL DATA AT AREAS OF POTENTIAL CONCERN (W&A 2010)

Exhibit 2-7. AOPC 1 Soil Data – Location of Former Waste Oil UST #1 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 10 feet & 25 to 50 Feet	11 to 840 (µg/kg)
TCE	5 to 70 feet	7 to 820 (µg/kg)
TPH	25 to 40 feet	84 to 1,034 (mg/kg)

Exhibit 2-8. AOPC 3 Soil Data – Southeast corner of Building 5 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 25 feet and 90 ft	30 to 1,600 µg/kg
TCE	5 to 45 feet and 60 to 90 ft	88 to 35,000 µg/kg
TPH	5 to 25 ft	380 to 2,372 mg/kg

Exhibit 2-9. AOPC 5 Soil Data – Northeast corner of Building 5 (W&A 2010)

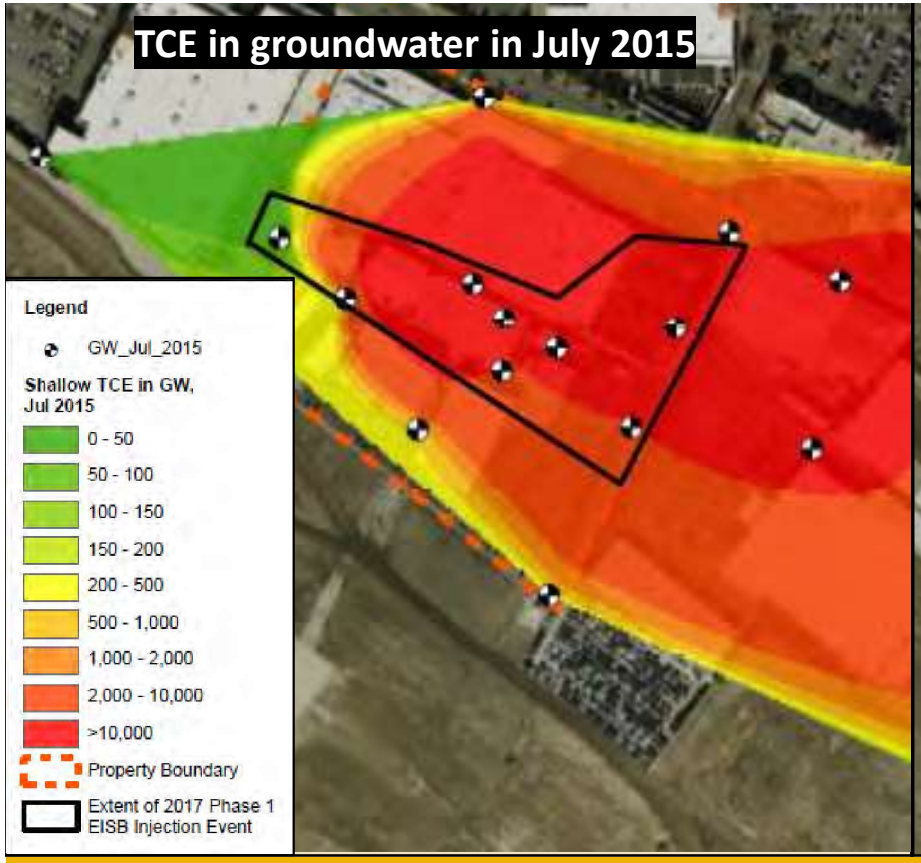
Contaminant	Depth found Below Grade	Concentration
PCE	5 to 15 feet	12 to 150 µg/kg
TCE	5 to 15 feet	18 to 360 µg/kg

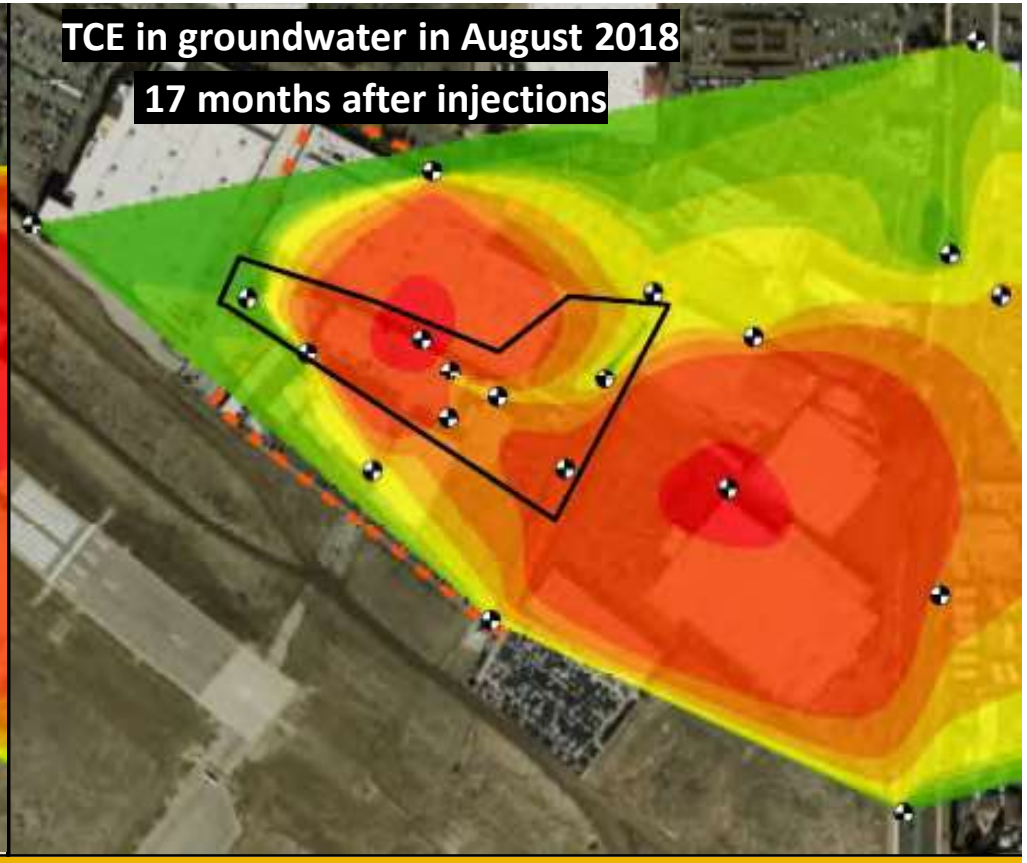
Exhibit 2-10. AOPC 7 Soil Data – Building 7 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 20 ft	50 to 250 µg/kg
TCE	5 to 20 ft	100 to 980 µg/kg
TPH	5 to 20 ft	230 to 9,461 mg/kg

HI-SHEAR SITE

- **Residual sources on Hi-Shear site need to be addressed with SVE and groundwater treatment**
  - **SVE system shut down for repairs in April 2018 and remains deactivated**
- **Cleanup and Abatement Order warranted to achieve progress towards remediation of soil and groundwater at Hi-Shear Site**





TCE AND PCE GROUNDWATER AND SOIL VAPOR PLUME

Kate Richards, PG, CHG
Senior Hydrogeologist

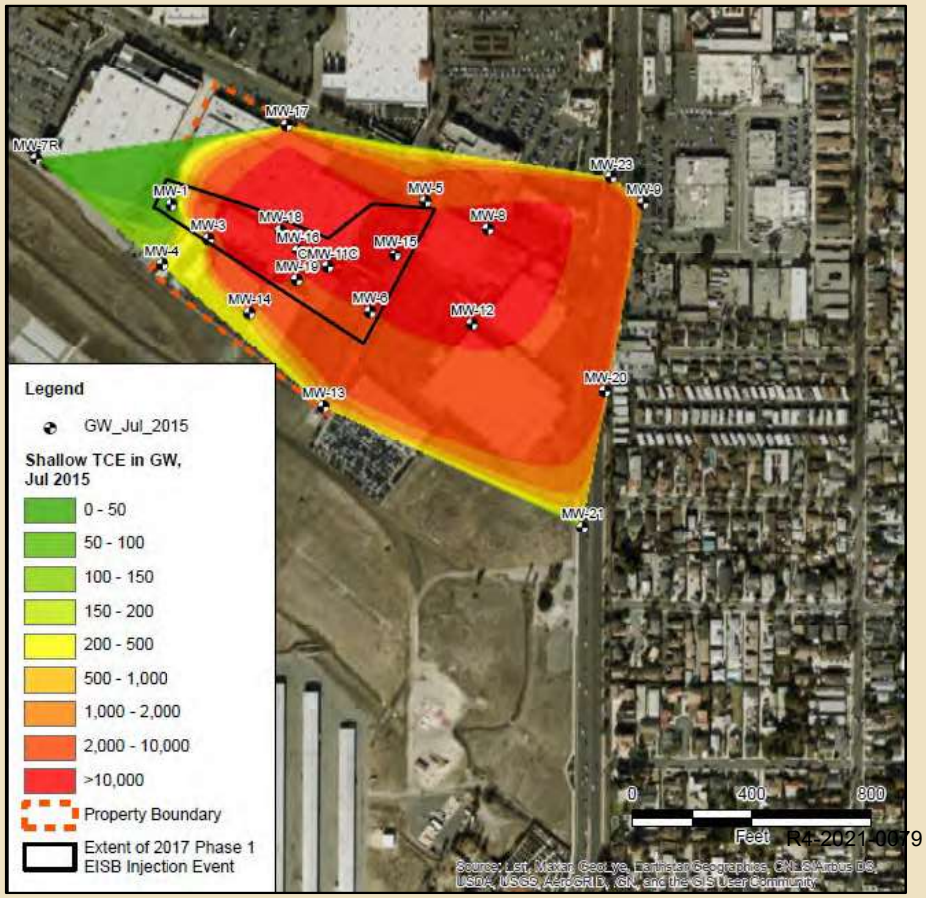
ON-SITE GROUNDWATER REMEDIATION

- August 12-22, 2013: Pilot-scale injections of 3DMe and HRC Primer through six injection wells near well MW-15 (Alta, 2014);
- October 13-15, 2015: Pilot-scale injections of 3DMe, CRS, and BDI Plus through the same six injection wells near well MW-15 (Alta, 2016); and
- January 31 to April 5, 2017: Full-scale (Phase I) injections of 3DMe, CRS, and BDI Plus through 77 injection wells (Alta, 2017).

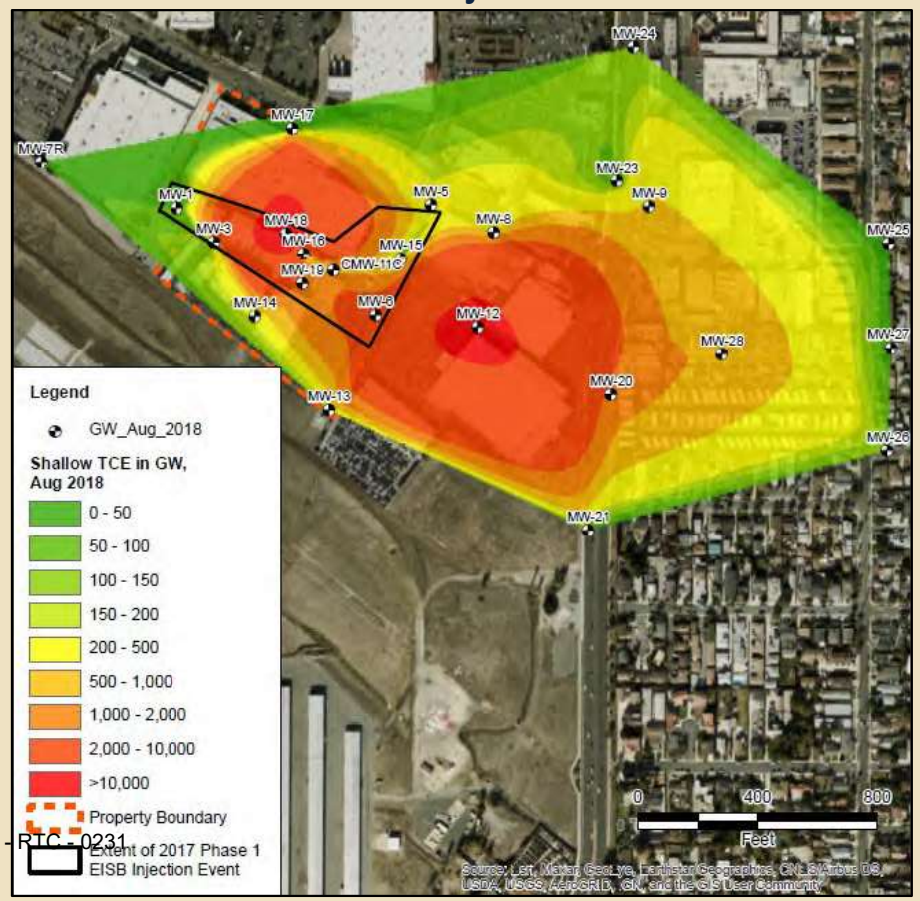
GROUNDWATER REMEDIAL ACTION HAS CREATED A TWO-LOBE PLUME

- **Groundwater Remedial Action Created the Current Bifurcated Groundwater Plume**
- **Full-scale (Phase I) injections January 31 to April 5, 2017 full-scale (Phase I) injections**

TCE in groundwater in July 2015

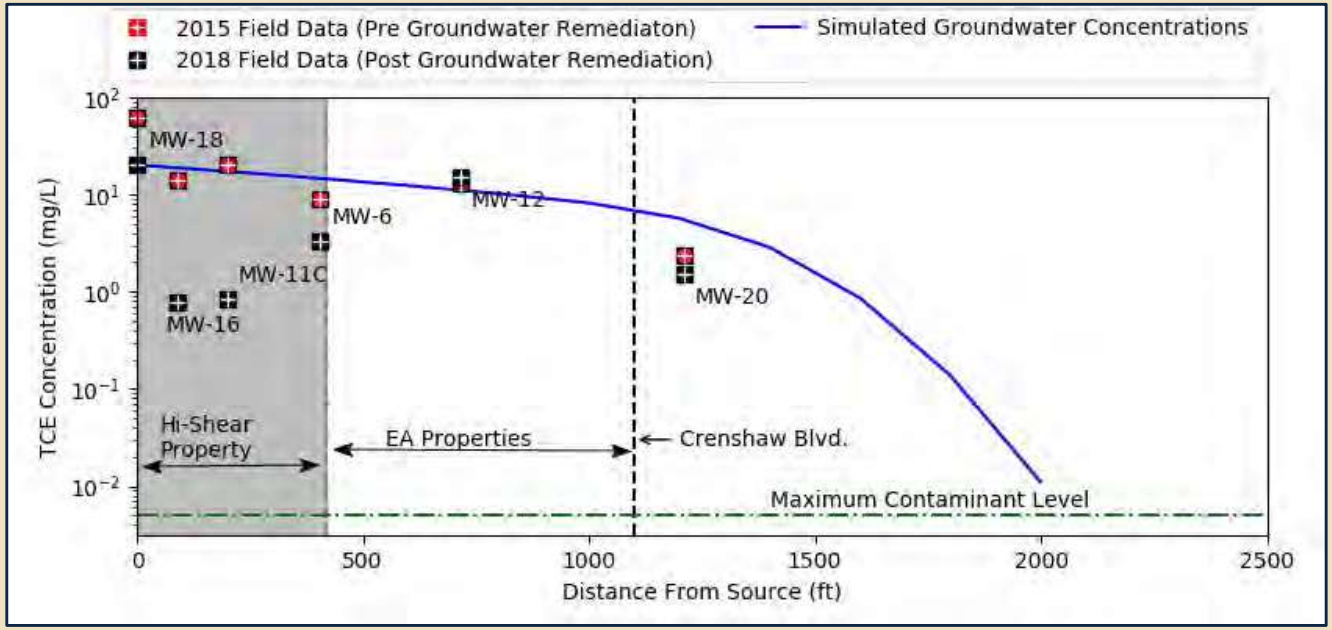


TCE in groundwater in August 2018 – 17 months after injections



TCE PLUME MODELING

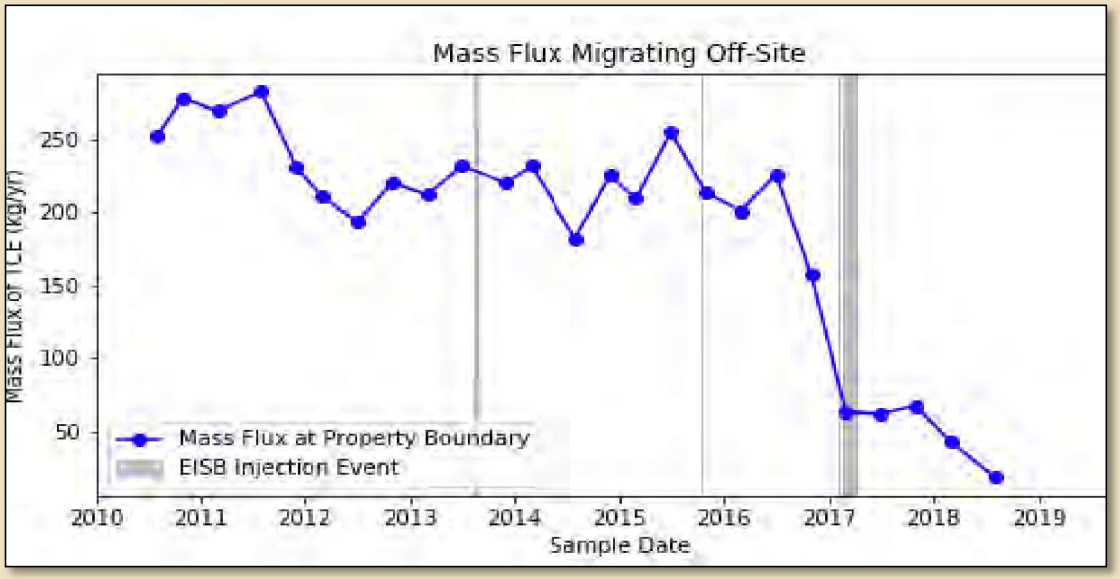
TCE Plume Modeling of TCE shows a TCE source on the Hi-Shear Site in the vicinity of MW-18

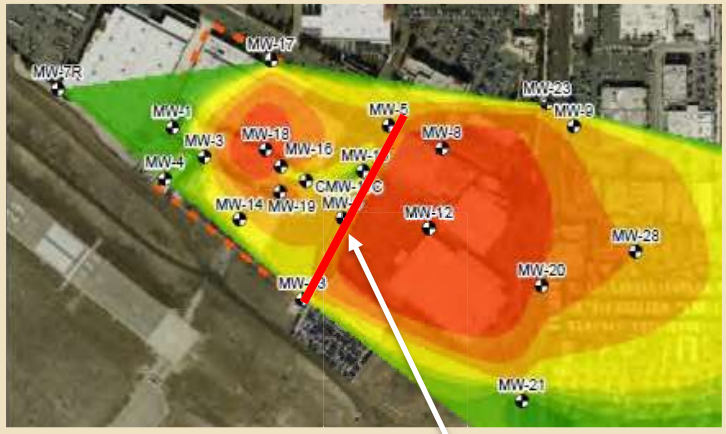


- The BIOCHLOR Natural Attenuation Decision Support System (Aziz et al., 2000) model was used to simulate TCE.
- Simulated TCE profile representing 30 years after release on Hi-Shear Property.
- Prior to the full-scale injection events in 2017 (red squares), closely match the modeled TCE plume, indicating that the observed monitoring data are consistent with a single-source TCE plume migrating from the Hi-Shear property.

MASS FLUX MIGRATION OFF -SITE

TCE Mass Flux is leaving the Hi-Shear Site across the EA Properties Boundary

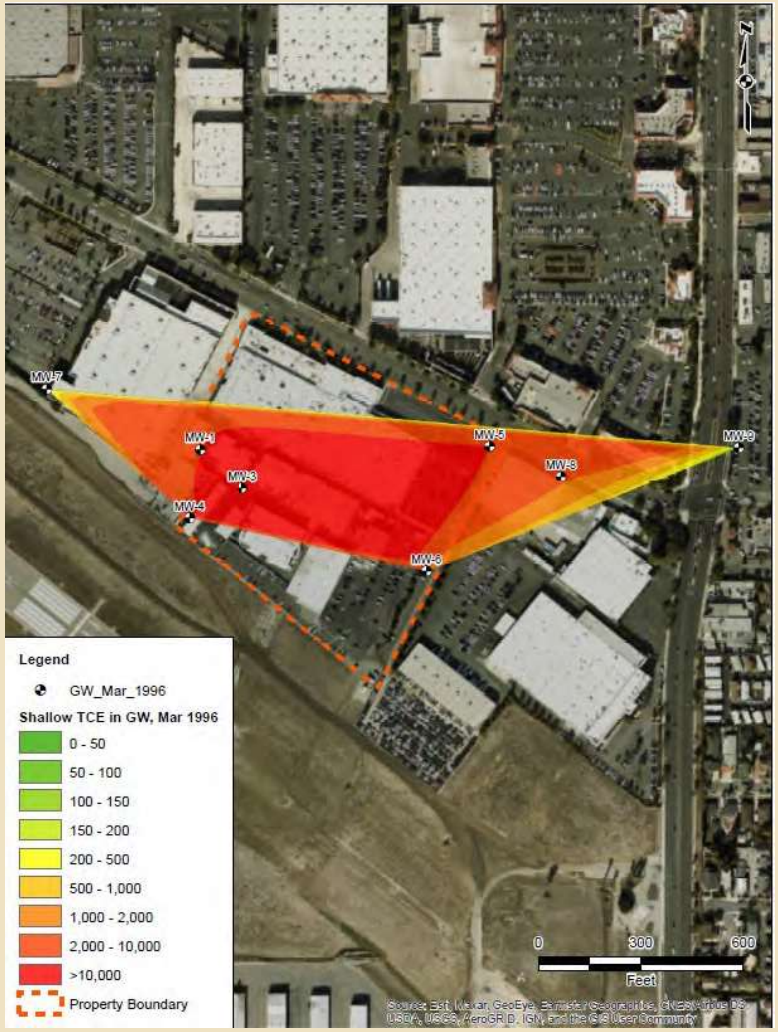




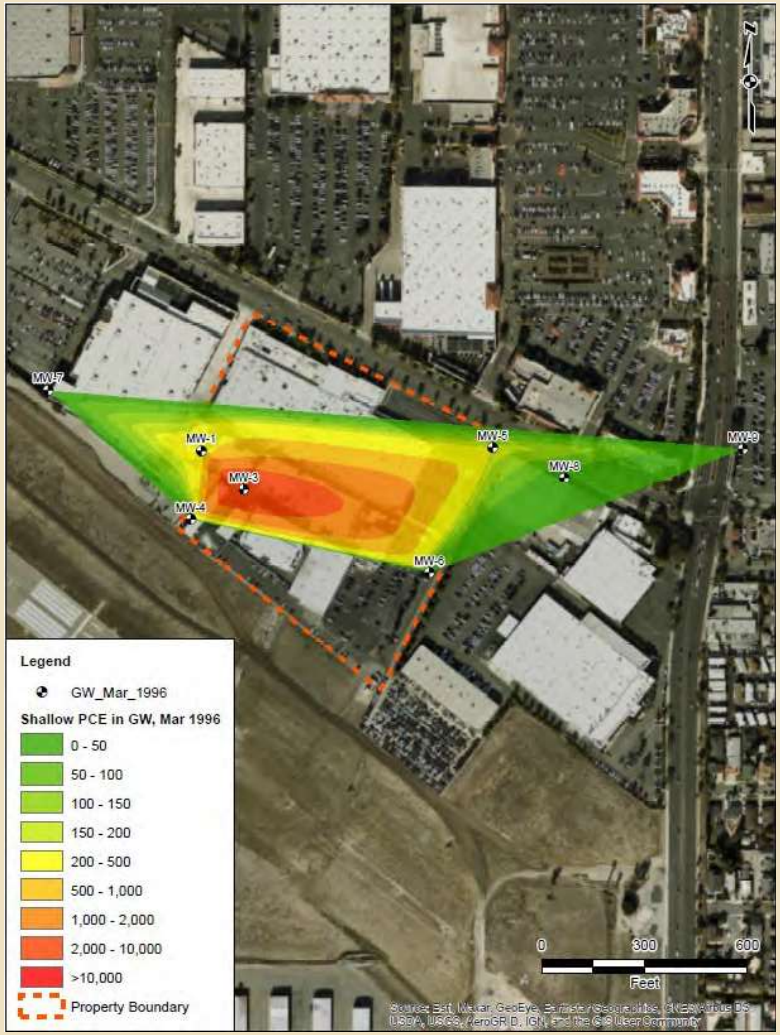
- Using the Mass Flux Toolkit, the TCE Mass Flux leaving the Hi-Shear Site was calculated.
- 20 to 70 kg of TCE continue to migrate from the Hi-Shear Site annually.
- The rate of TCE migrating off-Site will continue to increase as the high TCE concentrations upgradient, near MW-18 migrate downgradient.

TCE AND PCE IN ~90’ BGS GROUNDWATER – 1996

(Concentrations in micrograms per liter)



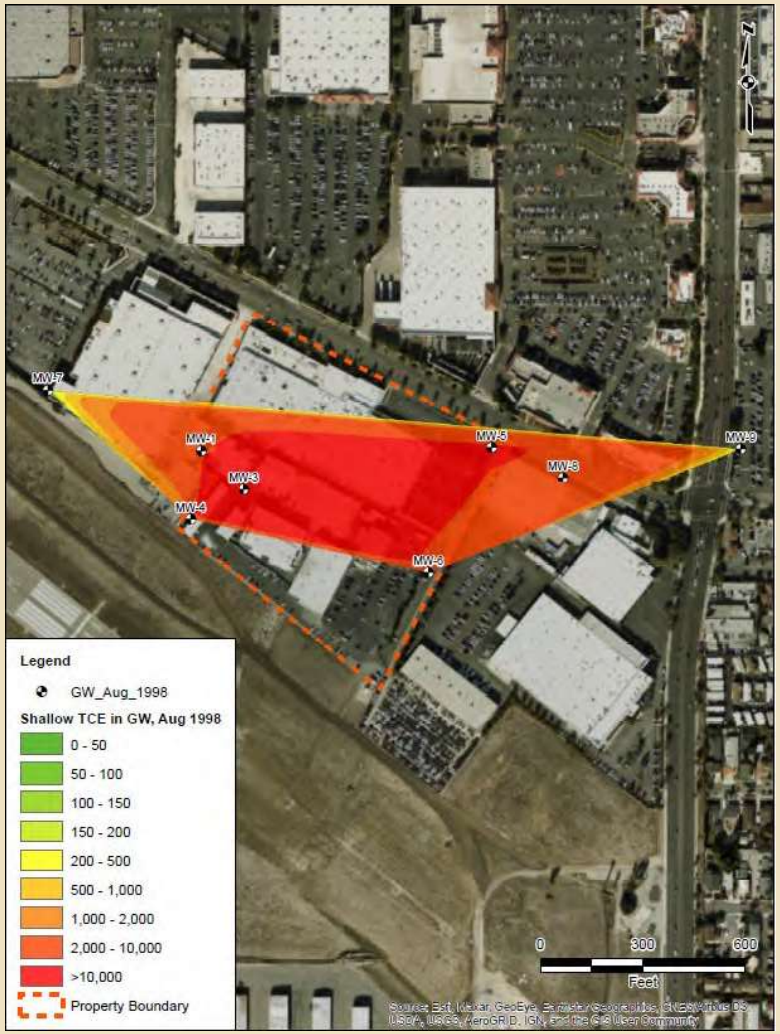
TCE March 1996



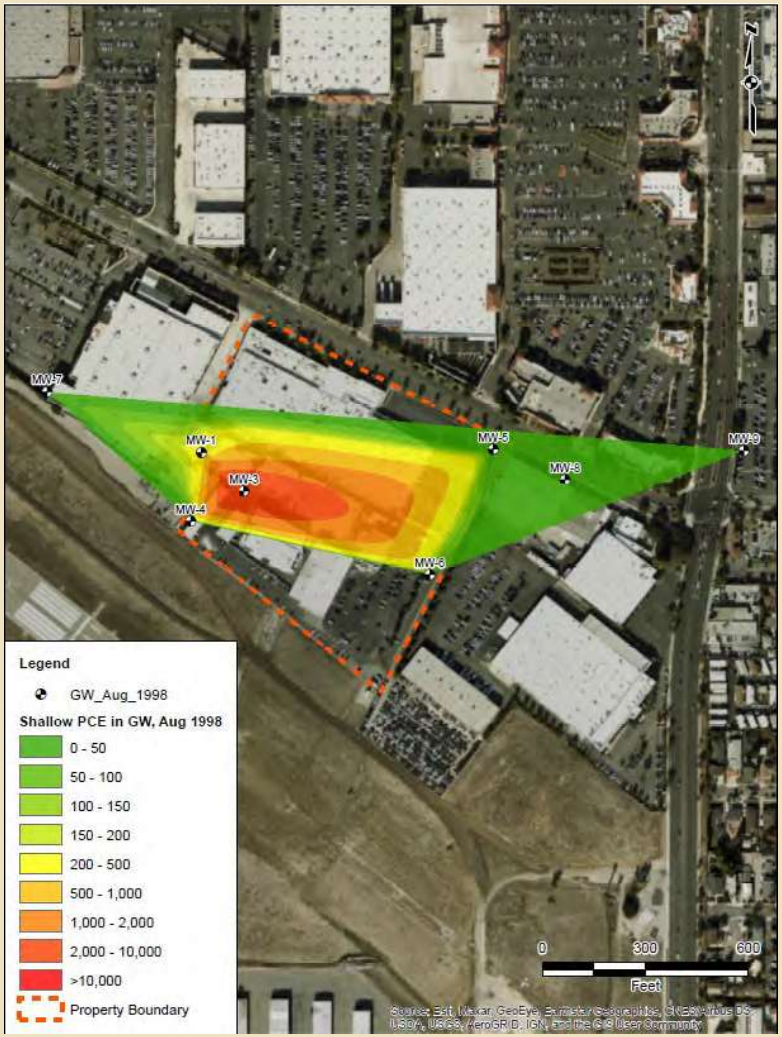
PCE March 1996

TCE AND PCE IN ~90’ BGS GROUNDWATER – 1998

(Concentrations in micrograms per liter)



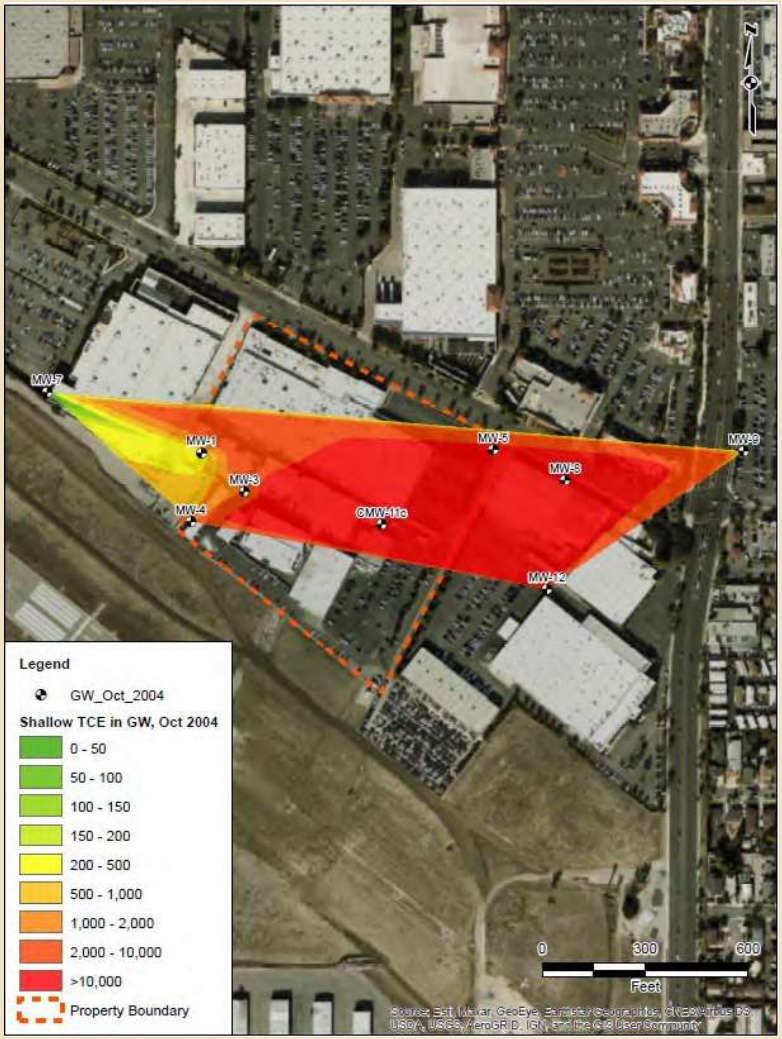
TCE August 1998



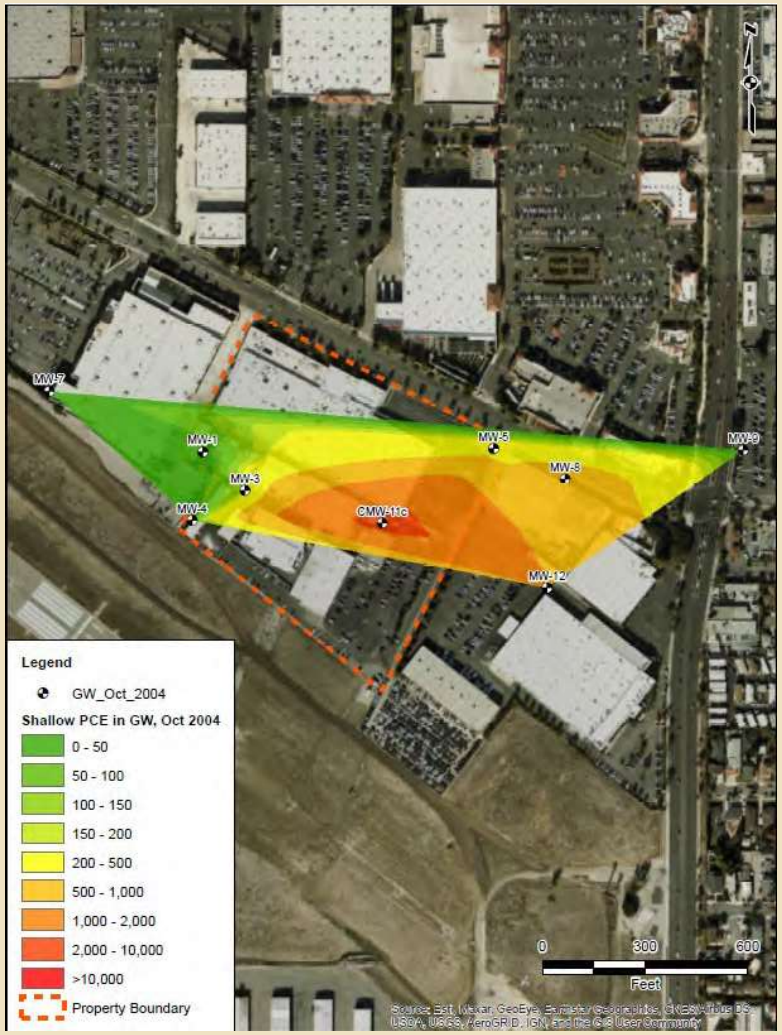
PCE August 1998

TCE AND PCE IN ~90’ BGS GROUNDWATER – 2004

(Concentrations in micrograms per liter)



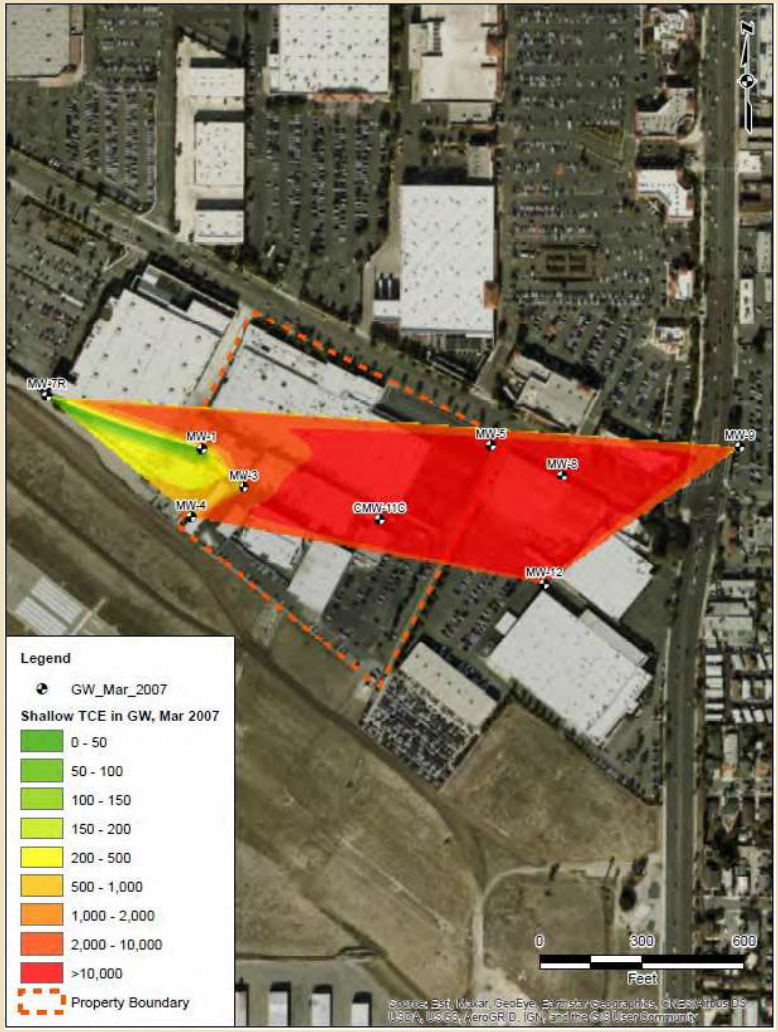
TCE October 2004



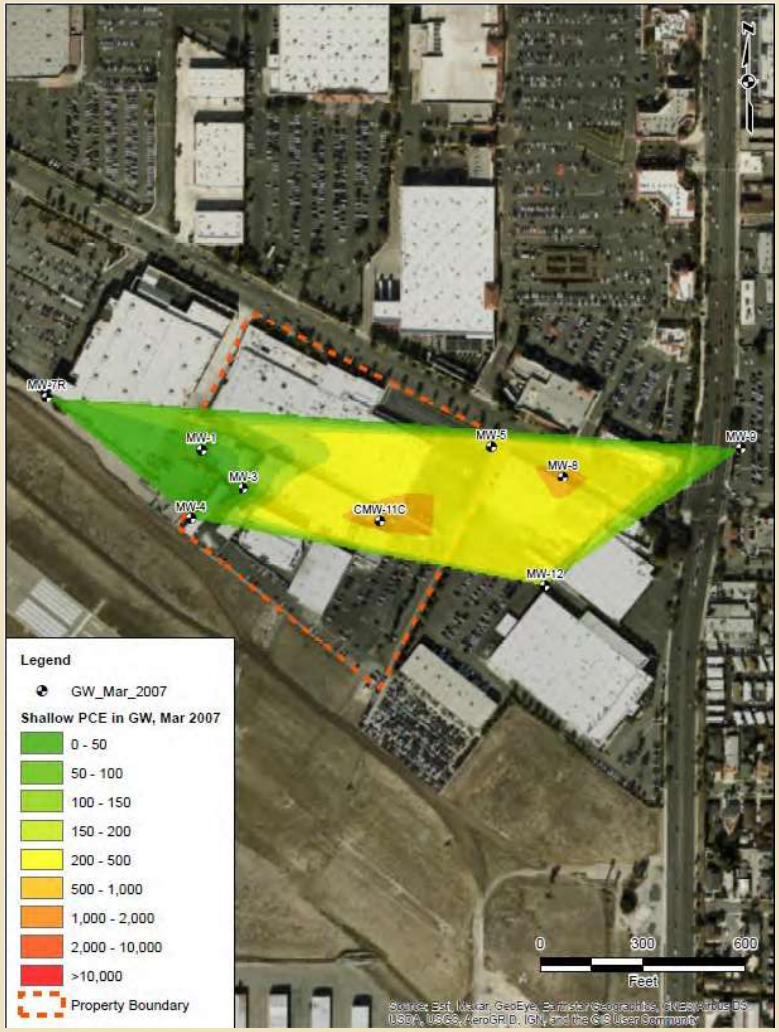
PCE October 2004

TCE AND PCE IN ~90’ BGS GROUNDWATER – 2007

(Concentrations in micrograms per liter)



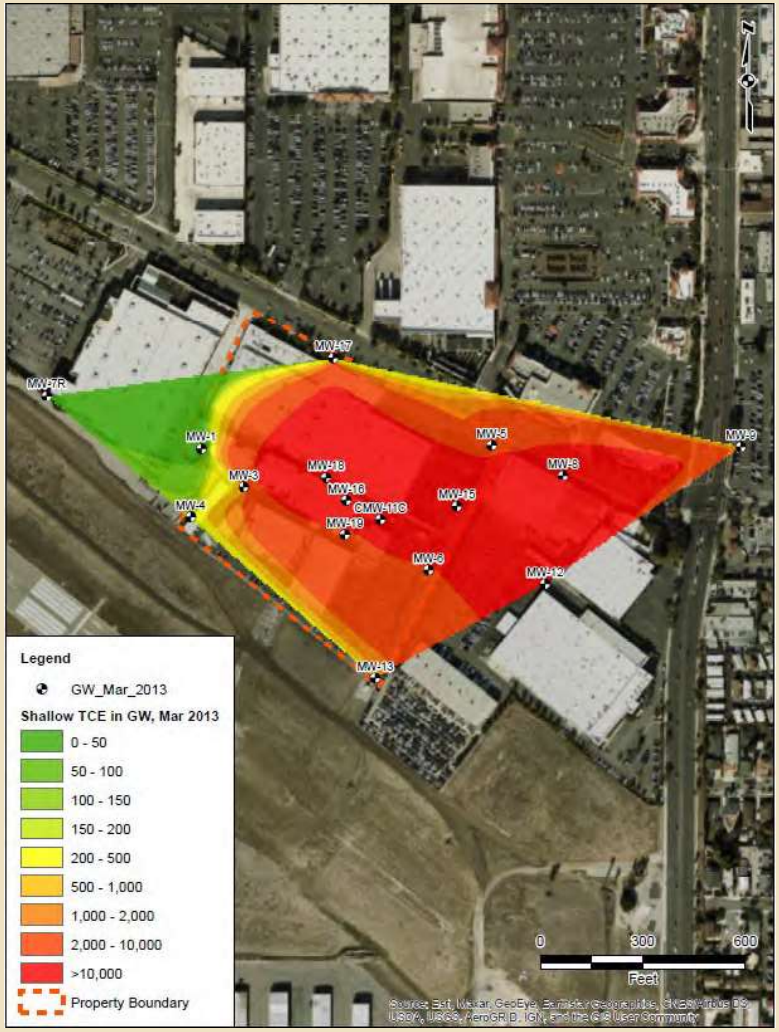
TCE March 2007



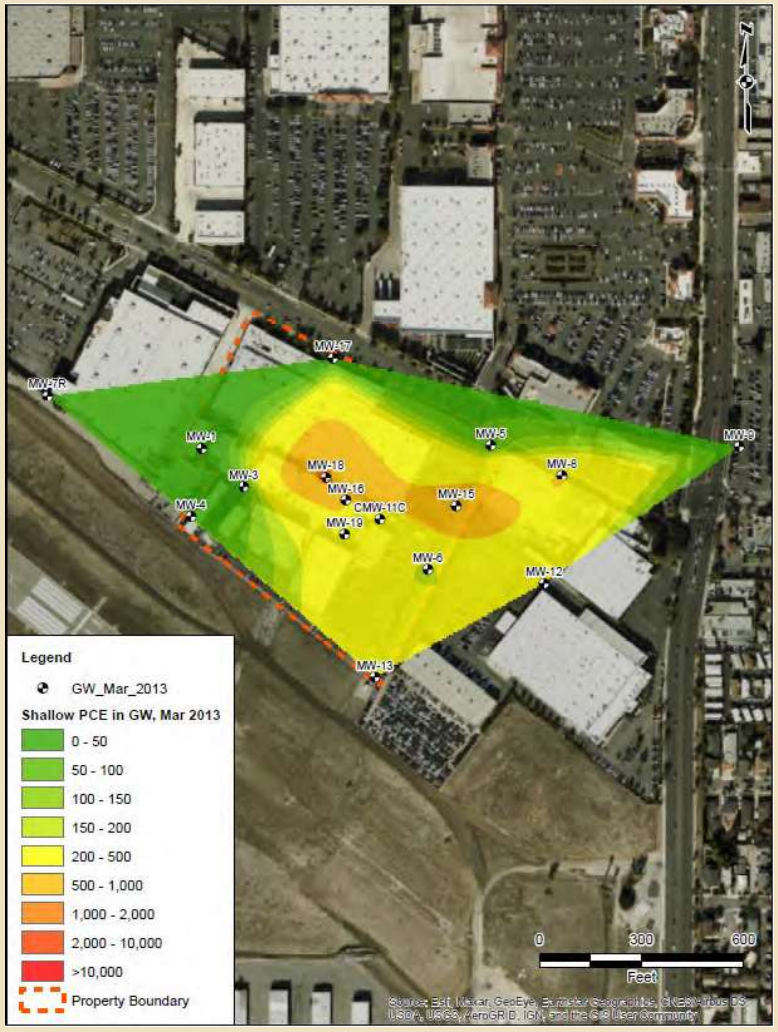
PCE March 2007

TCE AND PCE IN ~90’ BGS GROUNDWATER – 2013

(Concentrations in micrograms per liter)



TCE March 2013

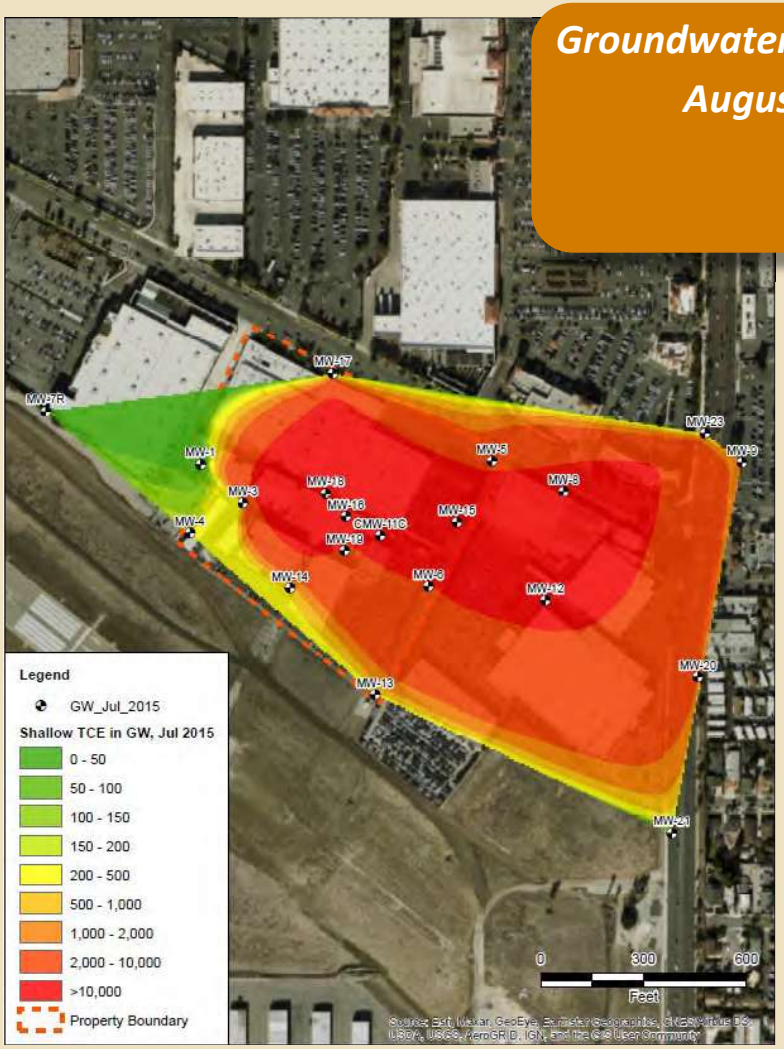


PCE March 2013

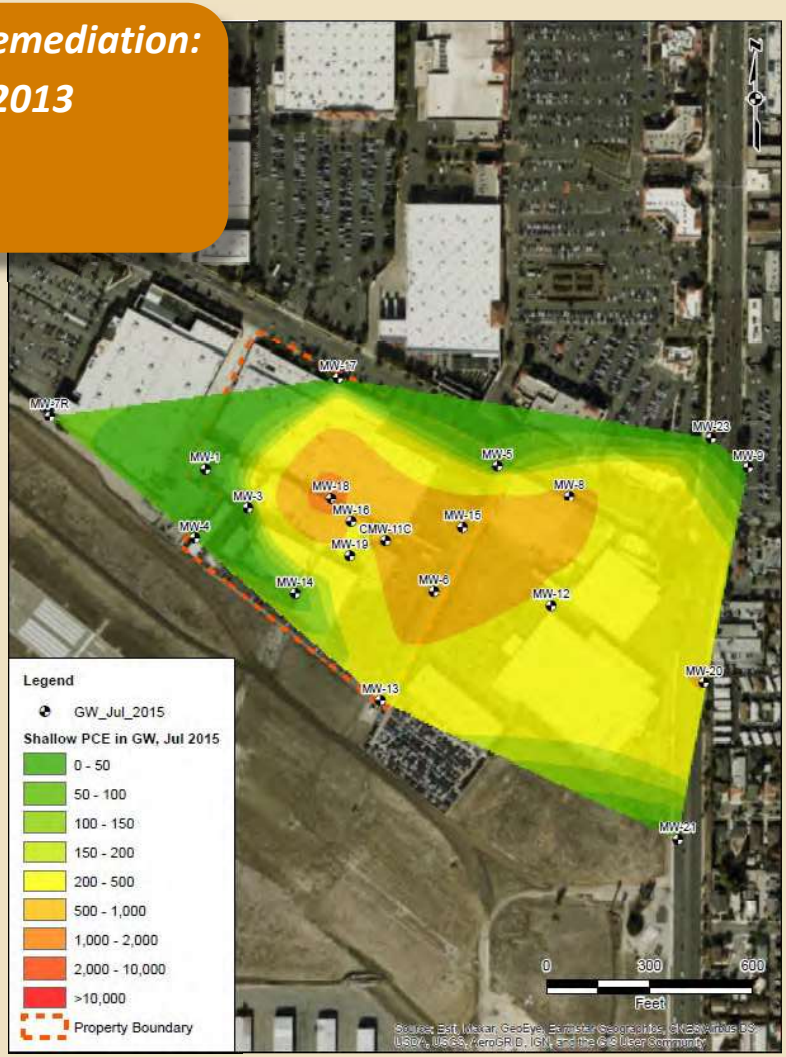
TCE AND PCE IN ~90’ BGS GROUNDWATER – 2015

(Concentrations in micrograms per liter)

Groundwater remediation: August 2013



TCE July 2015



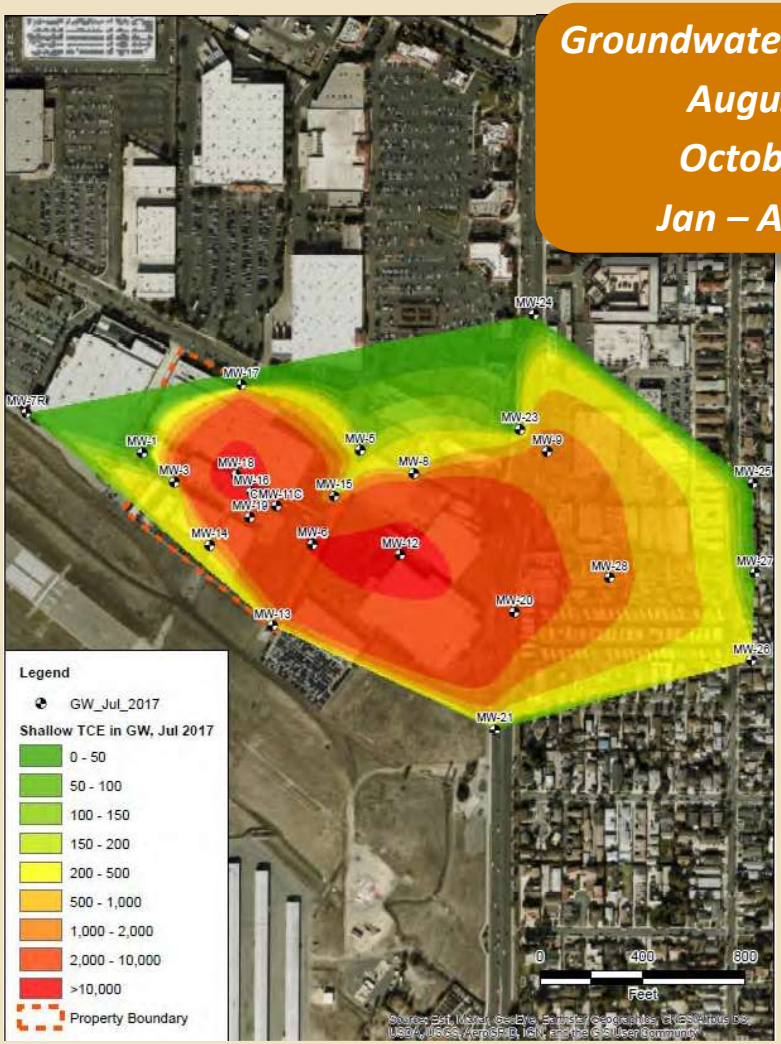
PCE July 2015

R4-2021-0079 - RTC - 0239

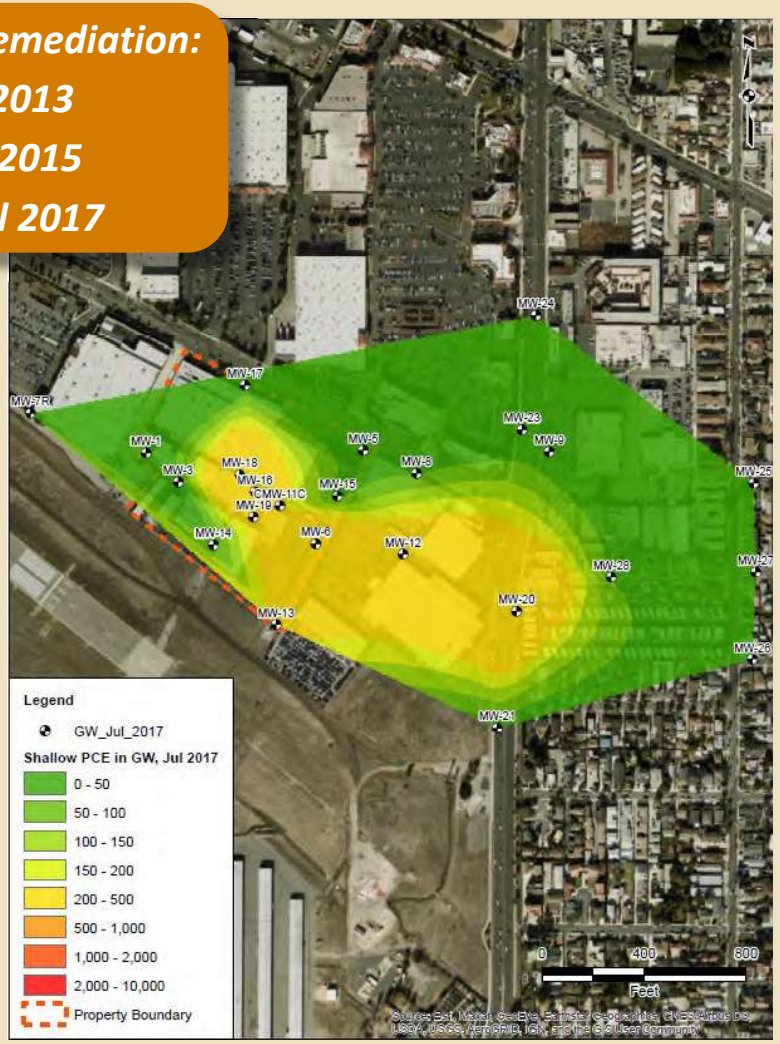
TCE AND PCE IN ~90’ BGS GROUNDWATER - 2017

(Concentrations in micrograms per liter)

Groundwater remediation:
August 2013
October 2015
Jan – April 2017



TCE July 2017
(2 months after injections)

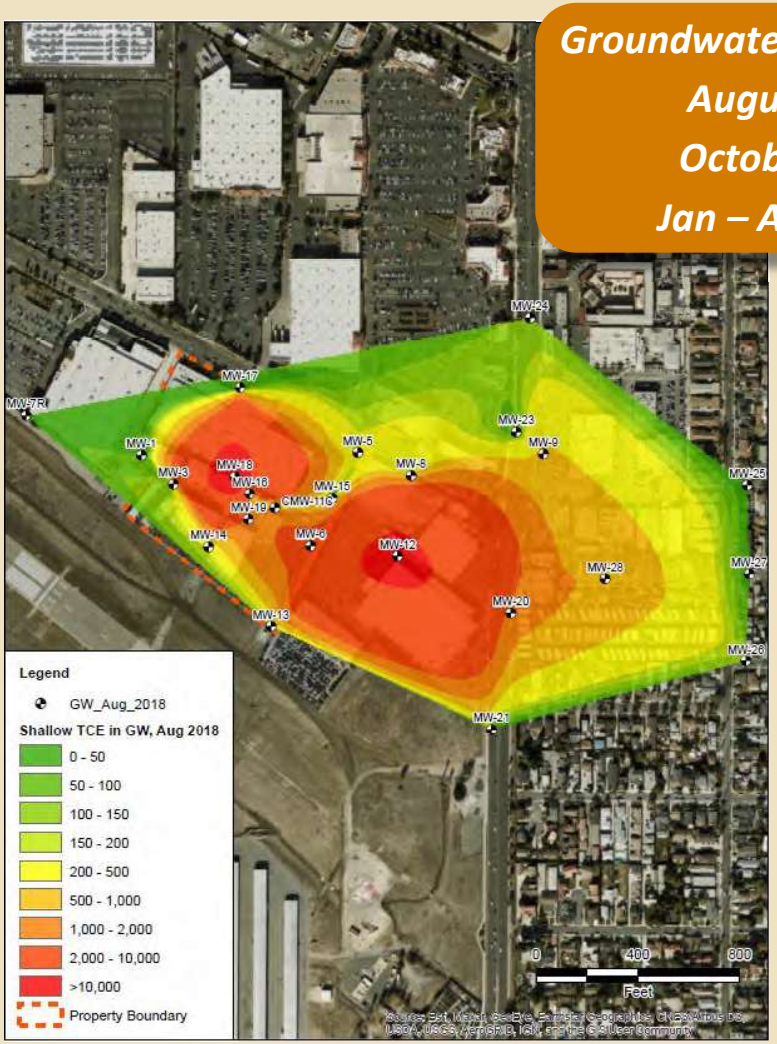


PCE July 2017
(2 months after injections)

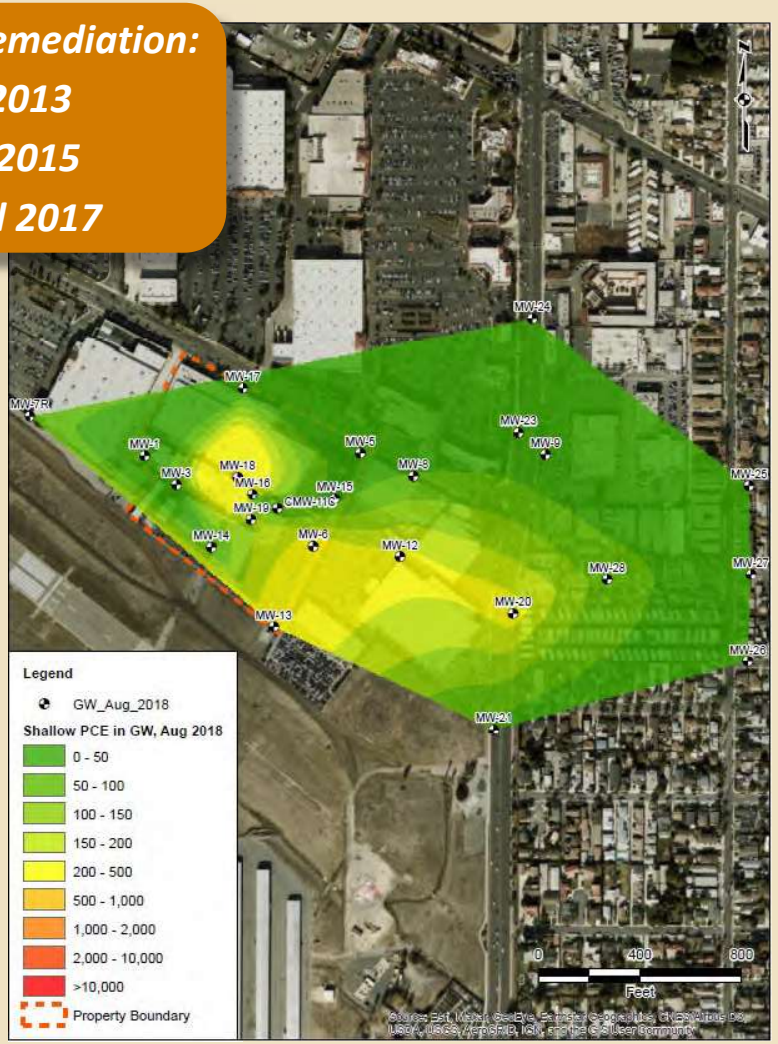
TCE AND PCE IN ~90’ BGS GROUNDWATER - 2018

(Concentrations in micrograms per liter)

Groundwater remediation:
August 2013
October 2015
Jan – April 2017



TCE August 2018
(17 months after injections)

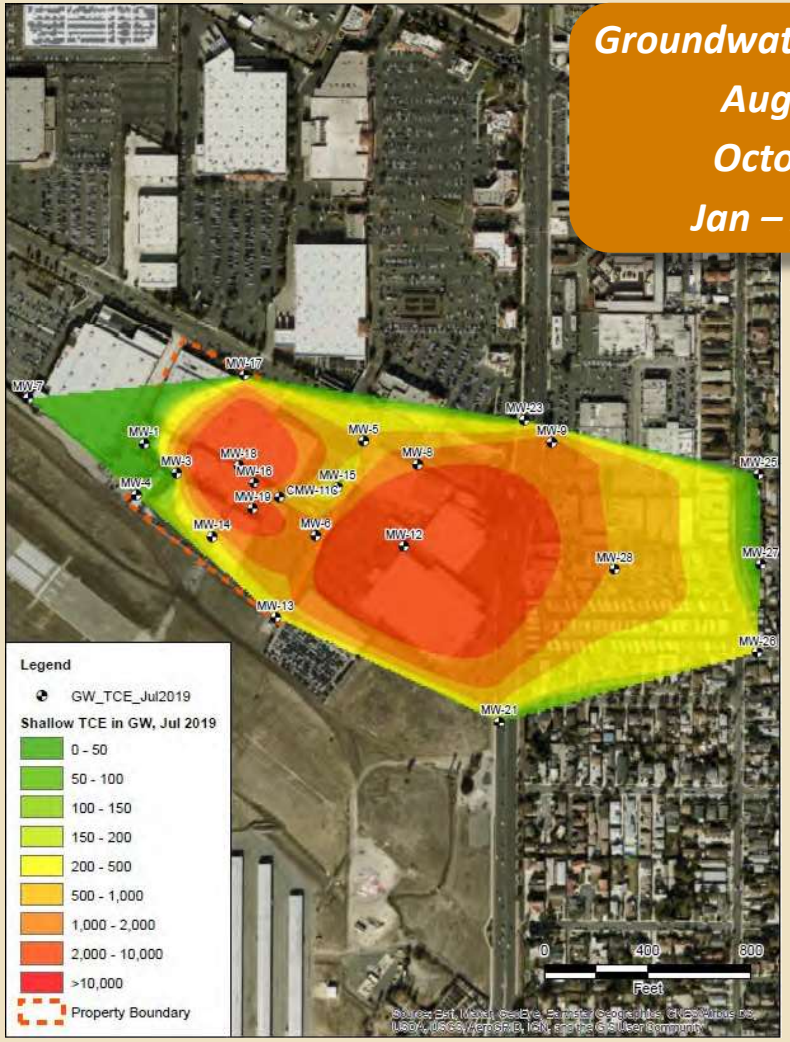


PCE August 2018
(17 months after injections)

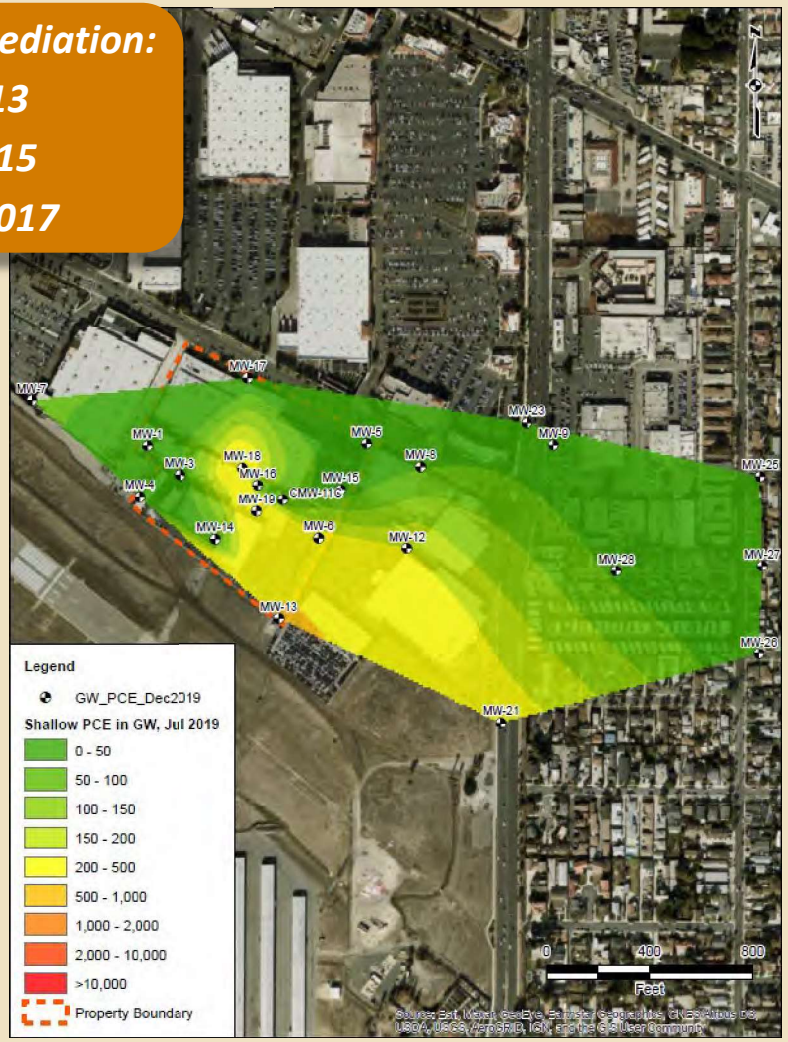
TCE AND PCE IN ~90’ BGS GROUNDWATER - 2019

(Concentrations in micrograms per liter)

Groundwater remediation:
August 2013
October 2015
Jan – April 2017



TCE July 2019
(27 months after injections)

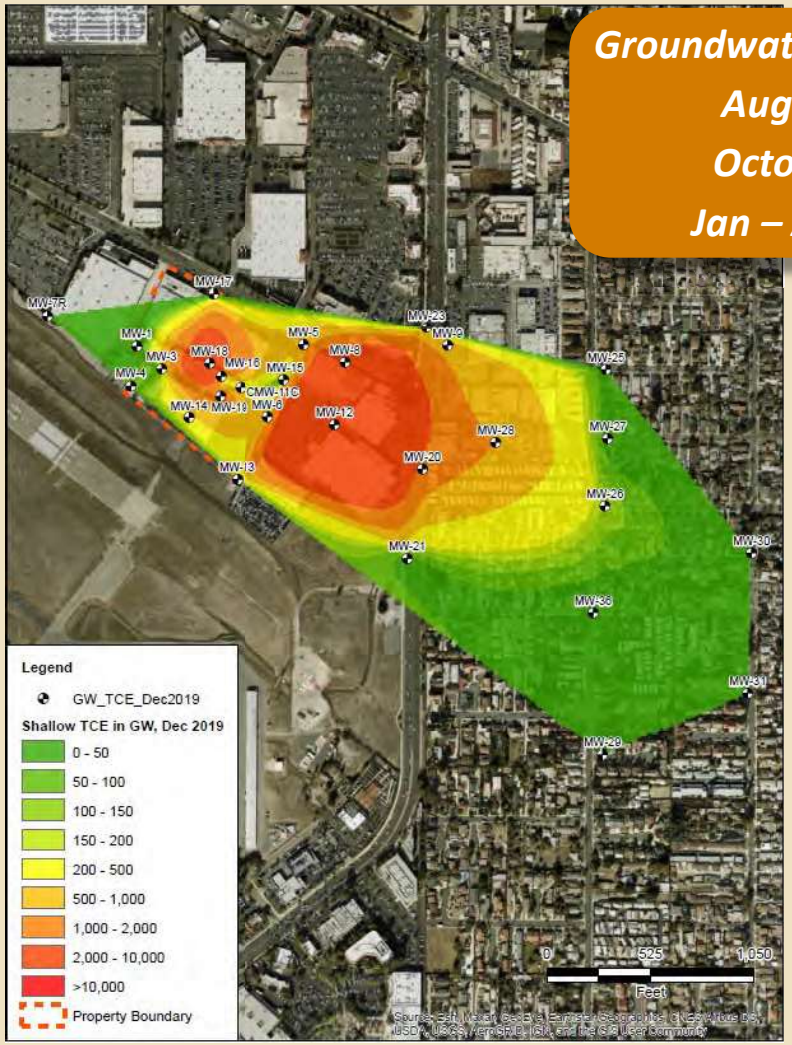


PCE July 2019
(27 months after injections)

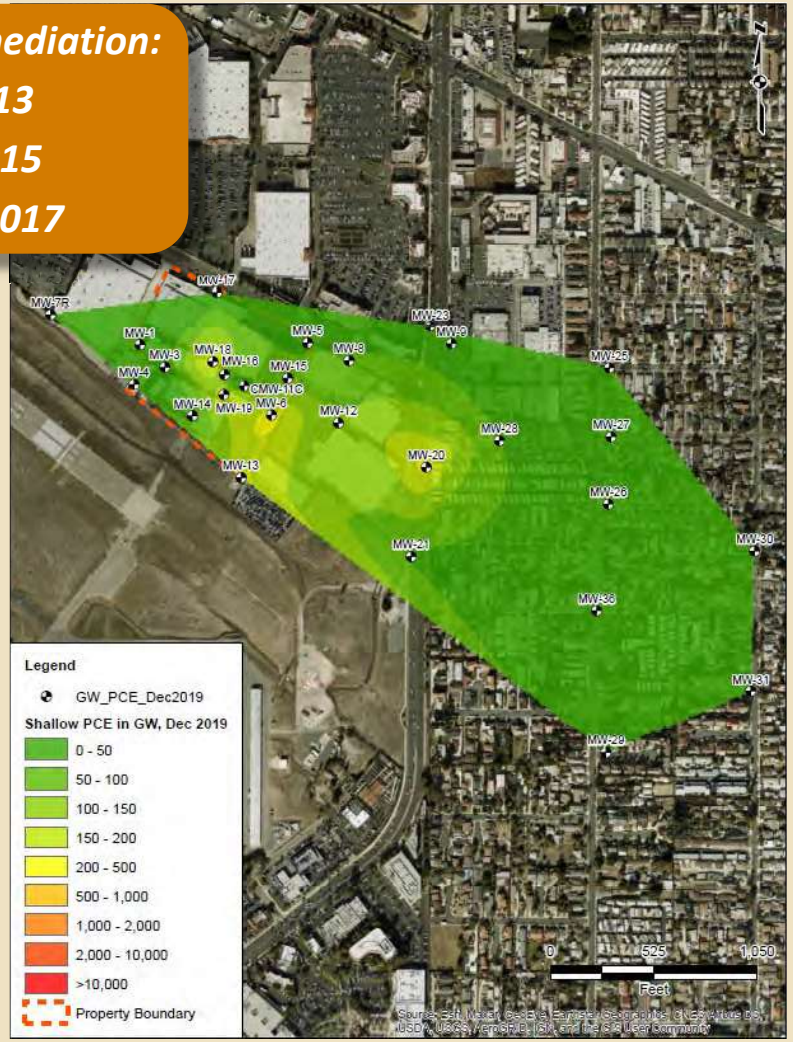
TCE AND PCE IN ~90’ BGS GROUNDWATER - 2019

(Concentrations in micrograms per liter)

Groundwater remediation:
August 2013
October 2015
Jan – April 2017



TCE December 2019
(33 months after injections)



PCE December 2019
(33 months after injections)

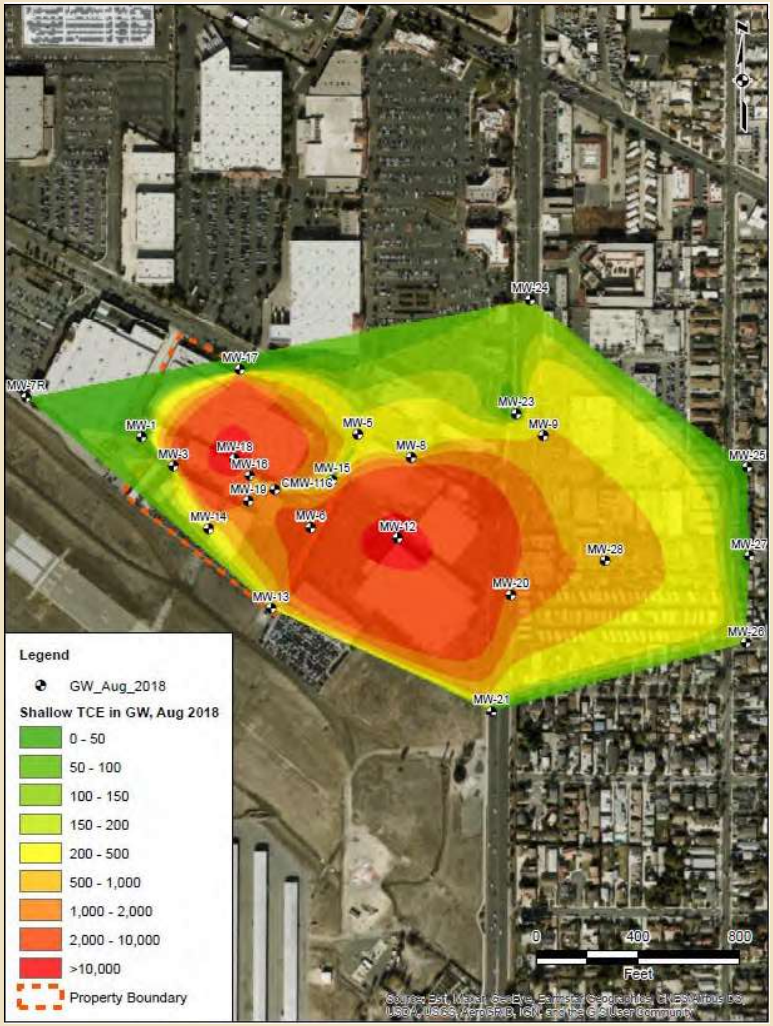
SOIL VAPOR AND GROUNDWATER IMPACTS ASSOCIATED WITH HI-SHEAR SITE

- Single plume emanating from Hi-Shear Site
- Groundwater remedial action bifurcated the plume creating the current two-lobe groundwater plume
- Observed TCE concentrations match TCE plume modeling showing a single TCE source on the Hi-Shear Site in the vicinity of MW-18
- TCE mass flux is leaving the Hi-Shear Site across the EA Properties boundary
- Incomplete remediation of soil and groundwater at the Hi-Shear Site

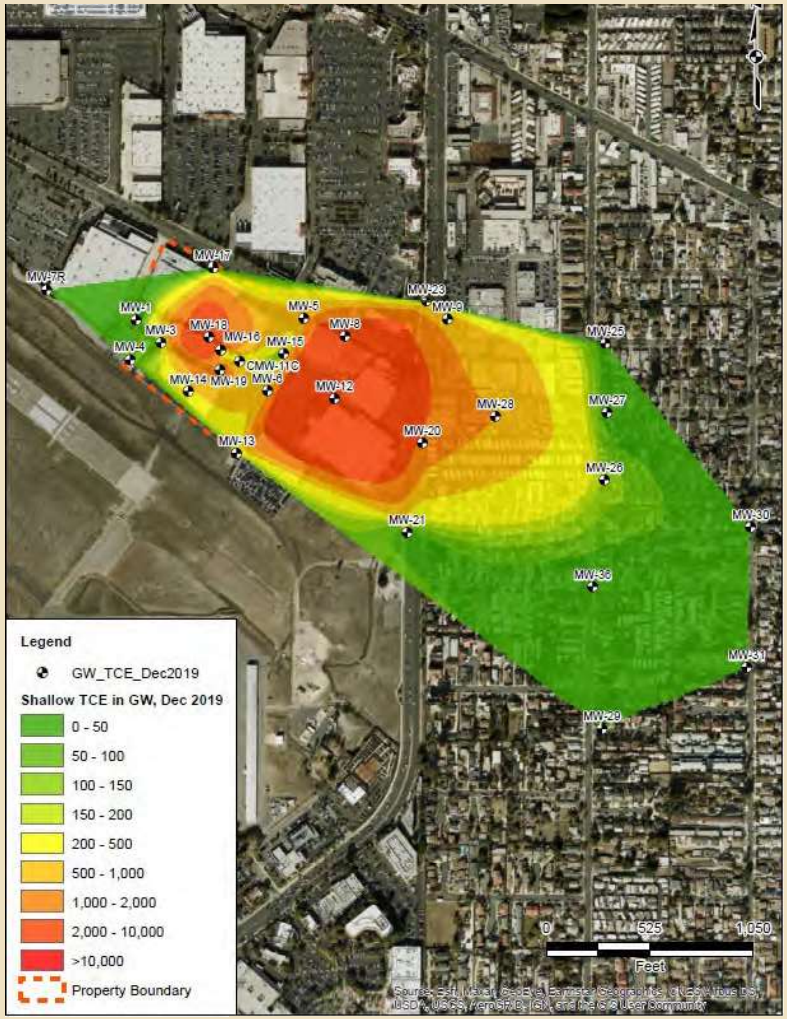
RECENT SOIL VAPOR DATA

Peter Scaramella
Senior Risk Assessor

RECENT TCE CONCENTRATION TREND IN GROUNDWATER



TCE August 2018
(17 months after injections)

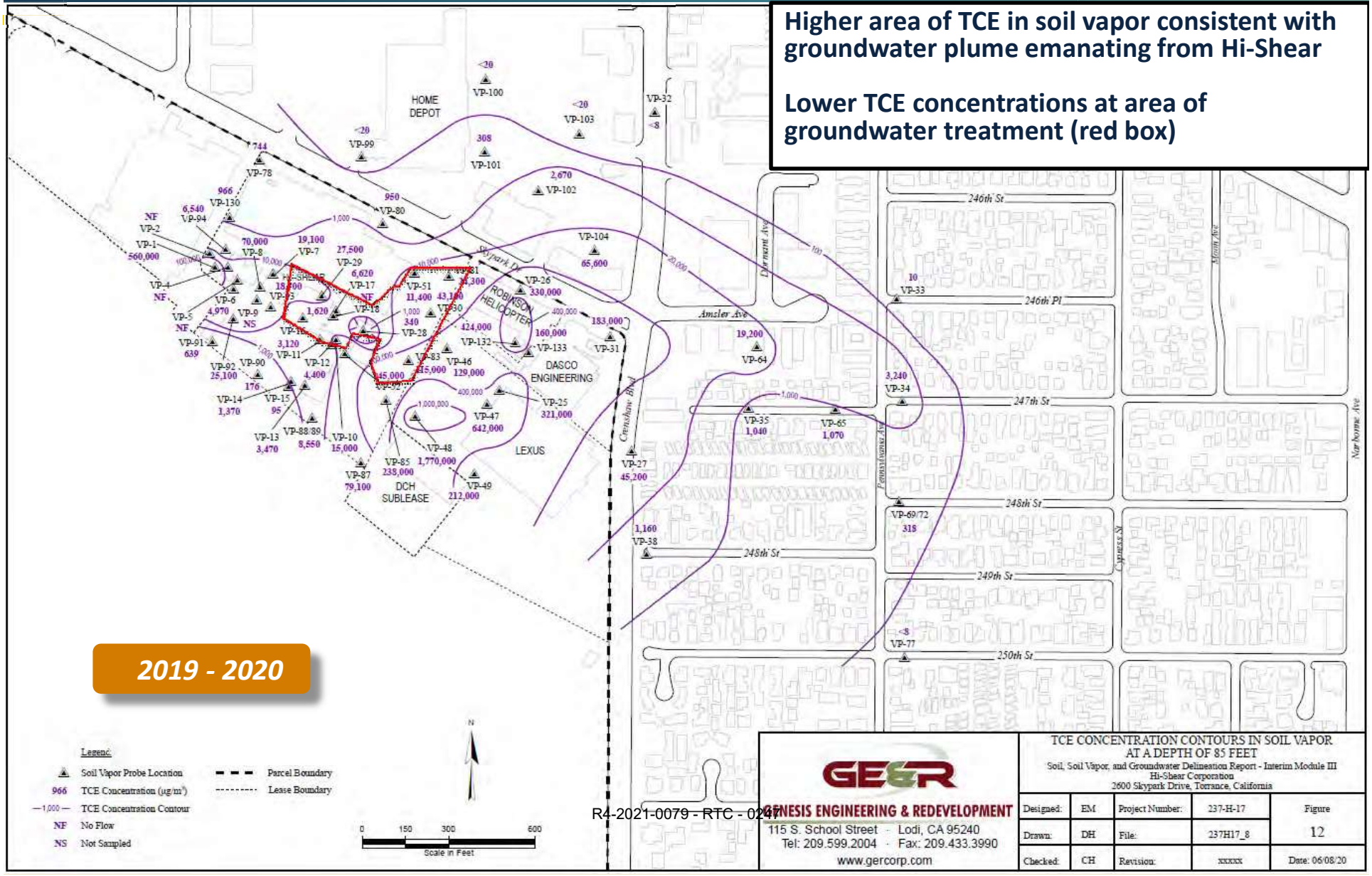


TCE December 2019
(33 months after injections)

TCE SOIL VAPOR DATA – 85 FEET BGS

Higher area of TCE in soil vapor consistent with groundwater plume emanating from Hi-Shear

Lower TCE concentrations at area of groundwater treatment (red box)

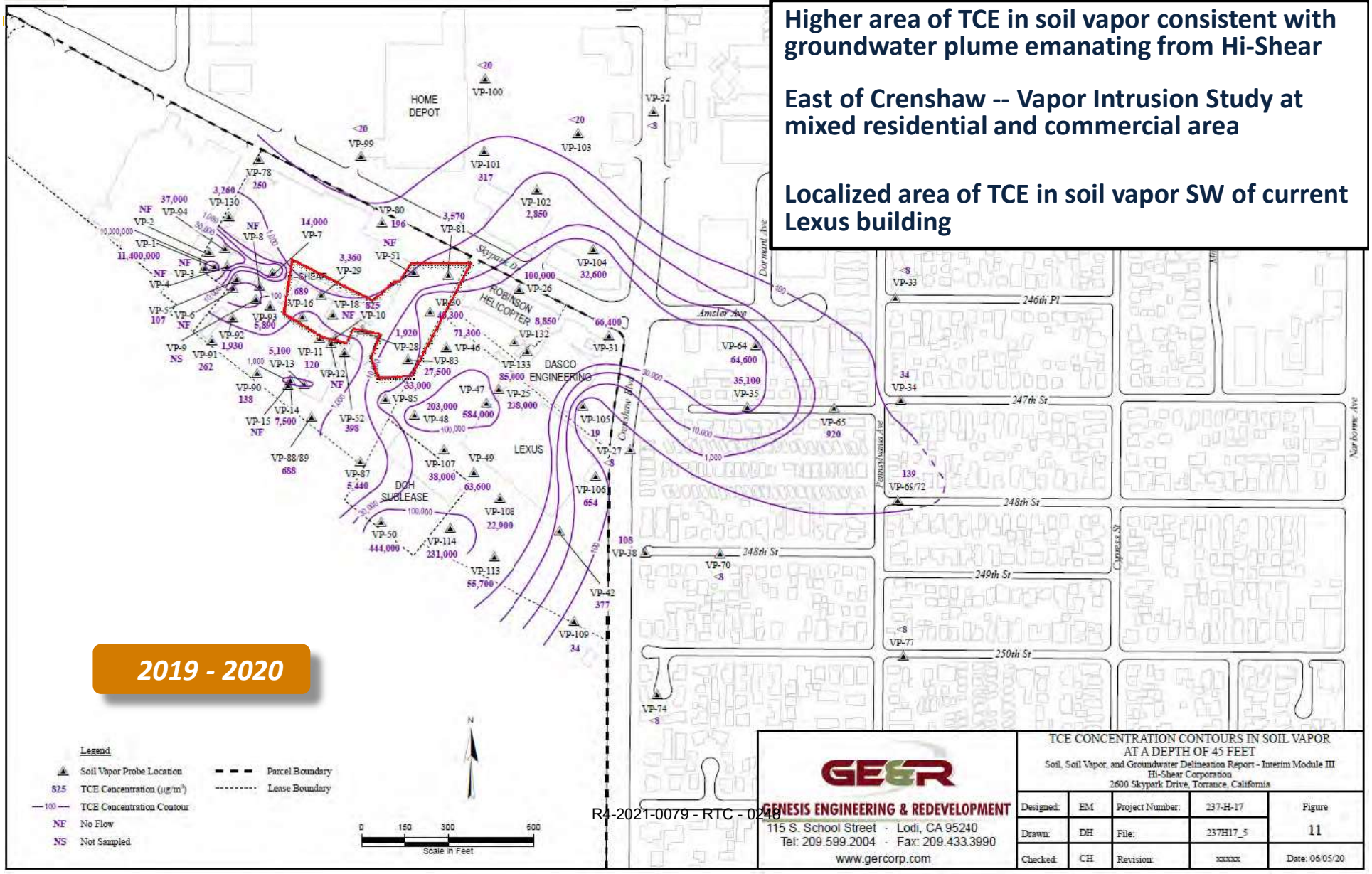


TCE SOIL VAPOR DATA – 45 FEET BGS

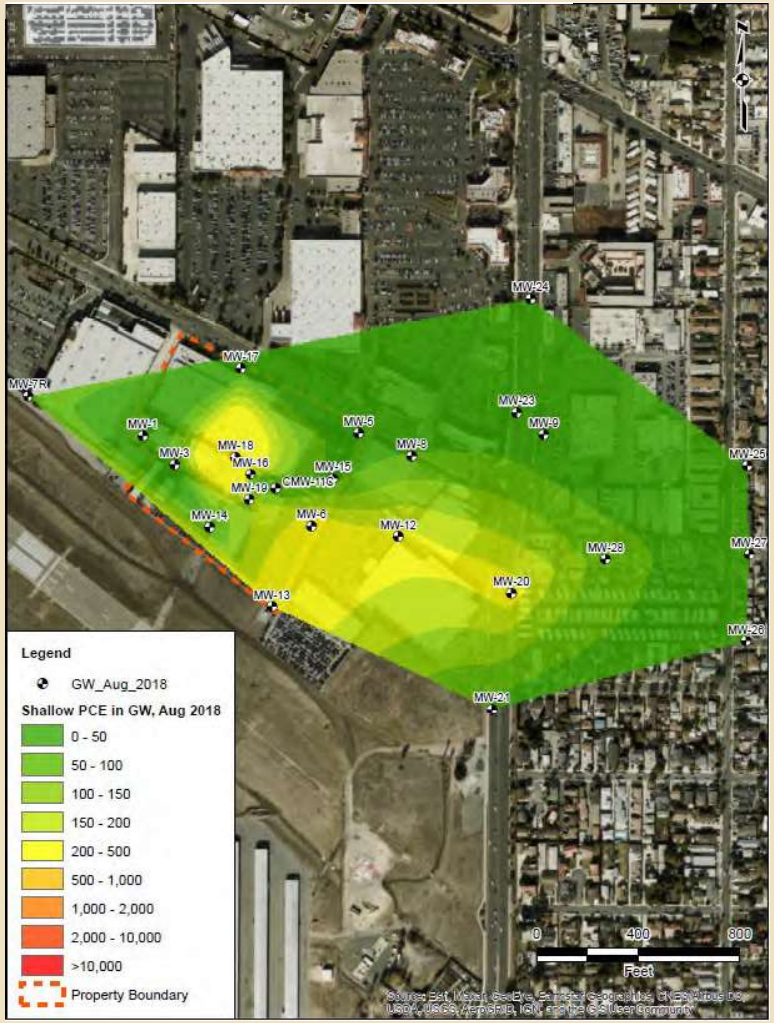
Higher area of TCE in soil vapor consistent with groundwater plume emanating from Hi-Shear

East of Crenshaw -- Vapor Intrusion Study at mixed residential and commercial area

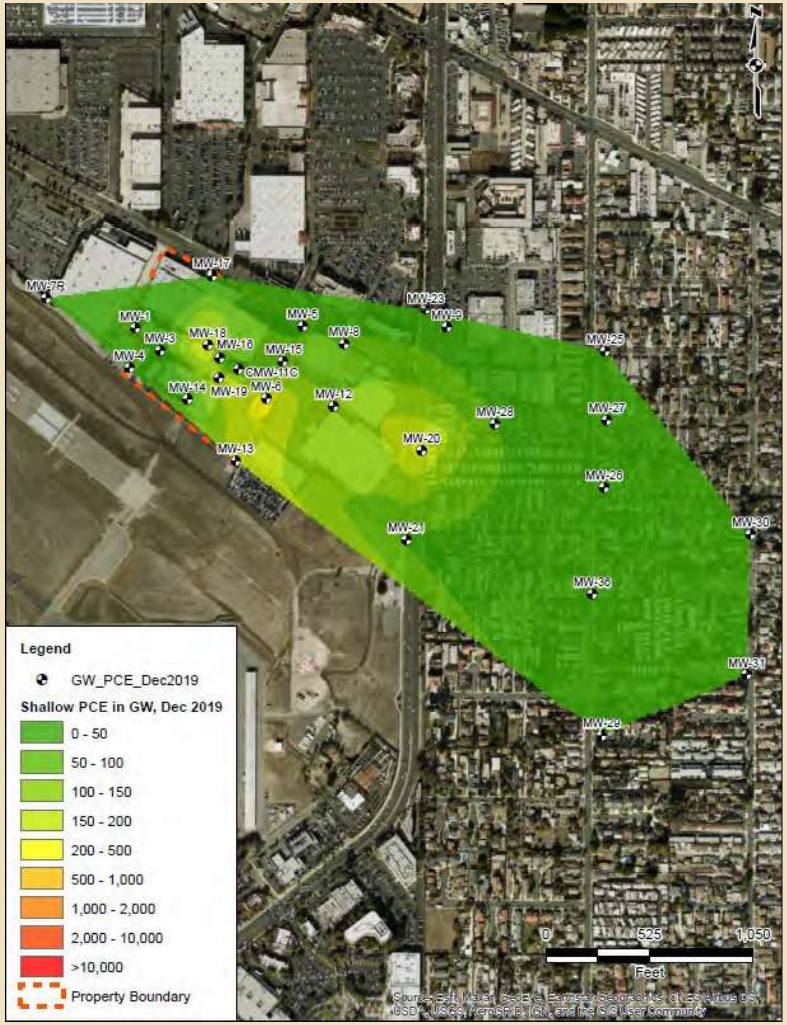
Localized area of TCE in soil vapor SW of current Lexus building



RECENT PCE CONCENTRATION TREND IN GROUNDWATER

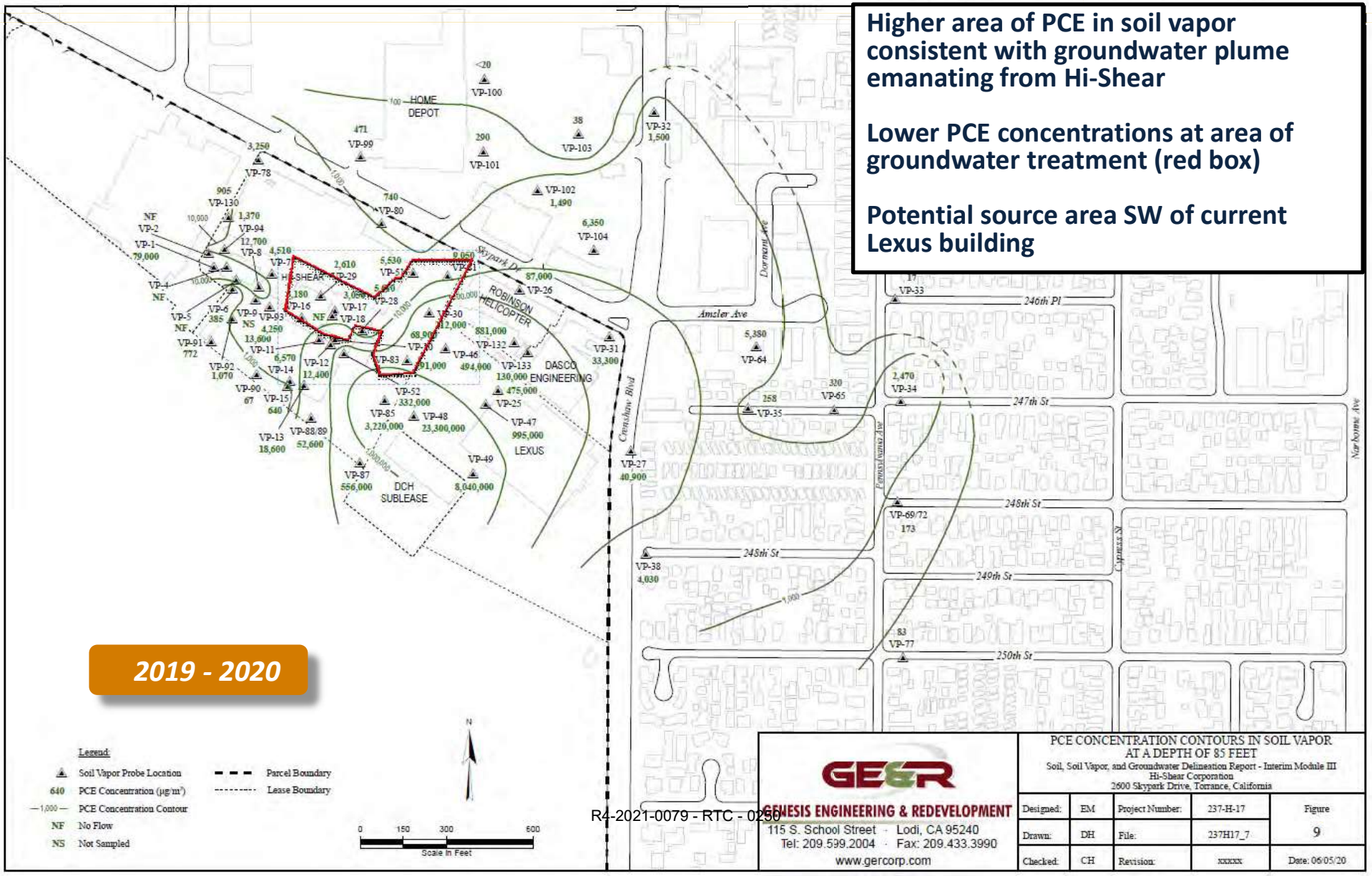


PCE August 2018
(17 months after injections)

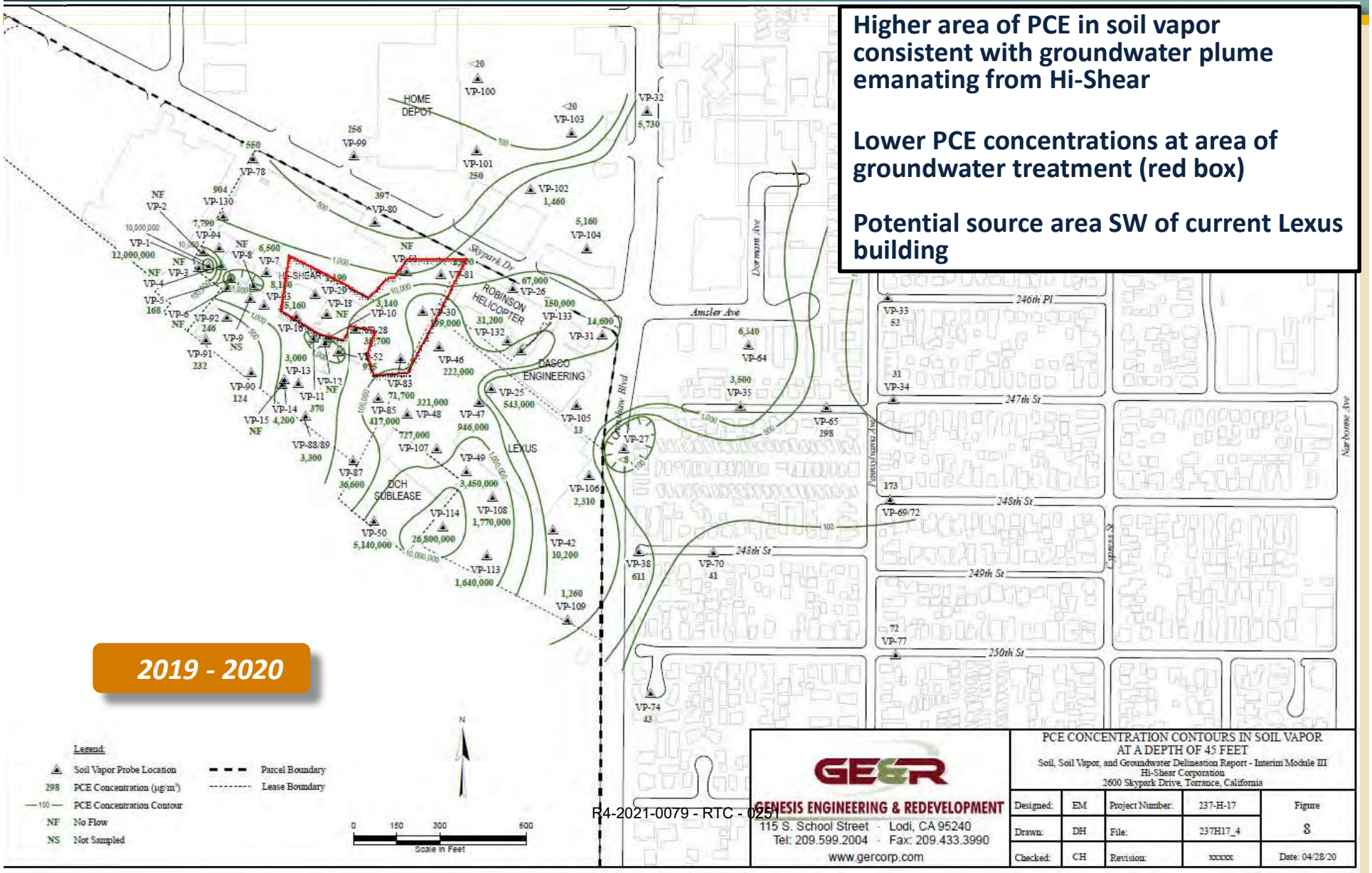


PCE December 2019
(33 months after injections)

PCE SOIL VAPOR DATA – 85 FEET BGS



PCE SOIL VAPOR DATA – 45 FEET BGS



Higher area of PCE in soil vapor consistent with groundwater plume emanating from Hi-Shear

Lower PCE concentrations at area of groundwater treatment (red box)

Potential source area SW of current Lexus building

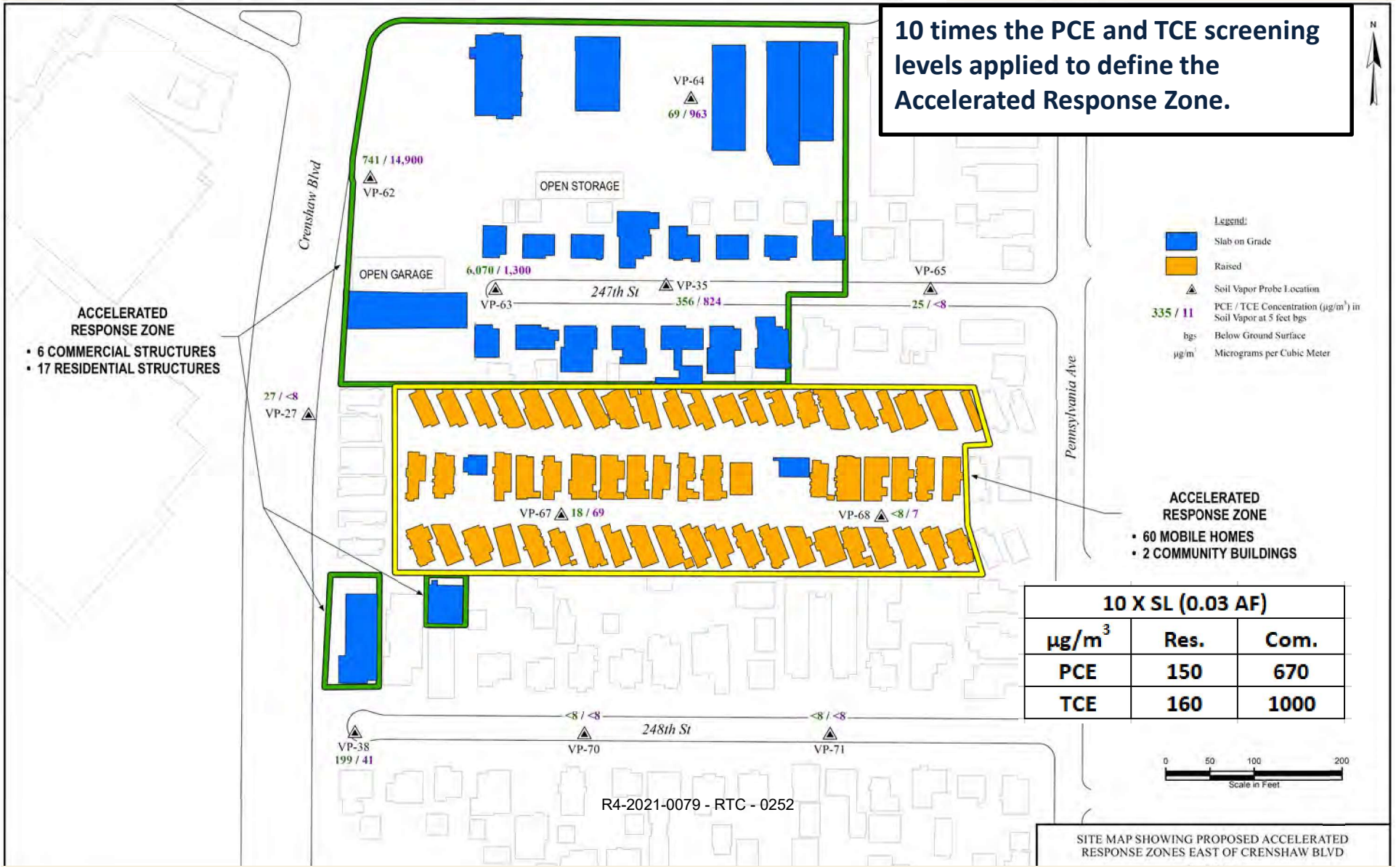
2019 - 2020

GENESIS ENGINEERING & REDEVELOPMENT
115 S. School Street · Lodi, CA 95240
Tel: 209.599.2004 · Fax: 209.433.3990
www.gercorp.com

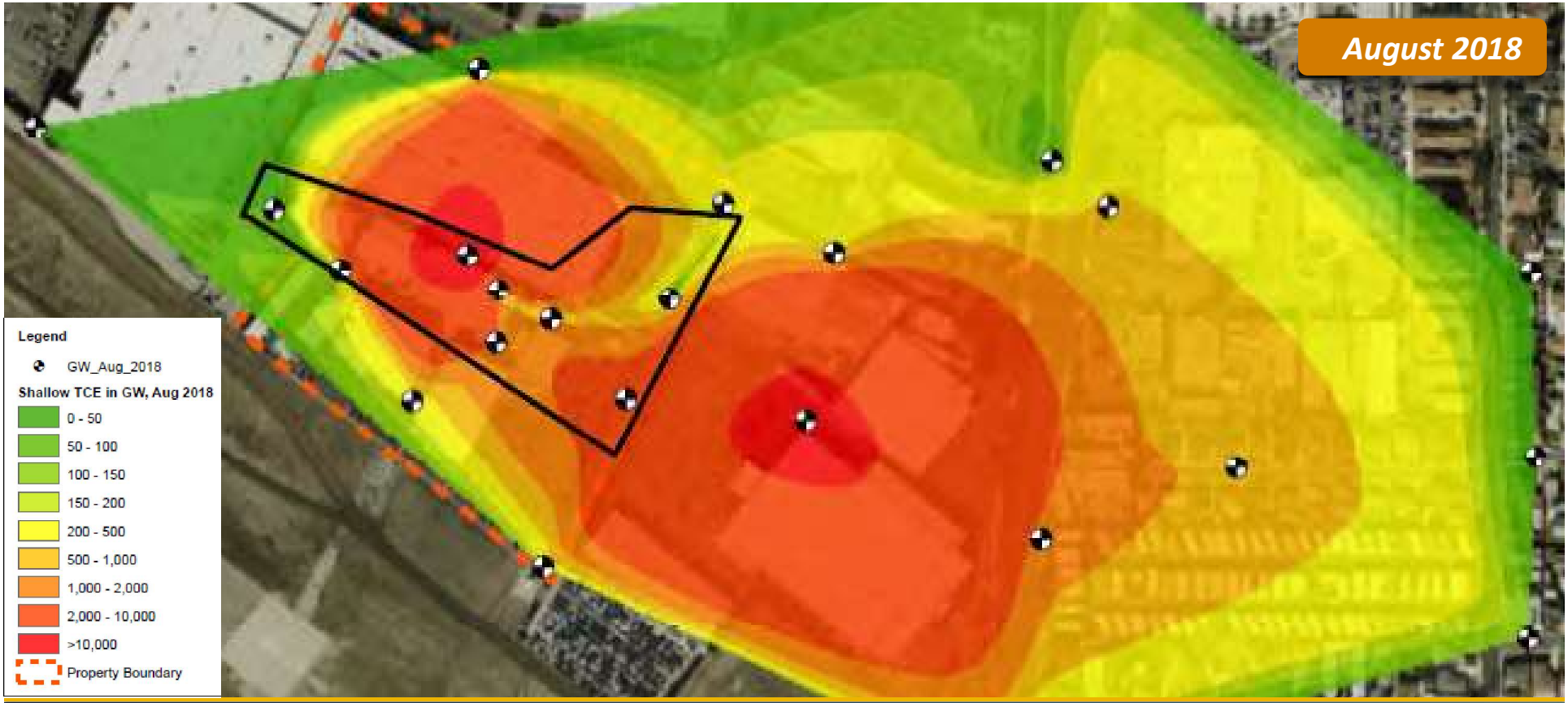
PCE CONCENTRATION CONTOURS IN SOIL VAPOR
AT A DEPTH OF 45 FEET
Soil, Soil Vapor, and Groundwater Delineation Report - Interim Module III
Hi-Shear Corporation
2600 Skypark Drive, Torrance, California

Designed:	EM	Project Number:	237-H-17	Figure
Drawn:	DH	File:	237H17_4	8
Checked:	CH	Revision:	xxxxx	Date: 04/28/20

VAPOR INTRUSION RESPONSE PLAN – ACCELERATED RESPONSE ZONE



R4-2021-0079 - RTC - 0252

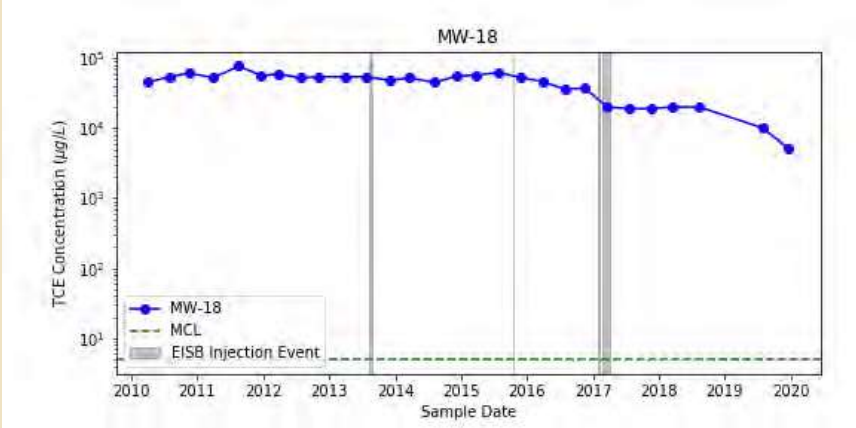


NEXT STEPS FOR HI-SHEAR ON-SITE REMEDIATION

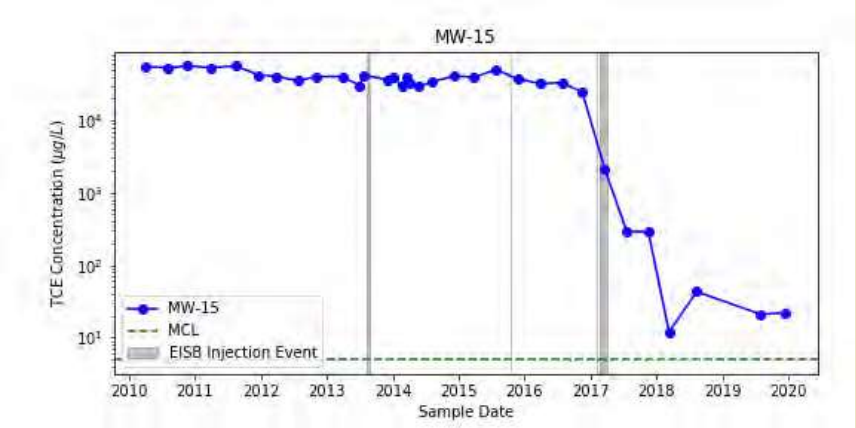
Bita Tabatabai, PE
Principal Engineer

ON-SITE GROUNDWATER REMEDIAL EFFORTS HAVE BEEN SUCCESSFUL

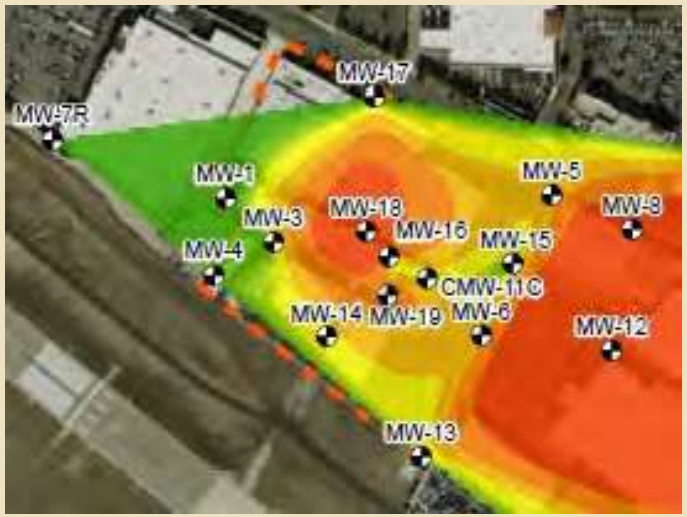
MW-18 - located in the center of the Site



MW-15 - located in treatment zone

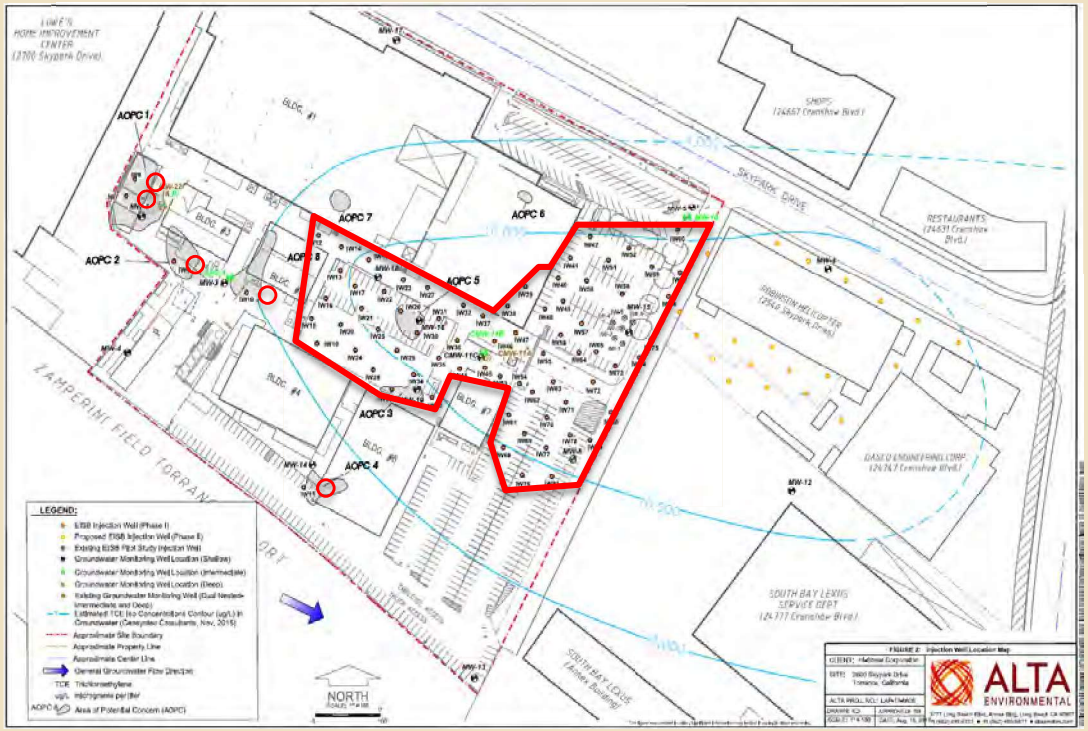


- **January 31 to April 5, 2017 full-scale (Phase I) injections of 3DMe, CRS, and BDI Plus was successful in reducing concentrations at injection area.**
- **Continued on-site remedial activities could further reduce on-site concentrations and thus reduce the mass flux leaving the Hi-Shear property.**
- **On-site remediation is a key component in the Hi-Shear plume clean up.**
- **Off-site remediation is ineffective until upgradient (on-site) sources are addressed.**

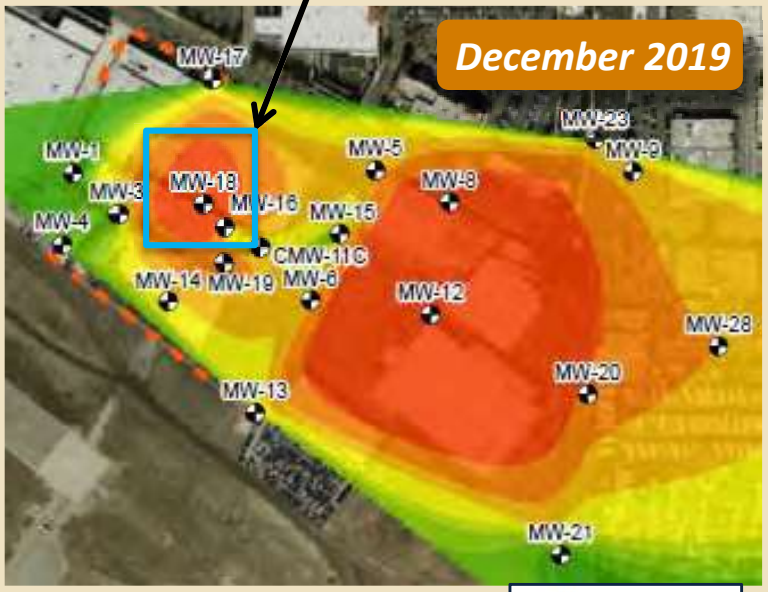


December 2019

ADDITIONAL ON-SITE GROUNDWATER REMEDIATION NEEDED



Additional On-Site Injection Locations

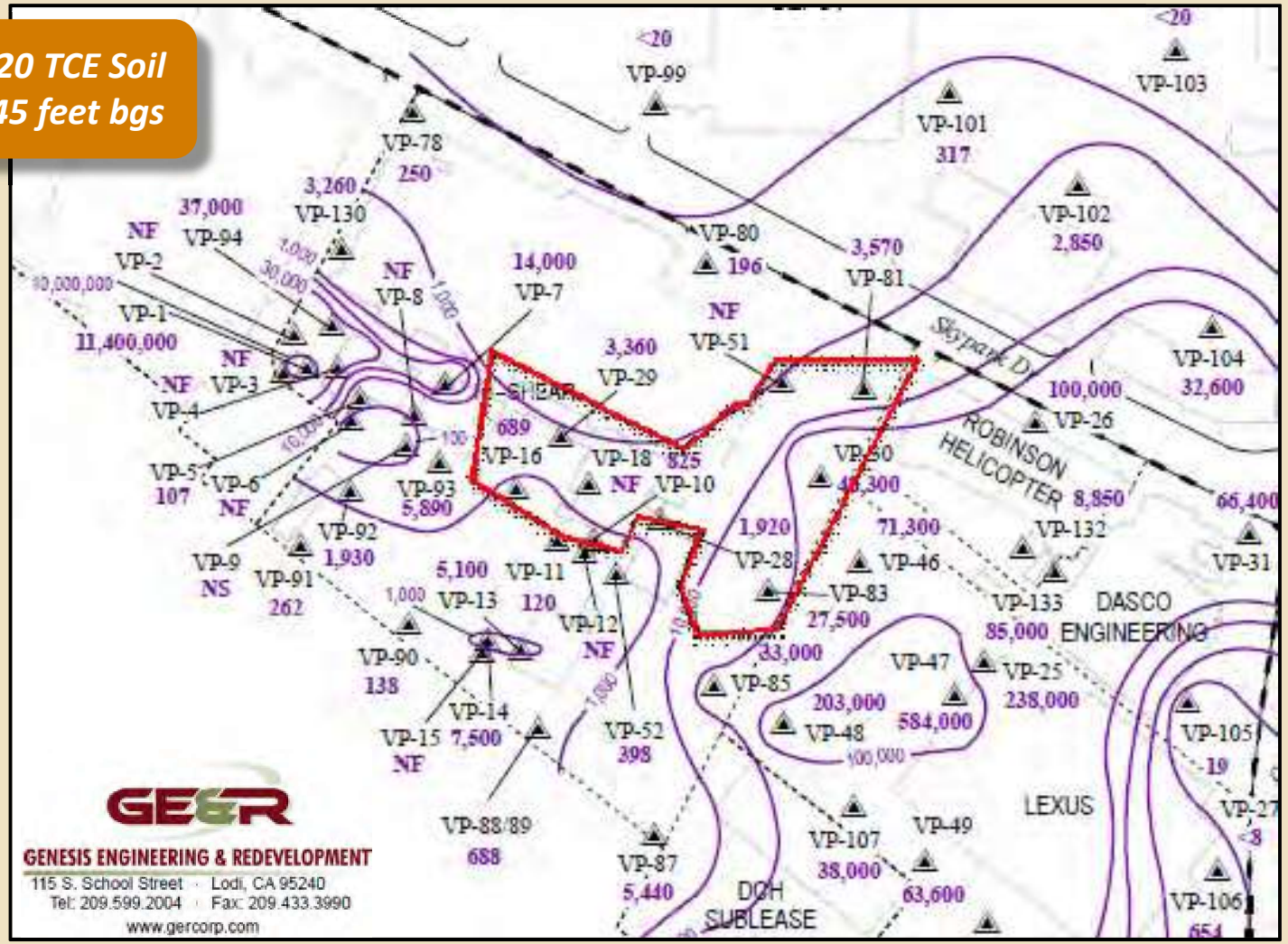


Legend
GW_TCE_Dec2019
Shallow TCE in GW, Dec 2019
0 - 50
50 - 100
100 - 150
150 - 200
200 - 500
500 - 1,000
1,000 - 2,000
2,000 - 10,000
>10,000
Property Boundary

- Re-injection of remediation amendments within 77 existing on-Site wells.
- Injection of remediation amendments in 20 new injection wells installed on-Site, where TCE remains at concentrations exceeding 1,000 µg/L.

ADDITIONAL ON-SITE VADOSE ZONE REMEDIATION NEEDED

2019 – 2020 TCE Soil Vapor at 45 feet bgs



HI-SHEAR SITE NEXT STEPS

- ***Based on soil vapor concentrations and the groundwater plume, a Cleanup and Abatement Order is warranted***

- ***Additional soil vapor extraction and groundwater remediation is needed***

GSI Job No.: 4835
Issued: 11 January 2021

GSI ENVIRONMENTAL

Attachment B

Chronology of Site Assessment, Investigation, and Monitoring Reports at the Hi-Shear Property prior to September 2016

GSI ENVIRONMENTAL

CHRONOLOGY OF SITE ASSESSMENT, INVESTIGATION, AND MONITORING REPORTS AT THE HI-SHEAR PROPERTY PRIOR TO SEPTEMBER 2016

No.	Date	Title	Author
1	03 March 1991	Environmental Site Assessment.	Hygienetics, Inc.
2	15 May 1991	Report of Subsurface Soil Investigation at the Hi-Shear Torrance Facility	Camp, Dresser & McKee, Inc. (CDM)
3	June 1991	Preliminary Site Investigation Former Underground Tank Area Hi-Shear Corporation	SCS Engineers
4	July 1991	Site Characterization Work Plan Former Underground Tank Area Hi-Shear Corporation	SCS Engineers
5	November 1991	Report for Soil Verification Borings Former Underground Waste Oil Tank Area	SCS Engineers
6	May 1992	Monitoring Well Installation Report Wells MW-5, MW-6, and MW-7.	SCS Engineers
7	15 September 1992	Status Report for the Hi-Shear Facility Located at 2600 Skypark Drive, Torrance California	Blasland, Bouck, & Lee (BBL)
8	14 September 1995	Report Environmental Site Evaluation Hi-Shear Corporation Facility Torrance, California	Geosyntec Consultants, Inc. (Geosyntec)
9	24 January 2001	Revised Perched Groundwater Quality Assessment	BBL
10	June 2001	Sensitive Receptor Investigation - Draft	BBL
11	13 June 2001	Soil Vapor Extraction System Operation and Maintenance Status Report	BBL
12	21 September 2001	Deep Soils and Groundwater Investigation Progress Report	BBL
13	02 October 2001	Letter to Hi-Shear RE Hydrocarbon Assessment	BBL
14	14 February 2002	Letter to Hi-Shear RE January 2002 Perched Groundwater Quality Assessment.	BBL
15	09 April 2002	Letter to Hi-Shear RE Deep Zone Soil Investigation	BBL
16	18 September 2002	Letter to Hi-Shear RE Perched Groundwater Assessment	BBL
17	15 September 2008	Phase II Subsurface Site Investigation Report	Environmental Engineering & Contracting, Int. (EEC_
18	15 January 2010	Well Installation Report LISI Aerospace Facility	Winefield & Associates, Inc. (W&A)
19	15 March 2010	Site Conceptual Model LISI Aerospace	W&A
20	30 September 2010	Soil Gas Survey Work Plan	W&A

GSI ENVIRONMENTAL

CHRONOLOGY OF SITE ASSESSMENT, INVESTIGATION, AND MONITORING REPORTS AT THE HI-SHEAR PROPERTY PRIOR TO SEPTEMBER 2016

No.	Date	Title	Author
21	30 September 2010	Risk Assessment Work Plan	W&A
22	07 February 2011	Final Report – VES-2 Site Remediation	W&A
23	18 February 2011	Revised Soil Gas Survey Work Plan	W&A
24	06 September 2011	Soil Gas Survey Report	Alta Environmental (Alta)
25	29 February 2012	Conceptual Groundwater Remedial Action Plan	Alta
26	31 May 2012	Aquifer Test Work Plan	Alta
27	31 May 2012	Enhanced Insitu Bioremediation Pilot Test Work Plan	Alta
28	31 May 2012	Soil Remedial Action Plan Addendum	Alta
29	31 May 2012	Soil Gas Survey Work Plan	Alta
30	23 August 2012	Report- Concrete Sampling and Analysis for Building No. 5	Alta
31	26 September 2012	Attenuation Factor Method Soil Cleanup Goals	Alta
32	28 February 2013	Soil Vapor Extraction Well Installation Work Plan	Alta
33	28 February 2013	Supplemental Soil Remedial Action Plan	Alta
34	28 February 2013	SVE Well Destruction Report	Alta
35	27 March 2013	Revised Enhanced Insitu Bioremediation Pilot Test Work Plan.	Alta
36	06 May 2013	Well Abandonment Report LISI Aerospace; Hi-Shear Corp – Building 4	Alta
37	28 June 2013	Aquifer Test Report	Alta
38	12 July 2013	Report of Waste Discharge Hi-Shear Corporation	Alta
39	14 October 2013	Report of Waste Discharge, Third Quarter 2013	Alta
40	13 January 2014	Report of Waste Discharge, Annual 2013	Alta

GSI ENVIRONMENTAL

CHRONOLOGY OF SITE ASSESSMENT, INVESTIGATION, AND MONITORING REPORTS AT THE HI-SHEAR PROPERTY PRIOR TO SEPTEMBER 2016

No.	Date	Title	Author
41	13 January 2014	Report of Waste Discharge, Fourth Quarter 2013	Alta
42	22 January 2014	Enhanced In-Site Bioremediation Pilot Test Report	Alta
43	31 January 2014	Soil Vapor Extraction Well Installation Report	Alta
44	11 April 2014	Report of Waste Discharge, First Quarter 2014	Alta
45	11 July 2014	Report of Waste Discharge, Second Quarter 2014	Alta
46	18 September 2014	Work Plan to Continue Enhanced Insitu Bioremediation Pilot Test (with Injection of LARWQCB-Approved DHC)	Alta
47	15 October 2014	Report of Waste Discharge, Third Quarter 2014	Alta
48	15 January 2015	Report of Waste Discharge, Fourth Quarter 2014	Alta
49	30 January 2015	2014 Annual Report of Waste Discharge	Alta
50	15 April 2015	Report of Waste Discharge, First Quarter 2015	Alta
51	07 July 2015	Report of Waste Discharge, Second Quarter 2015	Alta
52	10 August 2015	Well and Probe Installation, Groundwater Monitoring, and Health Risk Assessment Report	Alta
53	06 October 2015	Report of Waste Discharge, Third Quarter 2015	Alta
54	13 November 2015	Additional Site Assessment Work Plan	Alta
55	29 January 2016	2015 Annual Report of Waste Discharge	Alta
56	29 January 2016	Report of Waste Discharge, Fourth Quarter 2015	Alta
57	12 February 2016	Second Enhanced In-Site Remediation Pilot Test Report	Alta
58	10 May 2016	Groundwater Remedial Action Plan	Alta
59	30 July 2016	Report of Waste Discharge, Second Quarter 2016	Alta

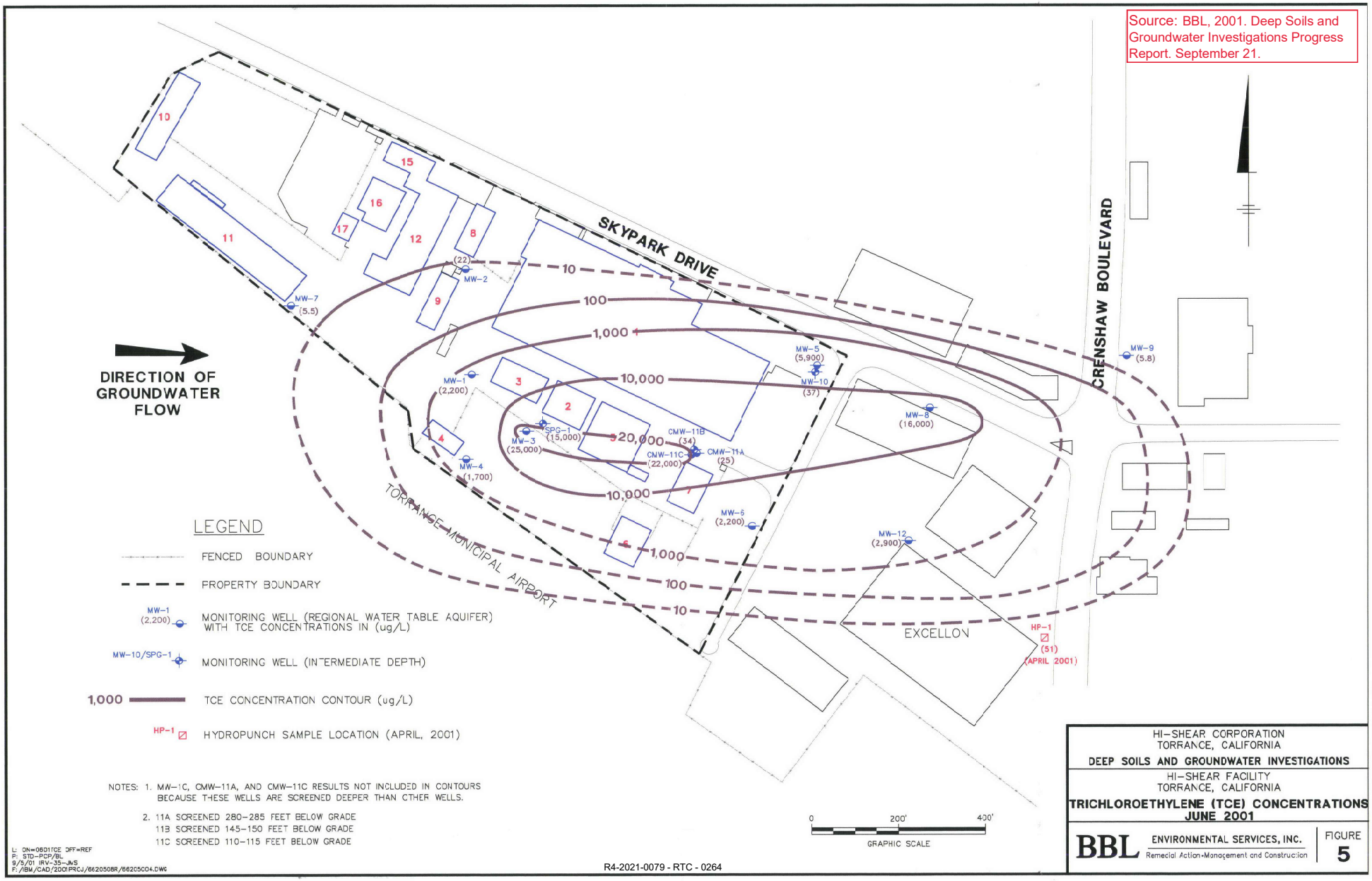
CHRONOLOGY OF SITE ASSESSMENT, INVESTIGATION, AND MONITORING REPORTS AT THE HI-SHEAR PROPERTY PRIOR TO SEPTEMBER 2016

No.	Date	Title	Author
1 to 10	28 January 1993 – 26 February 1999	Quarterly Groundwater Monitoring Report	BBL, 1993a; 1993b; 1993c; 1994a; 1994b; 1994c; 1995a; 1995b; 1995c; 1999
11 to 47	15 May 2005 – 31 May 2016	Tri-annual Groundwater Monitoring Report	Geosyntec, 2005a; 2005b; 2006a; 2006b; 2006c; 2007a; 2007b; 2007c; 2007d; 2008a; 2008b; 2008b; 2009a; 2009b; 2009c; 2010a; 2010b; 2010c; 2011a; 2011b; 2011c; 2012a; 2012b; 2012c; 2013a; 2013b; 2013c; 2014a; 2014b; 2014c; 2015a; 2015b; 2015c; 2016a; 2016b; 2016c;

Attachment C

Figures 5 and 7, BBL, 2001, Deep Soils and Groundwater Investigation Progress Report

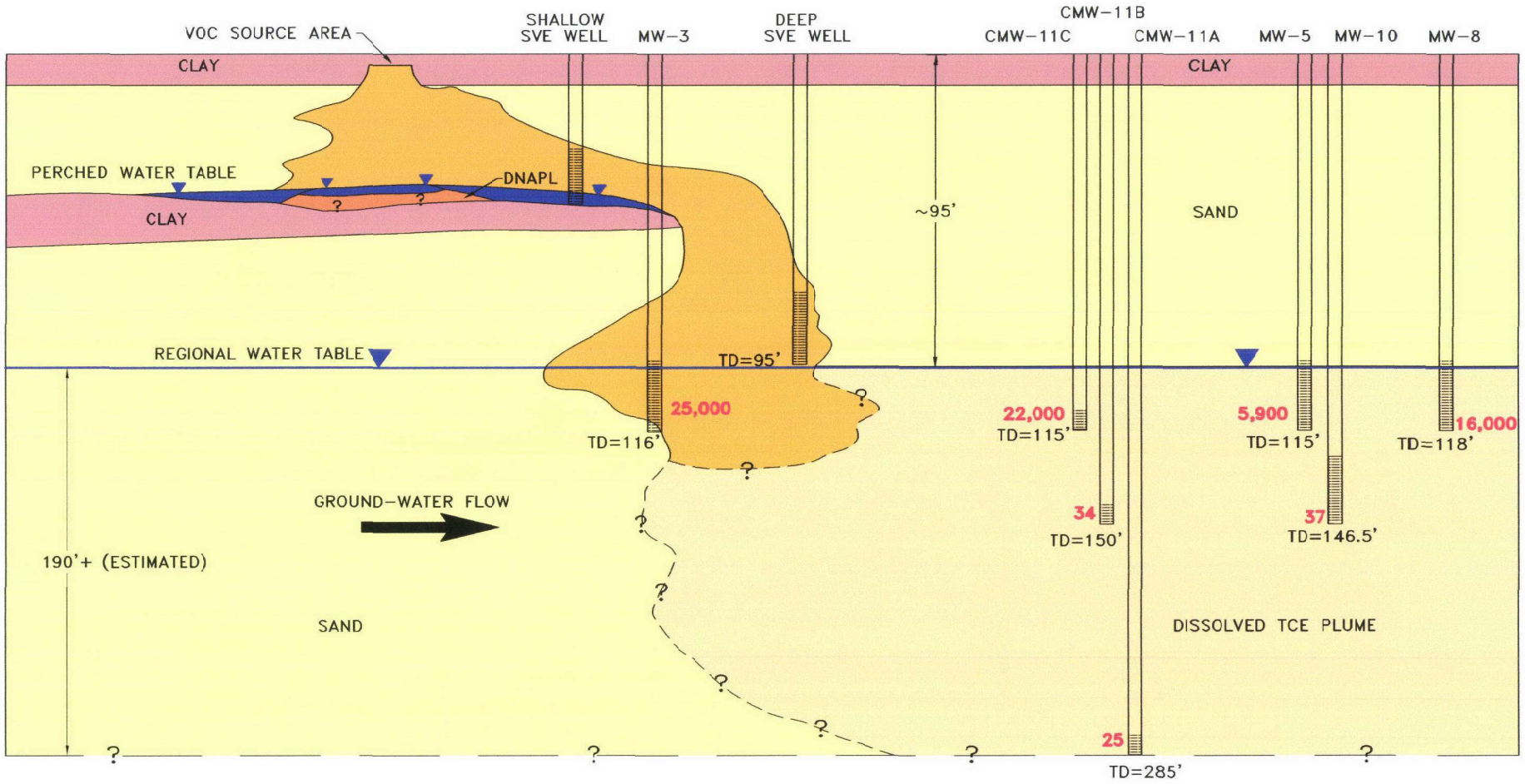
ATTACHMENT C



R4-2021-0079 - RTC - 0264

ATTACHMENT C

Source: BBL, 2001. Deep Soils and Groundwater Investigations Progress Report. September 21.



NOTE: GROUND WATER TCE CONCENTRATIONS FROM JUNE 2001 IN ug/L

TD = TOTAL DEPTH

NOT TO SCALE

HI-SHEAR CORPORATION
TORRANCE, CALIFORNIA

TCE MIGRATION MODEL
SEPTEMBER 5, 2001

BBL ENVIRONMENTAL SERVICES, INC.
Remedial Action•Management and Construction

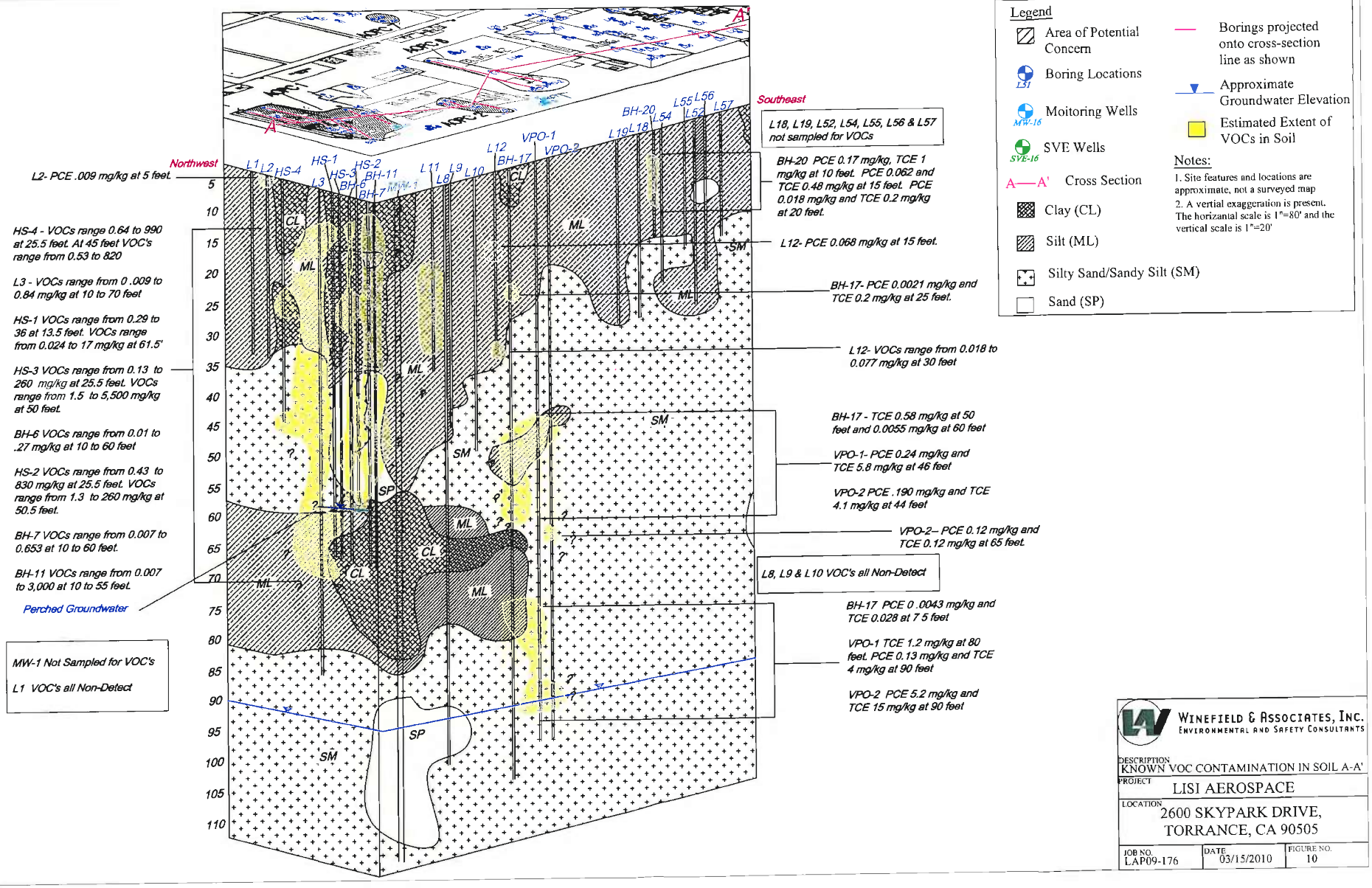
FIGURE 7

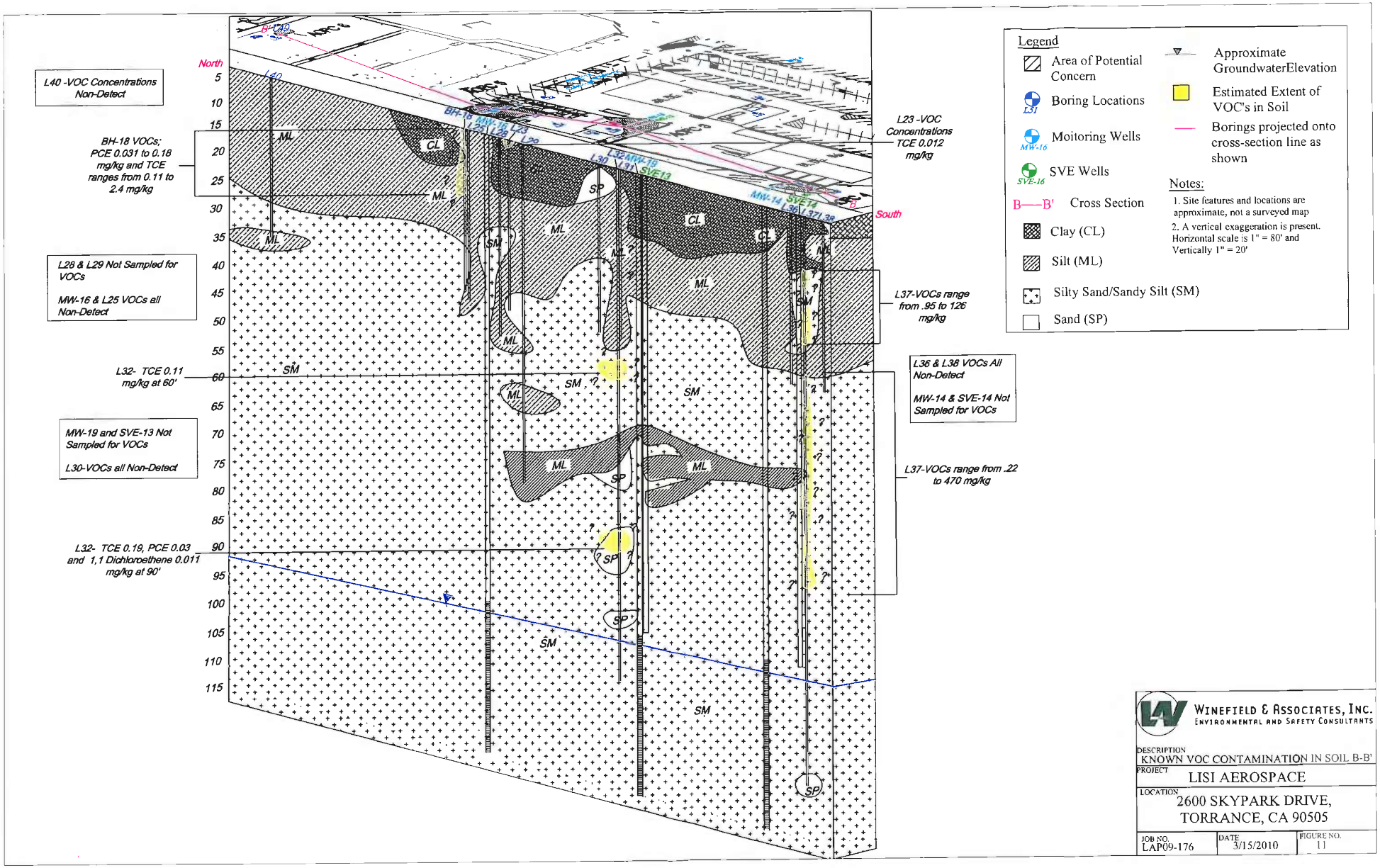
L: ON=* OFF=REF
P: STD-PCP/AL
1/15/01 IRV-35-JNS
F:/IBM/CAD/2001PROJ/6620508R/66205CS3.DWG

GSI ENVIRONMENTAL

Attachment D

Figures 10 and 11, W&A, 2010, "Known VOC Contamination in Soil,"
Site Conceptual Model


Legend
Area of Potential Concern
Boring Locations
LS1
Moitoring Wells
MW-16
SVE Wells
SVE-16
A—A' Cross Section
Clay (CL)
Silt (ML)
Silty Sand/Sandy Silt (SM)
Sand (SP)
Borings projected onto cross-section line as shown
Approximate Groundwater Elevation
Estimated Extent of VOCs in Soil
Notes:
1. Site features and locations are approximate, not a surveyed map
2. A vertial exaggeration is present. The horizantal scale is 1"=80' and the vertical scale is 1"=20'
Northwest
Southeast
L2- PCE .009 mg/kg at 5 feet.
HS-4 - VOCs range 0.64 to 990 at 25.5 feet. At 45 feet VOC's range from 0.53 to 820
L3 - VOCs range from 0 .009 to 0.84 mg/kg at 10 to 70 feet
HS-1 VOCs range from 0.29 to 36 at 13.5 feet. VOCs range from 0.024 to 17 mg/kg at 61.5'
HS-3 VOCs range from 0.13 to 260 mg/kg at 25.5 feet. VOCs range from 1.5 to 5,500 mg/kg at 50 feet.
BH-6 VOCs range from 0.01 to .27 mg/kg at 10 to 60 feet
HS-2 VOCs range from 0.43 to 830 mg/kg at 25.5 feet. VOCs range from 1.3 to 260 mg/kg at 50.5 feet.
BH-7 VOCs range from 0.007 to 0.653 at 10 to 60 feet.
BH-11 VOCs range from 0.007 to 3,000 at 10 to 55 feet.
Perched Groundwater
MW-1 Not Sampled for VOC's
L1 VOC's all Non-Detect
L18, L19, L52, L54, L55, L56 & L57 not sampled for VOCs
BH-20 PCE 0.17 mg/kg, TCE 1 mg/kg at 10 feet. PCE 0.062 and TCE 0.48 mg/kg at 15 feet. PCE 0.018 mg/kg and TCE 0.2 mg/kg at 20 feet.
L12- PCE 0.068 mg/kg at 15 feet.
BH-17- PCE 0.0021 mg/kg and TCE 0.2 mg/kg at 25 feet.
L12- VOCs range from 0.018 to 0.077 mg/kg at 30 feet
BH-17 - TCE 0.58 mg/kg at 50 feet and 0.0055 mg/kg at 60 feet
VPO-1- PCE 0.24 mg/kg and TCE 5.8 mg/kg at 46 feet
VPO-2 PCE .190 mg/kg and TCE 4.1 mg/kg at 44 feet
VPO-2– PCE 0.12 mg/kg and TCE 0.12 mg/kg at 65 feet.
L8, L9 & L10 VOC's all Non-Detect
BH-17 PCE 0 .0043 mg/kg and TCE 0.028 at 7 5 feet
VPO-1 TCE 1.2 mg/kg at 80 feet. PCE 0.13 mg/kg and TCE 4 mg/kg at 90 feet
VPO-2 PCE 5.2 mg/kg and TCE 15 mg/kg at 90 feet
WINEFIELD & ASSOCIATES, INC.
ENVIRONMENTAL AND SAFETY CONSULTANTS
DESCRIPTION KNOWN VOC CONTAMINATION IN SOIL A-A'
PROJECT LISI AEROSPACE
LOCATION 2600 SKYPARK DRIVE, TORRANCE, CA 90505
JOB NO. LAP09-176
DATE 03/15/2010
FIGURE NO. 10



WINEFIELD & ASSOCIATES, INC.
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION	KNOWN VOC CONTAMINATION IN SOIL B-B'
PROJECT	LISI AEROSPACE
LOCATION	2600 SKYPARK DRIVE, TORRANCE, CA 90505
JOB NO.	LAP09-176
DATE	3/15/2010
FIGURE NO.	11

Exhibit 3

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 92-49
(As Amended on April 21, 1994 and October 2, 1996)

POLICIES AND PROCEDURES FOR INVESTIGATION AND CLEANUP AND ABATEMENT OF DISCHARGES UNDER WATER CODE SECTION 13304

WHEREAS:

1. California Water Code (WC) Section 13001 provides that it is the intent of the Legislature that the State Water Resources Control Board (**State Water Board**) and each Regional Water Quality Control Board (**Regional Water Board**) shall be the principal state agencies with primary responsibility for the coordination and control of water quality. The State and Regional Water Boards shall conform to and implement the policies of the Porter-Cologne Water Quality Control Act (Division 7, commencing with WC Section 13000) and shall coordinate their respective activities so as to achieve a unified and effective water quality control program in the state;
2. WC Section 13140 provides that the State Water Board shall formulate and adopt State Policy for Water Quality Control;
3. WC Section 13240 provides that Water Quality Control Plans shall conform to any State Policy for Water Quality Control;
4. WC Section 13304 requires that any person who has discharged or discharges waste into waters of the state in violation of any waste discharge requirement or other order or prohibition issued by a Regional Water Board or the State Water Board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance may be required to clean up the discharge and abate the effects thereof. This section authorizes Regional Water Boards to require complete cleanup of all waste discharged and restoration of affected water to background conditions (i.e., the water quality that existed before the discharge). The term waste discharge requirements includes those which implement the National Pollutant Discharge Elimination System;
5. WC Section 13307 provides that the State Water Board shall establish policies and procedures that its representatives and the representatives of the Regional Water Boards shall follow for the oversight of investigations and cleanup and abatement activities resulting from discharges of hazardous substances, including:
   a. The procedures the State Water Board and the Regional Water Boards will follow in making decisions as to when a person may be required to undertake an investigation to determine if an unauthorized hazardous substance discharge has occurred;
   b. Policies for carrying out a phased, step-by-step investigation to determine the nature and extent of possible soil and ground water contamination or pollution at a site;
   c. Procedures for identifying and utilizing the most cost-effective methods for detecting contamination or pollution and cleaning up or abating the effects of contamination or pollution;
   d. Policies for determining reasonable schedules for investigation and cleanup, abatement, or other remedial action at a site. The policies shall recognize the danger to public health and the waters of the state posed by an unauthorized discharge and the need to mitigate those dangers while at the same time taking into account, to the extent possible, the resources, both financial and technical, available to the person responsible for the discharge;
6. "Waters of the state" include both ground water and surface water;
7. Regardless of the type of discharge, procedures and policies applicable to investigations, and cleanup and abatement activities are similar. It is in the best interest of the people of the state for the State Water Board to provide consistent guidance for Regional Water Boards to apply to investigation, and cleanup and abatement;
8. WC Section 13260 requires any person discharging or proposing to discharge waste that could affect waters of the state, or proposing to change the character, location, or volume of a discharge to file a report with and receive requirements from the Regional Water Board;
9. WC Section 13267 provides that the Regional Water Board may require dischargers, past dischargers, or suspected dischargers to furnish those technical or monitoring reports as the Regional Water Board may specify, provided that the burden, including costs, of these reports, shall

bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports;

10. WC Section 13300 states that the Regional Water Board may require a discharger to submit a time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements prescribed by the Regional Water Board or the State Water Board;

11. California Health and Safety Code (**HSC**) Section 25356.1 requires the Department of Toxic Substances Control (**DTSC**) or, if appropriate, the Regional Water Board to prepare or approve remedial action plans for sites where hazardous substances were released to the environment if the sites have been listed pursuant to HSC Section 25356 (state "Superfund" priority list for cleanup of sites);

12. Coordination with the U.S. Environmental Protection Agency (**USEPA**), state agencies within the California Environmental Protection Agency (**Cal/EPA**) (e.g., DTSC, Air Resources Control Board), air pollution control districts, local environmental health agencies, and other responsible federal, state, and local agencies: (1) promotes effective protection of water quality, human health, and the environment and (2) is in the best interest of the people of the state. The principles of coordination are embodied in many statutes, regulations, and interagency memoranda of understanding (**MOU**) or agreement which affect the State and Regional Water Boards and these agencies;

13. In order to clean up and abate the effects of a discharge or threat of a discharge, a discharger may be required to perform an investigation to define the nature and extent of the discharge or threatened discharge and to develop appropriate cleanup and abatement measures;

14. Investigations that were not properly planned have resulted in increases in overall costs and, in some cases, environmental damage. Overall costs have increased when original corrective actions were later found to have had no positive effect or to have exacerbated the pollution. Environmental damage may increase when a poorly conceived investigation or cleanup and abatement program allows pollutants to spread to previously unaffected waters of the state;

15. A phased approach to site investigation should facilitate adequate delineation of the nature and extent of the pollution, and may reduce overall costs and environmental damage, because: (1) investigations inherently build on information previously gained; (2) often data are dependent on seasonal and other temporal variations; and (3) adverse consequences of greater cost or increased environmental damage can result from improperly planned investigations and the lack of consultation and coordination with the Regional Water Board. However, there are circumstances under which a phased, iterative approach may not be necessary to protect water quality, and there are other circumstances under which phases may need to be compressed or combined to expedite cleanup and abatement;

16. Preparation of written workplans prior to initiation of significant elements or phases of investigation, and cleanup and abatement generally saves Regional Water Board and discharger resources. Results are superior, and the overall cost-effectiveness is enhanced;

17. Discharger reliance on qualified professionals promotes proper planning, implementation, and long-term cost-effectiveness of investigation, and cleanup and abatement activities. Professionals should be qualified, licensed where applicable, and competent and proficient in the fields pertinent to the required activities. California Business and Professions Code Sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgements be performed by or under the direction of registered professionals;

18. WC Section 13360 prohibits the Regional Water Boards from specifying, but not from suggesting, methods that a discharger may use to achieve compliance with requirements or orders. It is the responsibility of the discharger to propose methods for Regional Water Board review and concurrence to achieve compliance with requirements or orders;

19. The USEPA, California state agencies, the American Society for Testing and Materials, and similar organizations have developed or identified methods successful in particular applications. Reliance on established, appropriate methods can reduce costs of investigation, and cleanup and abatement;

20. The basis for Regional Water Board decisions regarding investigation, and cleanup and abatement includes: (1) site-specific characteristics; (2) applicable state and federal statutes and regulations; (3) applicable water quality control plans adopted by the State Water Board and Regional Water Boards, including beneficial uses, water quality objectives, and implementation plans; (4) State Water Board and Regional Water Board policies, including State Water Board Resolutions No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) and No. 88-63 (Sources of Drinking Water); and

(5) relevant standards, criteria, and advisories adopted by other state and federal agencies;

21. Discharges subject to WC Section 13304 may include discharges of waste to land; such discharges may cause, or threaten to cause, conditions of soil or water pollution or nuisance that are analogous to conditions associated with migration of waste or fluid from a waste management unit;

22. The State Water Board has adopted regulations governing discharges of waste to land (California Code of Regulations (CCR), Title 23, Division 3, Chapter 15);

23. State Water Board regulations governing site investigation and corrective action at underground storage tank unauthorized release sites are found in 23 CCR Division 3, Chapter 16, in particular Article 11 commencing with Section 2720;

24. It is the responsibility of the Regional Water Board to make decisions regarding cleanup and abatement goals and objectives for the protection of water quality and the beneficial uses of waters of the state within each Region;

25. Cleanup and abatement alternatives that entail discharge of residual wastes to waters of the state, discharges to regulated waste management units, or leaving wastes in place, create additional regulatory constraints and long-term liability, which must be considered in any evaluation of cost-effectiveness;

26. It is not the intent of the State or Regional Water Boards to allow dischargers, whose actions have caused, permitted, or threaten to cause or permit conditions of pollution, to avoid responsibilities for cleanup. However, in some cases, attainment of applicable water quality objectives for ground water cannot reasonably be achieved. In these cases, the State Water Board determines that establishment of a containment zone is appropriate and consistent with the maximum benefit to the people of the State if applicable requirements contained in the Policy are satisfied. The establishment of a containment zone does not limit or supersede obligations or liabilities that may arise under other laws;

27. The Porter-Cologne Water Quality Control Act allows Regional Water Boards to impose more stringent requirements on discharges of waste than any statewide requirements promulgated by the State Water Board (e.g., in this Policy) or than water quality objectives established in statewide or regional water quality control plans as needed to protect water quality and to reflect regional and site-specific conditions; and

28. Pursuant to Section 13320 of the Water Code, aggrieved persons may petition the State Water Board to review any decisions made under this policy.

THEREFORE BE IT RESOLVED:

These policies and procedures apply to all investigations, and cleanup and abatement activities, for all types of discharges subject to Section 13304 of the WC.

I. The Regional Water Board shall apply the following procedures in determining whether a person shall be required to investigate a discharge under WC Section 13267, or to clean up waste and abate the effects of a discharge or a threat of a discharge under WC Section 13304. The Regional Water Board shall:

A. Use any relevant evidence, whether direct or circumstantial, including, but not limited to, evidence in the following categories:

1. Documentation of historical or current activities, waste characteristics, chemical use, storage or disposal information, as documented by public records, responses to questionnaires, or other sources of information;

2. Site characteristics and location in relation to other potential sources of a discharge;

3. Hydrologic and hydrogeologic information, such as differences in upgradient and downgradient water quality;

4. Industry-wide operational practices that historically have led to discharges, such as leakage of pollutants from wastewater collection and conveyance systems, sumps, storage tanks, landfills, and clarifiers;

5. Evidence of poor management of materials or wastes, such as improper storage practices or inability to reconcile inventories;

6. Lack of documentation of responsible management of materials or wastes, such as lack of manifests or lack of documentation of proper disposal;

7. Physical evidence, such as analytical data, soil or pavement staining, distressed vegetation, or unusual odor or appearance;

8. Reports and complaints;

9. Other agencies' records of possible or known discharge; and

10. Refusal or failure to respond to Regional Water Board inquiries;

B. Make a reasonable effort to identify the dischargers associated with the discharge. It is not necessary to identify all dischargers for the Regional Water Board to proceed with requirements for a discharger to investigate and clean up;

C. Require one or more persons identified as a discharger associated with a discharge or threatened discharge subject to WC Section 13304 to undertake an investigation, based on findings of I.A and I.B above;

D. Notify appropriate federal, state, and local agencies regarding discharges subject to WC Section 13304 and coordinate with these agencies on investigation, and cleanup and abatement activities.

II. The Regional Water Board shall apply the following policies in overseeing: (a) investigations to determine the nature and horizontal and vertical extent of a discharge and (b) appropriate cleanup and abatement measures.

A. The Regional Water Board shall:

1. Require the discharger to conduct investigation, and cleanup and abatement, in a progressive sequence ordinarily consisting of the following phases, provided that the sequence shall be adjusted to accommodate site-specific circumstances, if necessary:

a. Preliminary site assessment (to confirm the discharge and the identity of the dischargers; to identify affected or threatened waters of the state and their beneficial uses; and to develop preliminary information on the nature, and vertical and horizontal extent, of the discharge);

b. Soil and water investigation (to determine the source, nature and extent of the discharge with sufficient detail to provide the basis for decisions regarding subsequent cleanup and abatement actions, if any are determined by the Regional Water Board to be necessary);

c. Proposal and selection of cleanup and abatement action (to evaluate feasible and effective cleanup and abatement actions, and to develop preferred cleanup and abatement alternatives);

d. Implementation of cleanup and abatement action (to implement the selected alternative, and to monitor in order to verify progress);

e. Monitoring (to confirm short- and long-term effectiveness of cleanup and abatement);

2. Consider, where necessary to protect water quality, approval of plans for investigation, or cleanup and abatement, that proceed concurrently rather than sequentially, provided that overall cleanup and abatement goals and objectives are not compromised, under the following conditions:

a. Emergency situations involving acute pollution or contamination affecting present uses of waters of the state;

b. Imminent threat of pollution;

c. Protracted investigations resulting in unreasonable delay of cleanup and abatement; or

d. Discharges of limited extent which can be effectively investigated and cleaned up within a short time;

3. Require the discharger to extend the investigation, and cleanup and abatement, to any location affected by the discharge or threatened discharge;

4. Where necessary to protect water quality, name other persons as dischargers, to the extent permitted by law;

5. Require the discharger to submit written workplans for elements and phases of the investigation, and cleanup and abatement, whenever practicable;

6. Review and concur with adequate workplans prior to initiation of investigations, to the extent practicable. The Regional Water Board may give vebal concurrence for investigations to proceed, with written follow-up. An adequate workplan should include or reference, at least, a comprehensive description of proposed investigative, cleanup, and abatement activities, a sampling and analysis plan, a quality assurance project plan, a health and safety plan, and a commitment to implement the workplan;

7. Require the discharger to submit reports on results of all phases of investigations, and cleanup and abatement actions, regardless of degree of oversight by the Regional Water Board;

8. Require the discharger to provide documentation that plans and reports are prepared by professionals qualified to prepare such reports, and that each component of investigative and cleanup and abatement actions is conducted under the direction of appropriately qualified professionals. A statement of qualifications of the responsible lead professionals shall be included in all plans and reports submitted by the discharger;

9. Prescribe cleanup levels which are consistent with appropriate levels set by the Regional Water Board for analogous discharges that involve similar wastes, site characteristics, and water quality considerations;

B. The Regional Water Board may identify investigative and cleanup and abatement activities that the discharger could undertake without Regional Water Board oversight, provided that these investigations and cleanup and abatement activities shall be consistent with the policies and procedures established herein.

III. The Regional Water Board shall implement the following procedures to ensure that dischargers shall have the opportunity to select cost-effective methods for detecting discharges or threatened discharges and methods for cleaning up or abating the effects thereof. The Regional Water Board shall:

A. Concur with any investigative and cleanup and abatement proposal which the discharger demonstrates and the Regional Water Board finds to have a substantial likelihood to achieve compliance, within a reasonable time frame, with cleanup goals and objectives that implement the applicable Water Quality Control Plans and Policies adopted by the State Water Board and Regional Water Boards, and which implement permanent cleanup and abatement solutions which do not require ongoing maintenance, wherever feasible;

B. Consider whether the burden, including costs, of reports required of the discharger during the investigation and cleanup and abatement of a discharge bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports;

C. Require the discharger to consider the effectiveness, feasibility, and relative costs of applicable alternative methods for investigation, and cleanup and abatement. Such comparison may rely on previous analysis of analogous sites, and shall include supporting rationale for the selected methods;

D. Ensure that the discharger is aware of and considers techniques which provide a cost-effective basis for initial assessment of a discharge.

1. The following techniques may be applicable:

a. Use of available current and historical photographs and site records to focus investigative activities on locations and wastes or materials handled at the site;

b. Soil gas surveys;

c. Shallow geophysical surveys;

d. Remote sensing techniques;

2. The above techniques are in addition to the standard site assessment techniques, which include:

a. Inventory and sampling and analysis of materials or wastes;

b. Sampling and analysis of surface water;

c. Sampling and analysis of sediment and aquatic biota;

d. Sampling and analysis of ground water;

e. Sampling and analysis of soil and soil pore moisture;

f. Hydrogeologic investigation;

E. Ensure that the discharger is aware of and considers the following cleanup and abatement methods or combinations thereof, to the extent that they may be applicable to the discharge or threat thereof:

1. Source removal and/or isolation;

2. In-place treatment of soil or water:

a. Bioremediation;

b. Aeration;

c. Fixation;

3. Excavation or extraction of soil, water, or gas for on-site or off-site treatment by the following techniques:

a. Bioremediation;

b. Thermal destruction;

c. Aeration;

d. Sorption;

e. Precipitation, flocculation, and sedimentation;

f. Filtration;

g. Fixation;

h. Evaporation;

4. Excavation or extraction of soil, water, or gas for appropriate recycling, re-use, or disposal;

F. Require actions for cleanup and abatement to:

1. Conform to the provisions of Resolution No. 68-16 of the State Water Board, and the Water Quality Control Plans of the State and Regional Water Boards, provided that under no circumstances shall these provisions be interpreted to require cleanup and abatement which achieves water quality conditions that are better than background conditions;

2. Implement the provisions of Chapter 15 that are applicable to cleanup and abatement, as follows:

a. If cleanup and abatement involves corrective action at a waste management unit regulated by waste discharge requirements issued under Chapter 15, the Regional Water Board shall implement the provisions of that chapter;

b. If cleanup and abatement involves removal of waste from the immediate place of release and discharge of the waste to land for treatment, storage, or disposal, the Regional Water Board shall regulate the discharge of the waste through waste discharge requirements issued under Chapter 15, provided that the Regional Water Board may waive waste discharge requirements under WC Section 13269 if the waiver is not against the public interest (e.g., if the discharge is for short-term treatment or storage, and if the temporary waste management unit is equipped with features that will ensure full and complete containment of the waste for the treatment or storage period); and

c. If cleanup and abatement involves actions other than removal of the waste, such as containment of waste in soil or ground water by physical or hydrological barriers to migration (natural or engineered), or in-situ treatment (e.g., chemical or thermal fixation, or bioremediation), the Regional Water Board shall apply the applicable provisions of Chapter 15, to the extent that it is technologically and economically feasible to do so; and

3. Implement the applicable provisions of Chapter 16 for investigations and cleanup and abatement of discharges of hazardous substances from underground storage tanks; ~~and~~

G. Ensure that dischargers are required to clean up and abate the effects of discharges in a manner that promotes attainment of either background water quality, or the best water quality which is reasonable if background levels of water quality cannot be restored, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible; in approving any alternative cleanup levels less stringent than background, apply Section 2550.4 of Chapter 15, or, for cleanup and abatement associated with underground storage tanks, apply Section 2725 of Chapter 16, provided that the Regional Water Board considers the conditions set forth in Section 2550.4 of Chapter 15 in setting alternative cleanup levels pursuant to Section 2725 of Chapter 16; any such alternative cleanup level shall:

1. Be consistent with maximum benefit to the people of the state;

2. Not unreasonably affect present and anticipated beneficial use of such water; and

3. Not result in water quality less than that prescribed in the Water Quality Control Plans and Policies adopted by the State and Regional Water Boards; and

H. Consider the designation of containment zones notwithstanding any other provision of this or other policies or regulations which require cleanup to water quality objectives. A containment zone is defined as a specific portion of a water bearing unit where the Regional Water Board finds, pursuant to Section III.H. of this policy, it is unreasonable to remediate to the level that achieves water quality objectives. The discharger is required to take all actions necessary to prevent the

migration of pollutants beyond the boundaries of the containment zone in concentrations which exceed water quality objectives. The discharger must verify containment with an approved monitoring program and must provide reasonable mitigation measures to compensate for any significant adverse environmental impacts attributable to the discharge. Examples of sites which may qualify for containment zone designation include, but are not limited to, sites where either strong sorption of pollutants on soils, pollutant entrapment (e.g. dense non-aqueous phase liquids [DNAPLS]), or complex geology due to heterogeneity or fractures indicate that cleanup to applicable water quality objectives cannot reasonably be achieved. In establishing a containment zone, the following procedures, conditions, and restrictions must be met:

1. The Regional Water Board shall determine whether water quality objectives can reasonably be achieved within a reasonable period by considering what is technologically and economically feasible and shall take into account environmental characteristics of the hydrogeologic unit under consideration and the degree of impact of any remaining pollutants pursuant to Section III.H.3. The Regional Water Board shall evaluate information provided by the discharger and any other information available to it:

   a. Technological feasibility is determined by assessing available technologies, which have been shown to be effective under similar hydrogeologic conditions in reducing the concentration of the constituents of concern. Bench-scale or pilot-scale studies may be necessary to make this feasibility assessment;

   b. Economic feasibility is an objective balancing of the incremental benefit of attaining further reductions in the concentrations of constituents of concern as compared with the incremental cost of achieving those reductions. The evaluation of economic feasibility will include consideration of current, planned, or future land use, social, and economic impacts to the surrounding community including property owners other than the discharger. Economic feasibility, in this Policy, does not refer to the discharger's ability to finance cleanup. Availability of financial resources should be considered in the establishment of reasonable compliance schedules;

   c. The Regional Water Board may make determinations of technological or economic infeasibility after a discharger either implements a cleanup program pursuant to III.G. which cannot reasonably attain cleanup objectives, or demonstrates that it is unreasonable to cleanup to water quality objectives, and may make determinations on the basis of projection, modeling, or other analysis of site-specific data without necessarily requiring that remedial measures be first constructed or installed and operated and their performance reviewed over time unless such projection, modeling, or other analysis is insufficient or inadequate to make such determinations;

2. The following conditions shall be met for all containment zone designations:

   a. The discharger or a group of dischargers is responsible for submitting an application for designation of a containment zone. Where the application does not have sufficient information for the Regional Water Board to make the requisite findings, the Regional Water Board shall request the discharger(s) to develop and submit the necessary information. Information requirements are listed in the Appendix to this section;

   b. Containment and storage vessels that have caused, are causing, or are likely to cause ground water degradation must be removed or repaired, or closed in accordance with applicable regulations. Floating free product must be removed to the extent practicable. If necessary, as determined by the Regional Water Board, to prevent further water quality degradation, other sources (e.g., soils, nonfloating free product) must be either removed, isolated, or managed. The significance and approach to be taken regarding these sources must be addressed in the management plan developed under H.2.d.;

   c. Where reasonable, removal of pollutant mass from ground water within the containment zone may be required, if it will significantly reduce the concentration of pollutants within the containment zone, the volume of the

containment zone, or the level of maintenance required for containment. The degree of removal which may be required will be determined by the Regional Water Board in the process of evaluating the proposal for designation of a containment zone. The determination of the extent of mass removal required will include consideration of the incremental cost of mass removal, the incremental benefit of mass removal, and the availability of funds to implement the provisions in the management plan for as long as water quality objectives are exceeded within the containment zone;

d. The discharger or a group of dischargers must propose and agree to implement a management plan to assess, cleanup, abate, manage, monitor, and mitigate the remaining significant human health, water quality, and environmental impacts to the satisfaction of the Regional Water Board. Impacts will be evaluated in accordance with Section III.H.3. The management plan may include management measures, such as land use controls[1], engineering controls[2], and agreements with other landowners or agreements with the landlord or lessor where the discharger is a tenant or lessee.[3] The contents of the management plan shall be dependent upon the specific characteristics of the proposed containment zone and must include a requirement that the Regional Water Board be notified of any transfer of affected property to a new owner(s);

e. The proposed management plan must provide reasonable mitigation measures to substantially lessen or avoid any significant adverse environmental impacts attributable to the discharge. At a minimum, the plan must provide for control of pollutants within the containment zone such that water quality objectives are not exceeded outside the containment zone as a result of the discharge. The plan must also provide, if appropriate, for equivalent alternative water supplies, reimbursement for increased water treatment costs to affected users, and increased costs associated with well modifications. Additional mitigation measures may be proposed by the discharger based on the specific characteristics of the proposed containment zone. Such measures must assist in water quality improvement efforts within the ground water basin and may include participating in regional ground water monitoring, contributing to ground water basin cleanup or management programs, or contributing to research projects which are publicly accessible (i.e., not protected by patents and licenses) and aimed at developing remedial technologies that would be used in the ground water basin. Proposals for off-site cleanup projects may be considered by the Regional Water Board as a mitigation measure under the following criteria:

1. Off-site cleanup projects must be located in the same ground water basin as the proposed containment zone, and

2. Implementation of an off-site project must result in an improvement in the basin's water quality or protect the basin's water quality from pollution, and

3. Off-site projects must include source removal or other elements for which water quality benefits or water quality protection can be easily demonstrated, and

4. Off-site projects may be proposed independently by the discharger or taken from projects identified as acceptable by the Regional Water Board through a clearinghouse process, or

5. In lieu of choosing to finance a specific off-site project, the discharger may contribute moneys to the SWRCB's Cleanup and Abatement Account (Account) or other funding source. Use of such contributions to the Account or other source will be limited to cleanup projects or water quality protection projects for the basin in which the containment zone is designated. Contributions are not to exceed ten percent of the savings in continued active remediation that discharger will accrue over a ten-year period due to designation of a containment zone (less any additional costs of containment zone designation during this period, e.g.,

additional monitoring requirements, Regional Water Board application costs, etc.). Contributions of less than ten percent must be accompanied by a detailed justification as to why a lesser contribution would provide adequate mitigation.

Except where prohibited by Federal law, Federal agencies may be required, based on specific site conditions, to implement mitigation measures;

f. The proposed management plan must include a detailed description of the proposed monitoring program, including the location and construction of monitoring points, a list of proposed monitoring parameters, a detailed description of sampling protocols, the monitoring frequency, and the reporting requirements and frequency. The monitoring points must be at or as close as reasonable to the boundary of the containment zone so as to clearly demonstrate containment such that water quality objectives outside the containment zone are not violated as the result of the discharge. Specific monitoring points must be defined on a case-by-case basis by determining what is necessary to demonstrate containment, horizontally and vertically. All technical or monitoring program requirements and requirements for access shall be designated pursuant to WC Section 13267. The monitoring program may be modified with the approval of the Regional Water Board's Executive Officer based on an evaluation of monitoring data;

g. The management plan must include a detailed description of the method to be used by the discharger to evaluate monitoring data and a specific protocol for actions to be taken in response to evidence that water quality objectives have been exceeded outside the containment zone as a result of the migration of pollutants from within the containment zone;

3. In order for a containment zone to be designated, it shall be limited in vertical and lateral extent; as protective as reasonably possible of human health and safety and the environment; and should not result in violation of water quality objectives outside the containment zone. The following factors must be considered by the Regional Water Board in making such findings:

a. The size of a containment zone shall be no larger than necessary based on the facts of the individual designation. In no event shall the size of a containment zone or the cumulative effect of containment zones cause a substantial decline in the overall yield, storage, or transport capacity of a ground water basin;

b. Evaluation of potentially significant impacts to water quality, human health, and the environment, shall take into consideration the following, as applicable to the specific factual situation:

1. The physical and chemical characteristics of the discharge, including its potential for migration;
2. The hydrogeological characteristics of the site and surrounding land;
3. The quantity of ground water and surface water and the direction of ground water flow;
4. The proximity and withdrawal rates of ground water users;
5. The patterns of rainfall in the region and the proximity of the site to surface waters;
6. The present and probable future uses of ground water and surface water in the area;
7. The existing quality of ground water and surface water, including other sources of pollution and their cumulative impact on water quality;
8. The potential for health impacts caused by human exposure to waste constituents;
9. The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;
10. The persistence and permanence of any potential adverse effects;
11. Exposure to human or other biological receptors from the aggregate of hazardous constituents in the environment;

12. The potential for the pollutants to attenuate or degrade and the nature of the breakdown products; and

13. Potential adverse effects on approved local development plans, including plans approved by redevelopment agencies or the California Coastal Commission.

c. No provision of this Policy shall be interpreted to allow exposure levels of constituents of concern that could have a significant adverse effect on human health or the environment;

d. A containment zone shall not be designated in a critical recharge area. A critical recharge area is an artificial recharge area or an area determined by the Regional Water Board to be a critical recharge area after the consultation process required by Section III.H.9. Further, a containment zone shall not be designated if it would be inconsistent with a local ground water management plan developed pursuant to Part 2.75 of Division 6 of the WC (commencing at Section 10750) or other provisions of law or court order, judgment or decree;

4. After designation, no further action to reduce pollutant levels, beyond that which is specified in the management plan, will be required within a containment zone unless the Regional Water Board finds that the discharger(s) has failed to fully implement the required management plan or that violation of water quality objectives has occurred beyond the containment zone, as a result of migration of chemicals from inside the containment zone. If the required tasks contained in the approved management plan are not implemented, or appropriate access is not granted by the discharger to the Regional Water Board for purposes of compliance inspection, or violation of water quality objectives occurs outside the containment zone and that violation is attributable to the discharge in the containment zone, the Regional Water Board, after 45 days public notice, shall promptly revoke the zone's containment status and shall take appropriate enforcement action against the discharger;

5. The designation of a containment zone shall be accomplished through the adoption of a cleanup and abatement order as authorized by WC Section 13304. The Regional Water Board shall make a finding of fact with regard to each of the conditions which serve as a prerequisite for containment zone designation in the cleanup and abatement order. All applicable criteria of Section III.H. must be met as a prerequisite to designation. The Regional Water Board may reject an application for designation of a containment zone for failure to meet any applicable criteria without having to make findings with regard to each prerequisite. Such orders shall be adopted by the Regional Water Boards themselves and not issued by the Executive Officers of the Regional Water Boards. These orders shall ensure compliance with all procedures, conditions, and restrictions set forth in Section III.H. As authorized by WC Section 13308, time schedules issued as part of the establishment of a containment zone may prescribe a civil penalty which shall become due if compliance is not achieved in accordance with that time schedule;

6. A containment zone shall be implemented only with the written agreement of all fee interest owners of the parcel(s) of property containing the containment zone. Exceptions may be allowed by the Regional Water Board where opposition is found to be unreasonable. In such cases, the Regional Water Board may use the authority of WC Section 13267 to assure access to property overlying the containment zone;

7. Local agencies which are supervising cleanup under contract with the State Water Board or by agreement with the Regional Water Board pursuant to provisions of the Underground Storage Tank Program may propose containment zones for consideration by the Regional Water Board. The local agency will forward its files and proposal to the Regional Water Board for consideration. Regional Water Boards shall use the same procedures, processes, public notice, and criteria that are noted elsewhere in this policy. Approval of Technical Impracticability Waivers by the Department of Toxic Substances Control or

the United States Environmental Protection Agency under the requirements of the Federal Resource Conservation and Recovery Act or the Comprehensive Environmental Response, Compensation, and Liability Act are deemed to be equivalent to the actions outlined in Section H. of this Policy if :

a. the substantive provisions of Sections III.H.2.b., e., f., and g. are met;

b. interested parties described in III.H.8.a. are included in the public participation process; and

c. site information is forwarded from the approving agency to the Regional Water Board so that sites for which Technical Impracticability Waivers have been approved can be included in the master listings described in Section III.H.10.;

8. The Regional Water Board shall comply with the following public participation requirements, in addition to any other legal requirements for notice and public participation, prior to the designation of a containment zone:

a. Public notice of an intention to designate a containment zone shall be provided to all known interested persons, including the owner of the affected property(s), owners and residents of properties adjacent to the containment zone, and agencies identified in Section III.H.9, at least 45 days prior to the proposed designation of a containment zone;

b. Interested persons shall be given the opportunity to review the application, including the proposed management plan, and any other available materials and to comment on any proposed designation of a containment zone. These materials, which contain information upon which the proposed designation of a containment zone is based, must be available for review at least 45 days prior to the proposed designation of a containment zone;

c. The proposed designation of a containment zone shall be placed on the agenda for consideration at a Regional Water Board meeting;

9. At least 45 days prior to the proposed designation of a containment zone, the Regional Water Board shall invite a technical advisory committee to review any proposed designation and shall meet as a committee at the request of any committee member. The committee or any committee member shall provide advice to the Regional Water Board as to the appropriateness of the requested designation and such designation will become part of the public record. No person or agency shall be made a member of the committee who is employed by or has a financial interest with the discharger seeking the designation. The following agencies shall be invited to participate in the advisory committee:

a. The California Department of Toxic Substances Control;

b. The California Department of Health Services, Drinking Water Branch;

c. The California Department of Fish and Game;

d. The local health authority;

e. The local water purveyor, in the event ground water is used or planned to be used as a source of water supply;

f. Any local ground water management agency including an appointed water master;

g. The United States Environmental Protection Agency; and

h. The California Coastal Commission if the site is located within the coastal zone of California.

10. The Regional Water Boards shall keep a master listing of all designated containment zones. The master listing shall describe the location and physical boundaries of the containment zone, the pollutants which exceed applicable water quality objectives, and any land use controls associated with the containment zone designation. The Regional Water Board shall forward the information on the master list to the State Water Board and to the local well permitting agency whenever a new containment zone is designated. The State Water Board will compile the lists from the

Regional Water Boards into a comprehensive master list;

11. To assure consistency of application of this Policy, the State Water Board will designate a "Containment Zone Review Committee" consisting of staff from the State Water Board and each of the Regional Water Boards. This review committee shall meet quarterly for two years and review all designation actions taken. The committee shall review problems and issues and make recommendations for consistency and improved procedures. In any event the State Water Board shall review the containment zone issue not later than five years after the adoption of Section III.H., and periodically thereafter. Such review shall take place in a public proceeding;

12. In the event that a Regional Water Board finds that water quality objectives within the containment zone have been met, after public notice, the Regional Water Board will rescind the designation of the containment zone and issue a closure letter; and

13. The Regional Water Board's cost associated with review of applications for containment zone designation will be recoverable pursuant to Section 13304 of the Water Code, provided a separate source of funding has not been provided by the discharger.

14. Designation of a containment zone shall have no impact on a Regional Water Board's discretion to take appropriate enforcement actions except for the provisions of Section III.H.4.

IV. The Regional Water Board shall determine schedules for investigation, and cleanup and abatement, taking into account the following factors:

A. The degree of threat or impact of the discharge on water quality and beneficial uses;

B. The obligation to achieve timely compliance with cleanup and abatement goals and objectives that implement the applicable Water Quality Control Plans and Policies adopted by the State Water Board and Regional Water Boards;

C. The financial and technical resources available to the discharger; and

D. Minimizing the likelihood of imposing a burden on the people of the state with the expense of cleanup and abatement, where feasible.

V. The State and Regional Water Boards shall develop an expedited technical conflict resolution process so when disagreements occur, a prompt appeal and resolution of the conflict is accomplished.

Appendix to Section III.H.

Application for a Containment Zone Designation

The discharger is responsible for submitting an application for designation of a containment zone. Supporting information which is readily available to the Regional Water Board and which would be cumbersome or costly to reproduce can be included in the application by reference. In order to facilitate the preparation of an acceptable application, the discharger may request that the Regional Water Board provide a preliminary review of a partial application. The partial application should be detailed enough to allow the Regional Water Board to determine if the site passes the threshold criteria for establishment of a containment zone (e.g., it is not reasonable to achieve water quality objectives at that site, plume management measures are likely to be effective, etc.). As appropriate, the application shall include:

a) Background information (location, site history, regulatory history);

b) Site characterization information, including a description of the nature and extent of the discharge. Hydrogeologic characterization must be adequate for making the determinations necessary for a containment zone designation;

c) An inventory of all wells (including abandoned wells and exploratory boreholes) that could affect or be affected by the containment zone;

d) A demonstration that it is not reasonable to achieve water quality objectives;

e) A discussion of completed source removal and identification of any additional sources that will be addressed during implementation of the management plan;

f) A discussion of the extent to which pollutant mass has been reduced in the aquifer and identification of any additional mass removal that will be addressed during implementation of the management plan;

g) If necessary, information related to the availability of funds to implement the provisions of the management plan throughout the expected duration of the containment zone designation;

h) The proposed boundaries for the proposed containment zone pursuant to Section III.H.3.a.;

i) An evaluation of potential impacts to water quality, human health and the environment pursuant to Sections III.H.3.b. and c.;

j) A statement that the discharger believes that the site is not located in a critical recharge area, as required by Section III.H.3.d.;

k) Copies of maps and cross sections that clearly show the boundaries of the proposed containment zone and that show the locations where land use restrictions will apply. Maps must include at least four points of reference near the map corners. Reference points must be identified by latitude and longitude (accurate to within 50 feet), as appropriate for possible inclusion in a geographic information system (GIS) database; and

l) A management plan for review and approval. The management plan must contain provisions for:

   1) source removal as appropriate;

   2) pollutant mass removal from the aquifer as appropriate;

   3) land use or engineering controls necessary to prevent the migration of pollution, including the proper abandonment of any wells within the vicinity of the containment zone that could provide a conduit for pollution migration beyond the containment zone boundary;

4) land use or engineering controls necessary to prevent water quality impacts and risks to human health and the environment;

5) mitigation measures, an implementation schedule for mitigation, and reporting requirements for compliance with mitigation measures;

6) a detailed description of the proposed monitoring program;

7) a detailed description of the method to be used by the discharger to evaluate monitoring data;

8) a specific protocol for actions to be taken if there is evidence that water quality objectives have been exceeded outside the containment zone as a result of the migration of pollutants from within the containment zone;

9) a detailed description of the frequency and content of reports to be submitted to the Regional Water Board;

10) detailed procedures and designs for well maintenance, replacement and decommissioning;

11) a protocol for submittal to and approval by the Executive Officer of minor modifications to the management plan as necessary to optimize monitoring and containment; and

12) a description of file and data base maintenance requirements.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on June 18, 1992, and amended at meetings of the State Water Resources Control Board held on April 21, 1994, and October 2, 1996.

Maureen Marché

Administrative Assistant to the Board

(Note: The amendments adopted October 2, 1996 (shown by strikeout and underlining) will not be effective until approved by the Office of Administrative Law)

1. For the purposes of this section, "land use controls" means recorded instruments, proposed by the discharger and agreed to by the owner of the affected property, restricting the present and future uses of the affected property, including, but not limited to, recorded easements, covenants, restrictions or servitudes, or any combination thereof, as appropriate. Land use controls shall run with the land from the date of recordation, shall bind all of the owners of the land, and their heirs, successors, and assignees, and the agents, employees, and lessees of the owners, heirs, successors, and assignees. Such instruments shall provide for (a) amendment or rescission of the restriction upon application of the holder of fee interest in the property and upon the approval of the Regional Water Board if warranted by changed circumstances (e.g., new information demonstrates that a modification to land use restriction is appropriate, the containment zone designation has been rescinded because water quality objectives have been attained throughout the containment zone,

etc.), and (b) except for the restriction contained in the instrument, the establishment of a containment zone shall not prohibit the full use or enjoyment of the property.

2. For the purposes of this section, "engineering controls" means measures to prevent migration of pollutants and to prevent, minimize or mitigate environmental damage which may otherwise result from a release or threatened release, including, but not limited to, caps, covers, dikes, trenches, leachate collection systems, treatment systems, and ground water containment systems or procedures and decommissioning of wells.

3. For the purposes of this section, these agreements could be formal, private agreements between parties related to the property use, existing or potential water use, etc.

Exhibit 4

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CITY OF TORRANCE

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

CITY OF TORRANCE,

Plaintiff,

vs.

HI-SHEAR CORPORATION, a Delaware corporation, d/b/a LISI AEROSPACE,

Defendant.

Case No.

COMPLAINT FOR:

(1) RESPONSE COSTS PURSUANT TO THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT ("CERCLA"), 42 U.S.C. § 9607;
(2) DECLARATORY RELIEF PURSUANT TO CERCLA, 42 U.S.C. § 9613;
(3) ABATEMENT OF IMMINENT AND SUBSTANTIAL ENDANGERMENT, RESOURCE CONSERVATION AND RECOVERY ACT ("RCRA"), 42 U.S.C. § 6901, et seq.;
(4) RESPONSE COSTS, INDEMNITY AND CONTRIBUTED UNDER CALIFORNIA SUPERFUND;
(5) BREACH OF THE 2004 LEASE;
(6) NUISANCE;
(7) TRESPASS;
(8) WASTE;
(9) NEGLIGENCE; NEGLIGENCE PER SE; AND
(10) DECLARATORY RELIEF UNDER CALIFORNIA LAW

DEMAND FOR JURY TRIAL
[Fed. R. Civ. Proc. 38(b); Local Rule 38-1]

Plaintiff City of Torrance (hereafter "City"), by and through its Counsel, hereby alleges as follows:

JURISDICTION

1. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. § 1331, 42 U.S.C. §§ 6972(a) and 9613(b), and 28 U.S.C § 1367. This Court has supplemental jurisdiction over the state-law claims in this Complaint pursuant to 28 U.S.C. § 1367(a), as such claims arise from the same "common nucleus of operative facts" as the federal-law claims under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA" - 42 U.S.C. § 9601 *et seq.*) and the Resource Conservation and Recovery Act ("RCRA" – 42 U.S.C. § 6901 et. seq.).

VENUE

2. Venue is proper in the Central District of California pursuant to 42 U.S.C. §§ 6972(a) and 9613(b), and 28 U.S.C. § 1391(b).

PARTIES

3. Plaintiff City is a municipal corporation located in the County of Los Angeles and the owner of certain real property located on and within the vicinity of the Torrance Airport/Zamperini Field (the "Airport"), including real property the City leases, on a long term basis, to various tenants (hereafter collectively, "City Airport Property"). An approximately 14 acre portion of the City Airport Property, located at 2600 Skypark Drive, is currently leased by the City to Defendant Hi-Shear Corporation (the "Hi-Shear Property") on a long-term basis.

4. Defendant Hi-Shear Corporation ("Hi-Shear" or "Defendant") is a Delaware corporation doing business as Lisi Aerospace on the Hi-Shear Property. Hi-Shear has continuously leased some portion of the Hi-Shear Property from the City , and conducted business thereon, since in or about 1954.

/ / /

/ / /

GENERAL ALLEGATIONS

5. Hi-Shear currently leases the Hi-Shear Property from the City pursuant to an August 1, 2004 lease, as amended on July 1, 2014 (the "Lease"), a true and correct copy of which is attached hereto as Exhibit "1". The Lease is currently in effect, and Hi-Shear has occupied the entire portion of the Hi-Shear Property continuously since at least 2004.

6. The City alleges, on information and belief, that beginning in or about 1954, in the course of conducting its business and operations in, on, and within the vicinity of the Hi-Shear Property, Hi-Shear received, stored, used, generated, transported, released, discharged and/or disposed of various "hazardous substances," "hazardous materials," "hazardous wastes," and/or "toxic chemicals," as such terms are defined under federal and state law (collectively, "Hazardous Substances"), including but not limited to, a chemical known as trichloroethylene (TCE), which is referred to as a halogenated volatile organic compound ("HVOC"), and potentially other HVOCs such as perchloroethylene ("PCE, " also known as tetrachloroethelene), along with various breakdown chemicals of such HVOCs.

7. The City has become aware of the existence of various Hazardous Substances contamination, including but not limited to TCE and other HVOC contamination, in soil, soil vapor and/or groundwater, within and migrating from the Hi-Shear Property (collectively, the "Contamination"), and is informed and believes that some or all such Contamination was caused in whole or in part by Hi-Shear's actions, inactions and/or omissions on, within and in the vicinity of the Hi-Shear Property.

8. The City further alleges that the Contamination has been released and is continuing to be released and to migrate onto other portions of the City Airport Property, including into groundwater throughout the City Airport Property, and potentially beyond the City Airport Property.

9. In addition to the Hi-Shear Property, the City leases portions of the

City Airport Property to Robinson Helicopter (the "Robinson Property"), Dasco Engineering ("the Dasco Property"), and South Bay Lexus ("the SBL Property"), among other tenants. The City alleges, on information and belief, that Hazardous Substances have migrated from the Hi-Shear Property onto the Robinson Property, Dasco Property, and SBL Property, as well as potentially other portions City Airport Property, which are all downgradient from the Hi-Shear Property.

10. The Hazardous Substances that have been released and/or discharged on the City Airport Property by Hi-Shear, both on and off the Hi-Shear Property, and which have required or will require the assessment, investigation, monitoring, oversight, removal, treatment, mitigation, remediation and/or cleanup from the soil, soil vapor and/or groundwater, are collectively referred to in this Complaint as the "Contamination".

11. Hi-Shear's occupancy of and/or operations on the Hi-Shear Property have resulted in negligent, reckless and/or intentional discharges of Hazardous Substances starting from the 1950s, and resulting in the existence of Contamination on the City Airport Property, specifically including the Hi-Shear Property, the Robinson Property, the Dasco Property and the SBL Property, with the Contamination from the Hi-Shear Property continuing to migrate to downgradient properties each day it remains unabated.

12. Plaintiff City is informed and believes, and based thereon alleges, that the Contamination was caused by various sudden and accidental releases, and other discharges and releases of Hazardous Substances by Defendant Hi-Shear, commencing in or about the 1954, and continuing regularly and consistently each year thereafter throughout the time Defendant Hi-Shear has utilized Hazardous Substances in its operations, with each release and/or discharge of a Hazardous Substance continuing to migrate and be released into and from the soil, soil vapor, air and groundwater within the Hi-Shear Property and other City Airport Property.

13. The Defendant's operations on the Hi-Shear Property have resulted in

negligent, reckless and/or intentional releases and discharges of Hazardous Substances starting from as early as 1954, and resulting in the existence of the Contamination on City Airport Property, with such Contamination continuing to migrate each day it remains unabated.

14. As a result of Defendant Hi-Shear's actions, inactions and omissions in occupying and/or operating its facility on the Hi-Shear Property, and potentially on other City Airport Property, a condition of pollution and nuisance exists on and off the Hi-Shear Property and other portions of the City Airport Property, including but not limited to in groundwater, resulting in an imminent and substantial endangerment to the health and safety of persons on the Hi-Shear Property, other City Airport Property, and nearby properties, as well as to the general public and the environment.

15. The City, as the owner of the City Airport Property, specifically including the Hi-Shear Property, the Robinson Property, Dasco Property, and the SBL Property, has been injured and damaged, with the City having incurred and continuing to incur investigation, assessment, mitigation, removal, treatment, remediation and other clean-up and related costs necessary to address the Contamination on and migrating from the Hi-Shear Property and other City Airport Property, including as needed to reduce the risk of harm to the public, other tenants and the environment as a result of such Contamination. The City has also incurred and will continue to incur property damages and other damages on an ongoing and continuing basis, as a result of the Contamination, including damages in the form of reduced market value and reduced rental value of the Hi-Shear Property and other City Airport Property, and potential damages due to lost rent and loss of use, and other damages resulting from the Contamination, all to be shown in accordance with the proof at the time of trial.

16. The City has already incurred tens of thousands of dollars in response costs, inclusive of costs incurred as a result of a Water Code section 13267 order

received from the California Regional Water Quality Control Board, Los Angeles Region (hereafter, the "LA Regional Board") on or about April 18, 2016 (the "13267 Order"), along with significant other costs and expenses incurred because of the Contamination, as well as various attorney fees and consultant fees in investigating all potential causes and potentially responsible parties responsible for the Contamination.

17. On or about July 11, 2017, under the Resource Conservation and Recovery Act ("RCRA" – 42 U.S.C. § 6901 et. seq.), the City, through its counsel, served a formal Notice of Intent to Sue pursuant to 42 U.S.C. § 6972(a)(1)(B) ("RCRA Notice"), on Defendant Hi-Shear. To date, has failed and refused to abate the imminent and substantial endangerments described in the RCRA Notice.

18. On or about February 15, 2017, the City, through its counsel, sent a Notice of Default of the Lease to Hi-Shear ("Notice of Default"). In addition to Hi-Shear's obligations under federal and state law, the Lease obligates the Hi-Shear to indemnify, defend and hold the City harmless from all "Environmental Claims," "Environmental Cleanup Liability," and "Environmental Compliance Cost" involving the Hi-Shear Property, as those terms are defined in the Lease. (Lease, Sections 8.A, 18.B [Ex. "1", pp, 7, 20-24].) To date, Hi-Shear has failed and refused to honor its obligations under the Lease in this regard, and is default of its obligations under the Lease.

19. On or about July 11, 2017, the City served its RCRA Notice of the actual and threatened endangerment, injury and damage alleged herein, by mailing a Notification of Abandoned Waste and Intent to Bring Suit Under RCRA, to: Defendant Hi-Shear; the Administrator of the United States Environmental Protection Agency (U.S. EPA); the U.S. EPA's Regional Administrator; and the Executive Officer of the California Regional Water Quality Control Board, Los Angeles Region; the Secretary of the California Environmental Protection Agency; and the Director of the California Department of Resources, Recycling and

Recovery. (Exhibit "2") To date, Defendant Hi-Shear has failed and refused to abate the imminent and substantial endangerments described in the RCRA Notice.

FIRST CAUSE OF ACTION

(FOR RESPONSE COSTS UNDER CERCLA, 42 U.S.C. § 9607)

20. The City re-alleges the allegations of Paragraphs 1 through 19above, as though fully set forth and incorporated herein.

21. The City has incurred, and will continue to incur, response costs as a result of the Contamination that are both necessary and consistent with the National Contingency Plan ("NCP"), and were incurred in accordance with the requirements of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA" – 42 U.S.C. § 9601 *et seq.*).

22. These necessary costs of response have been and will continue to be consistent with the National Contingency Plan in the form of assessment, investigation, evaluation, monitoring, agency oversight, removal, treatment, mitigation, remediation and/or cleanup costs, as well as additional costs necessary to abate the releases or threatened releases of the Hazardous Substances resulting from the Contamination.

23. Hi-Shear is a "person" who purchased, stored, used, handled, generated, transported, managed, released, arranged for the disposal of, and/or disposed of "Hazardous Substances" in, on, under, within and in the vicinity of the Hi-Shear Property, and, as a long time lessee on and around the Hi-Shear Property, is a "person" who is a current and prior "owner" and "operator" of the Hi-Shear Property, at the time when Hazardous Substances were released and disposed of, all resulting in Defendant Hi-Shear being a "responsible", "liable" and "covered" party pursuant to 42 U.S.C. § 9607.

24. As a result of Hi-Shear's past and/or current operations on the Hi-Shear Property resulting in releases and threatened releases of Hazardous Substances, and their long term occupation of the Hi-Shear Property, and potentially on other City

Airport Property, the Hi-Shear Property and such other City Airport Properties are "facilities" in accordance with 42 U.S.C. § 9601(9).

25. Hi-Shear, in its purchase, storage, handling, usage, generation, transportation, management, release, arranging for the disposal of, and/or disposal of Hazardous Substances on the Hi-Shear Property, caused the existence of a release or threatened release of Hazardous Substances in, on, under or within the Hi-Shear Property, and onto and within other property in the vicinity thereof, including onto and within other portions of the City Airport Property.

26. The City has incurred, and will continue to incur, response costs in responding to the releases or threatened releases of the Hazardous Substances, including assessment, investigation, evaluation, monitoring, mitigation, removal and/or remedial action costs, and/or enforcement costs, attorneys' fees, consultant fees, and related costs, which costs are and will continue to be "necessary" costs of response consistent with the National Contingency Plan.

27. The City seeks reimbursement for any and all such past, present, and/or future response costs incurred prior to trial, together with interest thereon, with Hi-Shear being strictly liable to the City for all such amounts under CERCLA.

SECOND CAUSE OF ACTION

(FOR DECLARATORY RELIEF UNDER CERCLA, 42 U.S.C. § 9613)

28. The City re-alleges the allegations of Paragraphs 1 through 27 above, as though fully set forth and incorporated herein.

29. The City is informed and believes, and alleges on that basis, that an actual controversy exists between the City and Hi-Shear, in that the City contends and Hi-Shear denies, that Hi-Shear is a responsible party for the Contamination and the necessary past and future response costs to investigate and address the same, because Hi-Shear has purchased, stored, handled, used, generated, transported, managed, released, arranged for the disposal of, and/or disposed of Hazardous Substances in, on, under, within and in the vicinity of the Hi-Shear Property, which

are continuing to be released and threatened to be released on and from the Hi-Shear Property on other portions of the City Airport Property; and because Hi-Shear was the "owner" and/or "operator" at the time of the disposal and/or release of Hazardous Substances in, on, under, within and in the vicinity of the Hi-Shear Property; and because Hi-Shear is the current "owner" and "operator" of the Hi-Shear Property as the long term lessee.

30. The City further contends, and Hi-Shear denies, that Hi-Shear is responsible for all such response costs and damages that have been and will be incurred in the future for activities performed or to be performed in the investigation, assessment, evaluation, monitoring, mitigation, removal, remediation, and/or cleanup of any and all such Hazardous Substances and the Contamination, including any and all necessary removal or remedial action taken or to be taken to respond to the releases and threatened releases of such Hazardous Substances.

31. The City requests a judicial determination of the respective rights and duties of the City and Hi-Shear with respect to Hi-Shear's responsibility to investigate, assess, evaluate, monitor, mitigate, remove, cleanup and/or remediate any and all releases or threatened releases of any Hazardous Substance on the Hi-Shear Property and from the Hi-Shear Property onto other portions of the City Airport Property, and to compensate and reimburse the City for any and all such response costs the City has incurred and will incur in the future to this end.

32. Such a judicial declaration setting forth the parties' rights and obligations with respect to the response costs in question, as well as the obligations of the parties, is necessary in order for the respective parties to ascertain their rights and duties with respect to the claims asserted herein. A determination of such claims is necessary and appropriate in order to avoid the multiplicity of actions that would result if the City is forced to proceed against Hi-Shear after each additional increment of response costs it incurs or as a result of any other recoverable costs the City will incur as a result of Hi-Shear's actions or inactions alleged herein.

THIRD CAUSE OF ACTION

(FOR ABATEMENT OF IMMINENT AND SUBSTANTIAL ENDANGERMENT UNDER RCRA, 42 U.S.C. § 6972)

33. The City repeats and re-alleges paragraphs 1 through 32 above, as though fully set forth and incorporated herein.

34. The City brings this claim for abatement of an imminent and substantial endangerment to health or the environment resulting from the Contamination, pursuant to Section 7002 of RCRA, 42 U.S.C. § 6972.

35. Hi-Shear is a "person" within the meaning of RCRA, 42 U.S.C. § 6903(15), and has contributed and/or is contributing to the past or present handling, storage, treatment, transportation or disposal of "solid" and/or "hazardous" wastes, which present an imminent and substantial endangerment to health and/or the environment.

36. Each of the Hazardous Substances handled, stored, treated, transported, or "disposed" of by Hi-Shear (either directly or by contributing to the handling, storage, treatment, transportation, or disposal), when discarded, was/is a "solid waste," and/or a "hazardous waste," as those terms are defined under RCRA, 42 U.S.C. § 6903(5) and (27), with such "solid" and "hazardous" wastes resulting in the Contamination, and with Hi-Shear thereby creating an imminent and substantial endangerment to health and/or the environment.

37. Hi-Shear has refused and failed to abate the imminent and substantial endangerments created by their actions and inactions, both on and off the Hi-Shear Property, and such imminent and substantial endangerments therefore remain.

38. As alleged above, the City served its RCRA Notice on Defendant Hi-Shear and on the U.S. EPA Administrator and Regional Administrator, as well as on various California governmental agencies and more than 90 days has passed but to date, Defendant Hi-Shear has failed and refused to abate the imminent and substantial endangerments described in the RCRA Notice.

39. Neither the U.S. EPA Administrator, the US EPA Regional Administrator, nor any agency of the State of California, has commenced or is diligently prosecuting an action under either RCRA or CERCLA, including the filing of any lawsuit or the issuance of any order under RCRA or CERCLA. In addition, none of these agencies have themselves initiated any remedial investigation, feasibility study, or removal or remedial action with respect to the Hi-Shear Property or any other City Airport Property.

40. Pursuant to RCRA, 42 U.S.C. § 6972(a), the City hereby seeks a prohibitory and/or mandatory injunction to preliminarily and permanently restrain and enjoin Hi-Shear from permitting the imminent and substantial endangerment to health or the environment to continue, and to require Hi-Shear to take such action as may be necessary to abate the imminent and substantial endangerment, and to investigate, assess, monitor, mitigate, remove, remediate, treat and/or cleanup the Contamination on and migrating from the Hi-Shear Property and other City Airport Property.

41. The City also hereby seeks recovery of all its costs of litigation, including all attorney fees, expert witness fees, and other costs pursuant to RCRA, 42 U.S.C. § 6972(e).

42. Notice of this Action will be provided to the U.S. EPA Administrator and the U.S. Attorney General.

FOURTH CAUSE OF ACTION

(FOR RESPONSE COSTS, INDEMNITY AND CONTRIBUTION UNDER CALIFORNIA SUPERFUND, HEALTH & SAFETY CODE SECTION 25363 ET SEQ)

43. The City repeats and re-alleges paragraphs 1 through 42 above, as though fully set forth and incorporated herein.

44. The City has incurred and will continue to incur response costs in accordance with the requirements of Chapter 6.8 of Division 20 of the California

Health & Safety Code, California Health & Safety Code section 25300 et seq., for the releases and threatened releases of Hazardous Substances and the Contamination in issue.

45. The City hereby seeks the recovery, reimbursement, indemnity and contribution from Hi-Shear for any and all past, present and/or future response costs incurred in connection with the Contamination, together with interest thereon, with Hi-Shear being strictly liable to the City for the same, pursuant to California Health & Safety Code section 25363, and all provisions related thereto, including but not limited to all costs incurred and/or to be incurred to assess, mitigate, investigate, treat, remove and/or remediate any Hazardous Substances and/or Contamination in, on, under and migrating from the Hi-Shear, specifically including but not limited to such costs incurred related to the Contamination that has migrated off of the Hi-Shear Property onto other portions of the City Airport Property.

FIFTH CAUSE OF ACTION

(FOR BREACH OF 2004 LEASE AGREEMENT)

46. The City repeats and re-alleges paragraphs 1 through 45 above, as though fully set forth and incorporated herein.

47. Hi-Shear's actions and inactions in causing the Contamination, and in failing to fully address and cleanup all such Contamination, and to remedy all damages resulting therefrom, constitute breaches and violations of Sections 8 & 18 of the 2004 Lease (Ex. 1), which read as follows:

> Possession of the Leased Premises shall be deemed to have been delivered to Lessee on the Effective Date. Lessee acknowledges and agrees that Lessee (and/or its predecessors-in-interest) has had exclusive possession of the Leased Premises and the Adjoining Premises since 1954 and that Lessee is and shall be responsible for the current condition of the Leased Premises, the Adjoining Premises and any affected surrounding premises, and the improvements located thereon and for the expeditious investigation, removal, and remediation of all Hazardous Materials (as defined in Section 18(B) below) that may have been discharged, released, placed or disposed of

on, in, under, or about the Leased Premises, the Adjoining Premises and any affected surrounding premises, and/or the improvements located thereon, during the term of the Original Lease (except for Hazardous Materials that have migrated onto the Leased Premises, Adjoining Premises, or any affected surrounding premises through no fault of Lessee) and, with respect to the Leased Premises only, during the term of this Lease (''Lessee Contamination"). Lessee further agrees that it shall defend, indemnify and hold City and the City's officers, directors, trustees, members, agents, employees, contractors, consultants and representatives, and City's properly, harmless from any and all claims, demands, liabilities, obligations, expenses and/or penalties arising out of or in connection with Lessee's Contamination in accordance with the provisions of Article 18 below.

(Ex. "1", Lease, § 8.A)

Lessee shall be fully responsible, at Lessee's sole cost and expense, for any and all Lessee Contamination. Lessee, at Lessee's sole cost and expense, shall take all investigatory and/or remedial action required or ordered by any and all governmental authorities for the clean-up of any Lessee Contamination . . .

Lessee shall defend, indemnify and hold harmless City, City, and their officers, directors, employees, agents and representatives (collectively, the "Indemnified Parties") from and against any and all Lessee Contamination, Environmental Claims, Environmental Cleanup Liability, Environmental Compliance Costs, and any other claims, actions, suits, legal or administrative orders or proceedings, demands or other liabilities (collectively, "Claims") resulting at any time from the physical and/or environmental conditions of the Leased Premises whether before or after the Effective Date or from the existence of any Lessee Contamination and/or other Hazardous Materials of an kind whatsoever, in, on or under the Leased Premises occurring at any time whether before or after the Effective Date, including, but not limited to, all foreseeable and unforeseeable damages, fees, costs, losses and expenses, including any and all attorneys' fees and environmental consultant fees and investigation costs and expenses, directly or indirectly arising therefrom, and including fines and penalties of any nature whatsoever, assessed, levied or asserted against any Indemnified Parties to the extent that the fines and/or penalties are the result of a violation or an alleged violation of any Environmental Law. (*Id.,* § 18.B.)

48. Pursuant to Section 8 of the Lease, Hi-Shear is obligated to proceed with the "expeditious investigation, removal, and remediation" of all "Lessee Contamination," and is further obligated to defend, indemnify and hold the City harmless from such "Lessee Contamination," and all "Environmental Claims," "Environmental Cleanup Liability," as well as "Environmental Compliance Cost" (as defined under the Lease) involving the Hi-Shear Property.

49. Similarly, Section 18 of the Lease expressly obligates Hi-Shear to defend and indemnify the City from and against all claims arising out of the Lessee Contamination, including "expeditiously" addressing all Lessee Contamination that has migrated off the Hi-Shear Property in groundwater (or otherwise), and including any such Contamination that may be the subject of the Regional Board's Section 13267 Order.

50. To date, Hi-Shear has refused to indemnify and hold the City harmless from and against any and all costs relating to the Contamination, despite a request from the City to do so.

51. The City further alleges that Hi-Shear has expressly refused to engage in any remediation efforts off of the Hi-Shear Property, including but not limited to on other City Airport Property where the Contamination has migrated. Hi-Shear's refusal and/or delay to remediate any and all such Contamination, whether or not it is commingled with other releases of Hazardous Substances from other third parties, is a clear breach of Defendant Hi-Shear's obligations under the Lease.

52. As alleged above, on or about February 15, 2017, the City, through counsel, cause to be delivered a Notice of Default to Defendant Hi-Shear, demanding that Hi-Shear cure its violations/defaults under the Lease. To date, Hi-Shear has not taken any action to cure said defaults.

53. The City is and at all times relevant to this Complaint, has been in compliance with all applicable terms, requirements, conditions and obligations of the City in the Lease.

54. As a result of the actions, inactions and omissions of Defendant Hi-Shear and its violation, default and breaches of the Lease, as alleged above and as may otherwise be shown at the time of trial, the City herein seeks general, compensatory and consequential damages in amounts to be shown in accordance with proof at the time of trial, including all attorneys' fees and litigation costs, fees and expenses, as permitted under the Lease.

SIXTH CAUSE OF ACTION

(FOR NUISANCE, CALIFORNIA CIVIL CODE § 3479)

55. The City repeats and re-alleges paragraphs 1 through 54 above, as though fully set forth and incorporated herein.

56. The existence of the Contamination on and migrating from the Hi-Shear Property has resulted in a condition which is injurious to the health and offensive to the senses, and which is an obstruction to the free use of the Hi-Shear Property and other portions of the City Airport Property, and an interference with the City's, and its lessees, comfortable use and enjoyment of the City Airport Property.

57. The existence of the Contamination constitutes a continuing nuisance on the City Airport Property, including on the Hi-Shear Property, and has resulted from the actions, inactions and omissions of the Hi-Shear, whereby Hi-Shear has acted negligently, intentionally and tortiously in causing such nuisance and has acted negligently, intentionally and tortiously in failing to abate and enjoin such nuisance and in failing to investigate, assess, monitor, treat, remove and/or remediate such Contamination. The nuisance is abatable through the use of reasonable mitigation measures and costs. Indeed, such measures and costs are required by law.

58. As a result of the actions and inactions of Hi-Shear, a continuing nuisance exists and continues to exist resulting in damage to the City on a daily basis with each release and/or threatened release of any Hazardous Substance into

and from the soil, soil vapor, groundwater, and/or potentially into and from indoor air within buildings on the City Airport Property, giving rise to a new cause of action. The failure of the Hi-Shear to timely mitigate, through assessment, investigation, monitoring, mitigation, treatment, removal and remediation, the Contamination in, on, under and migrating from the Hi-Shear Property and any other portion of the City Airport Property, will further increase the damages and injuries the City has and will continue to incur, which accrue daily on a continuing basis.

59. The nuisance created by the existence of the Contamination in the soil, groundwater, and/or vapor on and off of the HI-Shear Property, is a nuisance that affects the entire community, neighborhood, or a considerable number of persons and that has created and continues to create a significant threat to the public's health and safety, as well as the environment, and is both a private nuisance specially injurious to the Plaintiff City and impacting the City Airport Property, and a public nuisance under California law.

60. The City has never given Hi-Shear permission or otherwise consented to or allowed the release of the Contamination on the Hi-Shear Property or permitted, consented to, or otherwise allowed its migration to other portions of the City Airport Property off of the Hi-Shear Property.

61. The condition of pollution and nuisance is specifically injurious to the City in that the damages and injuries resulting therefrom are different in type and effect from any damages or injuries that may have resulted to the entire community or neighborhood, in light of the City's ownership interest in the City Airport Property (specifically including its ownership of the Hi-Shear Property), its leasing of the City Airport Property to other tenants, the impact of the Contamination on the value of the City Airport Property, the potential loss of rent and use damages and market value and rental value to the City resulting from the Contamination, and other damages that are specifically injurious to the City.

62. As a result of the action, inactions and omissions of Hi-Shear, the City has suffered and will continue to suffer general, compensatory and consequential damages, inclusive of but not limited to any and all amounts incurred and to be incurred for the investigation, assessment, monitoring, treatment, removal and/or remediation of the Contamination, the diminution in value of the City Airport Property, and the loss of use and loss of rent and reduction in rental value of the City Airport Property, all in amounts not yet fully ascertained, but which will be more specifically shown in accordance with proof at the time of trial. Defendant Hi-Shear's actions and inactions were, at a minimum, a substantial factor in causing the foregoing harm to the City, and are the direct cause of such harm.

63. The City has requested and continues to seek to have Hi-Shear abate and enjoin the nuisance, but Hi-Shear has failed and refused to do the same, including but not limited to Hi-Shear's specific and express refusal to engage in necessary investigation, assessment and remediation activities on various portions of the City Airport Property, to which the Contamination has migrated from the Hi-Shear Property. The failure of the Hi-Shear to timely mitigate, through assessment, investigation, monitoring, mitigation, treatment, removal and remediation, the Contamination in, on, under and migrating from the Hi-Shear Property and any other portion of the City Airport Property, will further increase the damages and injuries the City has and will continue to incur, which accrue daily on a continuing basis.

64. The public does not benefit in any way from Hi-Shear's actions and inactions with respect to the Contamination, and therefore, the City's harm clearly outweighs any "public benefit," which is non-existent.

65. The City prays that a mandatory and/or prohibitory injunction be issued, requiring Hi-Shear to enjoin and abate said nuisance and/or to perform any and all actions necessary to assess, mitigate, investigate, remove, remediate, monitor, treat, or cleanup the Contamination on, in and migrating from the Hi-Shear

Property and any other portion of the City Airport Property.

SEVENTH CAUSE OF ACTION

(FOR TRESPASS)

66. Plaintiffs reallege paragraphs 1 through 65 above as though fully set forth and rewritten herein.

67. The Contamination existing in the soil and ground on the Property, and potentially in the soil vapor, air and in groundwater, constitutes a continuing trespass on the City Airport Property, both on and off the Hi-Shear Property, caused by the actions, inactions and omissions of the Hi-Shear, whereby Hi-Shear has acted negligently, intentionally and tortiously in causing such trespass and have acted negligently, intentionally and tortiously in failing to abate and enjoin such trespass and in failing to investigate, assess, monitor, treat, remove and/or remediate such Contamination. The trespass is abatable through the use of reasonable mitigation measures and costs.

68. The City has not given Hi-Shear permission or otherwise consented to or allowed the release of the Contamination on the Hi-Shear Property or permitted, consented to, or otherwise allowed its migration to other portions of the City Airport Property off of the Hi-Shear Property.

69. As a result of the actions and inactions of Hi-Shear, a continuing trespass exists and continues to exist resulting in damage to the City on a daily basis with each release and/or threatened release of any Hazardous Substance into and from the soil, soil vapor, groundwater, and/or potentially into and from indoor air within buildings on the City Airport Property, giving rise to a new cause of action.

70. As a result of the actions and inactions of the Hi-Shear, the City has suffered and will continue to suffer general, compensatory and consequential damages inclusive of but not limited to any and all amounts incurred or to be incurred from the investigation, assessment, monitoring, removal and/or remediation of Contamination, the diminution in market value and rental value of the City

Airport Property, and potentially the loss of use and loss of rent from use of the City Airport Property, and all other amounts to be determined with proof at trial, all of which have not yet been fully ascertained but which will more specifically be shown in accordance with proof at the time of trial. Hi-Shear's actions and inactions were, at a minimum, a substantial factor in causing the foregoing harm to the City, and in fact are the direct cause of such harm.

71. The City has requested and continues to request that Hi-Shear abate and enjoin the alleged trespass, but Hi-Shear has failed and refuse to do so and the trespass continues to exist, specifically including but not limited to Hi-Shear's express refusal to engage in any investigation or remediation activities on portions of the City Airport Property, off of the Hi-Shear Property, to which the Contamination has migrated from the Hi-Shear Property. The failure of the Hi-Shear to timely mitigate, through assessment, investigation, monitoring, mitigation, treatment, removal and remediation, the Contamination in, on, under and migrating from the Hi-Shear Property and any other portion of the City Airport Property, will further increase the damages and injuries the City has and will continue to incur, which accrue daily on a continuing basis.

72. The City seeks a mandatory and/or prohibitory injunction be issued requiring Hi-Shear to enjoin and abate the alleged trespass and/or to perform any and all assessment, mitigation, monitoring, investigation, removal, remediation, treatment, cleanup or otherwise to accomplish the same.

EIGHTH CAUSE OF ACTION

(FOR WASTE)

73. Plaintiffs reallege paragraphs 1 through 72 above as though fully set forth and rewritten herein.

74. As a result of Hi-Shear's use, storage, handling and disposal and releases of various Hazardous Substances on the Hi-Shear Property, and the resulting Contamination on and migrating from the Hi-Shear Property onto other

portions of the City Airport Property, Hi-Shear has committed waste on the City Airport Property (including the Hi-Shear Property), resulting in a diminution in the use and marketability of the City Airport Property, and a diminution in the market value and rental value of the City Airport Property.

75. The damage and waste Hi-Shear has committed to the Hi-Shear Property is in excess of the damage and destruction to the Hi-Shear Property as expected from the reasonable use and wear from the operations to be conducted by Hi-Shear in accordance with the terms of the Lease.

76. Plaintiffs have requested and continue to seek to have Hi-Shear remove the waste committed to both the Hi-Shear Property and the other portions of the City Airport Property off of the Hi-Shear Property, but Hi-Shear has failed and refused to do so.

77. As a result of the waste committed to the City Airport Property by Hi-Shear, the City has suffered and will continue to suffer general, compensatory and consequential damages, inclusive of but not limited to any and all amounts incurred and to be incurred for the investigation, assessment, mitigation, monitoring, treatment, removal and/or remediation of the Contamination, the diminution in market value and rental value of the City Airport Property, and potentially the loss of use and loss of rent from use of the City Airport Property, all in amounts not yet fully ascertained, but which will be more specifically shown in accordance with proof at the time of trial.

78. The City further prays that a mandatory and/or prohibitory injunction be issued requiring defendants to remedy the waste they committed on the City Airport Property, and to perform any and all actions necessary to assess, mitigate, investigate, remove, remediate, treat, monitor and/or cleanup the Contamination on, in and from the City Airport Property, and to remedy the waste committed by Hi-Shear during and as a result of their operations on the Hi-Shear Property.

/ / /

NINTH CAUSE OF ACTION

(FOR NEGLIGENCE AND NEGLIGENCE PER SE)

79. Plaintiffs reallege paragraphs 1 through 78 above as though fully set forth and rewritten herein.

80. The Hazardous Substances on and migrating from the Hi-Shear Property, including all resulting Contamination on and migrating from the Hi-Shear Property, were caused in whole or in part as a result of the negligence and careless actions, inactions and omissions and/or the reckless conduct of Defendant Hi-Shear, in its use, handling, storage, generation, transportation, disposal and arranging for the transportation, storage and disposal of Hazardous Substances, to, on and from the Hi-Shear Property, including in its actions, inactions, omissions and reckless conduct in failing to develop and/or maintain procedures and policies for the proper use, transportation, handling, storage, disposal and arranging for the transportation, storage, and disposal of Hazardous Substances and/or in responding to releases or threatened releases of the same.

81. Hi-Shear's actions in generating, transporting, storing, disposing of and/or arranging for the transportation, storage and disposal of Hazardous Substances and the resulting Contamination, have resulted in a condition of pollution or nuisance and constitute violations of applicable environmental laws including, but not limited to, CERCLA, RCRA, California Health & Safety Code section 25189.5, et seq. and California Water Code sections 13260, 13264, 13265, 13271, 13272, 13304 and 13305 and related provisions thereto, as well as California Public Resources Code Section 45005 and provisions related thereto. As such, the actions and inactions and omissions of Defendant Hi-Shear were negligent per se as such actions violate express statutory provisions prohibiting such conduct and activity.

82. As a result of Defendant Hi-Shear's negligent and reckless actions, inactions and omissions, the City has suffered and will continue to suffer general,

compensatory and consequential damages, including but not limited to amounts incurred or to be incurred by the City for the assessment, mitigation, monitoring, investigation, removal and/or remediation of the resulting Contamination, as well as resulting from the diminution in the market value and rental value of the City Airport Property, and potentially the loss of use and lost rent from use of the City Airport Property, and other amounts that have not been fully ascertained at this time, but all of which will be more specifically shown in accordance with proof at the time of trial.

TENTH CAUSE OF ACTION

(FOR DECLARATORY RELIEF, CALIFORNIA CODE OF CIVIL PROCEDURE § 1060)

83. Plaintiffs reallege paragraphs 1 through 82 above as though fully set forth and rewritten herein.

84. An actual controversy exists between the City and Hi-Shear herein in that the City contends, and Hi-Shear denies, that if the City's allegations with respect to their damages and injury are true, that Hi-Shear has responsibility for such costs and damages that have been or will be incurred for activities performed and/or to be performed in the repair, investigation, assessment, monitoring, mitigation, treatment, removal, remediation and cleanup of the Contamination in, on, under and migrating from the Hi-Shear Property, and for the diminution in the market value and rental value of any portion of the City Airport Property affected by the Contamination, and potentially the loss of use and lost rent from use of the City Airport Property because of the Contamination, and for such other damages and costs that the City has or will incur.

85. Plaintiffs request a judicial determination and declaration setting forth the parties' rights and obligations as necessary and appropriate in order to avoid a multiplicity of actions and in order for the respective parties herein to ascertain their rights and duties with respect to the City's claims herein, and each of them.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff City prays for judgment in its favor and against Defendant Hi-Shear as follows:

1. For the recovery of all "response costs" incurred and/or to be incurred by the City in connection with the release and/or threatened release of Hazardous Substances and Contamination on, in, under and migrating from the Hi-Shear Property;

2. For reimbursement of costs, restitution and a mandatory and/or prohibitory injunction requiring the Defendant Hi-Shear to enjoin and abate the alleged Hazardous Substances and Contamination, and to perform any and all necessary repair, investigatory, assessment, monitoring, removal, mitigation, remediation, treatment or cleanup, or other similar work on and at the Hi-Shear Property, and/or in the vicinity of the Hi-Shear Property, specifically including within any portion of the City Airport Property affected by the Contamination;

3. For a judicial determination and declaration setting forth the parties' rights, obligations, and duties pursuant to CERCLA;

4. For a prohibitory and/or mandatory injunction pursuant to 42 U.S.C. § 6972, preliminarily and permanently restraining and enjoining Defendant Hi-Shear from permitting the imminent and substantial endangerment to health and/or the environment to continue, and requiring Defendant Hi-Shear to take all action necessary to fully abate the imminent and substantial endangerment, including, all action as needed to assess, investigate, monitor, mitigate, treat, remove, remediate or otherwise cleanup and abate the Contamination on, in, under and migrating from the Hi-Shear Property;

5. For general, compensatory and consequential damages in amounts to be shown in accordance with proof at the time of trial;

6. For a judicial determination and declaration setting forth the parties' rights, obligations and duties pursuant to California law;

7. For attorneys' fees, expert fees and costs, and/or litigation costs and fees, as allowed by law, including but not limited to, where permitted under RCRA, 42 U.S.C. § 6972(e), the Lease and/or where otherwise permitted by law;

8. For prejudgment interest on such sums found to be owing at the statutory rate; and

9. For such additional and further relief in law or equity, as this Court may deem just and proper.

Dated: October 23, 2017

RUTAN & TUCKER, LLP
RICHARD MONTEVIDEO
ALAN B. FENSTERMACHER

By: /s/ Richard Montevideo
Richard Montevideo
Attorneys for Plaintiff
CITY OF TORRANCE

DEMAND FOR JURY TRIAL

Plaintiff hereby demands a jury trial.

Dated: October 23, 2017

RUTAN & TUCKER, LLP
RICHARD MONTEVIDEO
ALAN B. FENSTERMACHER

By: /s/ Richard Montevideo
Richard Montevideo
Attorneys for Plaintiff
CITY OF TORRANCE

Exhibit "1"

(Hi-Shear Lease)

LEASE

CITY OF TORRANCE,
a municipal corporation

("City")

and

HI-SHEAR CORPORATION,
a Delaware corporation

("Lessee")

July 27, 2004

EXHIBIT 4

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EXHIBITS

Exhibit A Legal Description of Leased Premises
Exhibit B Sketch Map of Leased Premises
Exhibit C Description of the Project, Conceptual Plans
Exhibit D Quitclaim Deed and Release
Exhibit E FAA Provisions and Avigation Requirements

LEASE

THIS LEASE (this "Lease"), made and entered into at Torrance, California, dated for reference purposes only as of July 27, 2004, and effective as of the 1st day of August, 2004, (the "Effective Date") by and between the CITY OF TORRANCE, a municipal corporation, hereinafter referred to as "City", and HI-SHEAR CORPORATION, a Delaware corporation ("Lessee").

WITNESSETH:

(a) The City is the owner in fee of the real property constituting the Leased Premises (as defined in Section 1 below), approximately 14 acres in size, located at 2600 Skypark Drive, in the City of Torrance, California. Said Leased Premises are a part of the Torrance Municipal Airport, the boundaries of which are described in that certain Quitclaim Deed ("Quitclaim Deed") executed by the United States of America, dated March 5, 1948, recorded on May 13, 1948, in Book 27145, Page 362, of Official Records in the Office of the County Recorder of Los Angeles County (the "Official Records"), a copy of which Quitclaim Deed is attached hereto as Exhibit "D".

(b) By instrument of Release dated July 25, 1962, recorded on August 24, 1962, in Book R-1308, Page 800, of Official Records, a copy of which Release is attached hereto as Exhibit "D", the United States of America, acting by and through the Administrator of the Federal Aviation Administration, released, with certain exceptions, the Leased Premises, among other lands, from the conditions, reservations and restrictions of said Quitclaim Deed.

(c) The City leased to Lessee (or Lessee's predecessors in interest) the Leased Premises and certain adjoining property (the "Adjoining Premises"), and Lessee has been in continuous occupancy of the Leased Premises, pursuant to that certain Consolidation Lease Agreement dated May 31, 1959 and that certain Lease Agreement dated May 31, 1959, as amended by that certain Amendment to Consolidation Lease Agreement dated July 1, 1960, and that certain Second Amendment to Consolidation Lease Agreement dated May 4, 1983 (collectively, with any and all other amendments, modifications, and agreements related thereto, the "Consolidated Lease Agreement"); that certain Lease dated July 1, 1960 (together with any and all other amendments, modifications, and agreements related thereto, the "7/1/1960 Lease"); that certain Lease Agreement dated November 19, 1954 (together with any and all other amendments, modifications, and agreements related thereto, the "11/19/1954 Lease"); and that certain Lease Agreement dated August 9, 1956 (together, with any and all other amendments, modifications, and agreements related thereto, the "8/9/1956 Lease") (the Consolidated Lease Agreement, the 7/1/1960 Lease, the 11/19/1954 Lease, the 8/9/1956 Lease and any and all other amendments, modifications, and agreements by and between Lessee and/or Lessee's predecessors in interest relating to the Leased Premises are collectively referred to herein as the "Original Lease").

(d) As of June 30, 2004, the Consolidation Lease Agreement and the 7/1/1960 Lease will expire by their terms. The 11/19/1954 Lease and the 8/9/1956 Lease provide an expiration of November 30, 2004. Notwithstanding the foregoing or any provision in the 11/19/1954 Lease

and/or the 8/9/1956 Lease to the contrary, the parties desire to terminate the 11/19/1954 Lease and the 8/9/1956 Lease and City desires to lease to Lessee, and Lessee desires to hire from City, the entire Leased Premises pursuant to this Lease, for Lessee's continued use of the entire Leased Premises for manufacturing and industrial uses consistent herewith, all on the terms and conditions set forth herein effective as of the Effective Date.

(e) The City will benefit from the execution of this Lease, inter alia, by reason of (i) the potential for greater rents which may flow to it as contrasted to the rents receivable under the Original Lease, (ii) the potential for increased property taxes that will result from the upgrading of the improvements on the Leased Premises, and (iii) the impetus to the upgrading and revitalization of the surrounding area that is expected to result therefrom.

(f) The City Council therefore declares that the Leased Premises are being leased hereby for commercial development for business purposes pursuant to the authority contained in Sections 37380 and 37395 of the California Government Code and pursuant to the powers conferred on the City by the provisions of Article XI of the Constitution of the State of California and by the Torrance Municipal Code.

(g) The City, acting by and through the City Council, has determined by Resolution Number 2004-94 adopted on July 27, 2004, that such property is not required for other City purposes and that it is in the public interest that this Lease be executed.

NOW, THEREFORE, IN CONSIDERATION OF THE LEASED PREMISES AND OF THE MUTUAL COVENANTS HEREIN CONTAINED, IT IS HEREBY AGREED AS FOLLOWS:

1. LEASED PREMISES

For and in consideration of the rents, covenants and conditions herein contained, the City does hereby lease to Lessee and Lessee hereby hires from City that certain real property commonly known as 2600 Skypark Drive, located in the City of Torrance, State of California which real property is legally described on Exhibit "A", and located as shown on Exhibit "B", attached hereto and made a part hereof, which real property is hereinafter referred to as the "Leased Premises", together with the nonexclusive easements more particularly described on Exhibit "A" and depicted on Exhibit "B" as the "Remediation Easement" and the "Watermain Easement", and reserving therefrom, together with the right to grant and transfer the same, the "Road Easement", as more particularly described on Exhibit "A" and depicted on Exhibit "B". Lessee and City stipulate that the Leased Premises contain 14 acres and that, notwithstanding any remeasurement that may occur, the City and Lessee agree for all purposes of this Lease the Leased Premises shall be deemed to consist of 14 acres.

2. INITIAL TERM; OPTION TO EXTEND

The "Term" of this Lease shall begin on the Effective Date and expire at midnight June 30, 2014.

Provided that Lessee is not then in default hereunder, Lessee shall have the right and option to extend the term of this Lease for three (3) five year periods (each an "Option

Period" and collectively, the "Option Periods"), upon the same terms and conditions herein provided for in this Lease, except for rental adjustments to be made during said Option Periods pursuant to Article 4 below, and except that Lessee shall have no further options to extend the term. Lessee shall exercise the foregoing option(s), if at all, by giving City written notice of each such exercise not less than twelve (12) calendar months prior to the expiration of the initial term or prior exercised extended term of this Lease (in accordance with the provisions of Article 4 below).

3. RENT

On or before the first day of each month during the Term of the Lease, Lessee shall pay, in advance, to the City rent (together, along with any and all applicable adjustments hereinafter referred to as "Rent") pursuant to the following schedule:

Year 1	July 1, 2004-June 30, 2005	$1250.00 per acre per month, Monthly Rent = $17,500
Year 2	July 1, 2005-June 30, 2006	$1562.00 per acre per month, Monthly Rent = $21,868
Year 3	July 1, 2006-June 30, 2007	$1875:00 per acre per month, Monthly Rent = $26,250
Year 4	July 1, 2007-June 30, 2008	$2187.50 per acre per month, Monthly Rent = $30,625
Year 5	July 1, 2008-June 30, 2009	$2500.00 per acre per month, Monthly Rent = $35,000
Year 6	July 1, 2009-June 30, 2010	$3000.00 per acre per month, Monthly Rent = $42,000
Year 7	July 1, 2010-June 30, 2014	Monthly Rent based on CPI adjustments

Commencing on July 1, 2010, and the commencement of each Lease Year (as hereinafter defined) thereafter (the "Adjustment Date"), the Rent shall be increased in proportion to the increase, if any, in the "Consumers Price Index, All Urban Consumers", 1982-84 = 100 ("Index"), prepared by the United States Bureau of Labor Statistics, Department of Labor (the "Bureau") for the immediately preceding Lease Year; provided, however, in no event shall any installment of minimum monthly Rent adjusted in accordance herewith be less than one hundred two percent (102%) of the monthly Rent in effect immediately preceding the applicable Adjustment Date nor exceed one hundred five percent (105%) of the monthly Rent in effect immediately preceding the applicable Adjustment Date. As used herein, the term "Lease Year" shall mean each twelve (12) month period commencing on July 1, 2004. The proportionate increase in the Index for each Lease Year shall be determined by dividing the Index published for the second month preceding the then current Adjustment Date by the Index for the second month preceding the immediately preceding Adjustment Date. In the event that the Index is not published in the requisite month, then the Index utilized shall be the Index published for the month that is closest chronologically.

If said Bureau shall revise said Index, the parties shall accept the method of revision or conversion recommended by said Bureau; if said Index shall be discontinued with no recommended substitute, another index generally recognized as authoritative shall be substituted by agreement of the parties. If the parties are unable to agree upon a substitute index within thirty (30) days after demand by either party, on application of either party, then the substitute index shall be selected by the Chief Officer of the San Francisco Regional Office of the Bureau of Labor Statistics or its successor.

4. ADJUSTMENT OF RENT DURING OPTION PERIODS; FAIR RENTAL VALUE

A. *Adjustment*

(1) Notwithstanding the provisions of Article 3 above, or any other provision to the contrary set forth herein, in the event that Lessee intends to exercise its option(s) to extend the Term of this Lease pursuant to Article 2 above, then on or before the date that is at least twelve (12) calendar months prior to the commencement of any Option Period, Lessee shall deliver notice to City of such intent and City and Lessee shall conduct a Fair Market Rent Analysis (as hereinafter described). To the extent that, after the Fair Rental Value is determined in accordance with this Section 4, Lessee desires to revoke the exercise of its option(s) hereunder, then Lessee shall deliver to City written notice of such revocation on or before the date that is nine (9) calendar months prior to the expiration of the initial term or prior exercised extended term of this Lease; provided, however, if through no fault of Lessee the Fair Rental Value has not been determined on or before the date that is (9) calendar months prior to the expiration of the initial term or prior exercised extended term of this Lease, Lessee shall have fifteen (15) calendar days after the Fair Rental Value has been determined to deliver the notice of revocation. If such notice of revocation is not delivered in a timely manner, the Term of the Lease will be deemed extended without the need for further action. Commencing on the date of commencement of each Option Period, the Rent shall be adjusted to the Fair Rental Value (as hereinafter defined) in accordance with this Article 4.

(2) "Fair Rental Value" shall mean the amount determined by the parties to be the fair market value of the Leased Premises, exclusive of the improvements thereon, based upon the manufacturing and industrial uses permitted hereunder as of the date that is twelve (12) calendar months prior to the commencement of any Option Period, multiplied by a 7.0% annual rate of return. The foregoing calculation shall be referred to herein as the "Fair Rental Value Analysis."

(3) The parties hereto acknowledge that the Rent has not been calculated in the manner described in the immediately preceding Paragraph, and that, accordingly, the Rent shall not be considered in determining the Fair Rental Value of the Leased Premises during any Option Period for which these Fair Rental Value provisions are applicable.

(4) If the parties cannot agree on the Fair Rental Value of the Leased Premises for any given Option Period, then such Fair Rental Value shall be determined by arbitration in accordance with Paragraph 4(B) below. Pending such determination by the arbitrators, Lessee shall continue to pay the Rent in accordance with this Lease until the Fair Rental Value of the Leased Premises has been determined by the arbitrators. The adjusted Rent determined by the arbitrators (which shall be equal to the Fair Rental Value of the Leased Premises) shall be retroactive to the date upon which the Option Period (as applicable) commenced, and on the first day of the month following the date on which the arbitrators determine the Fair Rental Value of the Leased Premises (the "Adjustment Date"), Lessee shall pay the adjusted Rent for the period from the commencement of the applicable Option Period to the Adjustment Date, and for the month commencing on the Adjustment Date.

(5) Commencing on the date that is one year after each Adjustment Date, and each Lease Year thereafter during an Option Period, the adjusted Rent shall be increased in proportion to the increase, if any, in the Index, prepared by the Bureau (as more particularly set forth in Section 3); provided, however, in no event shall any installment of minimum monthly Rent adjusted in accordance herewith be less than one hundred two percent (102%) of the monthly Rent in effect immediately preceding the applicable Adjustment Date nor exceed one hundred five percent (105%) of the monthly Rent in effect immediately preceding the applicable Adjustment Date.

B. Arbitration

(1) If arbitration is required to fix the Fair Rental Value of the Leased Premises, such arbitration shall be conducted in the following manner: Within ten (10) days after the parties determine that they have failed to determine a mutually acceptable figure for the Fair Rental Value, the City shall appoint an arbitrator and give written notice thereof to Lessee, and within ten (10) days after the receipt of such notice, Lessee shall appoint an arbitrator and give written notice thereof to the City, or in case of the failure of either party hereto so to do, the other party shall have the right to apply to the Superior Court of Los Angeles County, California, to appoint an arbitrator to represent the defaulting party. The two arbitrators thus appointed (in either manner) shall select and appoint in writing a third arbitrator and give written notice thereof to the City and Lessee, or if within ten (10) days after their appointment, the two arbitrators shall fail to appoint a third, then either party hereto shall have the right to make application to said Superior Court to appoint such third arbitrator. All such arbitrators shall have a minimum of ten (10) years experience commercial real estate appraisal and shall be both impartial and unrelated to either of the City or the Lessee.

(2) The three arbitrators so appointed (in either manner) shall within ten (10) days after all have been appointed fix a convenient time and place in the County of Los Angeles within thirty (30) days thereafter for hearing the matter to be arbitrated and shall give written notice thereof to each party hereto at least five (5) days prior to the date so fixed, and said arbitrators shall with reasonable diligence hear and determine the matter in accordance with the provisions hereof and of the statutes and judicial decisions of the State of California at the time applicable thereto, and shall execute and acknowledge their award thereon in writing and cause a copy thereof to be delivered to each of the parties hereto.

(3) The award of a majority of said arbitrators shall determine the question arbitrated, and a judgment may be rendered by said Superior Court confirming said award, or the same may be vacated, modified, or corrected by said Court, at the instance of either of the parties hereto, in accordance with the then existing statutes of the State of California applicable to arbitrations, the provisions of which statutes shall apply hereto as fully as though incorporated herein.

(4) If two of the three arbitrators first appointed as aforesaid shall fail to reach an agreement in the determination of the matter in question, the same shall be decided by three new arbitrators, who shall be appointed and shall proceed in the same manner as hereinabove set forth, and said process shall be repeated until a decision is finally reached by two of the three arbitrators selected.

(5) Each of the parties hereto shall pay for the services of its appointee and one-half (1/2) of the fee charged by the arbitrator selected by their appointees and of all other proper costs of arbitration, with the exception of attorneys' fees and witness fees which shall be borne solely by the party incurring such fees.

5. ADDITIONAL RENT

In addition to the Rent described in Article 3 above (as such Rent may be adjusted in accordance with Article 4 above), all other charges and sums payable by Lessee hereunder shall be deemed to be additional rent ("Additional Rent") hereunder, whether or not the same be designated as such, and shall be due and payable (if payable to a third party) not later than the dates on which the same are due and payable, or (if payable to City) within ten (10) days of City's written demand or together with the next succeeding installment of Rent, whichever shall first occur, and City shall have the same rights and remedies upon Lessee's failure to pay the same as for the nonpayment of the Rent.

6. PLACE OF PAYMENT AND LATE PAYMENT

A. Place of Payment

All Rent and Additional Rent payments shall be paid, without deduction or offset, to the office of the Treasurer of the City at 3031 Torrance Boulevard, Torrance, California, 90503, or at such place as the City shall from time to time designate in writing.

B. Late Payment

In the event any payment required hereunder is not made within ten (10) days after the date City delivers written notice that the payment has not been made when due, the Lessee acknowledges that the amount necessary to adequately compensate the City would be impracticable and extremely difficult to calculate. Therefore, Lessee agrees that in addition to the Rent and Additional Rent, Lessee shall pay an additional 3% of the overdue amount as a late charge; provided, however, that in no event shall the amounts payable to the City pursuant to this Paragraph 6(B) exceed the maximum amounts allowed by law.

C. No Relief from Default

The provisions herein for payment of late charges shall not be construed to extend the date for payment of any sums required to be paid by Lessee hereunder or to relieve Lessee of its obligation to pay all such sums at the time or times herein stipulated. Notwithstanding the imposition of such late charges, Lessee shall be in default under this Lease if any or all payments required to be made by Lessee are not made at the time herein stipulated (including any grace periods set forth in this Lease), and neither the demand for, nor collection by, City of such late charges shall be construed as a curing of such default on the part of Lessee.

7. USE

Lessee's use of the Leased Premises shall be consistent with Lessee's existing uses of the Leased Premises immediately prior to the Effective Date, including, without limitation, light manufacturing, manufacturing, storage, services, repair, engineering, sales, product demonstration, ancillary storage, parking of cars for Lessee's employees and invitees (but not for public or other third party parking) and all other uses incidental and related to manufacturing, warehouse and office facility in connection with Lessee's business of manufacturing and distribution of aerospace fasteners and automotive components and for no other purpose or purposes, unless the prior written consent of the City Council thereto has been obtained, which consent may be given or refused in the sole discretion of the City Council.

8. TITLE AND POSSESSION

A. Possession

Possession of the Leased Premises shall be deemed to have been delivered to Lessee on the Effective Date. Lessee acknowledges and agrees that Lessee (and/or its predecessors-in-interest) has had exclusive possession of the Leased Premises and the Adjoining Premises since 1954 and that Lessee is and shall be responsible for the current condition of the Leased Premises, the Adjoining Premises and any affected surrounding premises, and the improvements located thereon and for the expeditious investigation, removal, and remediation of all Hazardous Materials (as defined in Section 18(B) below) that may have been discharged, released, placed or disposed of on, in, under, or about the Leased Premises, the Adjoining Premises and any affected surrounding premises, and/or the improvements located thereon, during the term of the Original Lease (except for Hazardous Materials that have migrated onto the Leased Premises, Adjoining Premises, or any affected surrounding premises through no fault of Lessee) and, with respect to the Leased Premises only, during the term of this Lease ("Lessee Contamination"). Lessee further agrees that it shall defend, indemnify and hold City and the City's officers, directors, trustees, members, agents, employees, contractors, consultants and representatives, and City's property, harmless from any and all claims, demands, liabilities, obligations, expenses and/or penalties arising out of or in connection with Lessee's Contamination in accordance with the provisions of Article 18 below.

B. Warranty of Authority

(1) The City warrants that it has full right, legal capacity and authority to enter into and perform its obligations under this Lease and that the Mayor and the City Clerk are authorized and directed to execute and attest this Lease for and on behalf of the City, and that the Charter of the City authorizes the City Attorney to approve the form of this Lease; and except as otherwise set forth in this Lease, no approval or consent not heretofore obtained is necessary in connection with its execution on behalf of the City or the performance of the City's obligations hereunder.

(2) Mary Hanley, as the Chief Financial Officer and Secretary of Lessee, hereby represents and warrants to the City that he/she has the full right, legal capacity and authority to enter into the obligations of Lessee under this Lease; that said Lessee is or shall

be the sole owner of the leasehold interest under this Lease as of the instant prior to the time of effectiveness of this Lease; that no approval or consent is necessary in connection with his execution of this Lease on behalf of Lessee or the performance of Lessee's obligations hereunder; that a true and correct copy of Lessee's Certificate of Formation, as filed with the Delaware Secretary of State, have been delivered to the City, and that Lessee is a duly qualified corporation in good standing under the laws of the State of Delaware and is duly qualified to transact business and in good standing under the laws of the State of California.

9. CONSTRUCTION

A. Covenant to Remodel, Upgrade, and Rebuild

(1) Subject to the conditions hereinafter provided in this Paragraph 9, Lessee agrees to upgrade the existing landscaping and exterior facades of the buildings on the Leased Premises by completing, at its own cost and expense, the work described on Exhibit "C" hereto, which work is hereinafter called the "Project".

B. Construction Plans.

Attached hereto as Exhibit "C" are the conceptual plans and specifications for the Project (the "Plans"). Within thirty (30) days of the Effective Date, Lessee shall prepare and submit to the Director of Community Development an application for the Director's approval of the final plans and specifications for the Project. From and after the date that the Director approves of the final plans and specifications for the Project, no revisions or modifications to such final plans shall be made unless the Lessee has obtained the prior written consent of City, which consent may be withheld in City's sole and absolute discretion.

C. Building Permits and Parcel Map

Before commencing the Project, Lessee shall obtain all applicable permit(s), including, without limitation building permits, as required by the Torrance Municipal Code (which incorporates the City's Building and Fire Codes) and any amendments thereto, or any other Applicable Laws. Lessee agrees that if, in the reasonable opinion of the City Attorney of the City, this Lease, or any transaction contemplated by this Lease, requires the filing for record, in accordance with the Torrance Municipal Code and the California Subdivision Map Act, of a parcel map with respect to this Lease, Lessee shall fully cooperate (which cooperation shall include, without limitation, execution by both Lessee and Lessee's lender(s), if applicable of any an all consents, applications, and maps as may be necessary or desirable), at no expense to Lessee, with the City in the preparation, processing and filing for record of such a parcel map.

D. Completion

(1) Subject to the provisions of Paragraph 9(E) below, Lessee shall commence the Project not later than one hundred eighty (180) days after the Effective Date, shall proceed with the Project with reasonable diligence, and shall complete the Project within five (5) years of the Effective Date.

(2) The Project shall be deemed to be complete when, and only when, (a) all work for the Project has been completed in accordance with the approved Plans (as set forth in Paragraph 9(B) above), (b) the City Manager or designee, in his or her reasonable discretion, has confirmed the completion of the Project in accordance with the approved Plans, and (c) the Director of Building and Safety, or designee, has confirmed the completion of the Project in accordance with the approved Plans.

E. Force Majeure

The time within which Lessee is obligated hereunder to commence and complete the Project or cure any default on the part of Lessee hereunder shall be extended for a period of time equal in duration to, and performance in the meantime shall be excused on account of and for and during the period of, any delay caused by strikes, threats of strikes, lockouts, war, threats of war, insurrection, invasion, acts of God, calamities, violent action of the elements, fire, action or regulation of any governmental agency, law or ordinance, impossibility or material delays in obtaining materials, administrative delays by the City in the processing of governmental permits or improvements, delays directly caused by the City's changes to the Plans, or other things beyond the control of Lessee. Notwithstanding anything to the contrary set forth in this Lease, this Paragraph shall not apply to any delay resulting from Lessee's changes to the Plans.

F. FAA Filing

Prior to the commencement of any work on the Project, if applicable, Lessee shall file Form 7460-1 and receive approval thereof from the Federal Aviation Administration.

G. Interference with Aircraft

Lessee shall not light or operate, or cause or permit to be lighted or operated, any equipment which would interfere with the navigation, landing or takeoff of aircraft on the runways and in the aeronautical areas of the Airport.

H. Acoustical Treatment

The following provisions are set forth solely for the purposes of the City disclosing to Lessee that certain acoustical treatments may be required pursuant to Applicable Laws, including, without limitation rules and regulations promulgated by the FAA. The provisions of this section shall not be interpreted in any manner to impose any additional responsibility, other than as is imposed under Applicable Laws, upon Lessee with respect to the matters set forth herein it being expressly understood and agreed that the City is not requiring any retrofitting or other acoustical treatment of the Lessee's improvements beyond what is required by Applicable Laws.

(1) All buildings located upon the Leased Premises shall be designed to provide an interior noise level within a LegA weighted sound level of 50 dBA and a Lmax peak value of 60 dBA. The designer must prepare detailed plans of construction showing the sound insulation assembly to resist the airborne community noise equivalent level contours of 60 dB

CNEL or greater. The contour map will be provided by the Airport Division of the City's Department of Transportation.

To the extent applicable, before commencement of the Project, Lessee shall submit to the Director an analysis of the plans by an acoustical engineer certifying that, in his opinion, such level will not be exceeded. A building permit will not be issued for any buildings unless and until the City's acoustical consultant certifies that, in his reasonable opinion, such level will not be exceeded.

(2) Definitions of standards specified in Section 1092 of Part I of Title 25 of the California State Housing Code are incorporated in this Lease as a minimum standard of compliance.

(3) Before occupancy of any part of any constructed, remodeled, or reconstructed building is permitted, the Lessee shall submit to the Department of Building and Safety a statement by an acoustical engineer certifying that said buildings have been constructed in accordance with such acoustical plans and that, in his opinion, such level has not been exceeded. Such occupancy shall not be approved unless and until the City's acoustical consultant certifies that, in his reasonable opinion, such level has not been exceeded.

I. Liquidated Damages

If Lessee fails to comply with the timing requirements of Paragraph 9(D), as to the completion of the Project, then Lessee shall pay to the City the sum of $10,000 for each month or fraction thereof until such completion of the Project as liquidated damages for such failure to complete of the Project.

Lessee agrees and stipulates that it would be extremely difficult to fix the actual damages of City that would result from Lessee's failure to timely comply with Paragraph 9(D), and that, accordingly, the agreement of Lessee to pay the amounts specified above as liquidated damages in lieu thereof is reasonable under the circumstances existing as of the date hereof.

J. Property of Lessee

Any Improvements existing as of the commencement of the Term of this Lease or which shall be constructed, remodeled, reconstructed or placed on the Leased Premises shall become the property of Lessee for the Term of this Lease, subject to the terms and conditions hereof, and shall become the property of the City (exclusive of Lessee's trade fixture and equipment) upon the expiration or sooner termination of this Lease as provided herein. Lessee shall be responsible for all maintenance of all Improvements in accordance with the provisions of this Lease.

10. LIENS

A. Payment by Lessee

(1) Subject to Lessee's right to contest the same as hereinafter provided in Paragraph 10(D) below, Lessee agrees that it will pay as soon as due all mechanics', laborers', materialmen's, contractors', subcontractors', or similar charges, and all other charges of whatever nature which may become due, attached to or payable on said Leased Premises or any part thereof or any building, structure or other improvements thereon, from and after the date as of which this Lease is executed or as a result of any work performed on the Leased Premises by Lessee or any of Lessee's agents, employees or contractors prior to such date. Notwithstanding the foregoing, Lessee shall not be responsible for any such-charges arising from work performed on the Leased Premises by the City's employees or agents.

(2) Nothing herein contained shall in any respect make Lessee the agent of the City, or authorize Lessee to do any act or to make any contract encumbering or in any manner affecting the title or rights of the City in or to the Leased Premises or the improvements thereon.

B. Notice

Before any buildings, structures or other improvements or additions thereto, of an aggregate cost in excess of Fifty Thousand Dollars ($50,000) are constructed, remodeled or reconstructed upon the Leased Premises, Lessee shall serve written notice upon the City, in the manner provided for in Paragraph 27 herein, twenty (20) days prior to commencement of Lessee's intention to perform such work for the purpose of enabling the City to post and record notices of nonresponsibility under the provisions of Section 3094 of the California Civil Code, or any other similar notices which may be required by law.

C. Bond

If any such mechanics' or other liens shall at any time be filed against the Leased Premises or any portion thereof or interest therein, Lessee shall cause the same to be discharged of record within thirty (30) days after the date of filing the same, or otherwise free the Leased Premises from the effect of such claim of lien and any action brought to foreclose such lien, or Lessee shall promptly furnish to the City a bond in an amount and issued by a surety company satisfactory to the City, securing the City against payment of such lien and against any and all loss or damage whatsoever in any way arising from the failure of Lessee to discharge such lien.

D. Contest

Any contest by Lessee of any such liens shall be made by Lessee in good faith and with due diligence and Lessee shall fully pay and immediately discharge the amount of any final judgment rendered against the City or Lessee in any litigation involving the enforcement of such liens or the validity thereof.

E. Discharge by City

In the event of Lessee's failure to discharge of record any such uncontested lien within said thirty (30) day period or to pay and satisfy any such judgment as aforesaid, the City may, but shall not be obligated to, pay the amount thereof, inclusive of any interest thereon and any costs assessed against Lessee in said litigation, or may discharge such lien by contesting its validity or by any other lawful means.

F. Repayment by Lessee

Any amount paid by the City for any of the aforesaid purposes, and all reasonable legal and other expenses of the City, including reasonable counsel fees, in defending any such action or in connection with procuring the discharge of such lien, with all necessary disbursements in connection therewith, together with interest thereon at the rate of one and one-half percent (1-1/2%) per month from the date of payment, shall be repaid by Lessee to the City on demand; provided that, interest payable hereunder shall in no event exceed the maximum per annum rate permitted under applicable law. To the extent any such payment of interest hereunder would exceed such maximum rate, such payment shall be deemed to be an advance against Rent as to which Lessee shall be credited on the next installment of Rent payable hereunder.

G. Survival

The provisions of this Article 10 shall expressly survive the expiration or earlier termination of this Lease.

11. OFF-STREET PARKING

Lessee shall comply with any and all off-street parking requirements of all ordinances of the City and laws of the State. This provision shall not limit the scope of the provisions of Paragraph 24 herein.

12. ALTERATIONS AND ADDITIONAL IMPROVEMENTS

A. Construction Approval

Except as provided in Article 9 above, Lessee shall not construct any exterior building, structure or other improvement on the Leased Premises unless the plan showing the location thereof and construction plans and specifications are first approved by the Director of Building and Safety and by the City Council of the City, and the giving of such consent shall be within such Director's and City Counsel's sole discretion and shall not be a waiver of any rights to object to further or future construction. Lessee's construction, remodeling and/or reconstruction of the interior of any building, structure or other improvement located on the Leased Premises shall not require the consent by the City Council of the City and shall only be subject to approval by the Director of Building and Safety (and/or other applicable governmental agencies) to the extent required by Applicable Laws.

B. Alteration Approval

Except as provided in Article 9 above, Lessee shall not make any exterior changes or alterations, structural or otherwise, to any building, structure, or other improvement on the Leased Premises unless the consent of the City Manager or his designee is first obtained. Such consent shall not be unreasonably withheld, and the giving of such consent shall not be a waiver of any rights to object to further or future alterations.

C. Provisions Governing

Following the completion of the Project, as required by Article 9 above, in the event that (and in each case that) Lessee shall construct any additional or replacement buildings, structures or other improvements (including alterations or additions to the existing buildings) on the Leased Premises, Lessee shall construct such improvements and each of them in accordance with the provisions of this Lease governing the construction contemplated by Lessee; provided, however, that:

(1) The completion date set-forth in Paragraph 9(D) shall not apply to such construction; and

(2) The other provisions of Article 9 shall apply to such construction.

D. Demolition

Except for any demolition, reconstruction and construction as permitted by Article 9, in case any building or structure is demolished, Lessee shall restore the land to City's reasonable satisfaction and in the same condition as existed upon commencement of the Original Lease, free of all Lessee Contamination, within twelve (12) months following such demolition or such longer time as may be reasonably necessary to remediate any Lessee Contamination. Failure of Lessee to comply with the provisions of this Paragraph 12(D) shall constitute a default of this Lease. This provision shall expressly survive the expiration or earlier termination of the term of this Lease.

E. Value and Utility

All changes and alterations shall be of such a character that when completed, the value and utility of the building, structure or other improvement changed or altered by such changes or alterations shall not be less than the value and utility thereof immediately before any such change or alteration.

F. Alterations Following Commencement

All work done in connection with any changes or alterations following the commencement thereof shall be performed in a good and workmanlike manner and with due diligence.

13. MAINTENANCE

A. Lessee Maintain

Lessee, at its own expense, shall maintain said Leased Premises and all buildings, structures, roadways, landscaping, parking, sewer and other improvements thereon (collectively, the "Improvements"), and shall keep the same in good and sanitary condition and repair, with the understanding that the structures currently on the Leased Premises have aged and are not in new condition and Lessee is under no obligation to upgrade any buildings or structures except as may be required by Applicable Laws or as provided in Article 9 above.

B. Periodic – Structures and Pavement

As often as necessary to properly maintain their appearance, Lessee shall, at its own expense, (1) paint or clean or otherwise preserve and beautify the surfaces of the exterior of all Improvements located on said Leased Premises and (2) repair or replace any area of pavement or slabs on the Leased Premises as have spalled, weathered, alligatored, or otherwise failed, with like materials and workmanship, and shall as often as necessary promptly repair or replace any damaged areas thereof. The treatment(s) applied shall restore the appearance of and act as a preservative of the building, structures, structural members, pavement, slabs, and other improvements located on the Leased Premises.

C. Landscaping

Lessee, at its own expense, shall maintain the landscaping on the Leased Premises in an attractive manner, all in compliance with the approved Plans.

D. Self-Help

If Lessee fails or refuses to commence and diligently prosecute to completion the repair and maintain the Leased Premises as required by this Section 13 within sixty (60) days of receipt of written notice from City, then City may enter the Leased Premises and make such repairs or perform such maintenance without liability to Lessee for any loss or damage that may accrue to Lessee, Lessee's property, or to Lessee's business by reason thereof. All reasonable sums disbursed, deposited or incurred by City in connection with such repairs or maintenance, plus ten percent (10%) for overhead, shall be due and payable by Lessee to City, as an item of Additional Rent, within ten (10) days of Lessee's receipt of an invoice and supporting documentation for such sum from City.

14. SURRENDER

A. Structures

At the expiration of the Term of this Lease or upon the sooner termination thereof, this Lease shall terminate without further notice and Lessee shall surrender said Leased Premises to the City and all Improvements thereon, including but not by way of limitation, any

alterations, additions or improvements, shall remain for the benefit of the City (exclusive of Lessee's trade fixtures, equipment and personal property). Any holding over by Lessee after expiration shall not constitute a renewal or extension or give Lessee any rights in or to the Leased Premises except as otherwise expressly provided in this Lease.

B. Removal

No buildings, structures or other improvements shall be removed from said Leased Premises (exclusive of Lessee's trade fixtures, equipment and personal property) or voluntarily destroyed or damaged during the Term of this Lease without the prior written consent of the City Manager.

C. Movable Structures

Machines, trade fixtures and similar installations which are installed in any building, structure or other improvement on the Leased Premises shall not be deemed to be part of the realty even though such installations are attached to the floors, walls or roofs of any building or structure or to outside pavements, so long as such installation can be removed without structural damage to any building, structure or other improvement on the Leased Premises.

D. Personal Property

Any and all personal property of every kind and nature whatsoever, which Lessee or its sublessees places in, upon or about the Leased Premises during the Term hereof (or during the term of the Original Lease) may be removed therefrom prior to the expiration of the Term of this Lease and shall, as between the City and Lessee, be and remain the personal property of Lessee or its sublessees, as the case may be, provided that any such personal property left on the Leased Premises upon surrender to the City shall be presumed to be abandoned by Lessee.

E. Lighting, Etc.

Notwithstanding anything to the contrary contained in Paragraphs 14(C) or 14(D) above, any and all lighting, plumbing, air cooling, air conditioning, heating and ventilating equipment (except for such items that are used in connection with Lessee's equipment) shall be deemed to be a part of the realty, and regardless of whether or not any such item or equipment can be removed without structural damage to the building, structure or improvement in which it is installed, it shall not be removed from such building, structure or other improvement except for repairs, alterations and replacement with newer equipment, without the consent of the City Council, and all such equipment shall remain as a part of the realty at the expiration of the Term of this Lease.

F. Removal at Expiration

Notwithstanding the above provisions of this Article 14, the City may give notice of its election, not less than one (1) year prior to the expiration of the Term of this Lease (including during any Option Period), to require, upon expiration of this Lease, the removal of

any or all Improvements located on the Leased Premises and the restoration of the land to City's reasonable satisfaction and to the same condition as existed upon commencement of the Original Lease, free of all Lessee Contamination, in which event the Lessee shall remove such Improvements and restore the Leased Premises within 120 days following the expiration of the Term of this Lease. Such period shall not constitute an extension or renewal of this Lease.

15. SUBORDINATION

A. Quitclaim Deed

Lessee acknowledges that it has received a copy of the Quitclaim Deed executed by the United States of America, dated March 5, 1948, Exhibit "D" attached hereto and made a part hereof (recorded on May 13, 1948 in Book 27145, Page 362 of Official Records), upon which the City holds title to said Leased Premises and Lessee agrees to comply with the provisions thereof as amended to the date of this Lease. This Lease shall be subordinate to such provisions as amended and to any further agreements between the City and the United States of America required by such provisions as amended, and Lessee agrees to execute such additional instruments or agreement as may be required by City or the United States to confirm or effectuate such subordination.

B. FAA Provisions

Lessee acknowledges its acceptance of and its agreement to comply with the Federal Aviation Administration ("FAA") provisions shown on Exhibit "E" attached hereto and made a part hereof (the "FAA Provisions").

C. Changes in FAA Requirements

Lessee shall, at it sole cost and expense, be responsible for (and shall not be entitled to receive any reduction of rent for any changes to) changes to the requirements promulgated by the FAA or any other governmental entity regulating the Torrance Municipal Airport relating to the construction and operation of the Leased Premises (the "FAA Requirements") and the City shall not be obligated to the Lessee in any manner with respect to changes in the FAA Requirements.

16. AVIGATION EASEMENTS

A. Interference with Navigation

Lessee agrees that:

(1) It will not erect or permit the erection or growth of any building, structure, tree or other object on said Leased Premises above any elevation above mean sea level as shown on Exhibit "E" (175 feet at the northerly boundary and 250 feet in the center); and

(2) It will not use said Leased Premises or permit said Leased Premises to be used in any manner which might interfere with the landing or taking off of

aircraft from the airport, or which otherwise constitutes an air navigation obstruction, or which creates an interference; and

(3) It will not light or operate, or cause to be lighted or operated, any equipment which would interfere with the navigation, landing or takeoff of aircraft on the runways and in the aeronautical areas of the airport.

B. Avigation Easements

(1) The City reserves the following easements from the leasehold estate created hereby:

(a) The right to take any action necessary to prevent the erection or growth of any building, structure, tree or other object into the air space above those elevations shown on Exhibit "E" attached hereto, and to remove from such air space, or mark and light as obstructions to air navigation, any and all buildings, structures, trees or other objects that may at any time project or extend above the elevations shown on Exhibit "E" together with the right of ingress to, egress from, and passage over the said Leased Premises for such purposes;

(b) The right to enter onto the said Leased Premises for the purpose of causing the abatement of any interference with the landing and taking off of aircraft from said airport; and

(c) A right of flight for the passage of aircraft in the air space above the surface of the said Leased Premises, together with the right to cause in said air space such noise as may be inherent in the operation of aircraft, now known or hereafter used for navigation of, or flight in the air, using said air space or landing at, or taking off from, or operating at, or on said airport.

(2) "Aircraft" as used in this Paragraph includes aircraft now or hereafter developed which utilize the airport or such air space whether similar or dissimilar to existing aircraft.

(3) "Interference" as used in this Paragraph includes without limitation any interference with radar, any electrical or other interference with radio or other communication between airport and aircraft, or any use of activity which makes it difficult for pilots to distinguish between airport and other lights, creates glare or otherwise impairs visibility or which otherwise endangers the landing, taking off or maneuvering of aircraft or the safety of those using the airport, or is hazardous thereto.

(4) In the event that the City exercises any of its rights pursuant to the above provisions of Article 16, the City shall not be liable to the Lessee for any damage suffered as a result thereof and the Lessee shall reimburse the City for all reasonable and necessary expenses incurred by the City therefor.

17. TAXES, ASSESSMENTS AND UTILITY CHARGES

A. Net Lease

It is the intention of City and Lessee that all costs, expenses and obligations of every kind relating to the use, operation or occupancy of the Leased Premises which may arise or become due during the term of this Lease shall be paid by Lessee (other than costs incurred by City in negotiating the terms and provision of this Lease and any amendments thereto), and that City shall be indemnified by Lessee against such costs, expenses, and obligations. Accordingly, Lessee agrees to pay before delinquent every charge, lien or expense accruing or payable during the Term (including any Option Term(s)) of this Lease in connection with the use or occupancy of said Leased Premises, including, but not by way of limitation, all taxes and assessments, insurance costs, operating costs, water, electricity, gas, telephone, utilities and all other costs for services used by Lessee, its sublessees, licensees and concessionaires on said Leased Premises.

B. Payment of Taxes

Lessee agrees to pay at least ten (10) days prior to delinquency all taxes which shall be levied against the Leased Premises and the Improvements thereon, and against any buildings, structures or any improvements hereafter erected or constructed on the Leased Premises, and which become a lien against said Leased Premises and the improvements. Lessee shall provide proof of its payment of such taxes prior to any such taxes becoming delinquent. Furthermore, in accordance with California Revenue & Taxation Code § 107.6, Tenant hereby acknowledges that the possessory interest granted herein may be a taxable interest and, Tenant's obligations with respect to the payment of any and all costs associated with Tenant's use of the Leased Premises shall include, without limitation, the obligation to pay any such possessory interest tax.

C. Payment of Assessments

Lessee, at Lessee's sole cost and expense, agrees to pay before delinquent any and all assessment, tax, fee, levy or charge in addition to, or in partial or total substitution of any assessment, tax, fee, levy or charge levied against the Leased Premises or against any buildings, structures or any improvements erected or constructed by the Lessee on the Leased Premises made for maintenance purposes, such as (without limitation) lighting, water lines, sewer (wastewater facilities), fences or other utilities (even if said assessments or charges are for items that would otherwise be characterized as "capital improvements"). Tenant and City acknowledge that Proposition 13 was adopted by the people of the State of California in June, 1978 and that assessments, taxes, fees, levies and charges may be imposed for such services as fire protection, street, sidewalk and road maintenance, refuse removal and for other governmental services formerly provided without charge to property owners or occupants. It is the intention of Lessee and City that all such new and increased assessments, taxes, fees, levies and charges and all similar assessments, taxes, fees, levies and charges be included within the definition of assessments for the purposes of this Lease. With respect to any taxes or assessments (such as community facilities districts and/or Mello-Roos taxes) that may be paid, without becoming delinquent and/or incurring penalty, over more than a one (1) year period,

Lessee may pay such taxes or assessments over the longest available period and shall have no obligation to pay installments relating to time periods after the expiration or earlier termination of this Lease.

D. Valuation; Possessory Interest Tax

Lessee understands that, under the law now in effect, the Leased Premises will be valued by the City's Tax Assessor for the purpose of assessing and levying real property (possessory interest) taxes by adhering to the formula contained in the case of De Luz Homes, Inc. v. County of San Diego, 45 Cal. 2d 546, 290 P.2d 544 (1955). Lessee agrees that if at any time during the Term or Option Term(s) of this Lease the law is changed so as to require that said assessor value the interest of Lessee in the Leased Premises in a manner other than that being used by said assessor on the date of execution of this Lease as first above written, then the Lessee shall be responsible for any and all amounts due and owing for said real property (possessory interest) taxes.

E. Sale of Fee Interest

In the event the City sells or transfers all or any portion of the Leased Premises and such sale or transfer results in an increase in the applicable real property taxes upon reappraisal of the Leased Premises, the Lessee shall be obligated to pay such tax and any and all taxes, assessments, liens, charges and other similar matters applicable to the Leased Premises prior to such reappraisal and/or applicable to the Leased Premises pursuant to normal increases following such reappraisal shall remain the sole responsibility of Lessee.

F. Sales Tax Permit

If applicable, Lessee agrees that it will require all sublessees approved by City hereunder to have obtained a California State Sales and Use Tax Permit for the portion of the Leased Premises utilized by such sublessee before doing business thereon.

G. Contests

Lessee shall have the right, at the Lessee's sole cost and expense, to contest the amount or legality of any taxes, assessments or utility charges which it is obligated to pay, and make application for the reduction thereof, or of any assessments upon which the same may be based, provided that Lessee first posts a bond with the City in an amount equal to the amount of such taxes, assessments or charges contested with interest and penalties, or by paying the amounts contested under protest. Lessee agrees that it will prosecute any such contest or application with due diligence and will within thirty (30) days after an adverse final determination thereof pay the amount of any such taxes, assessments or charges which may have been the subject of such contest or application as so determined, together with any interest, penalties, costs and charges which may be payable in connection therewith.

H. Ad Valorem Taxes

If, during the Term, federal or state taxes shall be imposed, assessed or levied on the fee interest of City in the Leased Premises, or on or with respect to any real or

personal property constituting a portion of the fee interest of City in the Leased Premises, or on the rents derived by City from the Leased Premises in lieu of or in addition to such real or personal property taxes, and such new tax would most fairly be characterized as in the nature of an ad valorem or use tax, as opposed to an income or franchise tax on City's income, Lessee shall pay all such taxes, assessments, levies or charges imposed upon City within thirty (30) days of demand therefor by City.

I. Additional Rent

In addition to Rent, all taxes, charges, and sums payable by Lessee under this Paragraph 17 are acknowledged and agreed by Lessee to constitute Additional Rent under this Lease, whether or not such charges and sums be designated as such. City shall have the same rights and remedies upon Lessee's failure to pay Additional Rent, or any portion thereof, as for the nonpayment of Rent.

18. LIABILITY

A. Lessee's Indemnification

Lessee has accepted the condition of the Leased Premises, and the Remediation Easement, and the Watermain Easement (as such terms are defined on Exhibit "A") and hereby releases the City from and agrees to indemnify and hold the City (with "City" being defined for purposes of this Paragraph as including City, City's Mayor, City's City Council and its members, City's boards and commissions and their respective members, and City's officers, employees and agents) free and harmless from and, at City's request, defend City against, any and all liabilities and claims for damages, losses, costs and expenses (including defense costs and reasonable attorneys' fees) relating to or arising from breach of contract, any injury or death to any persons, including, but not limited to, Lessee and its employees and agents, or damage to or loss of use of property of any kind whatsoever and to whomsoever belonging, including, but not limited to, property of Lessee, from any and all cause or causes whatsoever (except City's negligence or willful conduct), which occurs on or about, or is in any way connected with, the Leased Premises, the Improvements, any buildings or other improvements subsequently constructed on the Leased Premises, the Remediation Easement and the Watermain Easement (as such terms are defined on Exhibit "A") during the term of this Lease, or results or arises from the activities conducted by Lessee or its officers, employees, agents, contractors, subcontractors, and sublessees.

With respect to damage or injury resulting from the condition of the Leased Premises, the Remediation Easement Area, the Watermain Easement Area, or from the Lessee's or Lessee's employees' or invitees' activities upon the Leased Premises, the Remediation Easement Area, and/or the Watermain Easement Area, and without limiting the generality of the foregoing, Lessee hereby agrees that City shall not be liable for any injury to Lessee's business or any loss of income therefrom or for the damage to the goods, wares, merchandise, improvements, or other property of Lessee, Lessee's offices, agents, employees, invitees, customers, or any other person in or about the Leased Premises, the Remediation Easement Area, the Watermain Easement Area, nor shall City be liable for injury or death to the person of Lessee, any sublessee, or any of their respective officers, employees, agents or

contractors, whether such damages or injury is caused by any cause whatsoever (except as a result of City's negligence or willful conduct). and whether the same damage or injury results from conditions arising upon the Leased Premises, the Remediation Easement Area, or the Watermain Easement Area, or from the Lessee's activities upon the Leased Premises, the Remediation Easement Area, or the Watermain Easement Area.

It is the intention of City and Lessee that City be released from and indemnified, held harmless and (at City's option) defended against any and all injuries (including death) to persons and damage to property described in this Paragraph to the fullest extent permitted by law. If at any time during the term of this Lease, the right of City to be so released, indemnified, held harmless or (at its option) defended shall be enlarged or reduced by reason of the application of any law or legal standard, City's rights under this Paragraph shall be ipso facto enlarged or reduced to conform to such requirements such that City shall at all times during the term hereof be released form and indemnified, held harmless from and (at its option) defended against those matters to the fullest extent permitted under then applicable law.

Lessee's obligation to indemnify, defend and hold harmless under this Lease will apply even in the event of concurrent negligence on part of City; provided, however, that nothing in this Paragraph will excuse City of its responsibility for liability arising from City's negligence or willful misconduct.

Notwithstanding any other provision of this Lease, Lessee's indemnification as set forth in the provisions of this Section shall survive the expiration or earlier termination of this Lease and shall continue in perpetuity.

B. Hazardous Materials; Lessee Contamination; Indemnity and Release

Lessee shall be fully responsible, at Lessee's sole cost and expense, for any and all Lessee Contamination. Lessee, at Lessee's sole cost and expense, shall promptly take all investigatory and/or remedial action required or ordered by any and all governmental authorities for the clean-up of any Lessee Contamination. From and after the Effective Date, Lessee shall neither (nor allow its permittees to) bring onto, create or dispose of, in or about the Leased Premises, any Hazardous Materials in violation of, nor engage in any activities in or about the Leased Premises that violate, any Environmental Laws (as hereinafter defined). If Lessee knows, or has reasonable cause to believe, that Hazardous Materials, or a condition involving or resulting from the same, has come to be located in, on, under or about the Leased Premises, Lessee shall immediately give written notice of such fact to City, and as required by law, to all appropriate governmental agencies. Lessee shall also immediately give City a copy of any statement, report, notice, registration, application, permit, business plan, license, claim, action or proceeding given to, or received from any governmental agency or private party, or persons entering or occupying the Leased Premises, which concerns or in any way relates to the existence, presence, spill, release, discharge of, or exposure to any Hazardous Materials or any other contamination in, on, or about the Leased Premises.

Lessee understands and agrees that in the event Lessee incurs any loss or liability concerning Hazardous Materials not within the provision of the first paragraph of this Section 18(B), whether attributable to events occurring prior to or following the Effective Date,

then Lessee shall look solely to such person(s) or entity(ies) as are responsible for the existence of the Hazardous Materials, but in no event shall Lessee look to City (City being defined for the purposes of this paragraph as City, City's Mayor, City's City Council and its members, City's boards and commissions and their respective members, and City's officers, employees and agents) for any liability or indemnification regarding Hazardous Materials. Lessee hereby waives, releases, remises, acquits and forever discharges City of and from any and all Environmental Claims, Environmental Cleanup Liability and Environmental Compliance Costs, as those terms are defined below, and from any and all actions, suits, legal or administrative orders or proceedings, demands, actual damages, punitive damages, loss, costs, liabilities and expenses, which concern or in any way relate to the physical or environmental conditions of the Leased Premises, the existence of any Hazardous Material thereon, or the release or threatened release of Hazardous Materials therefrom, whether existing prior to, at or after the Effective Date. It is the intention of the parties pursuant to this release that any and all responsibilities and obligations of City, and any and all rights, claims, rights of action, causes of action, demands or legal rights of any kind of Lessee, its successors, assigns or any affiliated entity of Lessee arising by virtue of the physical or environmental condition of the Leased Premises, the existence of any Hazardous Materials thereon, or any release or threatened release of Hazardous Material therefrom, whether existing prior to, at or after the Effective Date, are by this release provision declared null and void and of no present or future force and effect as to the parties. **IN CONNECTION THEREWITH, LESSEE EXPRESSLY AGREES TO WAIVE ANY AND ALL RIGHTS WHICH LESSEE MAY HAVE WITH RESPECT TO SUCH RELEASED CLAIMS UNDER SECTION 1542 OF THE CALIFORNIA CIVIL CODE WHICH PROVIDES AS FOLLOWS:**

> **"A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR."**

LESSEE'S INITIALS: _____

CITY'S INITIALS: _____

Lessee shall defend, indemnify and hold harmless City, City and their officers, directors, employees, agents and representatives (collectively, the "Indemnified Parties") from and against any and all Lessee Contamination, Environmental Claims, Environmental Cleanup Liability, Environmental Compliance Costs, and any other claims, actions, suits, legal or administrative orders or proceedings, demands or other liabilities (collectively, "Claims") resulting at any time from the physical and/or environmental conditions of the Leased Premises whether before or after the Effective Date or from the existence of any Lessee Contamination and/or other Hazardous Materials or the release or threatened release of any Lessee Contamination and/or other Hazardous Materials of any kind whatsoever, in, on or under the Leased Premises and/or the Adjoining Premises or any other affected surrounding premises, including, but not limited to, all foreseeable and unforeseeable damages, fees, costs, losses and expenses, including any and all attorneys' fees and environmental consultant fees and

investigation costs and expenses, directly or indirectly arising therefrom, and including fines and penalties of any nature whatsoever, assessed, levied or asserted against any Indemnified Parties to the extent that the fines and/or penalties are the result of a violation or an alleged violation of any Environmental Law.

For purposes of this section, the following terms shall have the following meanings:

(a) "**Environmental Claim**" means any claim for personal injury, death and/or property damage made, asserted or prosecuted by or on behalf of any third party, including, without limitation, any governmental entity, relating to the Leased Premises or its operations and arising or alleged to arise under any Environmental Law.

(b) "**Environmental Cleanup Liability**" means any cost or expense of any nature whatsoever incurred to contain, remove, remedy, clean up, or abate any contamination or any Hazardous Materials on or under all or any part of the Leased Premises, including the ground water thereunder, including, without limitation, (A) any direct costs or expenses for investigation, study, assessment, legal representation, cost recovery by governmental agencies, or ongoing monitoring in connection therewith and (B) any cost, expense, loss or damage incurred with respect to the Leased Premises or its operation as a result of actions or measures necessary to implement or effectuate any such containment, removal, remediation, treatment, cleanup or abatement.

(c) "**Environmental Compliance Cost**" means any cost or expense of any nature whatsoever necessary to enable the Leased Premises to comply with all applicable Environmental Laws in effect. "Environmental Compliance Cost" shall include all costs necessary to demonstrate that the Leased Premises is capable of such compliance.

(d) "**Environmental Law**" means any federal, state or local statute, ordinance, rule, regulation, order, consent decree, judgment or common-law doctrine, and provisions and conditions of permits, licenses and other operating authorizations relating to (A) pollution or protection of the environment, including natural resources, (B) exposure of persons, including employees, to Hazardous Materials or other products, raw materials, chemicals or other substances, (C) protection of the public health or welfare from the effects of by-products, wastes, emissions, discharges or releases of chemical sub-stances from industrial or commercial activities, or (D) regulation of the manufacture, use or introduction into commerce of chemical substances, including, without limitation, their manufacture, formulation, labeling, distribution, transportation, handling, storage and disposal.

(e) "**Hazardous Material**" is defined to include any hazardous or toxic substance, material or waste which is or becomes regulated by any local governmental authority, the State of California, or the United States Government. The term "Hazardous Material" includes, without limitation, any material or substance which is: (A) petroleum or oil or gas or any direct or derivate product or byproduct thereof; (B) defined as a "hazardous waste," "extremely hazardous waste" or "restricted hazardous waste" under Sections 25115, 25117 or 25122.7, or listed pursuant to Section 25140, of the California Health and Safety Code, Division 20, Chapter 6.5 (Hazardous Waste Control Law); (C) defined as a "hazardous substance" under

Section 25316 of the California Health and Safety Code, Division 20, Chapter 6.8 (Carpenter-Presley-Tanner Hazardous Substance Account Act); (D) defined as a "hazardous material," "hazardous substance," or "hazardous waste" under Sections 25501(j) and (k) and 25501.1 of the California Health and Safety Code, Division 20, Chapter 6.95 (Hazardous Materials Release Response Plans and Inventory); (E) defined as a "hazardous substance" under Section 25281 of the California Health and Safety Code, Division 20, Chapter 6.7 (Underground Storage of Hazardous Substances); (F) "used oil" as defined under Section 25250.1 of the California Health and Safety Code; (G) asbestos; (H) listed under Chapter 11 of Division 4.5 of Title 22 of the California Code of Regulations, or defined as hazardous or extremely hazardous pursuant to Chapter 10 of Division 4.5 of Title 22 of the California Code of Regulations; (I) defined as waste or a hazardous substance pursuant to the Porter-Cologne Act, Section 13050 of the California Water Code; (J) designated as a "toxic pollutant" pursuant to the Federal Water Pollution Control Act, 33 U.S.C. § 1317; (K) defined as a "hazardous waste" pursuant to the Federal Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq. (42 U.S.C. § 6903); (L) defined as a "hazardous substance" pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601 et seq. (42 U.S.C. § 9601); (M) defined as "Hazardous Material" pursuant to the Hazardous Materials Transportation Act, 49 U.S.C. § 5101 et seq.; or (N) defined as such or regulated by any "Superfund" or "Superlien" law, or any other federal, state or local law, statute, ordinance, code, rule, regulation, order or decree regulating, relating to, or imposing liability or standards of conduct concerning Hazardous Materials and/or underground storage tanks, as now, or at any time here-after, in effect.

Notwithstanding any other provision of this Lease, Lessee's release and indemnification as set forth in the provisions of this Section, as well as all provisions of this Section shall survive the termination of this Lease and shall continue in perpetuity.

19. INSURANCE

A. Liability

(1) Lessee agrees that at all times during the Term of this Lease and any renewal or extension thereof, it will maintain in full force and effect at Lessee's expense a comprehensive (commercial) general liability insurance with the broad form comprehensive liability endorsement and automobile liability insurance policy which will insure and indemnify the Lessee and the City, the City Council and each member thereof, and every officer and employee of the City against liability or financial loss resulting from any suits, claims, or actions brought by any person or persons and from all costs and expenses of litigation brought against the City in the amount of $10,000,000 combined single limit for any injury to persons and/or damages to property (i) in or about said Leased Premises and any Improvements constructed thereon, the Remediation Easement Area, and the Watermain Easement Area, or (ii) by reason of the use and occupation by Lessee or by any other person or persons of said Leased Premises, the Remediation Easement Area, and the Watermain Easement Area. The City, the City Council, and every officer and employee of the City, acting in due course of his employment or his official capacity, shall be named as an additional insured on said policy.

(2) It is understood that the type of insurance and minimum limits of liability insurance required herein may become inadequate for such purposes during the Term of

this Lease, and Lessee agrees that it will add such insurance coverage and increase such minimum limits at its sole expense by such amounts as may be reasonably required by the City. In the event that the Lessee objects to such increase on the grounds that it is unreasonable and the dispute cannot be resolved by the parties, the issue shall be decided by arbitration in accordance with the rules of the American Arbitration Association.

B. Property Damage

(1) Lessee agrees that at all times during the Term of this Lease and any renewal or extension thereof, it will maintain in full force and effect at Lessee's expense an insurance policy which will insure and indemnify the Lessee and the City from loss occurring to Improvements (excluding grading and fill but including foundations) located on the Leased Premises, by reason of fire, extended coverage perils, and "all risk" perils, including but not by way of limitation flood, demolition, and increased cost of construction and contingent liability arising out of the operation of building codes. If required by any "Leasehold Mortgagee" (as hereinafter defined), such property damage insurance shall also cover loss resulting from earthquake, but only to the extent required by such Leasehold Mortgagee. During the period from the dates of this Lease until the completion of the Project contemplated under Paragraph 9 herein, and thereafter during any subsequent period of construction as contemplated under Paragraph 12 herein, such insurance shall include builder's risk insurance in so-called non-reporting form covering the total cost of work performed and equipment, supplies and materials furnished.

(2) The amount of such insurance shall be at least eighty percent (80%) of the full replacement cost of the Improvements located on the Leased Premises with an agreed amount endorsement. The City shall be named as an additional insured on said policy, including earthquake coverage, if required.

C. Rent Insurance

(1) Lessee agrees that at all times during the Term of this Lease and any renewal or extension thereof, it will maintain in full force and effect at Lessee's expense a business interruption and/or rent or rental value insurance policy with endorsements and coverage equivalent to the fire, extended coverage and "all risk" perils policies described in Paragraph 19(B) above, in an amount not less than twelve (12) months Rent, plus the estimated annual cost of taxes and the annual premiums for such policy.

(2) All business interruption and/or rent or rental value insurance policies provided for herein shall name the City and Lessee as insureds as their respective interest may appear, but shall be deposited with the City. Such business interruption and/or rent or rental value insurance policies shall provide for payment or loss to the City to the extent of Lessee's obligations hereunder, and the difference between such payment and the amount of *insurance collected shall be payable to Lessee. Any business interruption and/or rent or rental* value insurance proceeds received by the City shall be applied against Lessee's rental obligations hereunder.

D. Carrier Rating and Cancellation

All policies enumerated in this Paragraph 19 shall be issued by an insurer admitted to do business in California, which qualifies as a member of the California Insurance Guaranty Fund, and which is rated in Best's Insurance Guide with a financial rating of A:XII or better, or as may be accepted in writing by the City Manager. Said policies shall provide that the insurance coverage shall not be cancelled or reduced by the insurance carrier without the City having been given sixty (60) days prior written notice thereof by such carrier. Lessee agrees that it will not cancel or reduce said insurance coverage and will replace any insurance cancelled, reduced or non-renewed by the insurance company during the Term of this Lease.

E. Copy of Policy

At all times during the Term of this Lease, Lessee shall maintain on file with the City Clerk of the City a certified copy of each insurance policy, and any and all amendments thereto, required to be maintained by Lessee pursuant to this Lease.

F. Failure to Provide

Lessee agrees that if it does not keep the aforesaid insurance in full force and effect, the City may, after thirty (30) days notice to Lessee, obtain the necessary insurance and pay the premium thereon, and the repayment thereof shall be deemed to be Additional Rent and payable as such on the next day after notice of the payment by the City for the said insurance.

G. Lessee's Insurance Primary

The insurance provided in the policies of insurance required hereunder to be maintained by Lessee shall be primary and non-contributing with any insurance that may be carried by the City.

H. Subrogation

Lessee agrees to waive its right of subrogation against the City. Any insurance policies procured by Lessee hereunder shall provide that, to the extent that insurance is provided, the insurance carrier waives all rights of subrogation against the City and all of Lessee's subtenants and other occupants of the Leased Premises.

I. Cross Liability Endorsement

It is agreed that claims for personal injury or property damage made by an insured hereunder against another insured hereunder shall be covered in the same manner as if separate policies had been issued to each Insured. Nothing contained herein shall operate to increase the insurance company's limit of liability as provided under such policy.

20. CASUALTY: INSURANCE PROCEEDS

A. Statement of Costs

In the event of the partial or total destruction of any of the Improvements located on the Leased Premises where the cost of repair or replacement exceeds Ten Thousand Dollars ($10,000), as established jointly by Lessee and the Director of Building and Safety of the City, Lessee shall promptly furnish the City with:

(1) A statement of the original cost of the damaged structures (if available); and

(2) An itemized statement setting forth the estimated cost of reconstruction thereof or repairs thereto, prepared by a California licensed architect or engineer.

B. Duty to Repair – Where Insurance

(1) During the first five Lease Years, in the event of the partial or total destruction of any of the Improvements located on the Leased Premises by any cause which is by the terms of this Lease required to be insured against (including any partial destruction where the cost of repair is less than Ten Thousand Dollars ($10,000)), Lessee shall repair or rebuild the affected Improvements to the condition existing prior to the occurrence of such destruction or damage, and shall do so even though the proceeds of the insurance policies covering the loss shall be insufficient to reimburse Lessee thereof; provided, however, that if such proceeds of insurance are more than sufficient to pay the cost of any such rebuilding, Lessee shall be entitled to receive any surplus.

(2) At any time after the expiration of the fifth Lease Year, in the event of the partial or total destruction of any of the Improvements located on the Leased Premises by any cause which is by the terms of this Lease required to be insured against, Lessee may elect to either (a) repair or rebuild the affected Improvements to the condition existing prior to the occurrence of such destruction or damage, or (b) demolish those buildings, structures and improvements designated by the City as requiring demolition, restore the land to City's reasonable satisfaction and in the same condition as existed upon commencement of the Original Lease, free of all Lessee Contamination; provided, however, notwithstanding Lessee's election under the immediately preceding subsection (b), this Lease shall continue in full force and effect and such election shall not release Lessee of its obligations hereunder.

(3) Any insurance proceeds exceeding Fifty Thousand Dollars ($50,000) shall be payable to an insurance trustee, acceptable to both parties, who shall disburse the funds for construction purposes as construction progresses and with such safeguards as said trustee may deem to be desirable to assure that workmen and materialmen are paid and that no mechanics liens may be recorded. If the Approved Leasehold Mortgagee, as defined in Paragraph 22(B) of this Lease, agrees to disburse such proceeds for restoration as aforesaid, such Approved Leasehold Mortgagee shall be acceptable to the City as the insurance trustee for purposes of this provision.

C. Duty to Repair – Where No Insurance

(1) In the event of the partial or total destruction of any of the buildings, structures or other improvements on the Leased Premises by any cause which is by the terms of this Lease not required to be insured against, then:

(a) If the cost to repair or restore such buildings, structures or other improvements is reasonably estimated to be less than ten percent (10%) of the value of same immediately prior to such damage or destruction, then Lessee shall proceed to repair and replace the same at its own expense; or

(b) If the cost to restore or repair such damage or destruction is reasonably estimated to exceed ten percent (10%) of the replacement value of such buildings, structures or other improvements immediately prior to such damage, Lessee may elect to demolish those buildings, structures and improvements designated by the City as requiring demolition, restore the land to City's reasonable satisfaction and in the same condition as existed upon commencement of the Original Lease, free of all Lessee Contamination and terminate this Lease by notifying the City in writing of its intent to do so within thirty (30) days of the event causing such damage or destruction.

(2) If Lessee shall elect to terminate this Lease as provided for above, it shall have no further obligation for rental or other payments hereunder from and after the date that such demolition and restoration are completed, and from and after the date that such demolition and restoration are completed, neither Lessee nor any Leasehold Mortgagee shall have any right, title, interest, lien or encumbrance in, to or upon the Leased Premises or any of the Improvements located thereon.

D. Duty to Repair - Last Year of Lease Term

In the event of the partial or total destruction of any of the Improvements located on the Leased Premises by any cause, whether insured or uninsured, during the last year of the Term of this Lease, the Lessee may terminate this Lease by notifying the City in writing of its intent to do so within thirty (30) days of the event causing such destruction. If the Lessee shall elect to cancel this Lease pursuant to this Paragraph, it shall have no duty to repair, replace, or restore the affected buildings, structures or other improvements to the condition existing prior to the occurrence of such destruction or damage and (except for obligations that expressly survive the expiration or earlier termination of the Lease) all liabilities of either party to the other party which would have accrued under this Lease from and after such date shall be cancelled; provided, however, that each party shall remain liable to the other party for any and all obligations and duties which arise or accrue under this Lease prior to such termination date.

E. Repair Work

Any reconstruction and repair work provided to be performed by Lessee hereunder shall be commenced and continued to completion promptly and diligently. Such reconstruction and repair work shall be performed, insofar as reasonably possible, in compliance with and pursuant to the original Plans and in compliance with the provisions of Paragraph 12

herein. The City may require a payment bond from Lessee to assure the removal or bonding of any liens.

F. Rent

In the event of destruction or damage, whether total or partial, to the Improvements on the Leased Premises, the Rent and Additional Rent provided for hereunder shall not be abated by reason of the occurrence of any such destruction or damage as long as the Term of this Lease continues and remains in existence and is not cancelled in accordance with Paragraph 20(C), but any amounts paid to the City from any rent insurance maintained pursuant to Paragraph 19(C) or otherwise, shall offset the Rent payable hereunder.

21. ASSIGNMENT AND SUBLETTING

A. Consent

(1) Lessee shall not sublet all or any part of the Leased Premises, or assign this Lease or any interest herein or in the Leased Premises (collectively, a "Transfer"), without first obtaining the written consent of the City Council, which consent shall not be unreasonably withheld. Notwithstanding the provisions of this Section 21, in the event that the proposed assignee or sublessee is an Affiliate (as hereinafter defined) of Lessee, the City Council will not withhold its consent to such an Affiliate proposed assignee or sublessee if the proposed assignee or sublessee provides evidence to City establishing that such proposed assignee or sublessee (i) has a net worth (calculated in accordance with generally accepted accounting principles) of at least Five Million Dollars ($5,000,000) as of the date of such proposed assignment, (ii) has at least five (5) years experience in the operation and management of comparable or larger projects with uses consistent with the uses permitted hereunder, or will enter into a management contract for the Leased Premises with a manager having such experience for such minimum period who will actively manage the Leased Premises, (iii) has satisfied all conditions provided in Paragraph 21(B) of this Lease, and (iv) does not have a reputation which would embarrass the City or disparage its reputation - e.g., a reputation for *connections with or control by criminal elements, past criminal violations or prosecutions, or a* reputation for disreputable practices. As used herein, an "Affiliate" of Lessee shall mean any corporation or other entity that is directly controlled by LISI Aerospace (the "Parent"). As used herein, "controlled by" shall mean that more than 50% of the outstanding partnership, membership, capital stock or other beneficial ownership interests of the Affiliate is/are owned by the Parent and the Parent possesses the power to direct or cause the direction of the management and policies of the Affiliate.

(2) In addition to the circumstances identified in Section 21(A)(1) above, the term "Transfer" shall also include the circumstances hereinafter set forth, and any of the following shall be deemed "Transfer" that is prohibited hereby unless the written consent of the City be first obtained thereto:

(a) If Lessee is a partnership, limited liability company, or joint venture, a withdrawal, addition or change (voluntary, involuntary, by operation of law, directly or indirectly, or otherwise) of any, of the partners, members, or venturers thereof; or

(b) If Lessee is composed of more than one person, a purported assignment or transfer (voluntary or involuntary, by operation of law, directly or indirectly, or otherwise) from one to any other or others thereof; or

(c) If Lessee is a corporation, a cumulative change in the ownership (voluntary, involuntary, by operation of law, directly or indirectly or otherwise) of thirty-three and one-third percent (33-1/3%) or more of its capital stock owned as of the date of its acquisition of this Lease; provided, however, that any such transfer as a result of the death or judicially declared incompetency of any such person may be made without the consent of the City so long as such transfer is to the immediate family, or to a trust for the benefit of the immediate family, of such deceased or incompetent person.

Lessee shall give the City prompt written notice of any such change in the ownership interests in Lessee whether or not the consent of the City is required therefor. The provisions of this Paragraph 21 [except for the notice provisions hereof] shall not be applicable to any Approved Leasehold Mortgagee (as defined below) that is a corporation, the stock of which is publicly traded on a recognized stock exchange.

(3) Without limiting the City's right of refusal to consent to any Transfer, the City's refusal to consent to any Transfer shall be considered reasonable if the Lessee cannot demonstrate to the reasonable satisfaction of the City that such proposed Transfer would not result in a partial assignment or a de facto division of the Lessee's rights or duties hereunder. It is the City's intention that this Lease be held as an entirety by the Lessee and it may not be divided.

(4) City's granting consent to any assignment or sublease hereunder (a) shall not be a waiver of any right to object to further or future assignments or subleases and the consent to each successive assignment or sublease must be first obtained in writing from the City Council, and (b) shall not release Lessee of its obligations hereunder and Lessee shall remain fully liable for the performance of all of the covenants to be performed by Lessee under this Lease.

B. Vesting

As a condition to the vesting of any rights in this Lease or in the leasehold estate created hereby in any City-approved assignee or sublessee of the Lessee's interest hereunder, whether voluntary or involuntary, each such proposed assignee or sublessee shall first have delivered to the City Clerk of the City a written notice of such proposed assignment or sublease, which notice:

(1) Shall contain a statement that the proposed assignee or sublessee agrees to be bound by all the terms, covenants and conditions of this Lease which are to be performed by Lessee;

(2) Shall state the name and address of the proposed assignee or sublessee for the purpose of enabling notices to be given under Paragraph 27 herein; and

(3) Shall state whether the proposed assignee or sublessee is an individual, a corporation or a partnership; and if such assignee or sublessee is a corporation, the names of such corporation's principal offices and directors, its state of incorporation, the amount of capital stock authorized and the amount of capital stock outstanding at the time of the assignment, the number of shareholders and the names and address of every shareholder who directly or indirectly owns or controls five percent (5%) of more of such stock (stating the number of such shares); and if such assignee or sublessee is a partnership, the names and addresses of the members of such partnership. The provisions of this Paragraph 21(B)(3) shall not apply to any assignee of an Approved Leasehold Mortgagee (as defined below), the stock of which assignee is publicly traded on a recognized stock exchange.

C. Voidability

Any Transfer that has been made in violation of or which is not in full compliance with the provisions of this Paragraph 21 shall be voidable by the City and shall constitute a material default under this Lease.

D. Non-Disturbance and Attornment Agreements

Upon the Lessee's written request, the City shall enter into a non-disturbance and attornment agreement with the Lessee's sublessee(s) on the City's form of agreement.

22. ENCUMBRANCES

A. Right to Encumber

During the Term of this Lease and any extension or renewal thereof, Lessee may assign for security purposes only or may encumber Lessee's leasehold interest under this Lease and the leasehold estate created hereby (a "Leasehold Mortgage") in favor of an institutional lender (herein sometimes referred to as the "Leasehold Mortgagee") and in that connection may perform any and all acts and execute any and all instruments necessary or proper to consummate any loan transaction and perfect the security therefor to be given the Leasehold Mortgagee; provided, however, that:

(1) Any such Leasehold Mortgage must constitute a first lien on Lessee's leasehold estate; and

(2) Such Leasehold Mortgage shall be an assignment or encumbrance only of the Lessee's leasehold interest under this Lease and the leasehold estate created hereby and shall not convey or be a lien upon the City's fee estate in the Leased Premises or the City's reversionary interest in all buildings and improvements located on the Leased Premises.

B. Leasehold Mortgagee Defined

The term "Leasehold Mortgagee" as used in this Paragraph 22 and elsewhere in this Lease shall mean the mortgagee under any mortgage, or the trustee and beneficiary under any deed of trust or indenture of mortgage and deed of trust encumbering the

leasehold estate or Lessee's interest therein (including the assignee or successor of any such mortgagee, beneficiary or trustee and the holder of any promissory note or bond secured thereby), and executed by Lessee and delivered for the purpose of securing to such mortgagee, trustee or beneficiary payment of any indebtedness incurred by Lessee and secured by such mortgage, deed of trust or indenture of mortgage and deed of trust. The terms "Approved Leasehold Mortgagee" and "Approved Leasehold Mortgage" shall mean a Leasehold Mortgagee and a Leasehold Mortgage, respectively, complying with the requirements of Paragraph 22(A) above.

C. Agreements Regarding Leasehold Mortgagees

(1) Notices to Leasehold Mortgagee. So long as an Approved Leasehold Mortgagee notifies the City in writing of its Approved Leasehold Mortgagee status and provides City with an address for delivery of notices, copies of all notices given or documents delivered by the City to Lessee under the terms of this Lease, including without limitation notices of Lessee's default under this Lease, shall be concurrently served by the City on the Approved Leasehold Mortgagee by United States mail, postage prepaid, registered or certified mail, return receipt requested, at the address last provided to the City in writing by such Approved Leasehold Mortgagee. No notice given by the City under this Lease shall be effective unless served as provided in this Section.

(2) Approved Leasehold Mortgagee's Rights to Cure. Notwithstanding any provision to the contrary set forth in this Lease, the City shall not terminate this Lease because of any default by Lessee or on the basis of any other event or circumstance which gives the City the right to terminate this Lease if the Approved Leasehold Mortgagee, within twenty (20) days after its receipt of notice from the City of a default by the Lessee under this Lease in the case of a default which can be cured by the payment of money required to be paid by Lessee under the terms of this Lease, or within thirty (30) days after its receipt of such notice in the case of a nonmonetary default, shall at its election either:

(a) Cure such default within such twenty (20) days, if the default can be cured by the payment of money required to be paid by Lessee under the terms of this Lease or, if the default cannot be cured in such a manner, commence to cure the default within such thirty (30) day period and thereafter diligently proceed to complete the cure; or

(b) (i) Institute a trustee's sale or judicial foreclosure proceedings under the Approved Leasehold Mortgage and thereafter diligently proceed to complete such proceedings; (ii) cure such default within such twenty (20) days if the default can be cured by the payment of money required to be paid by Lessee under the terms of this Lease; (iii) comply with all of the terms and conditions of this Lease requiring the payment or expenditure of money by Lessee (including but not limited to Paragraph 17 of this Lease) until such time (the "Foreclosure Date") as this Lease has been sold by trustee's sale, judicial foreclosure or transfer in lieu of foreclosure or reconveyed under the Approved Leasehold Mortgage; and (iv) commence to cure all non-monetary defaults within thirty (30) days following the Foreclosure Date and thereafter diligently proceed to complete the cure; provided, however, that if the Approved Leasehold Mortgagee fails to comply with any one of the

conditions set forth in Paragraph 22(C)(2)(a) or 22(C)(2)(b), then the City shall be released from the covenant of forbearance contained in this subsection.

(3) Prosecution of Foreclosure. The Approved Leasehold Mortgagee shall be deemed to be diligently proceeding to complete a trustee's sale or judicial foreclosure notwithstanding the fact that such proceedings or the commencement of such proceedings are stayed by statute, rule, court order, bankruptcy stay, or other similar enactment or action, provided that, (a) such Approved Leasehold Mortgagee is at all times during such stay in compliance with the provisions of Paragraphs 22(C)(2)(b)(ii) and 22(C)(2)(b)(iii) hereof, and (b) such trustee's sale or judicial foreclosure is completed within twenty-four (24) months following the institution of such proceedings; provided that, such twenty four (24) month period shall be extended if the Approved Leasehold Mortgagee is unable to complete such proceedings within such twenty-four (24) month period so long as the Approved Leasehold Mortgagee is at all times diligently prosecuting such proceedings to conclusion.

(4) New Lease. If this Lease terminates because of a default by Lessee or any other event or circumstance which entitles the City to terminate this Lease (including, but not limited to, rejection of the Lease in a bankruptcy proceeding), the City shall provide the Approved Leasehold Mortgagee with written notice of such termination. If within thirty (30) days after receiving notice of such termination, the Approved Leasehold Mortgagee by written notice to the City requests that the City enter into a new lease for the Leased Premises, then the City shall enter into a new lease for the Leased Premises with the Approved Leasehold Mortgagee within thirty (30) days after the Approved Leasehold Mortgagee's request, provided that the Approved Leasehold Mortgagee has delivered to the City at the time of such request the Approved Leasehold Mortgagee's written agreement to cure Lessee's defaults under this Lease, and provided further that if Lessee has defaulted under Article 9 of this Lease, the Approved Leasehold Mortgagee shall have entered into a written agreement with City pursuant to which such Approved Leasehold Mortgagee has agreed to perform the remaining obligations of Lessee under said Article 9 in a manner and within a time period satisfactory to City, or obtained the agreement of a third party satisfactory to City to so perform such obligations. The new lease shall commence, and rent and all obligations of the Approved Leasehold Mortgagee shall begin to accrue, as of the date of termination of this Lease. The term of the new lease shall be for the period which would have constituted the remainder of the Term of this Lease had this Lease not been terminated, and the new lease shall be upon all of the other terms and conditions of this Lease, as modified by all amendments, if any, entered into by City and Lessee. The new lease shall be free of all rights of Lessee. Lessee shall provide in all subleases pertaining to the Leased Premises that each subtenant of the Leased Premises shall, at the Approved Leasehold Mortgagee's option, attorn to the Approved Leasehold Mortgagee under the new lease, and the Approved Leasehold Mortgagee agrees to accept such an attornment, provided the subtenant is not in default under its sublease at the time of such attornment. Prior to or upon execution of the new lease, the Approved Leasehold Mortgagee shall (a) pay to the City all Rent, Additional Rent, and other amounts owing to the City by Lessee under this Lease as of the date of termination of this Lease; (b) shall pay to the City all rent and other amounts due under the new lease from the date of commencement of the term of the new lease to the date of execution of the new lease; (c) shall pay to the City all reasonable costs and expenses incurred by the City in connection with the new lease; and (d) shall provide in a manner satisfactory to City for the cure of all nonmonetary defaults of Lessee under this Lease.

(5) Performance by Approved Leasehold Mortgagee. The City agrees to accept performance by the Approved Leasehold Mortgagee of Lessee's obligations under this Lease with the same force and effect as if performed by Lessee; provided, however, that the Approved Leasehold Mortgagee shall not become liable for the performance of Lessee's obligations under this Lease unless and until the Approved Leasehold Mortgagee acquires title to the Lease, and provided further that, if the Approved Leasehold Mortgagee shall so acquire title to this Lease or any new Lease pursuant to Paragraph 22(C)(4) above, within sixty (60) days after such Approved Leasehold Mortgagee shall have so acquired title to this Lease or such new Lease, such Approved Leasehold Mortgagee shall have either (i) sold or otherwise transferred this Lease to a third party approved by City pursuant to Paragraph 21 of this Lease, which third party shall be financially capable and experienced in operating commercial retail shopping centers similar to the Leased Premises; or (ii) engaged the services of a management company reasonably acceptable to and approved in writing by the City which management company shall be experienced in operating commercial retail shopping centers similar to the Leased Premises and which management company shall actively operate and manage the Leased Premises until such time as such Approved Leasehold Mortgagee shall have sold or otherwise transferred this Lease to a third party as required in clause (i) of this sentence. An Approved Leasehold Mortgagee acquiring title to this Lease shall be liable for the performance of Lessee's obligations under this Lease only for so long as the Approved Leasehold Mortgagee holds title to this Lease. The City agrees that an Approved Leasehold Mortgagee may enter on the Leased Premises to perform any curative act.

Notwithstanding the provisions of this Paragraph 22(C)(5) of the Lease, (i) an Approved Leasehold Mortgagee shall not become liable for the performance of obligations of Lessee under the Lease which, by their nature, cannot be performed without such Approved Leasehold Mortgagee having possession of the Leased Premises, unless and until the Approved Leasehold Mortgagee actually acquires possession of the Leased Premises (regardless of whether, prior to obtaining such possession, such Approved Leasehold Mortgagee has title to the Lease), provided that the Approved Leasehold Mortgagee is at all times diligently taking all action required in order to obtain possession of the Leased Premises at the earliest possible date and (ii) the approval of City required under Paragraphs 22(C)(5)(i) and 21(C)(5)(ii) of the Lease shall be deemed satisfied if the third party transferee or the management company referred to therein meet the respective criteria for each set forth in Paragraph 22(C)(9) above.

(6) No Merger. Without the written consent of the Approved Leasehold Mortgagee, there shall be no merger of this Lease or of the leasehold estate created hereunder with the fee estate in the Leased Premises by reason of the fact that this Lease or the leasehold estate may be held directly or indirectly by or for the benefit of any person who owns the fee estate in the Leased Premises or any portion thereof.

(7) No Voluntary Surrender. No voluntary surrender of this Lease by Lessee or amendment or mutual termination of this Lease shall be effective without the prior written consent of the Approved Leasehold Mortgagee.

(8) Leasehold Foreclosure. The City's consent shall not be required for a transfer of this Lease to the Approved Leasehold Mortgagee by trustee's sale, judicial foreclosure or transfer in lieu of foreclosure.

(9) Approved Transfers by an Approved Leasehold Mortgagee. Notwithstanding any provision to the contrary contained in the Lease, including, without limitation, Paragraph 21 of the Lease, in the event that an Approved Leasehold Mortgagee acquires title to the Leased Premises by way of foreclosure, deed in lieu of foreclosure, or other exercise of remedies provided under its Approved Leasehold Mortgage, such Approved Leasehold Mortgagee shall thereafter have the right, with the consent of the City Council, to assign the Lease to a purchaser/assignee who proposes to assume each and all of the obligations of the Lessee under the Lease. The City Council will not withhold its consent to such a proposed transferee if the Approved Leasehold Mortgagee and the proposed transferor provide evidence to City establishing that such proposed transferee (i) has a net worth (calculated in accordance with generally accepted accounting principles) of at least Five Million Dollars ($5,000,000) as of the date of such proposed assignment, (ii) has at least five (5) years experience in the operation and management of comparable or larger properties, or will enter into a management contract for the Leased Premises with a manager having such experience for such minimum period who will actively manage the Leased Premises, (iii) has satisfied all conditions provided in Paragraph 21(B) of the Lease (except regarding shareholders owning or controlling five percent (5%) or more of the stock of a publicly held corporation), and (iv) does not have a reputation which would embarrass the City or disparage its reputation - e.g., a reputation for connections with or control by criminal elements, past criminal violations or prosecutions, or a reputation for disreputable practices.

(10) Cure of a Prohibited Junior Leasehold Mortgage. City agrees that if Lessee violates the prohibition in the Lease on creation of any junior Leasehold Mortgage, City shall give written notice to the Approved Leasehold Mortgagee. If the Approved Leasehold Mortgagee, within thirty (30) days after receipt of such notice either (i) pays and discharges the junior Leasehold Mortgagee in its entirety, or (ii) commences foreclosure proceedings, or exercises a power of sale, under a trust deed or mortgage held by the Approved Mortgagee, and thereafter diligently prosecutes such proceedings or sale to conclusion, either of such actions shall constitute a "cure" of such default by Lessee entitling the Approved Leasehold Mortgagee to obtain the new lease provided for in Paragraph 21(C)(4) of the Lease. Nothing contained herein shall alter the prohibition against creation of junior Leasehold Mortgages by the Lessee nor be construed as City's consent thereto.

23. BREACH OR DEFAULT

A. Event of Default

Any of the following shall constitute an event of default ("Event of Default") by Lessee under this Lease:

(1) Failure of Lessee to pay when due the Rent, the Additional Rent or any other sums payable by Lessee under this Lease, where such failure continues for ten (10) days after written notice thereof from the City that such payment is due; or

(2) The complete abandonment of the Leased Premises for ten (10) days after written notice thereof from the City; or

(3) The failure of Lessee to perform any other obligation hereunder which shall not be remedied to the satisfaction of City within thirty (30) days after written notice from the City specifying such failure to perform (or, if such failure cannot reasonably be remedied by Lessee within thirty (30) days, if Lessee shall not have commenced appropriate action to effect such remedy within said thirty (30) day period and thereafter prosecuted such action to completion with all due diligence); or

(4) Except as otherwise provided by paramount law, the entry of any decree or order for relief by any court with respect to Lessee in any involuntary case under the Federal Bankruptcy Code or any other applicable federal or state law; or the appointment of or taking possession by any receiver, liquidator, assignee, trustee, sequestrator or other similar official, of the Leased Premises or of Lessee or of any substantial part of the property of Lessee or the ordering or winding up or liquidating of the affairs of Lessee and the continuance of such decree or order unstayed and in effect for a period of sixty (60) days; or the commencement by Lessee of a voluntary proceeding under the Federal Bankruptcy Code or any other applicable state or federal law or consent by Lessee to the entry of an order for relief in an involuntary case under any such law, or consent by Lessee to appointment of or taking of possession by a receiver, liquidator, assignee, trustee, sequestrator or other similar official, of Lessee or of any substantial part of the property of Lessee or the making by Lessee of any general assignment for the benefit of creditors; or the failure of Lessee to operate its business for ten (10) business days when such failure is due to any financial difficulty experienced by either of the foregoing; or Lessee taking any other voluntary action related to the dissolution of Lessee or the winding up of Lessee's affairs.

B. City's Remedies

(1) If an Event of Default by Lessee shall occur and be continuing as aforesaid, then in addition to any other remedies available to the City at law or in equity, the City shall have the immediate option to terminate this Lease, and bring suit against Lessee or submit the issue of Lessee's default to arbitration and recover as an award in such suit or arbitration proceeding the following:

(a) The worth at the time of award of the unpaid rent and all other sums due hereunder which had been earned at the time of termination;

(b) The worth at the time of award of the amount by which the unpaid rent and all other sums due hereunder which would have been earned after termination until the time of award exceeds the amount of such rental loss that the Lessee proves could have been reasonably avoided;

(c) The worth at the time of award of the amount by which the unpaid rent and all other sums due hereunder for the balance of the Term after the time of award exceeds the amount of such rental loss that the Lessee proves could be reasonably avoided;

(d) Any other amount necessary to compensate the City for all the detriment proximately caused by the Lessee's failure to perform its obligations under this Lease or which in the ordinary course of things could be likely to result therefrom; and

(e) Such amounts in addition to or in lieu of the foregoing as may be permitted from time to time by applicable California law.

(2) The "worth at the time of award" of the amounts referred to in Paragraphs 23(B)(1)(a) and 23(B)(1)(b) above shall be computed by allowing interest at the lesser of one and one-half percent (1-1/2%) per month or the maximum allowable rate under applicable law on the date of the award. The "worth at the time of award" of the amount referred to in Paragraph 23(B)(1)(c) is computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award plus one percent (1%).

(3) If an Event of Default shall occur, and the City shall choose not to exercise the option to terminate this Lease as provided herein, this Lease shall continue in full force and effect for so long as the City chooses not to terminate Lessee's right to possession, and the City may enforce all its rights and remedies under this Lease, including the right to recover rent as it becomes due.

(4) For the purpose of this Paragraph 23(B), the following shall not constitute a termination of the Lessee's right to possession:

(a) Acts of maintenance or preservation or effort to relet all or any part of the Leased Premises; or

(b) The appointment of a receiver upon initiative of the City to protect the City's interest under this Lease.

(5) The City may, at any time after Lessee commits a default under this Lease, remedy such default at Lessee's expense. If the City at any time, by reason of Lessee's default, pays any sum or does any act that requires the payment of any sum, the sum paid by the City shall be due immediately from Lessee to the City at the time the sum is paid, and if paid at a later date shall bear interest at the lesser of the rate of one and one-half percent (1-1/2%) per month from the date the sum is paid by the City until the City is reimbursed by Lessee or the maximum rate allowed by law. The sum, together with interest on it, shall be Additional Rent.

C. Receipt of Rent Not Waiver of Default

The receipt by the City of Rent, Additional Rent or any other charges due to the City, with knowledge of any breach of this Lease by Lessee or of any default on the part of Lessee in the observance or performance of any of the conditions or covenants of this Lease, shall not be deemed to be a waiver of any provisions of this Lease. No acceptance by the City of a lesser sum than the Rent, Additional Rent, or any other charges then due shall be deemed to be other than on account of the earliest installment of the Rent, Additional Rent or other charges due, nor shall any endorsement or statement on any check or any letter accompanying any check or payment as the Rent, Additional Rent or charges due be deemed an accord and satisfaction, and the City may accept such check or payment without prejudice to the City's right to recover the balance of such installment or pursue any other remedy provided in this Lease. No failure on the part of the City to enforce any covenant or provision herein contained, nor any waiver of any right hereunder by the City shall discharge or invalidate such covenant or provision or affect the

right of the City to enforce the same in the event of any subsequent breach or default, unless expressly agreed to by the City Manager in writing. The receipt by the City of any of the Rent, Additional Rent or any other sum of money or any other consideration paid by Lessee after the termination in any manner of the Term, or after notice by City of such termination, shall not reinstate, continue, or extend the Term hereof, or destroy, or in any manner impair the efficacy of any such notice of termination as may have been given hereunder by the City to Lessee prior to the receipt of any such sum of money or other consideration, unless so agreed to in writing and signed by the City Manager. Neither acceptance of the keys nor any other act or thing done by the City or by its agents or employees during the Term shall be deemed to be an acceptance of a surrender of the Leased Premises, excepting only an agreement in writing signed by the City Manager accepting or agreeing to accept such a surrender.

24. COMPLIANCE WITH LAW

Lessee agrees to comply with, and to cause all sublessees, licensees and concessionaires to comply with, all statutes, ordinances, rules, laws or regulations of any governmental agency (including, without limitation, those of the City of Torrance) which are applicable to said Leased Premises or the operation of Lessee or such sublessees on the Leased Premises (collectively, the "Applicable Laws").

25. CITY'S RIGHT OF ACCESS

A. City's Access to Leased Premises

During normal business hours, the City and the City's officers, employees and agents shall have the right to enter upon the Leased Premises or any Improvements located thereon for the purpose of inspecting the same and posting notices of non-responsibility or any other notices the City may reasonably deem necessary or desirable.

B. Lessee's Access to Airport Runways

Lessee shall have no right of access for aircraft, vehicles or people to the runways, taxiways or other property or facilities on the Torrance Municipal Airport.

26. QUIET ENJOYMENT

Except as provided otherwise herein, the City covenants that Lessee, upon paying the Rent expressly reserved in this Lease and observing and keeping the terms, covenants, and conditions of this Lease on its part to be kept and performed, shall lawfully and quietly hold, occupy and enjoy the Leased Premises during the Term of this Lease.

27. NOTICES

All notices, demands, or other communications under this Lease will be in writing. Notice will be sufficiently given for all purposes as follows:

A. Personal delivery. When personally delivered to the recipient: notice is effective on delivery.

B. First Class mail. When mailed first class to the last address of the recipient known to the party giving notice: notice is effective three mail delivery days after deposit in a United States Postal Service office or mailbox.

C. Certified mail. When mailed certified mail, return receipt requested: notice is effective on receipt, if delivery is confirmed by a return receipt.

D. Overnight delivery. When delivered by an overnight delivery service, charges prepaid or charged to the sender's account: notice is effective on delivery, if delivery is confirmed by the delivery service.

E. Facsimile transmission. When sent by fax to the last fax number of the recipient known to the party giving notice: notice is effective on receipt. Any notice given by fax will be deemed received on the next business day if it is received after 5:00 p.m. (recipient's time) or on a non-business day.

Addresses for purposes of giving notice are as follows:

LESSEE:

Hi-Shear Corporation
Attn: Mary Hanley or Chief Financial Officer
2600 Skypark Drive
Torrance, California 90509

with a copy to:

James D. Robinson
Kelly Lytton & Vann, LLP
1900 Avenue of the Stars, Suite 1450
Los Angeles, California 90067

CITY:

City of Torrance
3031 Torrance Boulevard
Torrance, California 90509-2970
Attention: City Manager
Copy To: City Attorney

Any correctly addressed notice that is refused, unclaimed, or undeliverable because of an act or omission of the party to be notified, will be deemed effective as of the first date the notice was refused, unclaimed or deemed undeliverable by the postal authorities, messenger or overnight delivery service.

Either party may change its notice information by giving the other party notice of the change in any matter permitted by this Agreement.

28. AMENDMENTS AND MODIFICATIONS

This Lease shall not be amended or modified in any way, and no purported amendment or modification shall be effective, unless same has been (i) approved by the City Council and set forth in a written instrument, expressly purporting to amend this Lease, executed by the City Manager or the Mayor for the City; (ii) executed by Lessee; and (iii) approved in writing by any Approved Leasehold Mortgagee.

29. APPROVALS BY CITY; CITY ACTING IN ITS PROPRIETARY CAPACITY.

No consent, approval or satisfaction of the City provided for hereunder, and no waiver by the City of any provisions hereof, shall be effective unless given in writing specifically referring to this Lease and executed by the City Manager or the Mayor for the City; no such consent, approval, satisfaction or waiver under or with respect to this Lease shall be inferred or implied from any other act or omission of the City or any agent or employee thereof. Unless otherwise expressly provided therein, no approval, consent or other action taken by the City under or pursuant to this Lease shall be deemed to waive any other rights or authority of the City in any capacity other than as the lessor under this Lease.

Although City is a city of the State of California having regulatory powers, the execution of this Agreement and the lease of the Leased Premised as contemplated by this Agreement is undertaken by the City in its proprietary capacity and not in its regulatory capacity. Lessee agrees that City retains all of its regulatory powers and the development contemplated is subject to the applicable laws and regulations of City and other governmental agencies having jurisdiction. Nothing contained in this Lease shall in any way restrict or diminish the rights, powers or jurisdiction of the City, its City Council, Planning Commission and other agencies with respect to the governance of the Leased Premises and all buildings, improvements, business and activities located on or conducted thereon. Lessee acknowledges that it will have to apply for land use entitlements and building permits and to comply with applicable laws and ordinances in order to implement the development of the Project. This Agreement does not and the Lease will not constitute any agreement, promise or assurance by City to grant such land use entitlements or issue building permits, or that City is obligated to obtain the agreement or assurance from such agencies that such agencies will do so, nor is City obligated to amend any of its laws or regulations regarding land use entitlements or building permits, or to grant any entitlements or building permits.

30. CONDEMNATION

A. Award

In the event that all or any part of the Leased Premises or any buildings or improvements thereon shall, during the Term of this Lease, be taken or damaged by eminent domain, the total consideration paid in connection with such taking and damage (including both amounts paid for property taken and severance or other damage to the portion of the Leased Premises not taken) shall be paid and applied in the following order of priority:

(1) First, to reimburse the City for the reasonable costs, fees and expenses incurred by the City in connection with the collection of such award.

(2) Second, but only if such taking does not result in the termination of this Lease as further provided in this Section, all remaining proceeds, if any, shall be paid to a trustee, reasonably acceptable to both the City and Lessee who shall disburse the funds for construction purposes as construction progresses to repair any and all damage to the Leased Premises or the buildings or improvements located thereon resulting from such taking, with such safeguards as said trustee may deem to be desirable to assure that workmen and materialmen are paid and that no mechanic's liens may be recorded. If the Approved Leasehold Mortgagee, as defined in Paragraph 23(B) of this Lease, agrees to disburse such proceeds for restoration as aforesaid, such Approved Leasehold Mortgagee shall be acceptable to the City as the trustee for purposes of this provision.

(3) Third, any excess proceeds held by the trustee following completion of the restoration and repair described in Paragraph 30(A) above or in the event this Lease is terminated pursuant to the provisions of this Section so that no reconstruction or repair is to be undertaken, the balance of such proceeds, if any, shall be paid and applied in the following order of priority:

(a) First, to the City to the extent of the fair market value of the land of the Leased Premises so taken (including the full amount of the award for severance damages to the land not so taken). The fair market value of the land so taken shall be the value which is established by the parties as a part of any litigation or arbitration in connection with such taking. In the event there is no such litigation or determination, the fair market value of the land so taken shall be determined by the procedure set forth in Paragraph 4(B) above.

(b) Second, after any payment to the City required by Paragraph 30(A)(3) above, Lessee shall receive the remainder of such award, if any.

(4) If any of Lessee's trade fixtures or any of Lessee's other personal property shall be so taken, and if a separate and distinct award is made in connection therewith, such separate and distinct award (including amounts paid for trade fixtures and personal property taken and severance or other damages to such of Lessee's trade fixtures and other personal property as shall not be taken) shall belong solely to Lessee. Lessee's right to such award shall, however, not diminish or detract in any way from any award or amount due to the City.

B. Settlement of Claims

Lessee shall not settle or adjust any claim for damages resulting from a taking of the Leased Premises or any buildings or improvements thereon without the City's prior written consent, which consent shall be given if, and only if, the amount of such award shall be sufficient to pay the amounts to which the City is entitled pursuant to the provisions of this Section.

C. Reconstruction and Repairs

If such taking does not result in the termination of this Lease as further provided in this Section, Lessee, whether or not damages, if any, on account of such be sufficient for such purposes, shall at its sole cost and expense, promptly commence and diligently complete the restoration of the Leased Premises and all buildings and improvements located thereon as

nearly as possible to their value, condition and character immediately prior to such taking, except only for any reduction in any areas caused or necessitated by such taking; provided, however, that if the total cost to restore the Leased Premises and all buildings and improvements located thereon remaining after said taking is reasonably estimated to exceed the portion of any award made available to Lessee for that purpose by fifteen percent (15%) of the replacement value of such building, structure or other improvement immediately prior to such damage, Lessee may elect to demolish same, restore the Leased Premises to a neat and clean condition to the reasonable satisfaction of the City and terminate this Lease by notifying the City in writing of its intent to do so within thirty (30) days of the event causing such damage or destruction. If Lessee shall elect to cancel this Lease as provided for above, except with respect to obligations that expressly survive the expiration or earlier termination of this Lease, Lessee shall have no further obligation for rental or other payments hereunder from and after the date that such demolition and restoration are completed.

D. Lease Termination

In the event all of the Leased Premises, or so much thereof and/or the buildings and improvements thereon are taken so that the use of the remainder, in the Lessee's reasonable judgment, is economically unfeasible, the Term of this Lease shall terminate as of, and the City and, except with respect to obligations that expressly survive the expiration or earlier termination of this Lease, Lessee shall be released of all obligations under this Lease arising subsequent to, the date of such taking. If only a part of the Leased Premises are so taken, and this Lease is not terminated as a result thereof, this Lease shall remain in full force and effect as to the portion of the Leased Premises and the buildings and improvements thereon remaining except that the Rent, then applicable shall be reduced in that proportion or percentage which the fair market value of that portion of the land of the Leased Premises so taken bears to the total fair market value of the land of the Leased Premises immediately preceding such taking. Such total fair market value shall, for the purposes of this Paragraph, be determined in the manner set forth in Paragraph 4(B) above.

E. Approved Leasehold Mortgagee Participation

The City agrees that an Approved Leasehold Mortgagee shall have the right to participate with the City and Lessee in any condemnation proceedings affecting the Leased Premises; provided that, the Approved Leasehold Mortgagee's rights shall be limited to enforcing its rights (if any) with respect to Lessee's share (if any) of such condemnation proceeds and shall not apply to or affect City's share of any such condemnation proceeds.

31. GENERAL PROVISIONS

A. Estoppel Certificates

The City and Lessee shall at any time and from time to time upon not less than thirty (30) days prior written request by the other, deliver to the requesting party an executed and acknowledged written statement certifying that (a) this Lease is unmodified and in full force and effect (or if this Lease has been modified or if this Lease is not in full force or effect, stating the nature of the modification or the basis on which this Lease had been terminated, whichever is applicable); (b) to its knowledge, the requesting party is not in default under this Lease (or if any such default exists, stating the specific nature and extent of the default); and (c) the dates to which the monthly rent and other monetary obligations under this Lease have been paid in advance. Each certificate delivered pursuant to this Section may be relied upon by any prospective purchaser or transferee of the City's or Lessee's respective interests in the Leased Premises, including without limitation any prospective Approved Leasehold Mortgagee.

B. Remedies Cumulative

No remedy or election provided by any provisions in this Lease shall be deemed exclusive unless so indicated, but shall whenever possible be cumulative with all other remedies in law or equity except as otherwise herein specifically provided.

C. Provisions as Covenants

Each provision hereof shall be deemed both a covenant and condition and all of the conditions and covenants contained herein shall be covenants running with the land and shall be construed as such.

D. Time

Time is of the essence of this Lease.

E. Headings

The Paragraph headings in this Lease contained are for convenience and reference only, and are not intended to and shall not define, govern, limit, modify or in any manner affect the scope, meaning, or intent of any provision in this Lease contained.

F. Successors in Interest

Except as otherwise herein provided, each and every of the terms, covenants and conditions of this Lease shall inure to the benefit of and shall bind, as the case may be, not only the parties hereto but each and every of the heirs, executors, administrators, successors, assigns and legal representatives of the parties hereto.

G. Waivers

The waiver by either Lessee or the City of any breach of any of the covenants, agreements, obligations, conditions or provisions of this Lease must be in writing and shall not be construed to be a waiver of such covenant, agreement, obligation, condition, term or provision upon any subsequent breach of the same or of any other covenant, agreement, obligation, condition, term or provision herein contained.

H. Gender and Number

In this Lease, whenever the context so requires, the masculine gender includes the feminine and/or neuter, and the neuter gender includes the masculine and/or feminine, and the singular number includes the plural and the plural includes the singular.

I. Memorandum of Lease

A memorandum of this Lease, in recordable form, will be prepared, executed by both parties, and recorded in accordance with California Government Code Section 37393.

J. No Brokers

Lessee covenants and agrees that no commission or fees are due and owing to any person or entity by reason of the execution of this Lease or the payment of rent hereunder, and Lessee shall indemnify and hold the City harmless from and against any demand, liability, claim or obligation for any such fees or commissions from any person or entity claiming to have.

K. Good Faith and Reasonability

In the event any provision under this Lease shall require or anticipate that either party hereto make a judgment, give consent or approval, or exercise discretion, that party agrees to do so reasonably and in good faith, with due diligence, communicated to the other party in writing except in those instances where a Lease provision specifically sets forth a different standard of approval, in which case the specific standard of that Lease provision shall govern.

L. Incorporation of Exhibits

Exhibits "A", "B", "C", "D", and "E", each as attached to this Lease, are incorporated herein and made a part hereof.

M. Severability

If any provision of this Lease is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions will nevertheless continue in full force without being impaired or invalidated in any way.

N. Integration

This Lease incorporates all of the terms and conditions mentioned herein, or incidental hereto, and supersedes all negotiations and previous agreements between the parties with respect to all or part of the subject matter hereof. Any amendment or modification to this Lease must be in writing and executed by the appropriate authorities of Lessor and Lessee.

O. Independent Review

Each party acknowledges and agrees that it has had the opportunity to thoroughly review the terms contained herein, to obtain the advice of independent legal counsel in connection therewith, and that this Lease is the product of negotiations between the parties. Consequently, the parties agree that in the event of any dispute arising out of this Lease, this instrument shall not be construed against one party, and in favor of another, based upon the fact that one party may have drafted this Lease, or a particular provision thereof.

P. Governing Law

This Agreement is made under and shall be construed pursuant to the laws of the State of California. Any suit hereon or hereunder shall be brought only in a state or federal court sitting in the City of Los Angeles, State of California, and all parties hereto hereby agree that venue shall lie therein.

Q. Attorneys' and Other Fees

All sums reasonably incurred by City in connection with an Event of Default or holding over of possession by Lessee after the expiration or termination of this Lease, including, but not limited to, all costs, expenses and actual accountants', appraisers', attorneys' and other professional fees, and any collection agency or other collection charges, shall be due and payable by Lessee to City on demand. In addition, in the event that any action shall be instituted by either of the parties hereto for the enforcement of any of its rights in and under this Lease, the party in whose favor judgment shall be rendered shall be entitled to recover from the other party all expenses reasonably incurred by the prevailing party in such action, including actual costs and reasonable attorneys' fees.

[THE REMAINDER OF THIS PAGE WAS INTENTIONALLY LEFT BLANK. SIGNATURES FOLLOW.]

IN WITNESS WHEREOF, the parties hereto have executed this Lease the date and year first above written.

"CITY"

CITY OF TORRANCE,
a municipal corporation

By: _____
Dan Walker
City Mayor

ATTEST:

_____
Sue Herbers, CMC
City Clerk

APPROVED AS TO FORM:
JOHN L. FELLOWS III, City Attorney

By: _____

[Signatures continued on next page]

[Signatures continued from previous page]

"LESSEE"

HI-SHEAR CORPORATION,
a Delaware corporation

By: _____
Name: Mary Hanley
Its: CFO and Secretary

STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

On JULY 22, 2004, before me, A. L. MANALILI, Notary Public, personally appeared MARY HANLEY, ~~personally known to me~~ (or proved to me on the basis of satisfactory evidence) to be the person(~~s~~) whose name(~~s~~) is/~~are~~ subscribed to the within instrument and acknowledged to me that ~~he/she/they~~ executed the same in ~~his/her/their~~ authorized capacity(~~ies~~), and that by ~~his/her/their~~ signature(~~s~~) on the instrument the person(~~s~~) or the entity upon behalf of which the person(~~s~~) acted, executed the instrument.

Witness my hand and official seal.

Notary Public

[SEAL]

A. L. MANALILI
Commission # 1473523
Notary Public - California
Los Angeles County
My Comm. Expires Mar 2, 2008

STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

On AUGUST 4, 2004, before me, A. L. MANALILI, Notary Public, personally appeared DAN WALKER and SUE HERBERS, personally known to me (~~or proved to me on the basis of satisfactory evidence~~) to be the person(s) whose name(s) ~~is~~/are subscribed to the within instrument and acknowledged to me that ~~he/she~~/they executed the same in ~~his/her~~/their authorized capacity(ies), and that by ~~his/her~~/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

Witness my hand and official seal.

Notary Public

[SEAL]

A. L. MANALILI
Commission # 1473523
Notary Public - California
Los Angeles County
My Comm. Expires Mar 2, 2008

015-062579-0068
470523.09 PM04

STATE OF CALIFORNIA)
) ss.
COUNTY OF)

On _____, before me, _____, Notary Public, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

Witness my hand and official seal.

_____
Notary Public

[SEAL]

STATE OF CALIFORNIA)
) ss.
COUNTY OF)

On _____, before me, _____, Notary Public, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

Witness my hand and official seal.

_____
Notary Public

[SEAL]

STATE OF CALIFORNIA)
) ss.
COUNTY OF)

On _____, before me, _____, Notary Public, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

Witness my hand and official seal.

_____
Notary Public

[SEAL]

EXHIBIT "A"

LEGAL DESCRIPTION OF THE LEASED PREMISES

The real property is located in the County of Los Angeles, State of California and is more particularly described as follows:

That portion of Parcel 32 of Official Map No. 2 in the City Of Torrance, County of Los Angeles, State Of California, as Recorded in Book 5 pages 44 - 51 in the Office of Said County Recorder, Described as beginning at the Northeasterly corner of said Parcel 32, Thence Along Northerly Line of Parcel 32 North 62 Degrees 26 Minutes 06 Seconds Said Northerly Line Also being the Southerly Line of Skypark Drive 861.69 Feet, Thence leaving the Northerly line of Parcel 32 South 27 degrees 33 Minutes 44 Seconds West 422.25 feet, Thence South 6 Degrees 21 Minutes 11 Seconds East 61.46, Thence South 51 Degrees 21 Minutes 11 Seconds West 106.10 Feet, Thence South 38 Degrees 38 Minutes 49 Seconds West 180.61 Feet to a point on the Southerly line of Parcel 32, Thence along the Southerly line of Parcel 32 South 51 Degrees 21 Minutes 11 Seconds East 759.70 Feet, Thence North 38 Degrees 38 Minutes 49 Seconds 65.00 Feet, Thence North 27 Degrees 33 Minutes 54 Seconds East 753.32 Feet to the northeasterly corner of Parcel 32.

TOGETHER WITH a nonexclusive easement (the "Remediation Easement") over, under, and across that certain real property located in the County of Los Angeles, State of California and is more particularly described as follows (the "Remediation Easement Area"):

That portion of Parcel 32 of Official Map No. 2 in the City Of Torrance, County of Los Angeles, State Of California, as Recorded in Book 5 pages 44 - 51 in the Office of Said County Recorder, Described as beginning at the Northwesterly corner of said Parcel 32, Thence South 62 Degrees 26 Minutes 06 Seconds East 938.12 along the northerly line of Parcel 32, said northerly line also being the Southerly line of Skypark Drive, Thence leaving the Northerly line of Parcel 32 South 27 degrees 33 Minutes 44 Seconds West 422.25 feet, Thence South 6 Degrees 21 Minutes 11 Seconds East 61.46, Thence South 51 Degrees 21 Minutes 11 Seconds West 106.10 Feet, Thence South 38 Degrees 38 Minutes 49 Seconds West 180.61 Feet to a point on the Southerly line of Parcel 32, Thence along the Southerly line of Parcel 32 North 51 Degrees 21 Minutes 11 Seconds West 162.50 Feet, Thence Continuing along the Southerly line of Parcel 32 North 38 Degrees 38 Minutes 49 Seconds East 65.00 feet, Thence Continuing along the Southerly line of Parcel 32 North 51 Degrees 21 Minutes 11 Seconds West 911.77 Feet to the Westerly Line of Parcel 32, Thence Along the Westerly Line of Parcel 32 North 27 Degrees 33 Minutes 54 Seconds East 401.10 Feet to the Northwesterly corner of Parcel 32.

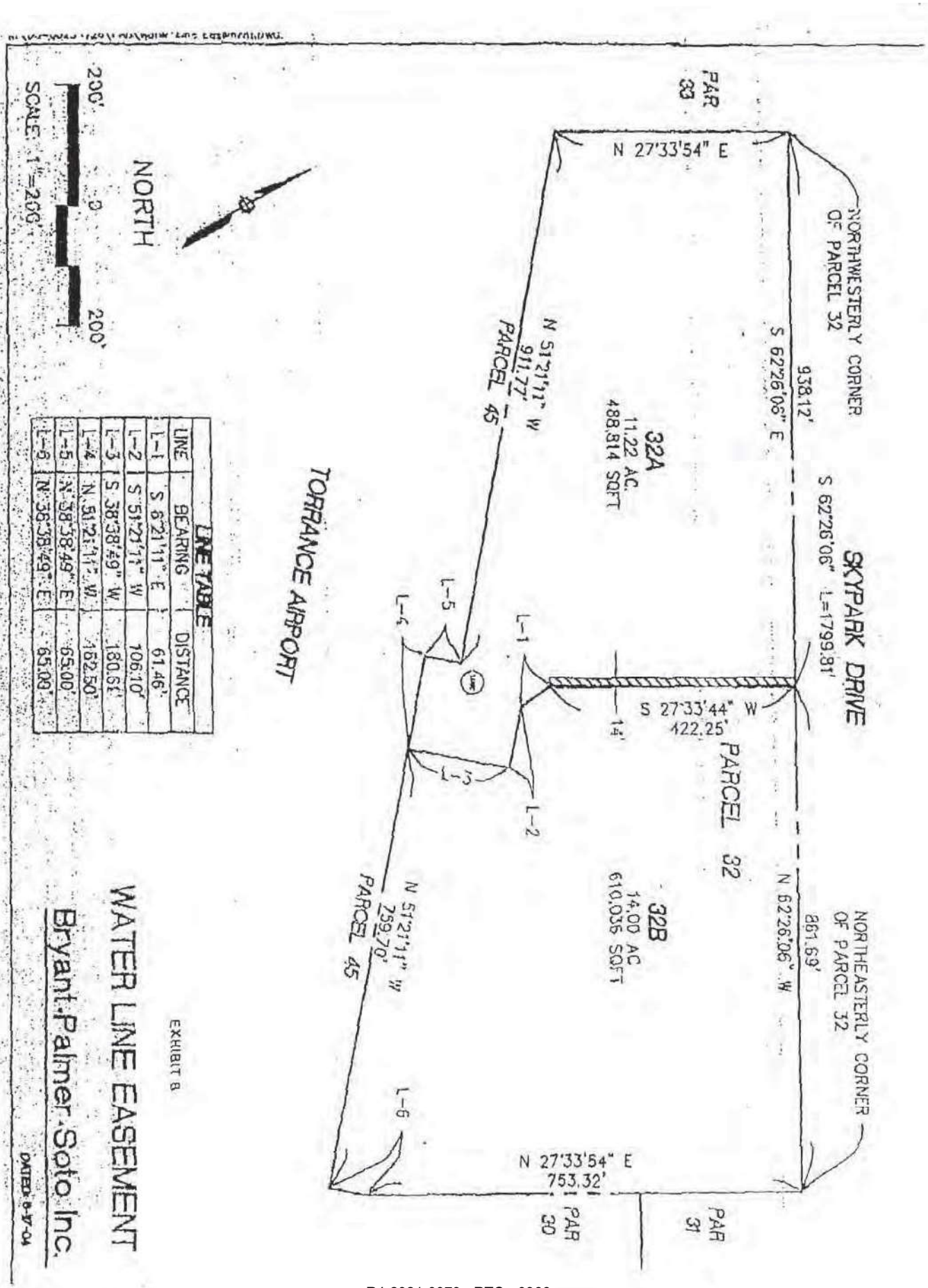
Lessee may use the foregoing Remediation Easement for each of the following purposes so long as Lessee shall avoid or, to the extent possible, minimize interference with the development, use, and/or operation of the premises affected by the Remediation Easement:

i) Vehicular and pedestrian entry on and over and access to the Remediation Easement Area, including, without limitation, those area(s) of the Remediation Easement Area upon which currently exist monitoring wells which sample the soil, soil vapor and/or groundwater, by Lessee, its agents, consultants, attorneys, contractors, engineers, employees and other representatives ("Permittees") for the purpose of conducting any environmental tests or samples of the soil, soil vapor and/or groundwater of the Remediation Easement Area that Lessee may deem necessary or appropriate for the characterization, analysis, monitoring and/or remediation (collectively, the "Remediation") of the Leased Premises and/or the Remediation Easement Area; and

ii) The Remediation of any Hazardous Material Condition (as hereinafter defined) and for the installation, inspection, use, operation, maintenance, repair and removal by Lessee and its Permittees of any of Lessee's "Remediation Equipment" (as hereinafter defined) which currently exists or is later installed on the Property in connection with the Remediation of any Hazardous Material Condition. As used herein, the term "Remediation Equipment" means; (a) any and all existing facilities for Remediation which are now located in, on, under or about the Remediation Easement Area; (b) any new facilities for Remediation that may be installed in, on, under or about the Remediation Easement Area and/or (c) any facilities that may be required by an any governmental authority with jurisdiction over any Hazardous Material Condition and/or the Leased Premises or the Remediation Easement Area to be installed and (d) any replacements and upgrades of the facilities described in (a)-(c) of this sentence. Remediation Equipment shall include, without limitation, monitoring, containment, extraction, treatment and discharge facilities, structures, equipment, devices, pipes, systems or other infrastructure items for Remediation. As used herein, the term "Hazardous Material Condition" means the presence on, in or under the Leased Premises and/or the Remediation Easement Area (including without limitation the soil, soil vapor and/or groundwater of same) of any Hazardous Material at levels of contamination that require Remediation under standards required by applicable Environmental Laws.

TOGETHER WITH a nonexclusive easement (the "Watermain Easement") over, under, and across a 14' strip of land located along the westernmost boundary of the adjacent premises, more particularly depicted on Exhibit "B" (the "Watermain Easement Area").

RESERVING THEREFROM, together with the right to grant and transfer same, a nonexclusive easement and right-of-way (the "Road Easement") for the purposes of access over and across a 28' strip of land located along the westernmost boundary of the Leased Premises, more particularly depicted on Exhibit "B" (the "Road Easement Area").



LINE TABLE		
LINE	BEARING	DISTANCE
L-1	S 6°21'11" E	61.46'
L-2	S 51°21'11" W	106.10'
L-3	S 38°38'49" W	180.61'
L-4	N 51°21'11" W	162.50'
L-5	N 38°38'49" E	65.00'
L-6	N 38°38'49" E	65.00'

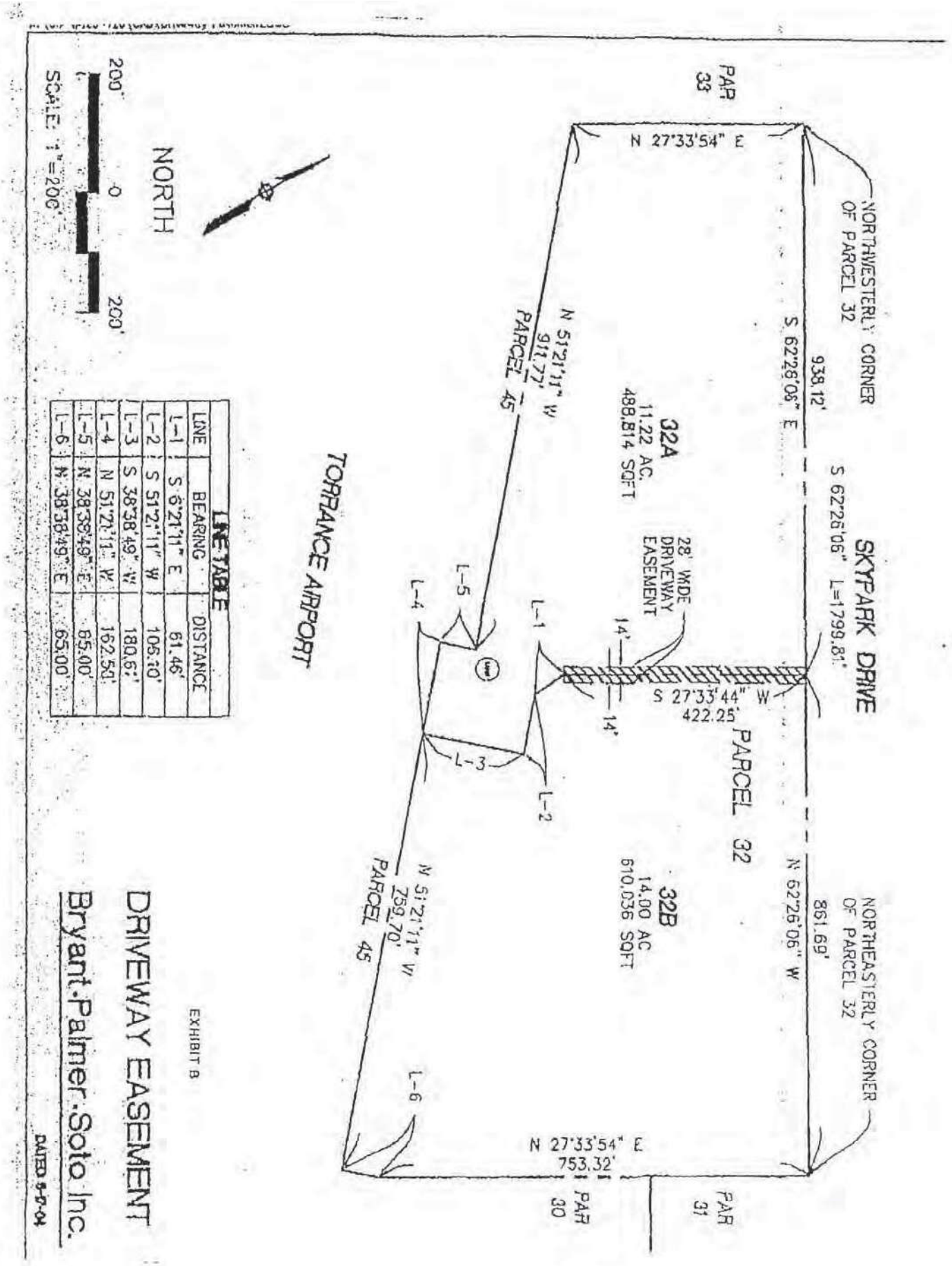

NORTHWESTERLY CORNER OF PARCEL 32
S 62°26'06" E
938.12'
SKYPARK DRIVE
S 62°26'06" E L=1799.81'
N 62°26'06" W
861.69'
NORTHEASTERLY CORNER OF PARCEL 32
PAR 33
N 27°33'54" E
32A
11.22 AC.
488,814 SQFT
28' WIDE DRIVEWAY EASEMENT
14'
14'
S 27°33'44" W
422.25'
PARCEL 32
32B
14.00 AC
610,036 SQFT
N 51°21'11" W
911.77'
PARCEL 45
TORRANCE AIRPORT
L-1
L-2
L-3
L-4
L-5
L-6
N 51°21'11" W
759.70'
PARCEL 45
N 27°33'54" E
753.32'
PAR 30
PAR 31
NORTH
200'
0
200'
SCALE: 1"=200'
LINE TABLE
LINE | BEARING | DISTANCE
L-1 | S 6°21'11" E | 61.46'
L-2 | S 51°21'11" W | 105.10'
L-3 | S 38°38'49" W | 180.62'
L-4 | N 51°21'11" W | 162.50'
L-5 | N 38°38'49" E | 65.00'
L-6 | N 38°38'49" E | 65.00'
EXHIBIT B
DRIVEWAY EASEMENT
Bryant·Palmer·Soto, Inc.
DATED 5-17-04

EXHIBIT "B"

DEPICTION OF THE LEASED PREMISES

[SEE ATTACHED]

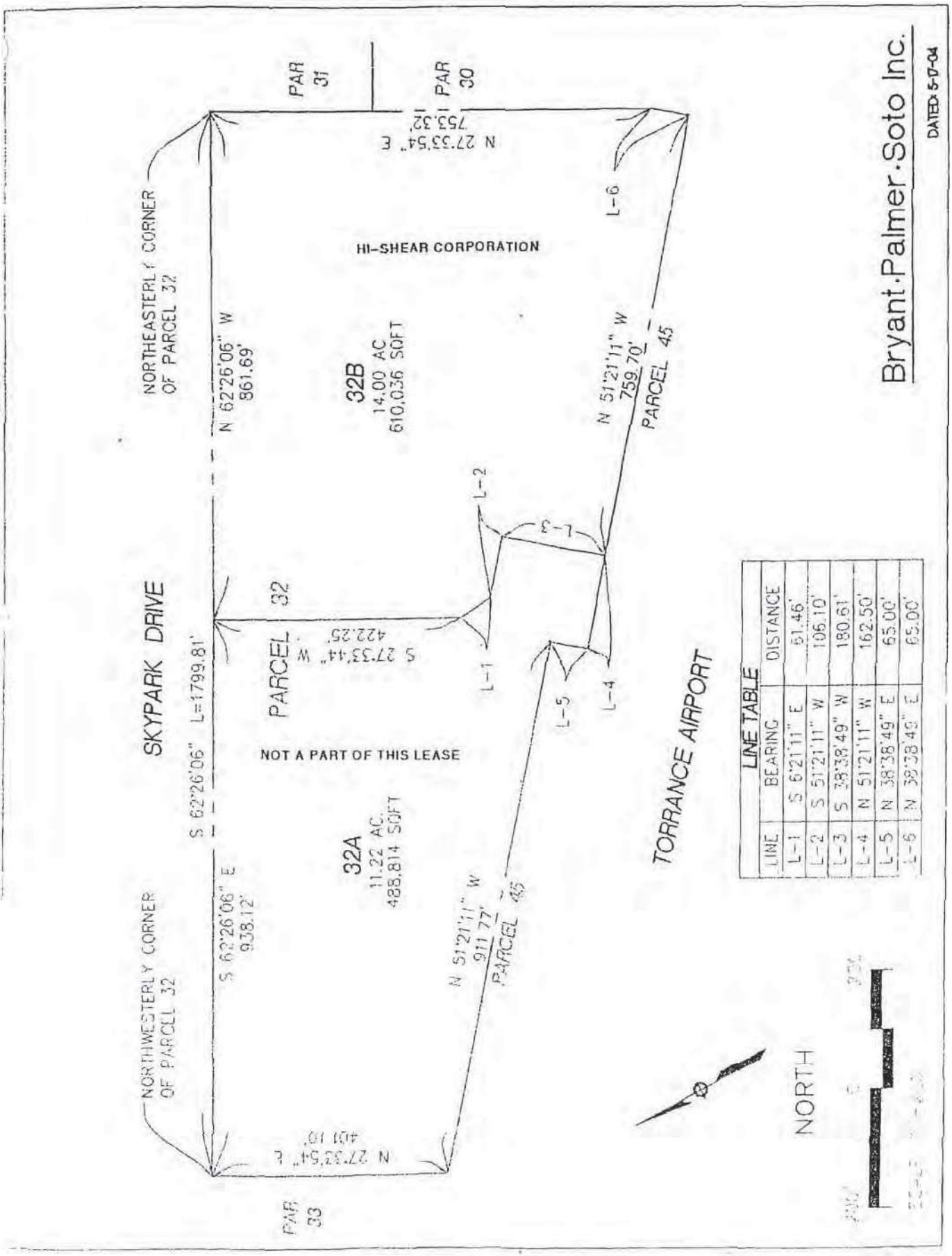

Bryant·Palmer·Soto Inc.
DATED: 5-07-04
HI-SHEAR CORPORATION
32B
14.00 AC
610,036 SQFT
32A
11.22 AC.
488,814 SQFT
SKYPARK DRIVE
TORRANCE AIRPORT
PARCEL 32
PARCEL 45
NOT A PART OF THIS LEASE
NORTHEASTERLY CORNER OF PARCEL 32
NORTHWESTERLY CORNER OF PARCEL 32
PAR 31
PAR 30
PAR 33
N 62°26'06" W 861.69'
S 62°26'06" L=1799.81'
S 62°26'06" E 938.12'
S 27°33'44" W 422.25'
N 27°33'54" E 753.32'
N 27°33'54" E 401.10'
N 51°21'11" W 759.70'
N 51°21'11" W 911.77'
L-1
L-2
L-3
L-4
L-5
L-6
NORTH
LINE TABLE
LINE | BEARING | DISTANCE
L-1 | S 6°21'11" E | 51.46'
L-2 | S 51°21'11" W | 106.10'
L-3 | S 38°38'49" W | 180.61'
L-4 | N 51°21'11" W | 162.50'
L-5 | N 38°38'49" E | 65.00'
L-6 | N 38°38'49" E | 65.00'

EXHIBIT "C"

DESCRIPTION OF THE PROJECT AND CONCEPTUAL PLANS

[SEE ATTACHED]

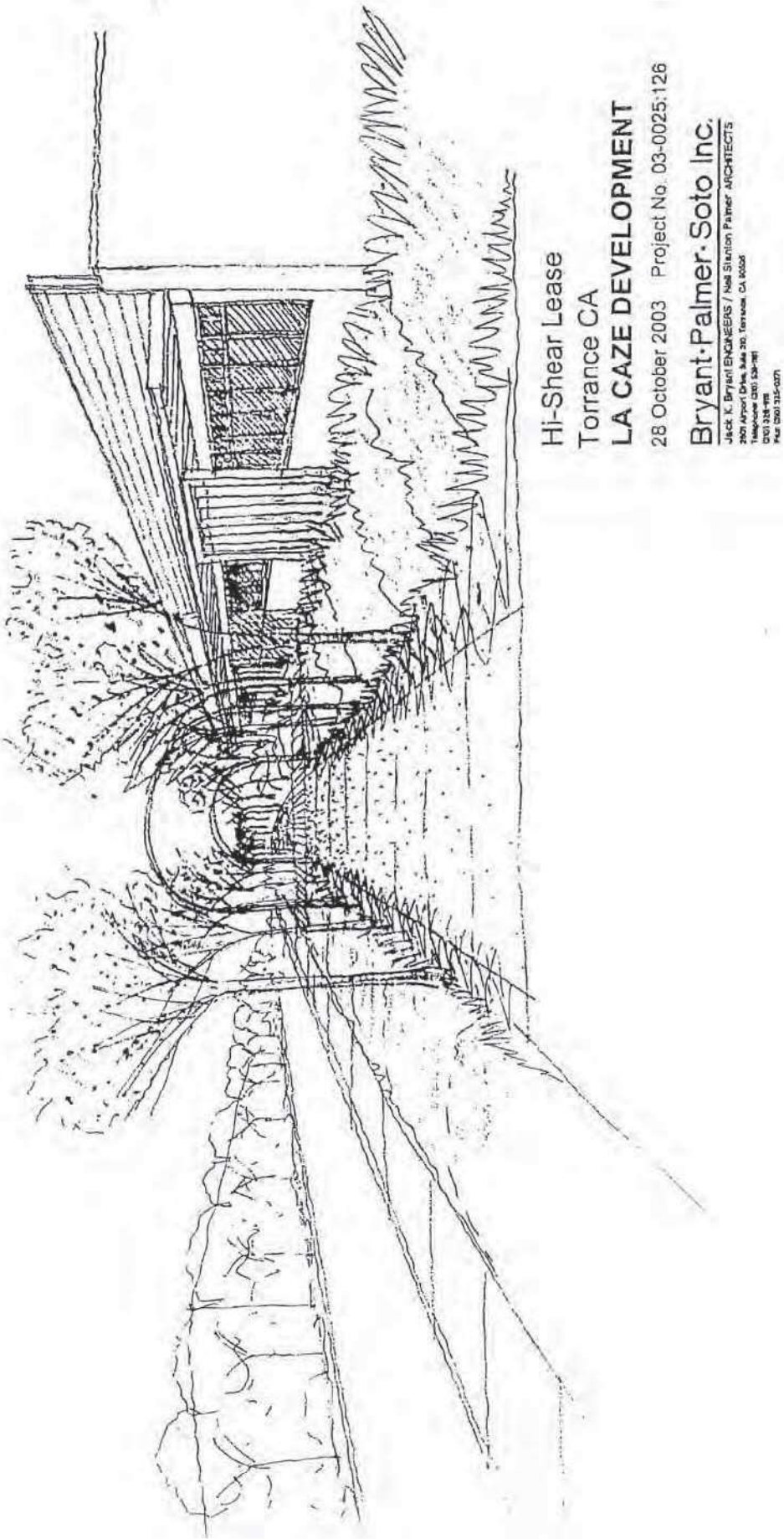

Hi-Shear Lease
Torrance CA
LA CAZE DEVELOPMENT
28 October 2003 Project No. 03-0025:126
Bryant·Palmer·Soto Inc.
Jack K. Bryant ENGINEERS / Neil Stanton Palmer ARCHITECTS

EXHIBIT "D"

QUITCLAIM DEED AND RELEASE

[SEE ATTACHED]

Recorded May 13, 1948
BOOK 27145 Pages 362-368 Incl.

QUITCLAIM DEED

THIS INDENTURE, made this 5th day of March, 1948, between the United States of America, acting by and through the War Assets Administration, and pursuant to Reorganization Plan 1 of 1947 (12 F.R. 4534), and pursuant to the powers and authority contained in the provisions of the Surplus Property Act of 1944 (58 Stat. 765) as amended, and applicable rules, regulations and orders, GRANTOR and the City of Torrance, a municipal corporation under the laws of the State of California, acting by and through its City Council, GRANTEE,

WITNESSETH: That the said Grantor, for and in consideration of the assumption by the Grantee of all the obligations and its taking subject to certain reservations, restrictions, and conditions, and its covenant to abide by certain other reservations, restrictions, and conditions, all as set out hereinafter, has remised, released, and forever quitclaimed, and by these presents does remise, release, and forever quitclaim unto the said Grantee, its successors, and assigns, under and subject to the reservations, restrictions, and conditions, exceptions and rights hereinafter set out, all its right, title, and interest in the following described property situated in the County of Los Angeles, State of California, to wit:

That portion of Lot 1 of Tract No. 9765, as per map recorded in Book 170, Pages 10, 11 and 12 of Maps, in the office of the County Recorder of Los Angeles County, in the City of Torrance, County of Los Angeles, State of California, and described as follows:

Beginning at the northeasterly corner of said Lot 1; thence along the East line of said Lot 1, South 0° 03' 45" East 4302.77 feet to the center line of the Pacific Coast Highway, 100 feet wide, as described in the deed to the State of California recorded in Book 12743, Page 23 of Official Records of said county; thence along said center line as follows:

South 89° 56' 15" West 26.04 feet to the beginning of curve concave northerly and having a radius of 1146.28 feet; thence westerly along the arc of said curve 821.34 feet; thence North 49° 00' 20" West 2390.48 feet; thence North 49° 00' 56" West 11.96 feet to the beginning of a curve concave northeasterly and having a radius of 14,000 feet; thence along the arc of said curve 777.84 feet; thence North 45° 49' 56" West 3481.23 feet to the beginning of a curve concave southwesterly and having a radius of 3000 feet; thence northwesterly along the arc of said curve 400.42 feet to the intersection of said center line with the West line of said Lot 1; thence along said West line North 0° 01' 26" West 1783.98 feet; thence South 51° 45' 55" East 6984.73 feet; thence North 38° 14' 05" East, 550 feet; thence North 51° 45' 55" West 6534.21 feet to a point on the northeasterly line of said Lot 1, said last mentioned

EXHIBIT "H"

Recorded May 13, 1948
BOOK 27145 Pages 362-368 Incl.

point being distant along said northeasterly line South 62° 50' 50" East, 780.39 feet from the most northerly corner of said Lot 1; thence South 62° 50' 50" East along the said northeasterly line of Lot 1, a distance of 5921.76 feet to the northeasterly corner of said Lot 1, the point of beginning, containing 385.463 acres, more or less;

Excepting therefrom:

PARCEL 1-A

An easement for embankment slopes upon, over and across that portion of said Lot 1 of Tract No. 9765, described as follows:

Beginning at the most northerly corner of said Lot 1; thence South 62° 50' 50" East along the northeasterly line of said Lot 1, a distance of 780.39 feet; thence South 51° 45' 55" East 3334.31 to the TRUE POINT OF BEGINNING OF PARCEL 1-A;

Thence South 54° 37' 40" East a distance of 400.50 feet more or less; thence South 51° 45' 55" East 2300 feet; thence South 46° 03' 17" East 201 feet; thence North 51° 45' 55" West 2900 feet to the true point of beginning;

and excepting therefrom:

PARCEL 1-B

An easement for road purposes upon, over and across that portion of said Lot 1 of Tract 9765, included within a strip of land 40 feet wide, being 20 feet on each side of the following described center line:

Beginning at the most northerly corner of said Lot 1; thence South 62° 50' 50" East along the northeasterly line of said Lot 1, a distance of 780.39 feet; thence South 51° 45' 55" East 6534.31 feet; thence South 38° 14' 05" West 230 feet to the TRUE POINT OF BEGINNING OF PARCEL 1-B;

Thence South 51° 45' 55" East 159.79 feet; thence southwesterly 133.72 feet along the arc of a curve concave northeasterly and having a radius of 200 feet; thence North 89° 55' 35" East 50.37 feet, to a point on the westerly prolongation of the center line of 251st Street, shown as Almond Street on map recorded in Book 17, page 125 of Maps, in the office of the County Recorde of Los Angeles County, State of California, said point being South 0° 03' 45" East, 25 feet from the southwest corner of Lot 10 of Tract No. 592 as shown on said map recorded in Book 17, page 125 of Maps;

and excepting therefrom:

Recorded May 13, 1948
BOOK 27145 Pages 362-368 Incl.

PARCEL 1-C

An easement for drainage facilities upon, over and across that portion of said Lot 1 of Tract No. 9765, included within a strip of land 52 feet wide, being 26 feet on each side of the following described center line:

Beginning at a point on the northeasterly line of said Lot 1, distant thereon, South 62° 50' 50" East 3978.62 feet from the most northerly corner of said Lot; thence South 0° 50' 55" East, 782.14 feet; thence South 15° 09' 05" West 848.57 feet;

Thence southwesterly along a curve concave northwesterly, tangent to last described line and having a radius of 520.60 feet; through an angle of 49° 30' and an arc distance of 449.77 feet; thence tangent South 64° 39' 05" West, 605 feet to a point in an existing drainage channel:

AND ALSO, an easement for drainage facilities upon, over and across that portion of said Lot 1, included within a strip of land 32 feet wide, being 16 feet on each side of the following described center line:

Beginning at the Southerly terminus of that certain course herein described as having a length of 848.57 feet; thence southeasterly along a curve concave northeasterly, tangent to said course having a length of 848.57 feet and having a radius of 550 feet, through an angle of 41° 00', an arc length of 393.57 feet; thence tangent South 25° 50' 55" East, a distance of 574.06 feet; thence southerly along a curve concave Westerly, tangent to last described course and having a radius of 500 feet, through an angle of 25° 39', an arc distance of 223.84 feet; thence tangent South 0° 11' 55" East, a distance of 200 feet to a point in an existing drainage channel.

TOGETHER WITH those certain chattel enumerated in Exhibit "B" attached hereto and made a part hereof; and TOGETHER WITH all buildings, structures, and improvements located thereon, except those thirty-four (34) structures hereinafter enumerated, and described in a certain inventory attached hereto and made a part hereof, marked Exhibit "A", and located on that portion of the demised premises more particularly described in said Exhibit "A", being a part of the same property acquired by the United States of America under proceedings in condemnation had in Case No. 2527-PH, Civil, of record in the District Court of the United States, Southern District of California, Central Division.

The above described premises are transferred subject to the following encumbrances: All existing easements for roads, highways, public utilities, railways, and pipe lines; leasehold interest executed by the Grantor as Lessor and by A.P. Wright as

Recorded May 13, 1948
BOOK 27145 Pages 362-368 Incl.

Lessee, designated as Lease No. W-04-193-Eng.-4974, dated April 17, 1945; and the right of the United States of America to occupy use, and maintain in place, together with reasonable means of ingress and egress without payment to the Grantee, its successors, or assigns, all the buildings and structures enumerated in Exhibit "A", and located on the demised premises.

EXCEPTING, HOWEVER, from this conveyance all right, title, and interest in and to all property in the nature of equipment, furnishings, and other personal property which can be removed from the land without material injury to the land or structures located thereon other than those chattels enumerated in Exhibit "B"; and reserving to the Grantor the right of removal from the premises of the personal property excepted hereby within a reasonable period of time after the date hereof, which shall not be construed to mean any period less than one (1) year after the date of this instrument.

AND FURTHER EXCEPTING, from this conveyance and reserving to the GRANTOR, in accordance with Executive Order 9908 approved December 5, 1947 (12 F.R. 8223), all uranium, thorium, and all other materials determined pursuant to section 5 (b) (1) of the Atomic Energy Act of 1946 (60 Stat. 761) to be peculiarly essential to the production of fissionable material, contained, in whatever concentration, in deposits in the lands covered by this instrument, together with the right of the United States through its authorized agents or representatives at any time to enter upon the land and prospect for, mine, and remove the same, making just compensation for any damage or injury occasioned thereby. However, such land may be used, and any rights otherwise acquired by this disposition may be exercised, as if no reservation of such material had been made; except that, when such use results in the extraction of any such material from the land in quantities which may not be transferred or delivered without a license under the Atomic Energy Act of 1946, as it now exists or may hereafter be amended, such material shall be the property of the United States Atomic Energy Commission, and the Commission may require delivery of such material to it by any possessor thereof after such material has been separated as such from the ores in which it was contained. If the Commission requires the delivery of such material to it, it shall pay to the person mining or extracting the same, or to such other person as the Commission determines to be entitled thereto, such sums, including profits as the Commission deems fair and reasonable for the discovery, mining, development, production, extraction and other services performed with respect to such material prior to such delivery, but such payment shall not includ any amount on account of the value of such material before removal from its place of deposit in nature. If the Commission does not require delivery of such material to it, the reservation hereby made shall be of no further force or effect.

AND FURTHER EXCEPTING from this conveyance and reservinc to the Grantor all minerals, other than those specifically mentioned in the last paragraph above, and all petroleum in the above described land, together with the exclusive right at any and all times to enter upon the lands and prospect for, mine for, and remove such minerals or petroleum, with all necessary and conven-

Recorded May 13, 1948
BOOK 27145 Pages 362-368 Incl.

ient means of working and transporting the materials and supplies; and reserving unto the Grantor the exclusive right at any time to drill from adjacent premises into and through the sub-surface of the land hereby transferred, in order to recover, remove, and transport therefrom any minerals or petroleum herein reserved. By accepting this instrument, or any rights hereunder, the said Grantee hereby releases the Grantor from any and all liability for all claims and losses or damage arising out of the exceptions and reservations above.

Said property transferred hereby was duly declared surplus and was assigned to the War Assets Administration for disposal, acting pursuant to the provisions of the above-mentioned Act, as amended, Executive Order 9689, and applicable rules, regulations, and orders.

By the acceptance of this deed or any rights hereunder, the said Grantee, for itself, its successors, and assigns agrees that transfer of the property transferred by this instrument, is accepted subject to the following restrictions set forth in subparagraphs (1) and (2) of this paragraph, which shall run with the land, imposed pursuant to the authority of Article 4, Section 3, Clause 2 of the Constitution of the United States of America, the Surplus Property Act of 1944, as amended, Reorganization Plan 1 of 1947 (12 F.R. 4534), and applicable rules, regulations, and orders:

(1) That all of the property transferred hereby, hereafter in this instrument called the "airport", shall be used for public airport purposes, and only for such purposes, on reasonable terms and without unjust discrimination and without grant or exercise of any exclusive right for use of the airport within the meaning of Section 303 of the Civil Aeronautics Act of 1938.

(2) That the entire landing area, as hereinafter defined, and all structures, improvements, facilities, and equipment of the airport shall be maintained at all times in good and serviceable condition to assure its efficient operation; provided, however, that such maintenance shall be required as to structures, improvements, facilities, and equipment only during the remainder of their estimated life, as determined by the Civil Aeronautics Administration or its successor Government agency. In the event materials are required to rehabilitate or repair certain of the aforementioned structures, improvements, facilities, or equipment they may be procured by demoliton of other structures, improvements, facilities, or equipment transferred hereby and located on the above-described premises, which have outlived their use as airport property in the opinion of the Civil Aeronautics Administration or its successor Government agency.

By the acceptance of this deed or any rights hereunder, the said Grantee for itself, its successors, and assigns, also assumes the obligations of, covenants to abide by, and agrees to, and this transfer is made subject to, the following reservations and restrictions set forth in subparagraphs (1) to (6) of this paragraph, which shall run with the land, imposed pursuant to the

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authority of Article 4, Section 3, Clause 2 of the Constitution of the United States of America, the Surplus Property Act of 1944, as amended, Reorganization Plan 1 of 1947 (12 F.R. 4534), and applicable rules, regulations and orders:

(1) That insofar as is within its power and reasonably possible, the Grantee and all subsequent transferees shall prevent any use of land either within or outside the boundaries of the airport, including the construction, erection, alteration, or growth of any structure or other object thereon, which use would be a hazard to the landing, taking-off, or maneuvering of aircraft at the airport, or otherwise limit its usefulness as an airport.

(2) That the building areas and non-aviation facilities, as such terms are hereinafter defined, of or on the airport shall be used, altered, modified, or improved only in a manner which does not interfere with the efficient operation of the landing area and of the airport facilities, as hereinafter defined.

(3) That itinerant aircraft owned by the United States of America (hereinafter sometimes referred to as the "Government") or operated by any of its employees or agents on Government business shall at all times have the right to use the airport in common with others; Provided, however, that such use may be limited as may be determined at any time by the Civil Aeronautics Administration or its successor Government agency to be necessary to prevent interference with use by other authorized aircraft, so long as such limitation does not restrict Government use to less than twenty-five (25) per centum of capacity of the landing area of the airport. Government use of the airport by virtue of the provisions of this subparagraph shall be without charge of any nature other than payment for damage caused by such itinerant aircraft.

(4) That during the existence of any emergency declared by the President of the United States of America or the Congress thereof, the Government shall have the right without charge, except as indicated below, to the full, unrestricted possession, control, and use of the landing area, building areas, and airport facilities, as such terms are hereinafter defined, or any part thereof, including any additions or improvements thereto made subsequent to the declaration of any part of the airport as surplus; Provided, however, that the Government shall be responsible during the period of such use for the entire cost of maintaining all such areas, facilities, and improvements, or the portions used, and shall pay a fair rental for the use of any installations or structures which have been added thereto without Federal aid.

(5) That no exclusive right for the use of any landing area or air navigation facilities, included in or on the airport shall be granted or exercised.

(6) That the property transferred hereby may be successively transferred only with the approval of the Civil Aeronautics Administration or its successor Government agency, and with the proviso that any such subsequent transferee assumes all the obligations imposed upon the Grantee by the provisions of this instrument.

EXHIBIT "H"
Page 6 of 9 Pages

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As used in this Quitclaim Deed, the following terms shall have the following meanings:

(a) "Landing Area" means any land, or combination of water and land, together with improvements thereon and necessary operational equipment used in connection therewith, which is used for landing, take-offs, and parking of aircraft. The term includes but is not limited to, runways, strips, taxiways, and parking aprons.

(b) "Building Area" means any Land other than a Landing area, used or necessary for or in connection with the operation or maintenance of an airport.

(c) "Non-aviation facilities" means any building, structures, improvements and equipment located in a building area and used in connection with, but not required for the efficient operation and maintenance of the landing area or the airport facilities.

(d) "Airport facilities" means any buildings, structures, improvements and operational equipment other than non-aviation facilities, which are used and necessary for or in connection with the operation and maintenance of an airport.

By acceptance of this instrument or any rights hereunder, the Grantee further agrees with the Grantor as follows:

(1) That upon a breach of any of the aforesaid reservations or restrictions by the Grantee or any subsequent transferee, whether caused by the legal inability of said Grantee or subsequent transferee to perform any of the obligations herein set out, or otherwise, the title, right of possession, and all other rights transferred to the Grantee, or any portion thereof, shall at the option of the Grantor revert to and become the property of the United States of America upon demand made in writing by the War Assets Administration or its successor Government agency at least sixty (60) days prior to the date fixed for the revesting of such title, right of possession, and other rights transferred, or any portion thereof; Provided, that, as to installations or structures which have been added to the premises without Federal aid, the United States of America, shall have the option to acquire title to or use of the same at the then fair market value of the rights therein to be acquired by the United States of America.

(2) That if the construction as covenants of any of the foregoing reservations and restrictions recited herein as covenants, or the application of the same as covenants in any particular instance is held invalid, the particular reservations or restrictions in question shall be construed instead merely as conditions upon the breach of which the Grantor may exercise its option to cause the title, right of possession and all other rights transferred to the Grantee, or any portion thereof, to revert to the United States of America, and the application of such reservations or restrictions as covenants in any other instance a

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the construction of the remainder of such reservations and restrictions as covenants shall not be affected thereby.

TO HAVE AND TO HOLD the said premises, with appurtenances, except those rights excepted and reserved above, and under and subject to the aforesaid reservations, restrictions, and conditions, unto the said Grantee, its successors, and assigns forever.

IN WITNESS WHEREOF, the Grantor has caused these presents to be executed as of the day and year first above written.

THE UNITED STATES OF AMERICA
Acting by and through
WAR ASSETS ADMINISTRATION

By s/ ROBERT P. ALFORD
DEPUTY REGIONAL DIRECTOR
For Real Property Disposal
Los Angeles Regional Office
War Assets Administration

WITNESSES:

s/ Devera L. Scholnek

s/ Doris Goodman

EXHIBIT "H"
Page 8 of 8 Pages

[EXHIBIT "E"]

FAA PROVISIONS AND AVIGATION REQUIREMENTS

[SEE ATTACHED]

615/062579-0068
470523.09 PM04

EXHIBIT "E"
TO LEASE

FEDERAL AVIATION ADMINISTRATION PROVISIONS

Lessee agrees to observe the following provisions required by the Federal Aviation Administration:

(a) Lessee in the operations to be conducted pursuant to the provisions of this lease and otherwise in the use of the airport, will not discriminate or permit discrimination against any person or class of persons by reason of race, color, creed or national origin in any manner prohibited by Part 15 of the Federal Aviation Regulations or any amendments thereto.

(b) Lessee shall furnish its accomodations and/or services on a fair, equal and not unjustly discriminatory basis to all users thereof and it shall charge fair, reasonable and not unjustly discriminatory prices for each unit of service: PROVIDED, THAT the Lessee may be allowed to make reasonable and non-discriminatory discounts, rebates, or other similar type of price reductions to volume purchasers.

(c) Lessee shall make its accomodations and/or services available to the public on fair and reasonable terms without unjust discrimination on the basis of race, creed, color or national origin.

(d) Non-compliance with provisions (a), (b) and (c) above shall constitute a material breach thereof and in the event of such non-compliance the City shall have the right to terminate this lease and the estate hereby created without liability therefor or at the election of the City or the United States, either or both said Governments shall have the right to judicially enforce said provisions (a), (b) and (c).

(e) Leasee agrees that it shall insert the above four provisions in any lease by which said Lessee grants a right or privilege to any person, firm or corporation to render accomodations and/or services to the public on the premises herein leased.

(f) The City reserves the right to further develop or improve the landing area of the airport as it sees fit, regardless of the desires or view of the Lessee, and without interference or hindrance.

(g) The City reserves the right, but shall not be obligated to the Lessee, to maintain and keep in repair the landing area of the airport and all publicly-owned facilities of the airport, together with the right to direct and control all activities of the lessee in this regard.

(h) This lease shall be subordinate to the provisions and requirements of any existing or future agreement between the City and the United States, relative to the development, operation or maintenance of the airport.

(i) Lessee agrees to comply with the notification and review requirements covered in Part 77 of the Federal Aviation Regulations in the event any future structure or building is planned for the leased premises, or in the event of any planned modification or alteration of any present or future building or structure situated on the leased premises.

(j) It is understood and agreed that nothing herein contained shall be construed to grant or authorize the granting of an exclusive right within the meaning of Section 308 of the Federal Aviation Act.

(k) This lease and all the provisions hereof shall be subject to whatever right the United States Government now has or in the future may have or acquire, affecting the control, operation, regulation and taking over of said airport or the exclusive or non-exclusive use of the airport by the United States during the time of war or national emergency.

EXHIBIT "I"

Page 1 of 1 Page

EXHIBIT "I"

CITY OF TORRANCE

CITY MANAGER'S OFFICE

LeRoy J. Jackson
City Manager

Brian Sunshine
Assistant to the City Manager
(310) 618-5880
bsunshine@torrnet.com

October 9, 2006

Hi-Shear Corporation
Attn: Mary Hanley or Chief Financial Officer
2600 Skypark Drive
Torrance, California 90509

Subject: Scrivener's error Legal Description Exhibit "A" Lease Number C2004-154

Dear Ms. Hanley:

Please find attached a revised legal description for your Lease with the City of Torrance. The revised Exhibit "A" has a correction to a scrivener's error that does not change any of your lease area boundaries. The correction to the legal description is found as follows:

> That portion of Parcel 32 of Official Map No. 2 in the City Of Torrance, County of Los Angeles, State Of California, as Recorded in Book 5 pages 44 - 51 in the Office of Said County Recorder, Described as beginning at the Northeasterly corner of said Parcel 32, Thence Along Northerly Line of Parcel 32 North 62 Degrees 26 Minutes 06 Seconds Said Northerly Line Also being the Southerly Line of Skypark Drive 861.69 Feet, Thence leaving the Northerly line of Parcel 32 South 27 degrees 33 Minutes 44 Seconds West 422.25 feet, Thence South 6 Degrees 21 Minutes 11 Seconds East 61.46, Thence South 51 Degrees 21 Minutes 11 Seconds ~~West~~ East 106.10 Feet, Thence South 38 Degrees 38 Minutes 49 Seconds West 180.61 Feet to a point on the Southerly line of Parcel 32, Thence along the Southerly line of Parcel 32 South 51 Degrees 21 Minutes 11 Seconds East 759.70 Feet, Thence North 38 Degrees 38 Minutes 49 Seconds 65.00 Feet, Thence North 27 Degrees 33 Minutes 54 Seconds East 753.32 Feet to the northeasterly corner of Parcel 32.

Please insert the revised Legal Description with the documents you have on file for this Lease.

If you have any questions, feel free to call me at 310-618-5887.

Sincerely,

Brian K. Sunshine
Assistant to the City Manager

Attachment:
Exhibit "A" to Lease as corrected

CC:
City Clerk
3031 Torrance Boulevard
Torrance, CA 90503

James D. Robinson
Kelly Lytton & Vann, LLP
1900 Avenue of the Stars, Suite 1450
Los Angeles, California 90067

EXHIBIT "A"

LEGAL DESCRIPTION OF THE LEASED PREMISES

The real property is located in the County of Los Angeles, State of California and is more particularly described as follows:

That portion of Parcel 32 of Official Map No. 2 in the City Of Torrance, County of Los Angles, State Of California, as Recorded in Book 5 pages 44 – 51 in the Office of Said County Recorder, Described as beginning at the Northeasterly corner of said Parcel 32, Thence Along Northerly Line of Parcel 32 North 62 Degrees 26 Minutes 06 Seconds Said Northerly Line Also being the Southerly Line of Skypark Drive 861.69 Feet, Thence leaving the Northerly line of Parcel 32 South 27 degrees 33 Minutes 44 Seconds West 422.25 feet, Thence South 6 Degrees 21 Minutes 11 Seconds East 61.46, Thence South 51 Degrees 21 Minutes 11 Seconds East 106.10 Feet, Thence South 38 Degrees 38 Minutes 49 Seconds West 180.61 Feet to a point on the Southerly line of Parcel 32, Thence along the Southerly line of Parcel 32 South 51 Degrees 21 Minutes 11 Seconds East 759.70 Feet, Thence North 38 Degrees 38 Minutes 49 Seconds 65.00 Feet, Thence North 27 Degrees 33 Minutes 54 Seconds East 753.32 Feet to the northeasterly corner of Parcel 32

TOGETHER WITH a nonexclusive easement (the "Remediation Easement") over, under, and across that certain real property located in the County of Los Angeles, State of California and is more particularly described as follows (the "Remediation Easement Area"):

That portion of Parcel 32 of Official Map No. 2 in the City Of Torrance, County of Los Angeles, State Of California, as Recorded in Book 5 pages 44 - 51 in the Office of Said County Recorder, Described as beginning at the Northwesterly corner of said Parcel 32, Thence South 62 Degrees 26 Minutes 06 Seconds East 938.12 along the northerly line of Parcel 32, said northerly line also being the Southerly line of Skypark Drive, Thence leaving the Northerly line of Parcel 32 South 27 degrees 33 Minutes 44 Seconds West 422.25 feet, Thence South 6 Degrees 21 Minutes 11 Seconds East 61.46, Thence South 51 Degrees 21 Minutes 11 Seconds West 106.10 Feet, Thence South 38 Degrees 38 Minutes 49 Seconds West 180.61 Feet to a point on the Southerly line of Parcel 32, Thence along the Southerly line of Parcel 32 North 51 Degrees 21 Minutes 11 Seconds West 162.50 Feet, Thence Continuing along the Southerly line of Parcel 32 North 38 Degrees 38 Minutes 49 Seconds East 65.00 feet, Thence Continuing along the Southerly line of Parcel 32 North 51 Degrees 21 Minutes 11 Seconds West 911.77 Feet to the Westerly Line of Parcel 32, Thence Along the Westerly Line of Parcel 32 North 27 Degrees 33 Minutes 54 Seconds East 401.10 Feet to the Northwesterly corner of Parcel 32.

Hi-Shear corrected legal

Lessee may use the foregoing Remediation Easement for each of the following purposes so long as Lessee shall avoid or, to the extent possible, minimize interference with the development, use, and/or operation of the premises affected by the Remediation Easement:

i) Vehicular and pedestrian entry on and over and access to the Remediation Easement Area, including, without limitation, those area(s) of the Remediation Easement Area upon which currently exist monitoring wells which sample the soil, soil vapor and/or groundwater, by Lessee, its agents, consultants, attorneys, contractors, engineers, employees and other representatives ("Permittees") for the purpose of conducting any environmental tests or samples of the soil, soil vapor and/or groundwater of the Remediation Easement Area that Lessee may deem necessary or appropriate for the characterization, analysis, monitoring and/or remediation (collectively, the "Remediation") of the Leased Premises and/or the Remediation Easement Area; and

ii) The Remediation of any Hazardous Material Condition (as hereinafter defined) and for the installation, inspection, use, operation, maintenance, repair and removal by Lessee and its Permittees of any of Lessee's "Remediation Equipment" (as hereinafter defined) which currently exists or is later installed on the Property in connection with the Remediation of any Hazardous Material Condition. As used herein, the term "Remediation Equipment" means; (a) any and all existing facilities for Remediation which are now located in, on, under or about the Remediation Easement Area; (b) any new facilities for Remediation that may be installed in, on, under or about the Remediation Easement Area and/or (c) any facilities that may be required by an any governmental authority with jurisdiction over any Hazardous Material Condition and/or the Leased Premises or the Remediation Easement Area to be installed and (d) any replacements and upgrades of the facilities described in (a)-(c) of this sentence. Remediation Equipment shall include, without limitation, monitoring, containment, extraction, treatment and discharge facilities, structures, equipment, devices, pipes, systems or other infrastructure items for Remediation. As used herein, the term "Hazardous Material Condition" means the presence on, in or under the Leased Premises and/or the Remediation Easement Area (including without limitation the soil, soil vapor and/or groundwater of same) of any Hazardous Material at levels of contamination that require Remediation under standards required by applicable Environmental Laws.

TOGETHER WITH a nonexclusive easement (the "Watermain Easement") over, under, and across a 14' strip of land located along the westernmost boundary of the adjacent premises, more particularly depicted on Exhibit "B" (the "Watermain Easement Area").

RESERVING THEREFROM, together with the right to grant and transfer same, a nonexclusive easement and right-of-way (the "Road Easement") for the purposes of access over and across a 28' strip of land located along the westernmost boundary of the Leased Premises, more particularly depicted on Exhibit "B" (the "Road Easement Area").

Hi-Shear corrected legal

Exhibit "2"

(July 11, 2017 RCRA Notice)

RUTAN
RUTAN & TUCKER, LLP

Richard Montevideo
Direct Dial: (714) 662-4642
E-mail: rmontevideo@rutan.com

July 11, 2017

VIA FEDEX

Christian Darville, CEO U.S. Operations
Hi-Shear Corporation/Lisi Aerospace
2600 Skypark Drive
Torrance, CA 90509

Re: City of Torrance RCRA Notice of Intent to Commence Suit - 2600 Skypark Drive, Torrance, CA

Dear Mr. Darville:

This Notice is being sent on behalf of the City of Torrance ("City") and represents the City's Notice of Intent to commence a citizen suit pursuant to Title 42 U.S.C. § 6972(a)(1)(B) of the Resource Conservation and Recovery Act ("RCRA"), against Hi-Shear Corporation, d/b/a Lisi Aeropsace ("Hi-Shear"), the current tenant of approximately 14 acres of land at 2600 Skypark Drive (the "Site") in the vicinity of Zamperini Field ("Airport"). Hi-Shear has leased the subject Site from the City since approximately 1954.[1] The City's citizen suit may be pursued at any time after the expiration of ninety (90) days from the date of service of this Notice. This Notice is being provided to you in accordance with the notice requirements set forth under section 6972(b)(2)(A) of RCRA.

The City contends that Hi-Shear is a "person" that has contributed, and/or is contributing to the past and present handling, storage, treatment, transportation, or disposal of solid and/or hazardous wastes on and migrating from the Site, which waste materials have created an imminent and substantial endangerment on and in proximity of the Site, including, but not limited to, on additional property owned by the City downgradient of the Site.

The City asserts that Hi-Shear's past and current generation, handling, storage, treatment, transportation, and/or disposal activities, and those of other related parties, have caused and resulted in an imminent and substantial endangerment to health and the environment, specifically including causing contamination to soil, vapor and groundwater on and within the Site, and within

[1] The original lease between the City and Hi-Shear covering portions of the Site was entered into by way of a lease dated November 19, 1954; other lease agreements were subsequently entered into covering other portions of the Property. These leases were amended several times over the years, culminating in the issuance of a new consolidated lease agreement dated July 27, 2004, and effective August 1, 2004, which lease agreement was then amended in 2014 (the 2004 Lease, as amended in 2014, is hereafter referred to as the "Lease."

the groundwater migrating from said property and into other property and groundwater in the vicinity of the Airport, including other property owned by the City.

The abandoned solid and/or hazardous waste in, on, around, and migrating from the Site consists of various hazardous waste and substances, including, but not limited to, trichloroethylene (TCE) and other halogenated volatile organic compounds (HVOCs), along with various breakdown chemicals thereof, as well as potentially other hazardous waste and substances. Accordingly, Hi-Shear is a responsible party against whom the City intends to pursue its claims through a citizen suit under the provisions of RCRA, and potentially pursuant to other federal and California laws, including without limitation, the federal Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA" – Title 42 U.S.C. § 9601 et. seq.) and the State common laws of nuisance, trespass, waste and others. Additionally, as set forth in the City's Notice of Default of Lease to Hi-Shear dated February 15, 2017, the City further intends to pursue its breach of Lease and related claims against Hi-Shear, as described in said Notice.

The City hereby demands that Hi-Shear abate the imminent and substantial endangerment, pollution condition and nuisance created by its past and/or present handling, storage, treatment, transportation and disposal practices, including, in particular, but not limited to, the solid and hazardous wastes on the Site and that have migrated from the Site into soil, soil vapor and/or groundwater to various other properties in the vicinity of the Site, and that it reimburse the City for all response costs and other costs, fees, damages and expenses incurred to date in connection therewith.

If you do not proceed to timely and diligently address the imminent and substantial endangerment conditions existing on and emanating from the Hi-Shear Site, including any such conditions existing on property owned by the City (inclusive of both the Site and offsite properties), the City will seek, under RCRA, an order of abatement and the reimbursement of its expenses incurred and to be incurred to address the imminent and substantial endangerment conditions, as well as the recovery of its attorney and expert fees and litigation costs in pursuing such relief. The City will also seek, pursuant to CERCLA and California law, the recovery of its response costs and other relief, including all of its costs, fees and damages incurred or that will be incurred to address the hazardous substances and conditions of pollution and nuisance caused by Hi-Shear, as well as damages for Hi-Shear's breaches of the Lease. .

Please accept this Notice on behalf of the City in accordance with Title 42 U.S.C. section 6972, and do not hesitate to contact the undersigned should you have any questions or need any additional information regarding these matters.

RUTAN
RUTAN & TUCKER, LLP

Thank you for your attention to this important matter.

Sincerely,

RUTAN & TUCKER, LLP

Richard Montevideo

RM/paj
cc: Thomas P. Schmidt, Esq.
David L. Evans, Esq.
Mary Giordano, Assistant City Manager, City of Torrance
Aram Chaparyan, Assistant to the City Manager, City of Torrance
Patrick Q. Sullivan, Esq., Assistant City Attorney, City of Torrance
Alan Fenstermacher, Esq.
Attached Service List to Registered Mail Recipients

RUTAN
RUTAN & TUCKER, LLP

SERVICE LIST OF COPIES FOR REGISTERED MAIL, RECEIPT REQUESTED

Scott Pruitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
1101A
Washington, DC 20460

Alexis Strauss, Acting Regional
Administrator
Region 9
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

Matt Rodriguez
Secretary
California Environmental Protection Agency
1001 I Street
Sacramento, CA 95814

Scott Smithline
Director
California Department of Resources
Recycling and Recovery
1001 I Street
Sacramento, CA 95814

Samuel Unger
Executive Officer
Los Angeles Regional Water Quality Control
Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Exhibit 5

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

CLEANUP AND ABATEMENT ORDER NO. R4-2013-0064
REQUIRING

BP PIPELINES (NORTH AMERICA), INC., ATLANTIC RICHFIELD COMPANY, AND ARCO TERMINAL SERVICES CORPORATION

TO INVESTIGATE, MONITOR, CLEANUP, AND ABATE THE EFFECTS OF WASTE DISCHARGED TO WATERS OF THE STATE (PURSUANT TO CALIFORNIA WATER CODE SECTIONS 13304 AND 13267)

AT
GOLDEN AVENUE
BETWEEN BAKER STREET AND WEST WARDLOW ROAD
LONG BEACH, CALIFORNIA 91750
(SCP CASE NO. 0093A AND SITE ID NO. 2040420)

This Cleanup and Abatement Order No. R4-2013-0064 (Order) is issued to BP Pipelines (North America), Inc., Atlantic Richfield Company, and ARCO Terminal Services Corporation based on provisions of California Water Code sections 13304 and 13267, which authorizes the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) to issue a Cleanup and Abatement Order and require the submittal of technical and monitoring reports.

The Regional Board finds that:

BACKGROUND

1. **Dischargers:** BP Pipelines (North America), Inc. (BP), Atlantic Richfield Company (ARCO), and ARCO Terminal Services Corporation (ATSC) (hereinafter, collectively referred to as "Dischargers") are Responsible Parties (RPs) due to their or their subsidiaries':

   (a) present and/or past ownership of pipelines located generally within Golden Avenue between Baker Street and Wardlow Road in Long Beach, California (hereinafter referred to as "the Site"), and/or

   (b) present and/or past operations of the pipelines at the Site that resulted in the discharge of wastes, including volatile organic compounds (VOCs), particularly benzene and 1,2-dichloroethane (1,2-DCA), light non-aqueous phase liquids (LNAPL), and other waste constituents of concern to the environment.

As detailed in this Order, the Dischargers have caused or permitted waste to be discharged or deposited where it is, or probably will be discharged into the waters of the State which creates, or threatens to create, a condition of pollution or nuisance.

2. **Location:** The pipelines at the Site are located generally within Golden Avenue between Baker Street and Wardlow Road in Long Beach, California. Exhibit A, Figure 1, Site Location Map, attached hereto and incorporated herein by reference, depicts the location of the Site. Additionally, Exhibit A, Figure 2, Site Map, also attached hereto and incorporated herein by reference, depicts the Site and the surrounding area. A residential neighborhood, known as Wrigley Heights Community, is located east of Golden Avenue and the pipelines. Adjacent to the west of Golden Avenue and the pipelines is the vacant Oil Operator's Inc. (OOI) site, which was formerly used to treat production brines, containing water and crude oil, recovered during oil production since 1926. OOI also accepted refinery wastes. The southern portion of the pipeline run, north of Wardlow Road, includes Wrigley Heights Dog Park. The area north of Baker Street includes a portion of the former OOI site and the newly-constructed Baker Street Park.

3. **Groundwater Basin:** The Site lies within the West Coast Basin of the Los Angeles Coastal Plain Groundwater Basin. The alluvial sediments within the Central Basin are an important source of groundwater. As set forth in the *Water Quality Control Plan for the Los Angeles Region* (Basin Plan), which was adopted on June 13, 1994, the Regional Board has designated beneficial uses for groundwater, including municipal (MUN), industrial (IND), process (PROC), and agricultural supply (AGR) uses in the Central Basin, and has established water quality objectives for the protection of these beneficial uses.

SITE HISTORY

4. **Site Description and Activities**: The Site is a public street owned by the City of Long Beach. The Site includes pipelines (Line 32, Line 34, and Line 252) owned and/or operated by the Dischargers generally within Golden Avenue between Baker Street and Wardlow Road in Long Beach. According to pipeline inventory records provided by the Dischargers, Lines 32 and 34 have been operational since 1922 and 1927, respectively. ATSC has owned Lines 32 and 34 since 1988. Lines 32 and 34 are both currently active. Line 252 has been inactive since 1995.

Pipeline Ownership Timeline

The historical pipeline ownership is summarized in the tables and text below. This information was obtained from pipeline inventory records provided by the Dischargers and from Regional Board discussions with personnel representing the Dischargers.

Table 1 - Ownership History for Line 32

Pipeline Owner	Years of Ownership
Union Oil	1922 - 1929
Pan American Petroleum	1929 - 1937
Richfield	1937 - 1966
ARCO	1966 - 1988
ATSC	1988 - May 31, 2013
Tesoro[1]	June 1, 2013 - Present

Table 2 - Ownership History for Line 34

Pipeline Owner	Years of Ownership
Richfield	1927 - 1966
ARCO	1966 - 1988
ATSC	1988 - May 31, 2013
Tesoro	June 1, 2013 - Present

Table 3 - Ownership History for Line 252

Pipeline Owner	Years of Ownership
ARCO	1945 or prior to May 31, 2013
Tesoro	June 1, 2013 - Present

5. **Chemical Usage:** Based on information provided by the Dischargers and other available records, Lines 32, 34, and 252 collectively transported crude oil, dark refined products, other refined products including gasoline and diesel fuel, wastewater, and oily water. More detailed information on which pipeline transported specific materials and the sources of this information is presented in Exhibit B, attached hereto and incorporated herein by reference.

EVIDENCE OF WASTE DISCHARGES AND BASIS FOR SECTION 13304 ORDER

6. **Waste Discharges:** Environmental investigations have been conducted at the adjacent OOI site since the early 1980s. The OOI site is situated west of Golden Avenue, adjacent to Lines 32, 34, and

[1] In a letter dated July 24, 2013, Tesoro Refining & Marketing Company LLC (Tesoro) notified the Regional Board that: "responsibility for the [Golden Avenue, Long Beach, California] asset has been transferred from [ATSC] to Tesoro [], effective June 1, 2013. This transfer is consistent with terms of the property sale by which Tesoro assumed responsibility for further assessment and remediation activities associated with the subject asset, including all permits, performance bonds, agency oversight fees, etc." The Regional Board understands this means that, as of June 1, 2013, Tesoro is the current owner of Lines 32, 34, and 252. The Regional Board is not including Tesoro as a responsible party in this Order at this time because the actives releases from Lines 32, 34, and 252 that resulted in the discharge of waste to waters of the state occurred prior to June 1, 2013. Based on current information, the Regional Board does not believe any active discharges from these pipelines continued on or after June 1, 2013.

252. These investigations involved soil vapor surveys, soil borings for soil sampling, and groundwater monitoring well installations for groundwater sampling. The results of those investigations indicate that there were waste discharges to the soil and groundwater at the Site. Elevated concentrations of benzene and other hydrocarbons are present in soil vapor beneath the pipelines and nearby areas, including beneath Golden Avenue and portions of the residential neighborhood on the east side of Golden Avenue, known as the Wrigley Heights Community. In addition, groundwater is impacted with LNAPL; benzene; 1,2-DCA; iso-octane; and other hydrocarbons. Upon review of available subsurface data, the Regional Board has determined that the source(s) of the hydrocarbon vapors (primarily benzene) and impacts to groundwater (primarily benzene and 1,2-DCA) that have been detected under the pipelines in Golden Avenue, Wrigley Heights residences, and the OOI site are the pipelines owned and/or operated by the Dischargers.

7. **Reasons Why the Dischargers are Responsible Parties for the Waste Discharges:**

   a. ATSC owned Line 32. BP operated Line 32 generally within Golden Avenue for transport of crude oil and refined dark product.

   b. ATSC owned Line 34. BP operated Line 34 generally within Golden Avenue for transport of diesel and other refined products, including gasoline.

      i. A 1945 (original drawing date) ARCO pipeline map identifies segments of Line 34 beneath Golden Avenue as having been replaced. The reason for the pipeline replacement is unknown.

   c. ARCO owned Line 252. BP operated Line 252 generally within Golden Avenue for the transport of gasoline and waste water.

      i. A 1945 (original drawing date) ARCO pipeline map identifies segments of Line 252 pipe where the installation of a 4-inch pipe inside an existing 6-inch pipe occurred along Baker Street and replacement beneath Golden Avenue. The reasons for the pipeline replacements are unknown.

   d. While other companies' pipelines have operated and currently operate in the area of the Site, the only pipelines identified as carrying refined products are those pipelines owned and/or operated by the Dischargers. Most of the other pipelines are located in Baker Street, away from the primary area of concern along Golden Avenue.

   e. OOI soil vapor data under Golden Avenue indicates a track to shallow soil for benzene near Lines 32, 34, and 252, which the Regional Board has identified as Area of Concern (AOC) "A."

      i. AOC A is located along the stretch of Lines 32, 34, and 252 in Golden Avenue, approximately across the street from (west of) 3743 Countryside Lane.

   f. A LNAPL product sample collected from Brycon-MW1 (identified as AOC B), near the pipelines toward the southern portion of the OOI property, had indicators of a gasoline source.

i. The sample contained 2,2,4-trimethylpentane and other trimethylpentanes (iso-octane), which are components of gasoline.

1) BP previously asserted to the Regional Board that subsurface soil gas samples lacked iso-octane. Subsequent data from the LNAPL sample collected from Brycon-MW1 indicates that iso-octane is present, which indicates that there is at least one gasoline source.

ii. The sample contained high concentrations of the n-alkanes, heptane, octane, nonane, and decane. Historic leaded gasolines with high naphtha contents contained elevated n-alkane concentrations. The presence of high n-alkane concentrations suggests that this product may represent an old leaded gasoline.

iii. The only known source(s) of gasoline in the area of the Site are the pipelines owned and/or operated by the Dischargers.

g. 1,2-DCA is a lead scavenger that was historically added to leaded gasoline to prevent buildup of lead oxide deposits within internal combustion engines. 1,2-DCA has been detected along the pipelines at the Site in Golden Avenue.

i. The only known source(s) of gasoline in the area are the pipelines owned and/or operated by the Dischargers.

h. Benzene impacts to groundwater exist, with the maximum benzene concentrations aligned with the pipelines in Golden Avenue that are owned and/or operated by the Dischargers. Benzene exists in gasoline, which the Dischargers transported in their Lines 34 and 252, and possibly in Line 32.

Based upon the distribution of maximum benzene concentrations below the pipelines owned and/or operated by the Dischargers; a similar distribution of 1,2-DCA from a gasoline source along the pipelines; the presence of iso-octane and n-alkanes in LNAPL indicating a gasoline source adjacent to the pipelines; and a lack of evidence pointing to heavier-end hydrocarbons indicative of a crude oil source (in Brycon-MW1), substantial evidence indicates that BP, ARCO, and ATSC are dischargers and, therefore, Responsible Parties for the waste discharges.

8. **Source Elimination and Remediation Status**: No soil or groundwater cleanup has been implemented at the Site by the Dischargers.

OOI has operated a soil vapor extraction (SVE) system to mitigate resident and Regional Board concerns about soil vapor intrusion to nearby residential structures. When it became clear to the Regional Board that the impacts the SVE system is intended to mitigate resulted from discharges from pipelines owned and/or operated by the Dischargers, and not the OOI site, the Regional Board requested that BP take over responsibility for the interim remedial action and operate the existing SVE system. BP declined, claiming that: (1) the release is not BP's responsibility, (2) BP will not operate a SVE system owned by another company, and (3) full assessment should be performed before any remediation takes place.

9. **Summary of Findings from Site Investigations:** Regional Board staff has reviewed and evaluated technical reports and records pertaining to the Site history and the discharge, detection, and distribution of wastes at the Site and the Site vicinity. Elevated levels of benzene; 1,2-DCA; iso-octane; and other hydrocarbons have been detected in the soil vapor and groundwater beneath the Site.

    a. Benzene has been detected at up to 390 µg/L in soil vapor at 20 feet in soil vapor probe CESV33. The 5-foot soil vapor sample from CESV33 contained 0.83 µg/L, which exceeds the residential California Human Health Screening Level (CHHSL) of 0.0362 µg/L. Benzene has been detected in groundwater up to 2,600 µg/L, exceeding the California Maximum Contaminant Level (MCL) of 1 µg/L.

    b. 1,2-DCA has been detected in groundwater up to 2,600 µg/L, exceeding the California MCL of 0.5 µg/L.

    c. LNAPL has been detected during groundwater sampling in the vicinity of the Discharger's pipelines.

    The Board's findings based on the review of the reports and records available, which have been explained in Finding 7, confirm that the Dischargers are responsible for the discharge of waste beneath Lines 32, 34, and 252 and nearby areas, including beneath Golden Avenue, beneath the former OOI property adjacent to Golden Avenue, and portions of the residential neighborhood on the east side of Golden Avenue, known as the Wrigley Heights Community.

10. **Regulatory Status:** On January 13, 2012, the Regional Board issued BP and ARCO Investigative Order No. R4-2012-0009, which required submittal of a technical report on pipeline inventory pursuant to California Water Code section 13267. BP submitted a pipeline inventory on March 8, 2012. BP later submitted addendums to its pipeline inventory on September 12, 2012, and November 15, 2012.

    On May 11, 2012, the Regional Board issued BP and ARCO Investigative Order No. R4-2012-0085, which required submittal of a work plan for soil and soil vapor investigations pursuant to California Water Code section 13267. In response, BP submitted an investigation work plan (Work Plan #1) on July 11, 2012. The Regional Board determined that Work Plan #1 was deficient, which was explained to BP during a meeting on August 9, 2012 and subsequent telephone conversations. In response to Regional Board feedback that Work Plan #1 was deficient, and as a follow-up to the meeting held on August 9, 2012, BP submitted a revised investigation work plan (Work Plan #2) on September 12, 2012. The Regional Board also determined that Work Plan #2 was deficient. Conference calls were held between the Regional Board and BP on October 18, 2012, November 1, 2012, and November 7, 2012, to discuss the deficiencies in the work plans. Also discussed during these calls was the need for BP to submit a revised work plan to address the Regional Board's requirements. In addition, during the November 7, 2012, conference call between the Regional Board and BP, BP stated that it would submit a revised work plan to the Regional Board by November 15, 2012. On November 20, 2012, the Regional Board provided BP with a written response to Work Plan #1 and Work Plan #2 explaining the deficiencies of each work plan.

BP did not submit a revised work plan. Instead, BP presented the Regional Board with correspondence dated December 4, 2012, and met with Regional Board staff on December 5, 2012, to present BP's view of legal and technical issues. During the meeting on December 5, 2012, Regional Board staff verbally responded to many of BP's statements and evaluations. On April 24, 2013, Regional Board staff responded to BP's December 4, 2012, letter indicating that it had reviewed the information presented by BP and generally disagreed with the assertions and technical evidence in that letter. In addition, in its letter, Regional Board staff provided notice to BP that it was currently completing a tentative cleanup and abatement order that would be issued to BP and ARCO.

On April 26, 2013, Regional Board staff provided the Dischargers and interested persons notice and opportunity to comment on Tentative Cleanup and Abatement Order No. R4-2013-0064. BP submitted written comments on May 28, 2013. The Regional Board has considered and responded to those written comments.

To date, the Regional Board has not received a revised work plan from BP.

11. **Impairment of Drinking Water Wells:** The Regional Board has the authority to require the Dischargers and other dischargers to pay for or provide uninterrupted replacement water service to each affected public water supplier or private well owner in accordance with California Water Code section 13304.

12. **Sources of Information:** The sources for the evidence summarized above include but are not limited to: reports and other documentation in Regional Board files, telephone calls and e-mail communication with responsible parties, their attorneys and consultants, and Site visits.

AUTHORITY - LEGAL REQUIREMENTS

13. Section 13304, subdivision (a), of the Water Code provides that:

"Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirements or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board cleanup the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts. Upon failure of any person to comply with the cleanup and abatement order, the Attorney General, at the request of the regional board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant."

14. Section 13304, subdivision (c)(1), of the California Water Code provides that:

". . . the person or persons who discharged the waste, discharges the waste, or threatened to cause or permit the discharge of the waste within the meaning of subdivision (a), are liable to that

government agency to the extent of the reasonable costs actually incurred in cleaning up the waste, abating the effects of the waste, supervising cleanup or abatement activities, or taking other remedial actions. . ."

15. Section 13267, subdivision (b)(1), of the California Water Code provides that:

    "In conducting an investigation..., the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or, discharging, or who proposes to discharge waste within its region . . .shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."

16. The State Water Resources Control Board (hereafter State Water Board) has adopted Resolution No. 92-49, the *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*. This Policy sets forth the policies and procedures to be used during an investigation and cleanup of a polluted site and requires that cleanup levels be consistent with State Water Board Resolution 68-16, the *Statement of Policy With Respect to Maintaining High Quality of Waters in California*. Resolution 92-49 and the Basin Plan establish the cleanup levels to be achieved. Resolution 92-49 requires the waste to be cleaned up to background, or if that is not reasonable, to an alternative level that is the most stringent level that is economically and technologically feasible in accordance with Title 23, California Code of Regulations (CCR), section 2550.4. Any alternative cleanup level to background must: (1) be consistent with the maximum benefit to the people of the state; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Water Board.

17. The Regional Board adopted the Basin Plan, which identifies beneficial uses and establishes water quality objectives to protect those uses. The Site overlies groundwater within the West Coast Basin of the Los Angeles Coastal Groundwater Basin. The beneficial uses of the groundwater beneath the Site includes municipal (MUN), industrial (IND), process (PROC), and agricultural supply (AGR) uses in the Central Basin. Water quality objectives (WQOs) that apply to the groundwater at the Site include the California MCLs. The concentrations of benzene in the groundwater beneath the Site exceed the WQOs for the waste. The exceedance of applicable water quality objectives in the Basin Plan constitutes pollution, as defined in California Water Code section 13050, subdivision (1)(1). The wastes detected in groundwater, soil matrix, and soil vapor at the Site threaten to cause pollution, including contamination, and nuisance.

18. It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring dischargers to clean up the groundwater to meet drinking water standards (e.g., MCLs designed to protect human health and ensure that water is safe for domestic use).

DISCHARGER LIABILITY

19. VOCS, including benzene and 1,2-dichloroethane, and other waste constituents discharged at the Site constitute "waste" as defined in California Water Code section 13050, subdivision (d).

20. As described in Findings of this Order, the Dischargers are subject to an order pursuant to California Water Code section 13304 because the Dischargers have caused or permitted waste, including VOCs, to be discharged or deposited where the wastes are, or probably will be, discharged to waters of the state and has created, and continues to threaten to create, a condition of pollution or nuisance. The condition of pollution is a priority violation and issuance or adoption of a cleanup and abatement order pursuant to California Water Code section 13304 is appropriate and consistent with policies of the Regional Board and State Board.

21. Due to the activities described in this Order, the Dischargers have caused or permitted waste, including VOCs, particularly benzene, to be discharged or deposited where the wastes pose, or may pose, a human health threat to occupants of the nearby Wrigley Heights residents through direct contact exposure to contaminated soil and/or groundwater or through vapor intrusion into indoor air. The Dischargers, as the current or former owners and/or operators of Lines 32, 34, and 252, are responsible for complying with this Order.

22. This Order requires investigation and cleanup of the Site in compliance with the California Water Code, the applicable Basin Plan, State Water Board Resolution 92-49, and other applicable plans, policies, and regulations.

23. Substantial evidence indicates that the Dischargers caused or permitted waste to be discharged into waters of the state and are therefore appropriately named as RPs in this Order. The Regional Board will continue to investigate whether additional potentially responsible parties (PRPs) caused or permitted the discharge of waste at the Site and whether these or other persons should be named as additional responsible parties to this Order. The Regional Board may amend this Order or issue a separate order or orders in the future as a result of this investigation and as more information becomes available. Although investigation concerning additional PRPs is ongoing, the Regional Board desires to issue this Order as waiting will only delay remediation of the Site.

24. Pursuant to California Water Code section 13267, this Order requires the Dischargers to submit technical or monitoring reports in accordance with a groundwater monitoring program. The Dischargers are required to submit the reports because, as described in the Findings in this Order, existing data and information indicate that waste was discharged at the Site from pipelines that are owned and/or operated by the Dischargers. The groundwater monitoring program required by this Order is necessary to assure compliance with section 13304 of the California Water Code and State Water Board Resolution 92-49, including to adequately cleanup the Site to protect beneficial uses of waters of the state, to protect against nuisance, and to protect human health and the environment.

25. Issuance of this Order is being taken for the protection of the environment and as such is exempt from provisions of the California Environmental Quality Act (CEQA) (Public Resources Code section 21000 et seq.) in accordance with California Code of Regulations, title 14, sections 15061, subdivision (b)(3), 15306, 15307, 15308, and 15321. This Order generally requires the Dischargers to submit plans for approval prior to implementation of cleanup activities at the Site. Mere

submittal of plans is exempt from CEQA as submittal will not cause a direct or indirect physical change in the environment and/or is an activity that cannot possibly have a significant effect on the environment. CEQA review at this time would be premature and speculative, as there is simply not enough information concerning the Dischargers' proposed remedial activities and possible associated environmental impacts. If the Regional Board determines that implementation of any plan required by this Order will have a significant effect on the environment, the Regional Board will conduct the necessary and appropriate environmental review prior to Executive Officer's approval of the applicable plan.

26. Pursuant to section 13304 of the California Water Code, the Regional Board may seek reimbursement for all reasonable costs to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action.

28. Any person aggrieved by this action of the Regional Board may petition the State Water Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:
http://www.waterboards.ca.gov/public_notices/petitions/water_quality
or will be provided upon request.

REQUIRED ACTIONS

THEREFORE, IT IS HEREBY ORDERED, pursuant to sections 13304 and 13267 of the California Water Code, that the Dischargers shall investigate, monitor, cleanup the waste, and abate the effects of the waste forthwith discharged, or discharging, at or from the Site. "Forthwith" means as soon as reasonably possible, but in any event no later than the compliance dates specified in Exhibit D. More specifically, the Dischargers shall:

1. **Complete Interim Remedial Action Plan:** Prepare and submit an Interim Remedial Action Plan (IRAP) to mitigate accumulated benzene vapors in soil beneath the Wrigley Heights residential neighborhood. The IRAP shall include proposed techniques to accomplish uninterrupted[2] soil vapor intrusion mitigation. The IRAP shall include a proposed schedule both for implementation of the IRAP and for periodic reporting on IRAP progress. It shall also include a plan for compliance with the public participation requirements of California Water Code section 13307.5.

   Upon approval of the IRAP by the Regional Board Executive Officer, the Dischargers shall implement the IRAP and report progress in accordance with the approved IRAP schedule.

2. **Develop and Update a Site Conceptual Model:** Prepare and submit a revised 3-dimensional illustration constituting a Site Conceptual Model (SCM). The SCM shall include a written

[2] OOI is currently performing soil vapor extraction to achieve soil vapor intrusion mitigation to Wrigley Heights residents. It is the Regional Board's intent that the Dischargers accomplish the interim remedial action task without interrupting OOI's soil vapor extraction activities.

presentation with graphic illustrations of the release scenario(s) and the distribution of wastes from the Site and vicinity. The SCM shall be constructed based upon actual data collected from the Site and any other relevant nearby sites that add to the accuracy of the SCM.

a. SCMs shall be submitted using existing data. At minimum, a SCM shall include information about:

   i. The Site-specific hydrogeology and hydrostratigraphy with verified field data;

   ii. The current groundwater monitoring network with screened intervals;

   iii. The location of all water supply wells within one mile of the Site as well as other receptors that may be affected by the discharge and migration of waste constituents to the subsurface environment; and

   iv. The lateral and vertical extent of each chemical of concern in groundwater.

The SCM shall be updated periodically as new information becomes available. Updates to the SCM shall be included in all future technical reports submitted.

3. **Complete Site Assessment and Delineation of Extent of Wastes:** Completely delineate the extent of petroleum hydrocarbons and other constituents of concern (primarily LNAPL; benzene; and 1,2-DCA) in soil, soil vapor, and groundwater discharged at or from the Site.

   a. A Master Work Plan shall be prepared and submitted to the Regional Board Executive Officer to provide for full assessment.

      i. The initial Work Plan shall be a Master Work Plan that describes proposed general assessment techniques and initial sampling locations.

         1. Subsequent work plans, if necessary, may propose additional sampling locations, referencing the methodologies within the Master Work Plan. This structure is intended to streamline work plan preparation and review efforts.

         2. The Master Work Plan and any subsequent work plans shall include a proposed schedule for completing proposed work.

         3. Proposed initial sampling locations shall be provided with the Master Work Plan.

      ii. Delineation shall include adequate lateral (including off-Site) delineation and vertical delineation of waste constituents such that a complete 3-dimensional SCM can be generated for impacts to the Site.

   b. Additional work plans may be required if delineation efforts result in multiple iterations of work being necessary to complete full delineation.

   c. Upon approval by the Regional Board Executive Officer, the Dischargers shall implement the

Master Work Plan and report results in accordance with the approved work plan schedule.

4. **Prepare a Human Health Risk Assessment:** Prepare a quantitative, site-specific human health risk assessment (HHRA) to evaluate existing and future potential risks to human health from all wastes detected in the soil matrix, soil vapor, and groundwater at the Site through all potential exposure pathways, applying existing regulatory human health screening levels and/or acceptable risk assessment models.

   Existing soil vapor data collected during various site assessments conducted at the Site are not usable for the human health risk assessment because of temporal variation of the concentrations of waste constituents in the soil vapor phase. Therefore, the Dischargers shall submit a work plan for the collection of sufficient data to enable completion of an HHRA. This HHRA work plan shall include proposed methods for preparing the HHRA and a proposed schedule both for data collection and HHRA preparation.

   Upon approval by the Regional Board Executive Officer, the Dischargers shall implement the HHRA Work Plan and report results in accordance with the approved work plan schedule.

5. **Conduct Remedial Action:** Initiate a phased cleanup and abatement program for the cleanup of any remaining wastes in soil, soil vapor, and groundwater, and the abatement of threats to beneficial uses of water and removal of sources of waste as highest priority. Specifically, the Dischargers shall:

   a. Develop and submit a comprehensive Remedial Action Plan (RAP) for cleanup of waste in soil matrix, soil vapor, and groundwater at and originating from the Site, and abatement of the effects of the wastes released to the environment, and submit it for Regional Board review and approval. The RAP shall include, at a minimum:

      i. A description and evaluation of the effectiveness of proposed and alternative remediation options.

      ii. A description of any pilot projects intended to be implemented.

      iii. A program for preventing the spread of existing waste constituents in groundwater.

      iv. A program to initiate remediation of off-site impact of petroleum constituents (including LNAPL; benzene; and 1,2-DCA), if applicable.

      v. Proposed cleanup goals with a protocol and schedule to reach them. The following information shall be considered when establishing preliminary cleanup goals.

         1. Preliminary cleanup goals for soil and groundwater shall be in compliance with State Water Board Resolution 92-49 (*"Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304"*). Section III.G of Resolution 92-49 requires cleanup to background, unless that is not reasonable. Alternative cleanup levels to background must comply with section 2550.4 of Title 23 of the California Code of Regulations, and be consistent with maximum benefit to the people of the state, protect beneficial uses, and result in compliance with the Basin

Plan. Alternative cleanup levels for groundwater shall not exceed water quality objectives in the Basin Plan, including California's MCLs and Notification Levels for drinking water as established by the State Department of Public Health. Alternative cleanup levels for soil and soil vapor shall not exceed levels that will result in groundwater exceeding water quality objectives in the Basin Plan, including California's MCLs and Notification Levels for drinking water as established by the State Department of Public Health.

2. Soil cleanup levels set forth in the Regional Board's Interim Site Assessment and Cleanup Guidebook, May 1996.

3. Human health protection levels set forth in the current United States Environmental Protection Agency (USEPA) Region IX's Regional Screening Levels (RSLs).

4. Protection from vapor intrusion and protection of indoor air quality based on the California Environmental Protection Agency's January 2005 (or later version) Use of Human Health Screening Levels (CHHSLS) in Evaluation of Contaminated Properties. Soil vapor sampling requirements are stated in the Department of Toxic Substances Control (DTSC) and Regional Board April 2012 *Advisory - Active Soil Gas Investigations*, and the DTSC October 2011 *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*.

5. Groundwater cleanup goals shall not exceed applicable water quality objectives or criteria necessary to protect the beneficial uses, including the Regional Board's Basin Plan water quality objectives (e.g., California's MCLs), Notification Levels for drinking water as established by the State Department of Public Health, State Water Board Ocean Plan water quality objectives, and the California Toxic Rule water quality criteria, at a point of compliance approved by the Regional Board.

vi. A plan for compliance with the public participation requirements of California Water Code section 13307.5.

b. Prepare and submit quarterly remediation progress reports to this Regional Board. The remediation progress reports shall document all performance data associated with the remediation systems implemented. Following one year of remediation activities, a request may be submitted to the Regional Board to reduce the reporting frequency to a semi-annual schedule.

i. Reports shall meet the requirements set forth in Exhibit C, the Monitoring and Reporting Program, attached hereto and incorporated herein by reference.

c. Upon approval by the Regional Board Executive Officer, the Dischargers shall implement the RAP and report results in accordance with the approved work plan schedule.

d. Revisions to the RAP or additional RAPs may be required by the Regional Board if the implemented measure does not achieve all Site cleanup goals.

The Regional Board will establish due dates for the RAP and remediation progress reports after sufficient assessment has been performed to enable a RAP to be prepared.

6. **Conduct Groundwater Monitoring:** Pursuant to section 1367 of the California Water Code, the Dischargers shall initiate a groundwater monitoring program as set forth in Exhibit C, the Monitoring and Reporting Program.

7. **Time Schedule:** The Dischargers shall submit all required work plans and reports and complete work within the time schedule in any approved work plan or RAP and the time schedule listed in Exhibit D, attached hereto and incorporated herein by reference. Exhibit D may be revised by the Executive Officer without revising the substantive requirements of this Order.

8. The Regional Board's authorized representative(s) shall be allowed:

   a. Entry upon premises where a regulated facility or activity is located, conducted, or where records are stored, under the conditions of this Order;

   b. Access to copy any records that are maintained under the conditions of this Order;

   c. Access to inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

   d. The right to photograph, sample, and monitor the Site for the purpose of ensuring compliance with this Order, or as otherwise authorized by the California Water Code.

9. **Contractor/Consultant Qualification:** As required by sections 6735, 7835, and 7835.1 of the California Business and Professions Code, all reports shall be prepared by, or under the supervision of, a California registered professional engineer or geologist and signed by the registered professional. All technical reports submitted by the Dischargers shall include a statement signed by the authorized representative certifying under penalty of law that the representative has examined and is familiar with the report and that to his knowledge, the report is true, complete, and accurate. All technical documents shall be signed by and stamped with the seal of the above-mentioned qualified professionals that reflects a license expiration date.

10. The Dischargers shall submit a 30-day advance notice to the Regional Board of any planned changes in name, ownership, or control of the Site and shall provide a 30-day advance notice of any planned physical changes to the Site that may affect compliance with this Order. In the event of a change in ownership or operator, the Dischargers also shall provide a 30-day advance notice, by letter, to the succeeding owner/operator of the existence of this Order, and shall submit a copy of this advance notice to the Regional Board.

11. Abandonment of any groundwater well(s) at the Site must be approved by and reported to the Regional Board at least 30 days in advance. Any groundwater wells removed must be replaced within a reasonable time, at a location approved by the Regional Board. With written justification, the Regional Board may approve the abandonment of groundwater wells without replacement. When a well is removed, all work shall be completed in accordance with California Department of Water Resources Bulletin 74-90, "California Well Standards," Monitoring Well Standards Chapter, Part III, Sections 16-19.

12. In the event compliance cannot be achieved within the terms of this Order, the Discharger has the opportunity to request, in writing, an extension of the time specified. The extension request shall include an explanation why the specified date could not or will not be met and justification for the requested period of extension. Any extension request shall be submitted as soon as the situation is recognized and no later than the compliance date. Extension requests not approved in writing with reference to this Order are denied.

13. Reference herein to determinations and considerations to be made by the Regional Board regarding the terms of the Order shall be made by the Executive Officer or his/her designee. Decisions and directives made by the Executive Officer in regards to this Order shall be as if made by the Regional Board.

14. The Regional Board, through its Executive Officer or other delegate, may revise this Order as additional information becomes available. Upon request by the Discharger, and for good cause shown, the Executive Officer may defer, delete or extend the date of compliance for any action required of the Discharger under this Order. The authority of the Regional Board, as contained in the California Water Code, to order investigation and cleanup, in addition to that described herein, is in no way limited by this Order.

15. This Order is not intended to permit or allow the Dischargers to cease any work required by any other Order issued by this Regional Board, nor shall it be used as a reason to stop or redirect any investigation or cleanup or remediation programs ordered by this Regional Board or any other agency. Furthermore, this Order does not exempt the Dischargers from compliance with any other laws, regulations, or ordinances which may be applicable, nor does it legalize these waste treatment and disposal facilities, and it leaves unaffected any further restrictions on those facilities which may be contained in other statutes or required by other agencies. Continue any remediation or monitoring activities until such time as the Executive Officer determines that sufficient cleanup has been accomplished and this Order has been rescinded.

16. Consistent with California Water Code sections 13304 and 13365, the Dischargers shall reimburse the Regional Board for reasonable costs associated with oversight of the investigation and cleanup of the waste at or originating from the Site. The Dischargers shall provide the Regional Board with the name or names and contact information for the person(s) to be provided billing statements from the State Water Board.

17. A Public Participation Plan shall be prepared and/or updated when directed by the Executive Officer, as necessary, to reflect the degree of public interest in the investigation and cleanup process.

18. The State Water Board adopted regulations requiring the electronic submittals of information over the Internet using the State Water Board GeoTracker data management system. The Dischargers are required not only to submit the reports required in this Order, but also to comply by uploading all reports and correspondence prepared to date and additional required data formats to the GeoTracker system if they have not already been uploaded. Information about GeoTracker submittals, including links to text of the governing regulations, can be found on the Internet at the following link: http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal

19. The Regional Board, under the authority given by California Water Code section 13267(b)(1), requires inclusion of a perjury statement in all reports submitted by the Dischargers under this Order. The perjury statement shall be signed by a senior authorized representative (not by a consultant). The perjury statement shall be in the following format:

    "I, [NAME], certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

20. Failure to comply with the terms or conditions of this Order may result in imposition of civil liabilities, imposed either administratively by the Regional Board or judicially by the Superior Court, in accordance with sections 13268, 13308, and/or 13350 of the California Water Code, and/or referral to the Attorney General of the State of California.

21. None of the obligations imposed by this Order on the Dischargers are intended to constitute a debt, damage claim, penalty or other civil action which should be limited or discharged in a bankruptcy proceeding. All obligations are imposed pursuant to the police powers of the State of California intended to protect the public health, safety, welfare, and environment.

22. As of the date of this Regional Board action, Investigative Order No. R4-2012-0085 issued to BP and ARCO on May 11, 2012, is superceded by this Cleanup and Abatement Order No. R4-2013-0064. Superseding Order No. R4-2012-0085 is not intended to limit Regional Board enforcement actions associated with Order No. R4-2012-0085.

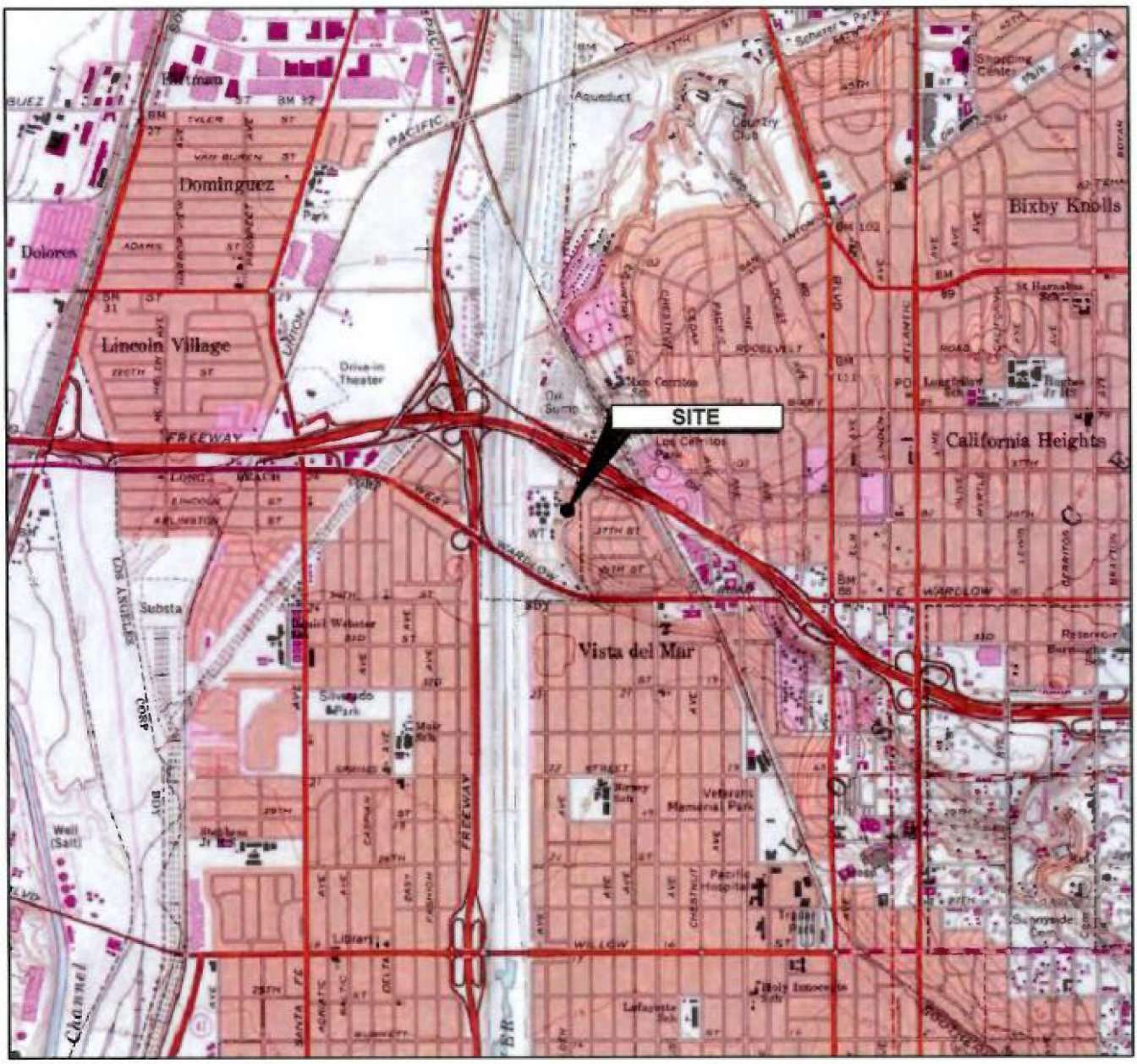
Ordered by: Samuel Unger
Samuel Unger, P.E.
Executive Officer

Date: 9-18-2014

Exhibit A

Figure 1: Site Location Map

Figure 2: Site Map



SCALE 1:24,000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

N

Portion of 7.5–minute Series (Topographic) Map
United States Department of the Interior
Geological Survey
Long Beach, California Quadrangle 1981

CAL

QUADRANGLE LOCATION

NORTH GOLDEN AVENUE

INVESTIGATION WORK PLAN
INTERSECTION OF BAKER STREET AND
LONG BEACH, CALIFORNIA

SITE LOCATION MAP

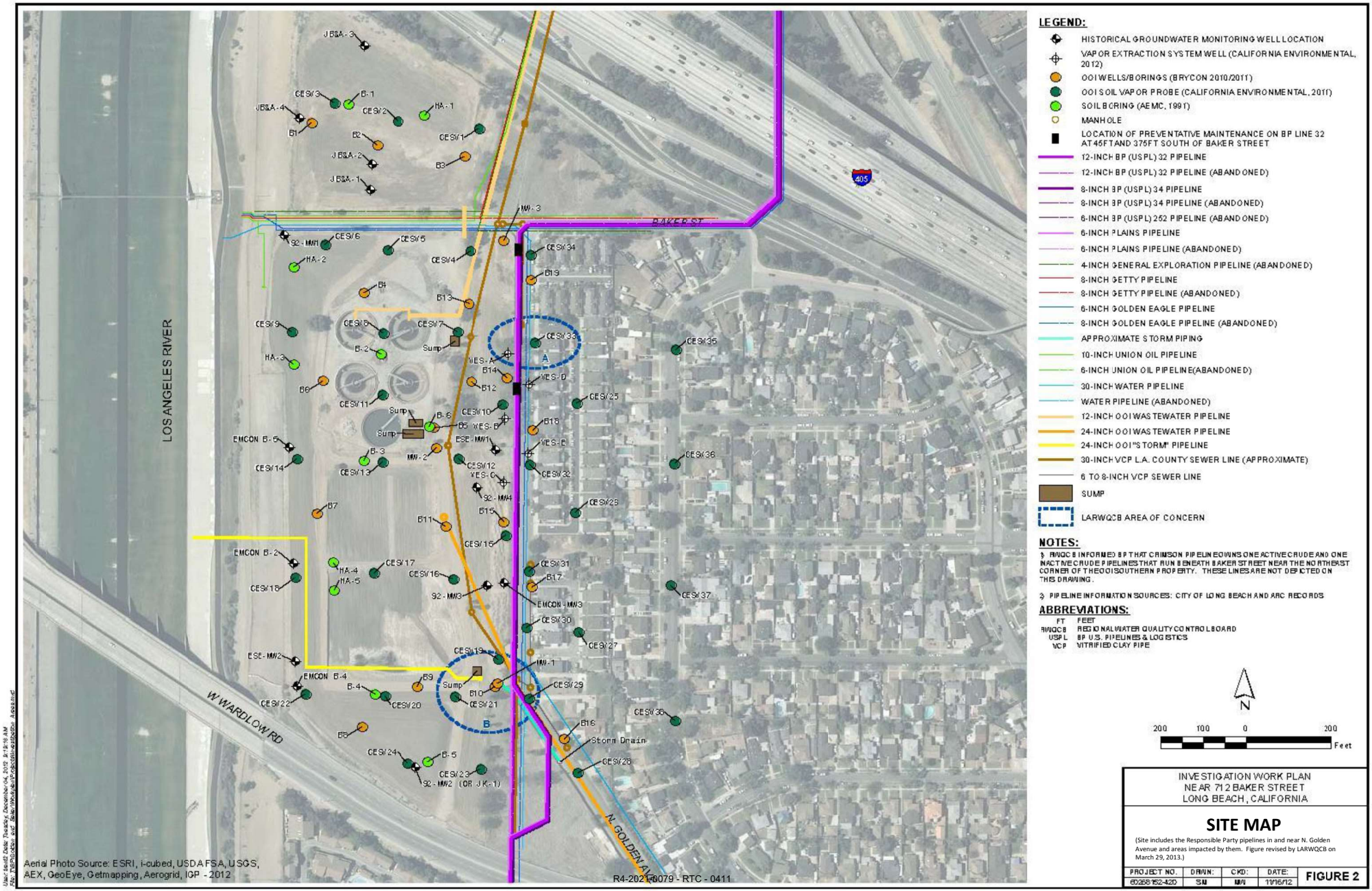
12345678 SM MW 5/31/12

AECOM

PROJECT NO.	DRWN.	CKD.	DATE

FIGURE 1

File: T:\pw\Golden_and_Baker\Workplan\Projects\Fig1_Site Location Map_A1.dwg Layout:Layout1 User: MeresS Plotted: Jun 01, 2012 - 7:49am



LEGEND:

- HISTORICAL GROUNDWATER MONITORING WELL LOCATION
- VAPOR EXTRACTION SYSTEM WELL (CALIFORNIA ENVIRONMENTAL, 2012)
- OOI WELLS/BORINGS (BRYCON 2010/2011)
- OOI SOIL VAPOR PROBE (CALIFORNIA ENVIRONMENTAL, 2011)
- SOIL BORING (AEMC, 1991)
- MANHOLE
- LOCATION OF PREVENTATIVE MAINTENANCE ON BP LINE 32 AT 45FT AND 375FT SOUTH OF BAKER STREET
- 12-INCH BP (USPL) 32 PIPELINE
- 12-INCH BP (USPL) 32 PIPELINE (ABANDONED)
- 8-INCH BP (USPL) 34 PIPELINE
- 8-INCH BP (USPL) 34 PIPELINE (ABANDONED)
- 6-INCH BP (USPL) 252 PIPELINE (ABANDONED)
- 6-INCH PLAINS PIPELINE
- 6-INCH PLAINS PIPELINE (ABANDONED)
- 4-INCH GENERAL EXPLORATION PIPELINE (ABANDONED)
- 8-INCH GETTY PIPELINE
- 8-INCH GETTY PIPELINE (ABANDONED)
- 6-INCH GOLDEN EAGLE PIPELINE
- 8-INCH GOLDEN EAGLE PIPELINE (ABANDONED)
- APPROXIMATE STORM PIPING
- 10-INCH UNION OIL PIPELINE
- 6-INCH UNION OIL PIPELINE(ABANDONED)
- 30-INCH WATER PIPELINE
- WATER PIPELINE (ABANDONED)
- 12-INCH OOI WASTEWATER PIPELINE
- 24-INCH OOI WASTEWATER PIPELINE
- 24-INCH OOI "STORM" PIPELINE
- 30-INCH VCP L.A. COUNTY SEWER LINE (APPROXIMATE)
- 6 TO 8-INCH VCP SEWER LINE
- SUMP
- LARWQCB AREA OF CONCERN

NOTES:

1) RWQCB INFORMED BP THAT CRIMSON PIPELINE OWNS ONE ACTIVE CRUDE AND ONE INACTIVE CRUDE PIPELINES THAT RUN BENEATH BAKER STREET NEAR THE NORTHEAST CORNER OF THE OOI SOUTHERN PROPERTY. THESE LINES ARE NOT DEPICTED ON THIS DRAWING.

2) PIPELINE INFORMATION SOURCES: CITY OF LONG BEACH AND ARC RECORDS

ABBREVIATIONS:

FT	FEET
RWQCB	REGIONAL WATER QUALITY CONTROL BOARD
USPL	BP U.S. PIPELINES & LOGISTICS
VCP	VITRIFIED CLAY PIPE

N

200 100 0 200

Feet

Aerial Photo Source: ESRI, i-cubed, USDA FSA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGP - 2012

R4-2021-0079 - RTC - 0411

INVESTIGATION WORK PLAN
NEAR 712 BAKER STREET
LONG BEACH, CALIFORNIA

SITE MAP

(Site includes the Responsible Party pipelines in and near N. Golden Avenue and areas impacted by them. Figure revised by LARWQCB on March 29, 2013.)

PROJECT NO.	DRWN:	CKD:	DATE:	FIGURE 2
602881S2-420	SM	MW	11/16/12	

Exhibit B
SUMMARY OF PIPELINE CONTENTS WITHIN GOLDEN AVENUE

Line 32 12-inch Diameter	Line 34 8-inch Diameter	Line 252 6-inch Diameter	Source
Crude Oil (Line 32F)	"Refined Products (Gasoline, Oil Gas...)" (Line 34 A,C,E)		State Fire Marshall (CalFire) dataset provided to Regional Board on May 1, 2012
"Crude and Refined Dark Products"	"Diesel and Refined Products"	"Oily Water" "June 1953 used for WW / prior service was gasoline"	BP Letter to Regional Board dated March 8, 2012
Not for gasoline	"Diesel and Refined Products"		BP Letter to Regional Board dated July 11, 2012
Empty Liquid (Line 32E)	Non-HVL Product[1]		NPMS – November 20, 2012 www.npms.phmsa.dot.gov
"Refined Products Lines" (ARCO R-110)	"Refined Products Lines" (ARCO R-110)	"Refined Products Lines" (ARCO R-110)	Western Oil & Gas Association, *Long Beach-Wilmington Harbor Area, Oil Handling Facility Map*, updated 1/73[2]
Oil[3]	"Gaso." for Gasoline[4]	"Gaso." for Gasoline[5]	City of Long Beach Map PLG23 revised December 22, 1975
		Gasoline until 1953 Wastewater from 1953 until sometime prior to 1977	BP Letter to Regional Board dated December 4, 2012

Note: Plains Line 52 (crude oil), also in Golden Avenue, was formerly BP Line 6.

[1] National Pipeline Mapping System (NPMS) reports that their Line 34 data for the Site area represents BP's reporting from 2010 to 2012. It does not represent pipeline contents prior to 2010.
[2] ARCO Line R-110 is listed as having 4-inch, 6-inch, 8-inch, and 12-inch diameter "Refined Products Lines". The 12-inch diameter line is interpreted to represent BP Line 32. The 8-inch diameter line is interpreted to represent BP Line 34. The 6-inch and 4-inch lines are both interpreted to represent BP Line 252. The BP Line 252 interpretation is based in part on BP's December 4, 2012, letter to the Regional Board which states that a 1945 "ARCO pipeline map identifies segments of Line 252 pipe where the installation of a 4-inch pipe inside an existing 6-inch pipe occurred along Baker Street and replacement beneath Golden Avenue" with "no reasons for the pipeline replacements ... provided".
[3] City of Long Beach Map PLG23 does not specifically reference BP Line 32; instead it references a 12-inch diameter "Oil" pipeline owned by ARCO located at the same location within Golden Avenue where BP Line 32 exists.
[4] City of Long Beach Map PLG23 does not specifically reference BP Line 34; instead it references an 8-inch diameter "gaso." pipeline owned by ARCO located at the same location within Golden Avenue where BP Line 34 exists.
[5] City of Long Beach Map PLG23 indicates a third ARCO line, a 6-inch diameter "gaso." pipeline adjacent to BP Lines 32 and 34.

Exhibit C

MONITORING AND REPORTING PROGRAM

This Monitoring and Reporting Program is part of Cleanup and Abatement Order (CAO) No. R4-2013-0064. Failure to comply with this Monitoring and Reporting Program constitutes noncompliance with this Order and the California Water Code, which can result in the imposition of civil monetary liability. All sampling and analyses shall be by USEPA-approved methods or by other methods approved by the Regional Board for this Order. The test methods chosen for detection of the constituents of concern shall be subject to review and concurrence by the Regional Board.

Laboratory analytical reports to be included in technical reports shall contain a complete list of chemical constituents that are tested for and reported on by the testing laboratory. In addition, the reports shall include both the method detection limit and the practical quantification limit for the testing methods. All samples shall be analyzed within the allowable holding time for the method being used. All quality assurance/quality control (QA/QC) samples must be run on the same dates when samples were actually analyzed. Proper chain of custody procedures must be followed and a copy of the completed chain of custody form(s) shall be submitted within reports. All analyses must be performed by a State Water Resources Control Board (SWRCB) Division of Drinking Water (formerly California Department of Public Health) accredited laboratory, unless otherwise approved by the Regional Board.

The Regional Board's *Quality Assurance Project Plan, September 2008,* can be used as a reference and guidance for project activities involving sample collection, handling, analysis and data reporting. The guidance is available on the Regional Board's web site at:

> http://www.waterboards.ca.gov/rwqcb4/water_issues/programs/remediation/Board_SGV-SFVCleanupProgram_Sept2008_QAPP.pdf

GROUNDWATER MONITORING

To facilitate a groundwater monitoring program, the Dischargers shall submit a work plan for performing groundwater sampling from groundwater monitoring wells. The work plan shall propose groundwater sampling techniques, wells to be used for groundwater monitoring, laboratory analytical techniques, and formats for groundwater monitoring reports.

It shall include a provision to include any future groundwater monitoring wells in the groundwater monitoring program. The work plan shall include proposed figures to be included in future groundwater monitoring reports.

Upon approval by the Regional Board Executive Officer, implement the work plan and report results in accordance with the Time Schedule.

REMEDIATION SYSTEMS

Reporting requirements shall be proposed within the required RAP. Reporting requirements will be evaluated by the Regional Board once the remediation methods are known.

MONITORING UPDATES

Specifications in this Monitoring and Reporting Program are subject to periodic revisions. Monitoring requirements may be modified or revised by the Regional Board Executive Officer based on review of monitoring data submitted pursuant to this Order. Monitoring frequencies may be adjusted or parameters and locations removed or added by the Executive Officer if Site conditions indicate that the changes are necessary.

REPORTING REQUIREMENTS

1. The Dischargers shall report all monitoring data and information as specified herein and as may be approved in response to work plans submitted by the Dischargers.

2. The Regional Board Executive Officer may revise these monitoring reporting requirements or make more specific monitoring reporting requirements from time-to-time, particularly after reviewing work plans for groundwater monitoring or remedial actions.

Reports that do not comply with the Regional Board's content or reporting requirements may be rejected by the Regional Board and the Dischargers shall be deemed to be in noncompliance with the Monitoring and Reporting Program.

Exhibit D: Time Schedule

	DIRECTIVE	DUE DATE
1.	**Complete Interim Remedial Action Plan**	
	Prepare and submit an Interim Remedial Action Plan (IRAP) to mitigate accumulated benzene vapors in soil beneath the Wrigley Heights residential neighborhood.	**September 30, 2014**
	Prepare and submit an Interim Remedial Action Report after the approval of the IRAP and its implementation.	As directed by the Executive Officer
2.	**Develop and Update a Site Conceptual Model** Prepare and submit a revised 3-dimensional illustration constituting a Site Conceptual Model (SCM). The SCM shall be updated periodically as new information becomes available. Updates to the SCM shall be included in all future technical reports submitted.	**June 30, 2015**
3.	**Complete Site Assessment and Delineation of Extent of Wastes**	
3a.	Prepare and submit a Master Work Plan for complete assessment and delineation of the extent of all waste constituents in the soil matrix, soil vapor, and groundwater discharged at or from the Site.	**November 20, 2014**
3c.	Prepare and submit a site assessment report after the approval of the Master Work Plan and its implementation.	As directed by the Executive Officer
4.	**Prepare a Human Health Risk Assessment (HHRA)** Prepare and submit a work plan to collect sufficient data to enable completion of an HHRA, including proposed techniques for preparing an HHRA.	**November 20, 2014**

	DIRECTIVE	DUE DATE
5.	**Conduct Remedial Action**	
5a.	Develop and submit a comprehensive Remedial Action Plan (RAP) for cleanup of waste in soil matrix, soil vapor, and groundwater at and originating from the Site, and abatement of the effects of the wastes released to the environment. Additional RAPs may be needed if the implemented remedial measure cannot completely achieve site cleanup goals.	As directed by the Executive Officer As directed by the Executive Officer
5b.	Prepare and submit quarterly remediation progress reports for the remediation system implemented.	Quarterly remediation progress reports are due on the last day of each month following the quarter after Executive Officer approval of the RAP.
6.	**Conduct Groundwater Monitoring**	
	Include a proposal for performing groundwater monitoring as part of the Master Work Plan required in Item 3a.	**November 20, 2014**
	Conduct groundwater monitoring according to the following schedule. **Monitoring Period** January to June July to December	The next groundwater monitoring report is due on **July 31, 2015**. **Report Due Date** July 31 January 31

Exhibit 6

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

CLEANUP AND ABATEMENT ORDER NO. R4-2010-0202

REQUIRING THE GILLETTE COMPANY
TO CLEANUP AND ABATE
CONDITIONS OF SOIL, SOIL GAS, AND GROUND WATER POLLUTION
CAUSED BY THE RELEASE OF VOLATILE ORGANIC COMPOUNDS
AT 1740 STEWART STREET
SANTA MONICA, CALIFORNIA

(FILE NO. 97-176)

Cleanup and Abatement Order (CAO) No. R4-2010-0202 requires The Gillette Company (hereafter Discharger or Gillette), to assess, monitor, and cleanup and abate the effects of volatile organic compounds (VOCs) and other contaminants of concern discharged to soil and groundwater at Building II of its former Paper Mate® facility at 1740 Stewart Street, Santa Monica, California.

The California Regional Water Quality Control Board, Los Angeles Region ("Regional Water Board" or "LARWQCB") herein finds:

I. INTRODUCTION

1. Former Building II (Site) is a portion of the former Paper Mate® facility. Former Building II is immediately west of Stewart Street between Olympic Blvd. on the south and Pennsylvania Ave to the north, in Santa Monica (Figure 1). Building II is one of four main buildings of the former Paper Mate® facility. Buildings I, III, and IV are on an adjacent property to the south. The Building II property (Higgins Property) is currently owned by the Higgins Trusts (Higgins). Cleanup, abatement and monitoring activities related to former Paper Mate® facility Buildings I, III, and IV are addressed by Modified CAO No. R4-2008-0034.

2. The Discharger began operations at the Site in 1968, after it leased Building II from Higgins. Operations at Building II ended in 2002.

3. Prior to the mid-1950s, the area near the Site was used for clay quarrying and brick firing. Evidence of the brick operations is visible in a 1938 aerial photograph. After the clay quarries were depleted they were used as landfills by the Cities of Santa Monica and Beverly Hills. No records describing the material deposited in the landfill have been provided to the Regional Water Board. Regional Water Board staff believe, because these were city landfills, that the predominant material deposited in the landfills is local household and industrial solid waste. The approximate locations of the clay quarries/landfills are shown in Figure 2.

4. VOCs have been detected in the subsurface soil, soil vapor, and groundwater underlying the Site.

II. PROPERTY OWNERSHIP AND LEASEHOLD INFORMATION

5. Based on the information submitted to the Regional Water , and clarified by Gillette, the Higgins property has the following property ownership and leasehold history:

   a. Prior to the 1950's, industrial activities conducted near the Site were clay quarrying and brick manufacturing. Several of the resulting clay pits were subsequently sold to, leased by, or used by the City of Beverly Hills and the City of Santa Monica (City) for disposal of locally derived wastes. When full, these landfills were capped and built upon by light industry. Information reported by the United States Environmental Protection Agency (USEPA) indicates that the City of Santa Monica Landfill No. 1 and the former Gladding McBean Dump underlie a portion the Site. Excavation of the pit used as City Landfill No. 1 began before 1938, and the pit was filled by 1975. Excavation of the pit used as the Gladding McBean Dump began in 1906, and the pit was filled by 1958.

   b. In November 1967, Gillette leased a parcel of land (the Higgins Property) from the Higgins Brick and Tile Co. (later succeeded in interest by Higgins) on which the property owner constructed Building II for Gillette's use.

   c. In 2000, Gillette sold the Paper Mate® business to the Sanford Division of Newell-Rubbermaid, Inc. (Newell-Rubbermaid). In December 2000, Gillette assigned the lease for the Higgins Property to Newell-Rubbermaid. Newell-Rubbermaid continued manufacturing operations similar to those previously conducted by Gillette at the Site.

   d. In 2002, Newell-Rubbermaid discontinued operations in Building II.

   e. As of the end of 2005, Newell-Rubbermaid had subleased the Higgins Property to Red Bull North America, Inc. (Red Bull). Red Bull subsequently renovated the building that previously served as Paper Mate Building II and relocated its North American headquarters to the renovated building in summer 2006.

EVIDENCE OF CONTAMINATION AND BASIS FOR SECTION 13304 ORDER

6. Chemical Usage and Storage During Manufacturing Operations at the Gillette Site

   a. **Building II** – Manufacturing operations began in Building II in 1968. Operations included extrusion of plastic pen parts, sintering and grinding, ink manufacturing, product assembly, nickel plating, and plant maintenance. Figure 3 shows the locations of the various operations and facilities within Building II.

   b. Chemicals used included lubricants, cutting fluids, oils, propylene glycol, grease, dyes, 1,1,1-trichloroethane, naphtha, methyl ethyl ketone, isopropyl alcohol, methanol, hydraulic oil, sealants, metal polish, primers, and adhesives.

   c. Hazardous materials were stored in designated areas within Building II until 1975. In 1975 they were moved outside to a bermed and fenced storage area near the southwest corner of Building II.

d. Aboveground storage tanks (ASTs) and underground storage tanks (USTs) were installed at the north and east sides of Building II in 1968. These tanks were used to store hazardous materials and wastes. There were 28 ASTs and 27 USTs. All USTs were removed from the area of Building II between 1987 and 2002. All ASTs were removed from the area of Building II between 1983 and 2002.

e. Industrial wastewater was produced during ink manufacturing and nickel plating. In 2002, operations ceased in Building II and equipment maintenance moved to Building IV.

7. Waste Releases Discovered During Subsurface Investigations at Gillette Site

a. In 1986, Converse Environmental West discovered that one underground storage tank (UST) located near the northeast corner of Building II and two USTs on the north side of Building II failed leak tests. As a result, Tri/Con Engineering conducted an investigation of both areas and discovered 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), tetrachloroethene (PCE), methyl ethyl ketone (MEK), methylene chloride, and 1,1-dichloroethene (1,1-DCE) in soil near tank T-10. (GeoSyntec, 2005, p. 40).

b. In May 1993, broken piping was discovered under USTs T-7, -8, -9, and -10 at the east end of Building II. Volatile organic compound-impacted soil was identified beneath and adjacent to these tanks. Tri/Con Engineering performed an investigation of the area surrounding these tanks in 1994 to further delineate this soil contamination. The LARWQCB approved the discontinuation of remedial activities in this area in August 1998.

c. From August through October 2000, GeoSyntec conducted a baseline environmental assessment at the former Paper Mate® facility as part of a potential divestiture of the Paper Mate® business. That assessment identified detections of VOCs in soil, soil vapor and groundwater that Gillette reported to the LARWQCB in a December 2000 letter.

d. In December 2000, Gillette also notified the LARWQCB of plans to perform further characterization of environmental conditions in the vicinity of the former Paper Mate® facility, and in April 2001 Gillette submitted the Work Plan for Expanded Site Assessment.

e. GeoSyntec implemented a quarterly groundwater monitoring program in March 2002. In 2005, this program was revised to include additional analytes.

f. From April to November 2006, GeoSyntec conducted further investigation of the vadose zone, A-zone groundwater and B-zone groundwater.

g. In July 2007, Geomatrix performed a supplemental soil vapor assessment of localized VOC impacts in a small area on the western end of the Higgins Property and Building II, which had been discovered during previous assessment work. The new data confirmed that the VOCs were limited in extent.

h. From July to August 2007, Geomatrix conducted a coordinated groundwater monitoring event using wells near Buildings I, II, III, and IV, and at nearby environmental sites, to assess groundwater flow and VOC concentrations in groundwater in the vicinity of the former Paper Mate® facility. A total of 73 monitoring wells at five participating environmental sites were used in the event, which included measurement of groundwater levels, and collection and analysis of groundwater samples. Results of this coordinated monitoring event provided

information regarding groundwater levels and hydraulic gradients in the area. The work also provided information regarding the presence and distribution of VOCs in groundwater along the Olympic Boulevard corridor. The data showed that VOCs likely have been released from several other facilities in the area, some of which are performing separate investigations under LARWQCB or other agency oversight.

i. In December 2007, Geomatrix submitted an assessment of geologic faulting in the vicinity of the Site and discussed its potential influence on groundwater flow. The report concluded that faults or other geologic heterogeneities in the area may influence groundwater levels and flow. The specific locations and characteristics of these features, and their influence on groundwater flow, are uncertain and not well constrained by available data.

8. Source Elimination and Remediation Status at Former Gillette Site

a. In November 1983, a Building II sewer line leaked and released sewage and water-based ink. The line and approximately 55 tons of soil containing trace concentrations of raw sewage and water soluble ink were excavated and disposed of off-site. The LARWQCB approved the discontinuation of remedial activities in this area in August 1998.

b. As a result of the investigation that followed the failed leak test of three USTs in 1986 described earlier, Tank T-10 at Building II was removed in September 1987 along with 41 cubic yards of affected soil. The City of Santa Monica subsequently approved reinstallation of the repaired tank.

c. In February 1995, Tri/Con Engineering installed a soil vapor extraction (SVE) system in the vicinity of former USTs T-7 through T-10 east of Building II to address the VOC impacts to soil identified in May 1993 described earlier. The system was operated until May 1996. In September 1996, Tri/Con conducted post-remediation confirmation sampling which found non-detect levels of VOCs in soil at all sampled depths. The LARWQCB approved discontinuing use of the SVE system east of Building II in August 1998.

d. In June 2007, GZA GeoEnvironmental submitted an untitled letter report, accompanied by a cover letter from LECG with the subject *Letter Report on Design of SVE Well for Higgins Trust Property, Former Paper Mate Facility, 1681 26th Street, Santa Monica, California*. This design report for a single-well SVE system to remediate a localized vadose zone VOC impact on the Higgins Property received Regional Water Board conditional approval in June 2007.

e. In August 2007, Geomatrix submitted the document titled *Interim Risk-Based Remediation Goal for PCE and Supplemental Soil Vapor Assessment Results, Higgins Trusts Property* to the Regional Water Board. It proposed an interim risk-based, residential land use, remediation goal for PCE in soil vapor of 0.68 µg/L.

f. In September 2007, the document titled *SVE System Construction Summary, Equipment Specifications and Operations Plan, Higgins Trusts Property, 1740 Stewart Street, Santa Monica, California* was received by the Regional Water Board. The Regional Water Board approved the document in October 2007.

g. From September to October 2007, GeoEnvironmental installed the extraction well near the western side of Building II and extended lateral piping to Building III, where the SVE treatment system soil vapor handling and treating equipment were installed.

h. The SVE system operated from October 2007 to October 2008, when asymptotic vapor conditions were reached. System effectiveness was significantly less than expected because of low soil permeability to air. A positive displacement, 20-horsepower blower, operating at 22 inches of mercury vacuum, produced between 4 and 10 cubic feet per minute of soil vapor. Vapor samples from the probes located 6 and 10 feet from the extraction well did not exhibit the declines anticipated from the pilot test.

i. In October 2008, the Regional Water Board received *Response to RWQCB Comments on the Higgins Trusts Property, Second Quarter 2008 SVE System Monitoring Report and Proposed SVE Rebound Testing Plan, Higgins Trusts Facility, Former Paper Mate Facility, 1740 Stewart Street, Santa Monica, California.* In an October 2008 letter the Regional Water Board approved the proposed rebound test plan.

j. Rebound testing at Building II of the former Paper Mate® facility was conducted from October 2008 until April 2009, The results were presented in the June 2009 document titled, *SVE System Quarterly Monitoring Report Second Quarter 2009 and Closure Assessment Plan, Higgins Trusts Property Former Paper Mate Facility, 1740 Stewart Street, Santa Monica, California.* Vapor samples from a vapor probe 6 feet from the extraction well containing 350 micrograms per liter (µg/L) PCE prior to system start up and 210 µg/L to 410 µg/L during rebound testing. Similarly, vapor samples from the probe 10 feet from the extraction well contained 27 µg/L PCE prior to system start up and 2.1 µg/L to 22 µg/L during rebound testing. The vapor probe data indicate limited system effectiveness and the presence of significant residual VOCs in soil.

k. In July 2009, the Regional Water Board received a document titled *SVE System Quarterly Monitoring Report Second Quarter 2009 and Closure Assessment Plan, Higgins Trusts Property Former Paper Mate Facility, 1740 Stewart Street, Santa Monica, California.* The closure assessment plan, which proposed soil and soil vapor sampling at 5 foot intervals to 25 feet below grade at three locations where elevated VOCs were detected in prior soil samples, was approved in an August 2009 Regional Water Board letter.

l. In November 2009 the Regional Water Board received the *Remediation Confirmation Soil and Soil Vapor Sampling Report*, documenting soil and soil vapor sampling conducted in September 2009. The maximum concentration of PCE in soil was 57,700 µg/kg, in a sample from 5 feet below grade. The maximum concentration in soil vapor was 3,800 µg/L, also in a sample from 5 feet below grade. Very low permeability to soil vapor flow prevented collection of vapor samples deeper than 10 feet below grade.

9. **Summary of Findings from Subsurface Investigations**

a. Regional Water Board staff have reviewed and evaluated technical reports and records pertaining to the release, detection, and distribution of contaminants in the vicinity of Building II of the former Paper Mate® facility. The Discharger has stored, used, and/or released VOCs and other materials, on the Site. Elevated levels of PCE and other contaminants have been detected in soil, soil vapor, and groundwaer beneath the Site.

b. The sources for the evidence summarized above include, but are not limited to:

A. Various technical reports and documents submitted by the Discharger or its representatives to Regional Water Board staff.

B. Site inspections, meetings, letters, electronic mails, and telephone communications between Regional Water Board staff and the Discharger or its representatives.

10. **Summary of Current Conditions Requiring Cleanup and Abatement**

Soil and soil vapor PCE contamination in the immediate proximity of occupied commercial space is the primary condition requiring Site cleanup and abatement. The presence of PCE and other VOCs in shallow soil and soil vapor prevents unrestricted land use and continues to threaten groundwater quality beneath the site and vicinity.

11. Section 13304 of the California Water Code states, in part, that "Any person.... who has caused or permitted to cause....any waste to be discharged or deposited where it is, or probably will be discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the Regional Water Board clean up such waste or abate the effects thereof or, in the case of threatened pollution or nuisance, take other necessary remedial action."

12. The State Water Resources Control Board (hereafter State Water Board) has adopted Resolution No. 92-49, the "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304." This Policy sets forth the policies and procedures to be used during an investigation or cleanup of a polluted site and requires that cleanup levels be consistent with State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality of Waters in California. Resolution 92-49 and the Basin Plan establish the cleanup levels to be achieved. Resolution 92-49 requires the waste to be cleaned up to a background, or if that is not reasonable, to an alternative level that is the most stringent level that is economically and technically feasible in accordance with Title 23, California Code of Regulations (CCR) Section 2550.4. Any alternative cleanup level to background must (1) be consistent with the maximum benefit to the people of the state; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Water Board.

13. The Regional Water Board adopted an amended "Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan)" on June 13, 1994. The Basin Plan designates beneficial uses and establishes water quality objectives (WQOs) for inland surface waters, ground waters, coastal waters and wetlands. Beneficial uses designated for the Santa Monica Basin groundwater include, but are not limited to municipal and domestic supply (MUN), industrial service supply (IND), industrial process supply (PROC), and agricultural supply (AGR).

14. The VOC wastes detected at the Site are not naturally occurring, and some are known or suspected as human carcinogens or potential carcinogens. These wastes impair or threaten to impair the beneficial uses of the groundwater.

15. Water Quality Objectives listed in the Basin Plan include numeric WQOs, [e.g., state drinking water maximum contaminant levels (MCLs)], and narrative WQOs, including the narrative toxicity objective and the narrative tastes and odors objective for surface and groundwater. The MCLs for VOCs in drinking water by the State of California Department of Public Health (DPH) and the United States Environmental Protection Agency (USEPA) is 5 µg/L for PCE. Groundwater samples collected from shallow groundwater beneath the site contained 7.0 µg/L PCE when sampled in April 2010.

16. The issuance of this Order is an enforcement action taken by the Regional Water Board, a regulatory agency, and as such is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et. seq.) in accordance with Section 15321, Chapter 3, Title 14, California Code of Regulations.

III. REQUIRED ACTIONS

IT IS HEREBY ORDERED, pursuant to California Water Code Section 13304, that:

1. Gillette shall conduct an analysis of options relating to contaminant concentrations in soil after shutdown of the SVE system and evaluate other remedial actions that are protective of both the human health and water resources. That analysis should include identification of potential remediation and management approaches and an analysis of feasibility and efficacy of each alternative.

2. The options and feasibility report shall be submitted to the Regional Water Board by no later than 45 business days after the date of this Order.

3. After consideration of available options, Gillette shall implement the approved selected approach and submit technical reports by due dates specified in future Regional Water Board letters or amendments to this Order. The technical reports may include, but are not limited to, remediation progress/status reports, a confirmation soil and/or soil vapor sampling workplan and report, and human health risk assessment workplan and report.

4. Gillette shall continue soil remediation until VOC concentrations in soil and soil vapor are reduced to the Regional Water Board approved levels that are protective of both the human health and groundwater resource, or until further remediation is not feasible technically and economically.

5. Pursuant to Water Code section 13307.1, subdivision (c), the Regional Water Board may not issue a "no further action required" letter for the Site soil if the Regional Water Board determines that the Site/Property is not suitable for unrestricted use unless a land use restriction is recorded for the protection of public health, safety, or the environment with respect to that portion of the Site/Property that is not suitable for unrestricted use.

6. The Regional Water Board's authorized representative(s) shall be allowed:

   a. Entry upon premises where a regulated facility or activity is located, conducted, or where records are stored, under the conditions of this Order;

   b. Access to copy any records that are stored under the conditions of this Order;

   c. Access to inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

   d. The right to photograph, sample, and monitor the Site for the purpose of ensuring compliance with this Order, or as otherwise authorized by the California Water Code.

7. Gillette, to the extent it has knowledge thereof, shall submit 30-day advance notice to the Regional Water Board of any planned changes in name, ownership, or control of the Site ; and shall provide 30-day advance notice of any planned physical changes to the Site that may affect compliance with this Order. In the event of a change in ownership or operator, Gillette also shall provide 30-day advance notice, by letter, to the succeeding owner/operator of the existence of this Order, and shall submit a copy of this advance notice to the Regional Water Board.

IV. GENERAL PROVISIONS

The following provisions shall apply:

1. This CAO compels performance of the Required Actions in Section III above in compliance with the Water Code, the applicable Basin Plan, Resolution 92-49, and other applicable plans, policies, and regulations.

2. The requirements of this Order are directed to soil only. Issues relating to groundwater cleanup and monitoring are addressed pursuant to Modified Cleanup and Abatement Order No. R4-2008-0034 issued on November 10, 2010.

3. If Gillette fails to comply with this CAO, the Executive Officer may request the California Attorney General to petition the Superior Court for the issuance of an injunction.

4. If Gillette violates this CAO, Gillette may be liable civilly in a monetary amount provided by the California Water Code.

5. This CAO is not intended to interfere with any rights that the Discharger may have if it determines that other parties have responsibility for the contamination of soil or groundwater beneath the Site and its vicinity. Upon request by Gillette, and for good cause shown, the Executive Officer may defer, delete or extend the date of compliance for any action required of Gillette under this CAO.

6. Failure to comply with the terms and conditions of this CAO may result in imposition of civil liabilities, imposed either administratively or judicially in accordance with sections 13268, 13304, 13308, and 13350, et seq., of the California Water Code, and/or referral to the Attorney General of the State of California for such action as he/she may deem appropriate.

7. This Order is not intended to permit or allow the Discharger to cease any work required by any other Order issued by this Regional Water Board for another site, nor shall it be used as a reason to stop or redirect any other investigation or cleanup or remediation programs ordered by this Board or any other agency for another site. Furthermore, this Order does not exempt Gillette from compliance with any other laws, ordinances or regulations that may be applicable to the Required Actions in Section III above.

8. It is the intent of this Regional Water Board to issue Waste Discharge Requirements (WDR) or other Orders pursuant to sections 13263, 13304, and 13350 of the California Water Code when appropriate to facilitate cleanup and abatement activities required to complete the Required Actions in Section III above . Chemical or biochemical compounds cannot be injected into the subsurface until a site-specific WDR or applicable general WDR is issued by this Regional Water Board. Additionally, continued monitoring of the groundwater quality beneath the area of

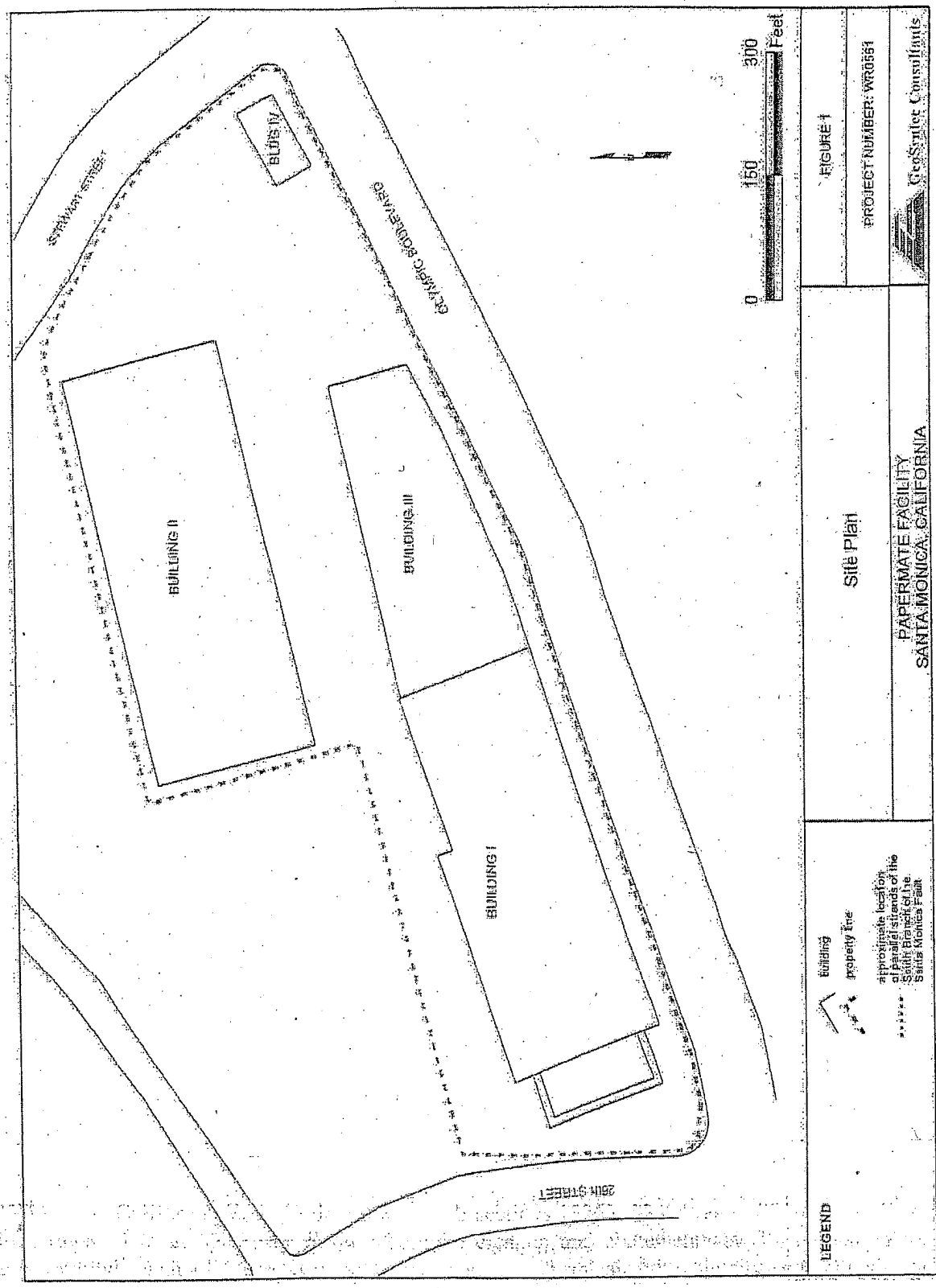
concern after the completion of this cleanup and abatement activity may be required as set forth in Section III, Par. 10 of Modified Cleanup and Abatement Order No. R4-2008-0034.

9. Section 13304 of the California Water Code allows the Regional Water Board to recover reasonable expenses from Gillette to oversee the Required Actions in Section III above.

10. Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and the California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

11. All correspondence with respect to this Site between the Regional Water Board and Gillette shall be provided to the City of Santa Monica by the sender.

Ordered by: _____ Date: November 10, 2010
Deborah Smith
Chief Deputy Executive Officer


BUILDING II
BUILDING III
BUILDING I
BLDG IV
CLOVERFIELD BOULEVARD
26th STREET
0
150
300
Feet
LEGEND
Building
property line
approximate location of parallel strands of the South Branch of the Santa Monica Fault
Site Plan
PAPERMATE FACILITY
SANTA MONICA, CALIFORNIA
FIGURE 1
PROJECT NUMBER: WR0551
GeoSyntec Consultants

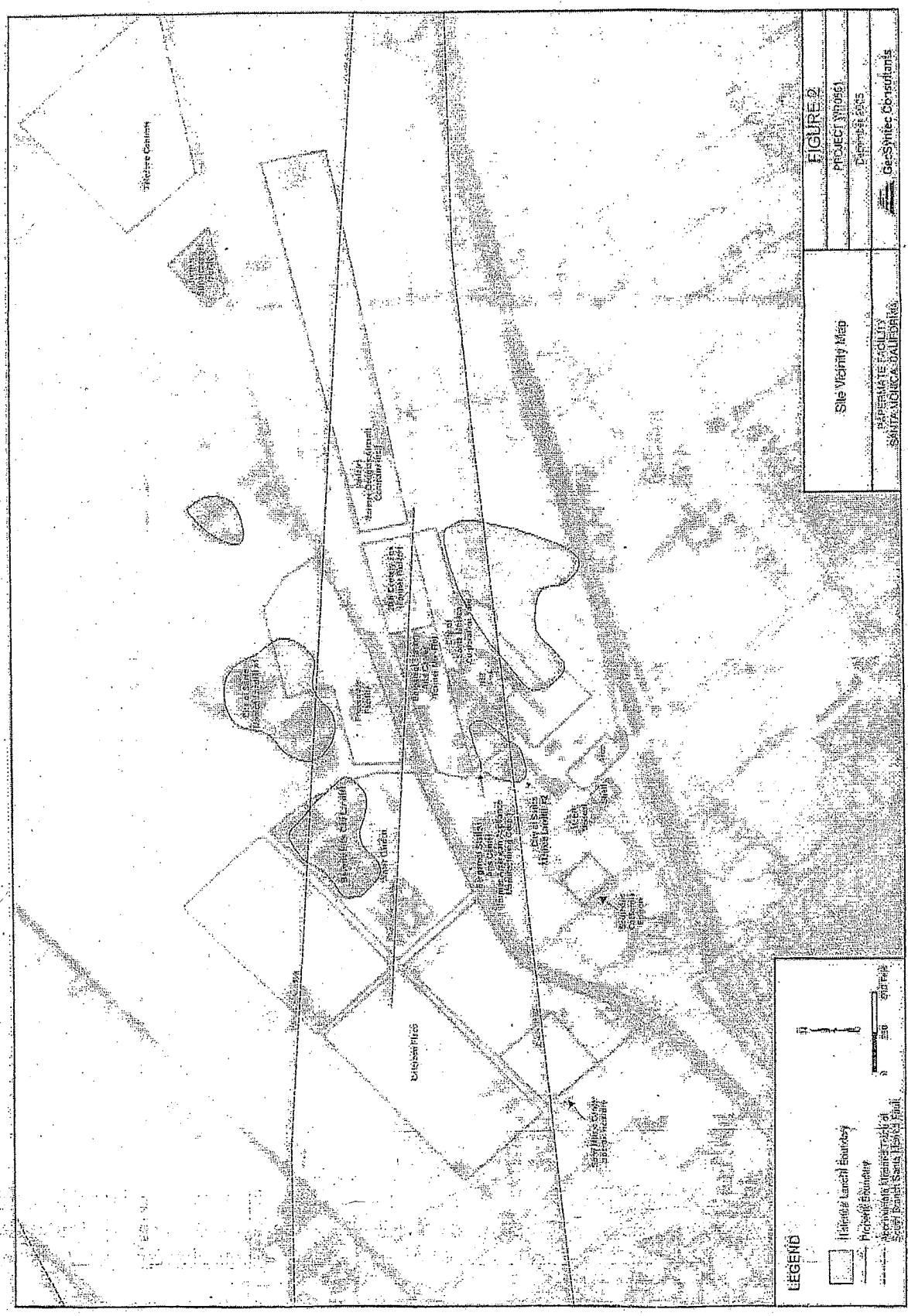


FIGURE 2
Site Vicinity Map
PROJECT NO. 0661
GeoSyntec Consultants
LEGEND

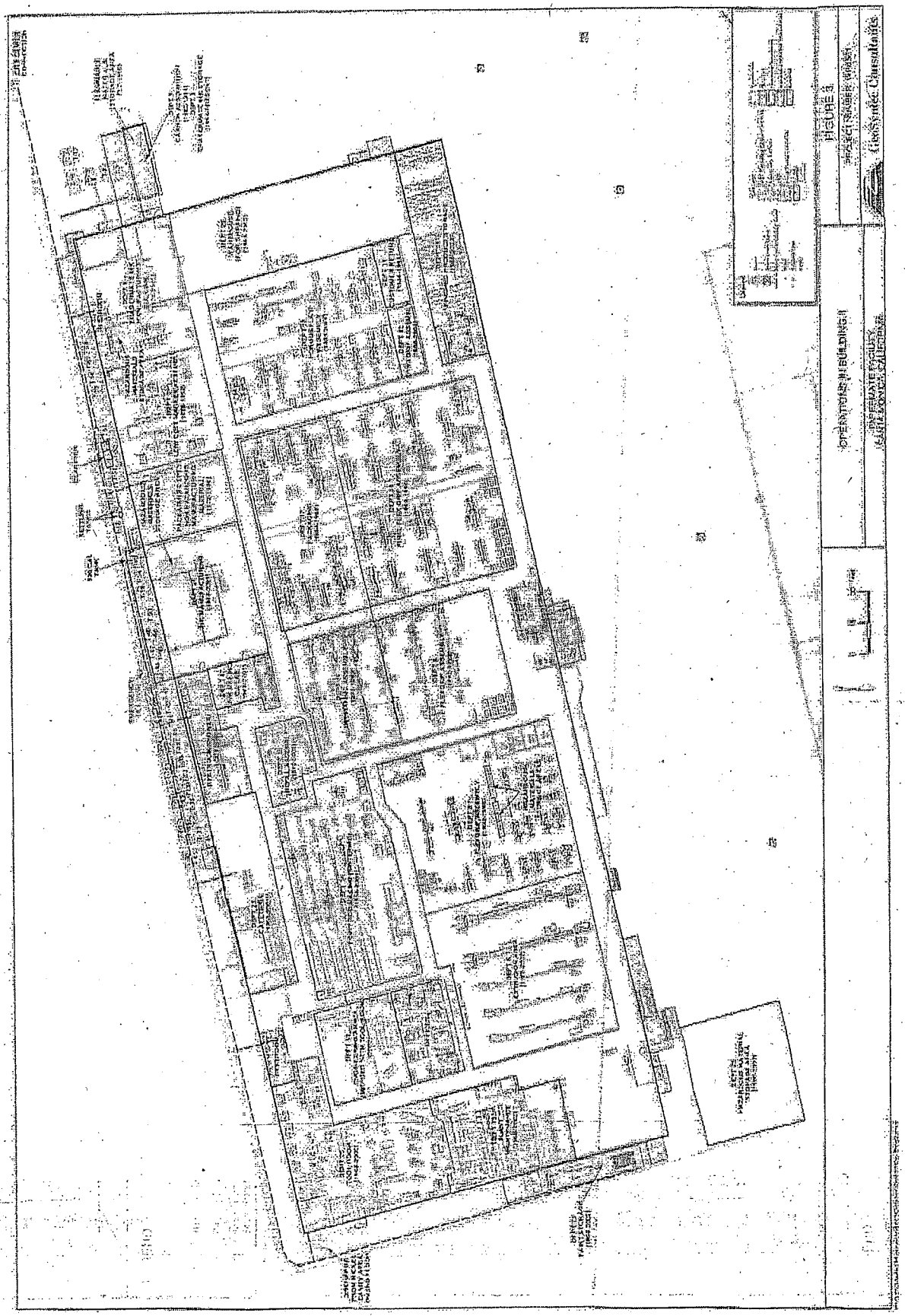


FIGURE 3

Exhibit 7

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

CLEANUP AND ABATEMENT ORDER NO. R4-2010-0044
REQUIRING

MONTRI AND CHIRAVAN KEYURANGGUL;
PJK PROPERTIES, LLC;
GERALDINE FRANK;
HARLAND EAKENS;
FAITHE TRUST;
TECT,INC.;
JAY PATRICK;
PATRICK TRUST;
WESTERN CHEMICAL; AND
SOCO WEST, INC.

TO ASSESS, CLEANUP, AND ABATE
WASTE DISCHARGED TO WATERS OF THE STATE
(PURSUANT TO CALIFORNIA WATER CODE SECTION 13304[1])
AT 14650 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
(SITE CLEANUP PROGRAM CASE NO. 0909)

You are legally obligated to respond to this Order. Please read this carefully.

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) finds that:

BACKGROUND

1. **Dischargers[2]:** Montri and Chirivan Keyuranggul; PJK Properties, LLC; Geraldine Frank, Harland Eakens; the Faithe Trust; Teet, Inc.; Jay Patrick; the Patrick Trust; Western Chemical; and Soco West, Inc. (hereinafter called Dischargers) are Responsible Parties (RPs) due to their: (a) current or past ownership of the property located at 14650 Firestone Boulevard in La Mirada, California (the Site), (b) prior operation of a business at the Site, and/or (c) being a surviving asset of other RPs.

[1] 13304 (a): Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or pennitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board, clean up the waste or abate the effects of the waste, or, in the case of tlrreatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts.

[2] Joe Valles, Augustina Valles, Elmer Teel, Fern Teel, Donald Frank, David Faithe, Sally Faithe, and Betty Eakens were named as dischargers and Responsible Parties in draft Cleanup and Abatement Order R4-2009-0049 due to their past ownership of the Site. They are not named here because they are believed by the Regional Board to be deceased and their estates are believed to be closed.

Primary Responsible Parties

Specifically, the following Dischargers are named as Primary Responsible Parties due to past operations of solvent reclamation, solvent recycling, and/or solvent manufacturing businesses at the Site:

- Tect, Inc.
- Western Chemical

The following Dischargers are named as Primary Responsible Parties due to their relationship to either Tect, Inc. or Western Chemical, who are both Primary Responsible Parties:

- James Warren Patrick[3]
- Patrick Trust[4]
- Soco West, Inc.[5]

The following Dischargers are named as Primary Responsible Parties due to their ownership of the Site during the tenancies of either Tect, Inc. or Western Chemical:

- Geraldine Frank
- Harland Eakens

Secondary Responsible Parties

The following Dischargers are named as Secondary Responsible Parties due to either current ownership of the Site and/or ownership of the Site following the tenancy of Tect, Inc. and Western Chemical:

- Montri and Chirivan Keyuranggul
- PJK Properties, LLC
- The Faithe Trust

The Dischargers have caused or permitted waste to be discharged or deposited where it is, or probably will be discharged into the waters of the state which creates a condition of pollution or nuisance.

Obligations of Responsible Parties

Primary Responsible Parties, as identified herein, have primary responsibility for fulfilling the obligations imposed by this Cleanup and Abatement Order and any future orders that may be issued by the Regional Board.

Secondary Responsible Parties, as identified herein, have responsibility for fulfilling the obligations imposed by this Cleanup and Abatement Order in the event that the Primary Responsible Parties fail to fulfill their obligations. Those Secondary Responsible Parties who are currently property owners and/or tenants of the Site must also provide necessary and

[3] James Warren Patrick is named as a Primary Responsible Party due to his ownership of Tect, Inc.
[4] The Patrick Trust is named as a Primary Responsible Party because it is a surviving asset of Mr. Patrick.
[5] Soco West, Inc. is named as a successor to Western Chemical.

reasonable access to the Site by the Primary Responsible Parties and their representatives, to Regional Board staff for assessment and/or remediation activities, and for any infrastructure that may be necessary for assessment and/or remediation activities.

2. **Location:** The Site is located at 14650 Firestone Boulevard, La Mirada, California. Attachment A, Figure 1, Site Location Map, attached hereto and incorporated herein by reference, depicts the location of the Site. Additionally, Figure 2 of Attachment A, also attached hereto and incorporated herein, is a Site Vicinity Map depicting the building occupying the Site and the surrounding area. The Site lies between Firestone Boulevard and Union Pacific Railroad tracks, south of Interstate-5. Coyote Creek is located approximately 850 feet east of the Site; it drains into the San Gabriel River, which discharges into the Pacific Ocean at Alamitos Bay.

3. **Groundwater Basin:** The Site is located within the Los Angeles Coastal Plain (Central Basin) which, at the Site vicinity, is underlain by the eastern limb of the Norwalk Syncline. Subsurface materials are comprised of alluvial sediments, including the Lakewood and San Pedro formations. Beneath the Site location, from surface to depth, the Lakewood formation includes the Artesia and Gage aquifers and the San Pedro formation which includes the Hollydale, Jefferson, Lynwood, and Silverado aquifers (Note: the Hollydale and Jefferson aquifers are discontinuous within the Site area and it is unknown whether they directly underlie the Site). As set forth in the *Water Quality Control Plan* for the Los Angeles Region (Basin Plan), which was adopted on June 13, 1994, the Regional Board has designated beneficial uses for groundwater (among which include municipal and domestic drinking water supplies) in the Central Basin and has established water quality objectives for the protection of these beneficial uses.

4. **Water Quality in the Basin:** Water Quality Objectives (WQOs) listed in the Basin Plan include numeric WQOs [e.g., state drinking water maximum contaminant levels (MCLs)], and narrative WQOs, including the narrative toxicity objective and the narrative taste and odor objective for surface and groundwater. The MCLs for volatile organic compounds (VOCs) in drinking water by the State of California Department of Public Health (DPH) and the United States Environmental Protection Agency (USEPA) are 5 µg/L for PCE, 5 µg/L for TCE, and 6 µg/L for 1,1-DCE, among others. The detected VOCs levels in the groundwater beneath the Site and its vicinity have significantly exceeded the MCLs, thus impairing the beneficial uses of the groundwater.

5. As detailed in the findings below, the Dischargers' activities at the Site have caused the release of waste resulting in soil, soil vapor, and groundwater contamination and discharge to the waters of the state.

SITE HISTORY

6. **Site Description and Activities**: The Site is currently owned by PJK Properties, LLC. It includes one parcel encompassing approximately 0.33 acre. The Site has a 1-story building that is currently occupied by All-Tex Inks Corporation, a silkscreen inks and supply company.

Site Ownership Timeline:

The historical Site ownership is summarized in the following outline:

a. Prior to May 1960

i. Owned by Casper Ferrando Valles
    1. Unknown acquisition date

b. May 1960
    i. Sold to Joe Valles
        1. Augustina Valles, Elmer and Fern Teel, Donald and Geraldine Frank, and Harland and Betty Eakens took ownership upon Mr. Joe Valles' death on an unknown date

c. February 23, 1973
    i. David Faithe and Sally Faithe took 100 percent ownership of the Site

d. May 12, 1997
    i. Property transferred to David Faithe and Sally Faithe, Co-Trustees of the Faithe Family Trust (Faithe Trust)

e. October 6, 1998
    i. Faithe Trust transferred ownership to Mr. Montri Keyuranggul and Mrs. Chiravan Keyuranggul

f. October 9, 2008
    i. The Keyurangguls quitclaimed the property to PJK Properties, LLC
        1. PJK Properties, LLC's principals are Mr. Montri Keyuranggul and Mrs. Chiravan Keyuranggul

Site Operations Timeline

Historical Site operations are summarized in the following outline:

a. Approximately 1963 to early 1970s
    i. Tect, Inc. operated a solvent reclaiming and manufacturing operation
        1. Tect, Inc. filed bankruptcy in 1972
            a. Tect, Inc.'s founder Jay Patrick created Alacer Corporation, a viable entity today

b. 1972 to 1979
    i. Western Chemical purchased some of Tect, Inc.'s assets in 1972
    ii. Western Chemical operated a solvent recycling and reclamation plant onsite
    iii. November 8, 1973, "Notice of Violation and Order to Comply" letter issued by the County of Los Angeles, Dept. of County Engineer to Western Chemical for an unauthorized release of waste materials

c. 1979 to 1998
    i. Various tenants including a machine shop and diaper service

d. 1998 to present
    i. All-Tex Inks Corporation operates as a silk-screening inks and supply business onsite

7. **Chemical Usage:** During their operations at the Site, Tect, Inc. and Western Chemical handled various solvents for reclamation, recycling, and/or manufacturing purposes. These

chemicals reportedly included at least methylene chloride, tetrachloroethylene (PCE), trichloroethylene (TCE), and 1,1,1-trichloroethane (1,1,1-TCA).

EVIDENCE OF CONTAMINATION AND BASIS FOR ORDER

8. **Waste Releases:** According to a November 8, 1973, *Notice of Violation and Order to Comply* letter issued by the County of Los Angeles, Department of County Engineer (DCE) to Western Chemical (whose successor is Soco West, Inc.), a waste water discharge was observed in a pond located between the south end of an onsite building and a railroad track located south of the Site. This discharge was determined to be an unauthorized release of waste materials.

Subsequently, site investigation work has been performed on behalf of Soco West, Inc. to delineate the extent of subsurface contaminants. The investigation work demonstrates that the highest concentrations of volatile organic compound contaminants in soil, soil vapor, and groundwater are located at the south end of the onsite building, at approximately the same location where the November 8, 1973, waste water discharge was observed. Site investigation activities are summarized in the following reports, all of which were submitted by JPR Technical Consultants, Inc. on behalf of Soco West, Inc.:

- *Interim Report, Off-Site Soil and Groundwater Investigation, Former Western Chemical Facility, 14650 Firestone Boulevard, La Mirada, California*, June 1, 2008;
- *Membrane Interface Probe and Additional Soil and Groundwater Investigation Report, Former Western Chemical Facility, 14650 E. Firestone Boulevard, La Mirada, California,* February 15, 2007;
- *Update Report, Off-Site Soil and Groundwater Investigation, Former Western Chemical Facility, 14650 E. Firestone Boulevard, La Mirada, California,* October 30, 2008;
- *Update Report, Off-Site Soil and Groundwater Investigation, Former Western Chemical Facility, 14650 E. Firestone Boulevard, La Mirada, California, April 15, 2009*; and
- *Quarterly Monitoring Report, Fourth Quarter 2009, Former Western Chemical Facility, 14650 E. Firestone Boulevard, La Mirada, California*, January 15, 2010.

Investigations offsite are in progress. A summary of contaminants detected to date are provided in the following subsections[6]. The data in these subsections are compiled from the above-listed reports and from other technical reports within Regional Board files. The above-listed reports are a subset of reports submitted to the Regional Board on behalf of Soco West, Inc. from 2000 to present.

Soil Matrix Data

Following the 1973 release, and beginning in 2000, several rounds of environmental investigation have occurred at and around the Site. According to *Membrane Interface Probe and Additional Soil and Groundwater Investigation Report, Former Western Chemical Facility* (dated February 16, 2007, written by JPR Technical Services, Inc.), Update Report, Off-Site Soil and Groundwater Investigation, Former Western Chemical Facility (dated April 15, 2009, written by JPR Technical Services, Inc.), and Appendix A in *Interim Remedial Action Plan, Former Western Chemical Facility* (dated October 30, 2008, written by JPR

[6] Since work is ongoing, the status of investigation work may have changed since the preparation of this document. Except as noted as being more recent, the conditions described herein are believed to be current as of approximately September 2009.

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Technical Services, Inc.), the following 46 contaminants were detected in soil at the following maximum concentrations:

Table 1

Contaminant	Maximum Concentration Detected (Onsite) ($\mu g/kg^1$)	USEPA RSL[2] Risk-based SSL[3] ($\mu g/kg$)	USEPA RSL[2] MCL-based SSL[3] ($\mu g/kg$)
Acetone	**16,000**	**4,400**	---
Benzene	**280**	**0.23**	**2.8**
Bromochloromethane	460	---	---
Bromomethane	**750**	**2.2**	---
2-Butanone	**13,000**	**1,500**	---
n-Butylbenzene	1.6	---	---
sec-Butylbenzene	1	---	---
Carbon Disulfide	**620**	**270**	---
Carbon Tetrachloride	**7.9**	**0.079**	**2**
Chlorobenzene	3.5	68	75
Chloroethane	2.1	6,000	---
Chloroform	**1,600**	**0.055**	---
4-Chlorotoluene	0.19	---	---
1,2-Dichlorobenzene	110	400	660
1,3-Dichlorobenzene	0.69	---	---
1,4-Dichlorobenzene	**170**	**0.46**	**81**
1,1-Dichloroethane (1,1-DCA)	**3,900**	**0.7**	---
1,2-Dichloroethane (1,2-DCA)	**160**	**0.044**	**1.5**
1,1-Dichloroethene (1,1-DCE)	**38,000**	**120**	**2.6**
cis 1,2-Dichloroethene (cis 1,2-DCE)	**10,000**	**110**	**21**
1,2-Dichloropropane	**0.46**	**0.13**	1.7
1,4-Dioxane	**57,000**	**1.2**	---
Ethylbenzene	**1,100**	**1.9**	**890**
Isopropylbenzene	350	1,300	---
Methyl t-Butyl Ether (MTBE)	**15**	**2.7**	---
Methylene Chloride	**89,000**	**1.2**	**1.3**
4-Methyl-2-Pentanone	3	440	---
Naphthalene	3.6	0.55	---
n-Propylbenzene	0.47	---	---
Styrene	0.28	2,000	120
1,1,1,2-Tetrachloroethane	**25**	**0.21**	---
PCE	**4,800,000**	**0.052**	**2.4**
Tetrahydrofuran (THF)	1,040	---	---

Contaminant	Maximum Concentration Detected (Onsite) (µg/kg[1])	USEPA RSL[2] Risk-based SSL[3] (µg/kg)	USEPA RSL[2] MCL-based SSL[3] (µg/kg)
Toluene	**2,200**	**1,700**	**760**
1,1,1-TCA	**630,000**	**3,300**	**72**
1,1,2-Trichloroethane (1,1,2-TCA)	**590**	**0.082**	**1.7**
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	12,000	150,000	---
trans-1,2 –DCE	32	34	32
TCE	**690,000**	**0.61**	**1.9**
Trichlorofluoromethane (TCFM)	3.7	840	---
1,2,3-Trichloropropane	**1,100**	**0.0044**	---
1,2,4-Trimethylbenzene	**410**	**24**	---
1,3,5-Trimethylbenzene	0.57	20	---
Vinyl Chloride	**210**	**0.0056**	**0.7**
o-Xylene	1,300	1,600	---
p/m –Xylene	**4,100**	**1,600**	---

[1] µg/kg – micrograms per kilogram
[2] RSL – Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. RSL Table Update April 2009.
[3] SSL – Soil Screening Levels (SSLs) use a dilution attenuation factor (DAF) of one.
--- No MCL value exists.
Detected values that exceed United States Environmental Protection Agency (USEPA) SSLs are in bold.

In addition to these 46 contaminants, Table 2 lists additional contaminants that have been detected at least once, but which have been detected infrequently, and are not included in Table 1.

Table 2

Contaminant	Maximum Concentration Detected (µg/kg)	Detection Frequency (detections / analyses completed)	Date Sampled	Sample Identification
Dichlorodifluoromethane	0.44 J	1 / 216	9/6/2006	B20-19
Dieldrin	2.9 J	1 / 4	4/3/2007	DPE1-15
Diethyl Phthalate	0.35 J	1 / 4	4/3/2007	DPE3-15
Bis(2-Ethylhexyl) Phthalate	0.48 J	3 / 4	4/3/2007	DPE1-15
4,4'-DDD	4.1 J	1 / 4	4/3/2007	DPE1-2
4,4'-DDE	5.5	1 / 4	4/3/2007	DPE1-2
Aroclor 1254	430	1 / 4	4/4/2007	DPE3-15

J - Estimated value above the method detection limit, but below the reporting limit.

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Groundwater Data

Soil and groundwater investigation began in July 2000. Groundwater monitoring and sampling at the Site began in April 2001 using three groundwater monitoring wells. The groundwater monitoring program has recently been expanded to include 12 groundwater monitoring wells. Based upon a review of *Quarterly Monitoring Report, Third Quarter 2009* (dated October 15, 2009, written by JPR Technical Services, Inc.); *Interim Report, Off-Site Soil and Groundwater Investigation, Former Western Chemical Facility* (dated June 1, 2008, written by JPR Technical Services, Inc.); *Membrane Interface Probe and Additional Soil and Groundwater Investigation Report, Former Western Chemical Facility* (dated February 16, 2007, written by JPR Technical Services, Inc.; and Appendix A in the *Interim Remedial Action Plan*, Former Western Chemical Facility (dated October 30, 2008, written by JPR Technical Services, Inc.) the following 27 contaminants have been detected in groundwater samples at the indicated maximum concentrations since 2000:

Table 3

Contaminant	Revised Maximum Concentration Detected (Onsite) (µg/L)[1]	Maximum Contaminant Level (MCL) (µg/L)
Acetone	14,000	---
Benzene	**1,700**	**1**
2-Butanone	23,000	---
Carbon Tetrachloride	**70**	**0.5**
Chloroform	**4,300**	**80**
1,1-DCA	**9,000**	**5**
1,2-DCA	**4,200**	**0.5**
1,1-DCE	**89,000**	**6**
cis 1,2-DCE	**32,000**	**6**
trans 1,2 –DCE	**110 J**	**10**
1,4-Dioxane	730,000	---
Ethylbenzene	**350**	**300**
Freon 113	**7,500**	**1,200**
Isopropylbenzene	11	---
Methylene Chloride	**370,000**	**5**
MTBE	**41**	**13 (primary MCL) 5 (secondary MCL)**
PCE	**240,000**	**5**
1,1,1-TCA	**270,000**	**200**
1,1,2-TCA	**2,900**	**5**
TCE	**580,000**	**5**
TCFM	**2,100**	**150**
THF	11,000	---
Toluene	**2,500**	**150**
1,2,3-Trichloropropane	28	---
Vinyl Chloride	**28,000**	**0.5**
o-Xylene	490	1,750 (total xylenes)
p/m–Xylene	1000	

[1] – micrograms per liter (µg/L)

[2] – State maximum contaminant level (MCL)
J - Estimated value above the method detection limit, but below the reporting limit.
--- No MCL value exists.
Detected values that exceed MCLs are in bold.

Table 4 lists additional contaminants that have been detected at least once, detected infrequently, and are not included in Table 3. Those contaminants that were also detected along with their maximum concentrations and detection frequency are as follows:

Table 4

Contaminant	Maximum Concentration Detected (µg/kg)	Detection Frequency (detections / analyses completed)	Date Sampled	Sample Identification
1,1,1,2-Tetrachloroethane	110	2 / 108	9/6/2006	B21-W
1,1,-Dichloropropene	1200 J	2 / 107	8/16/2007	MW-3
1,2,4-Trimethylbenzene	400 J	4 / 108	3/30/2007	MW-2
1,2,-Dichlorobenzene	19 J	5 / 110	9/7/2006	B15-W
1,2-Dichloropropane	13	1 / 123	9/6/2006	B21-W
1,3,5-Trimethylbenzene	32	2 / 108	9/6/2006	B21-W
4-Methyl-2-Pentanone	110	1 / 121	9/6/2006	B21-W
Bromochloromethane	37	3 / 108	9/6/2006	B21-W
Bromodichloromethane	1.8 J	1 / 124	9/6/2006	B21-W
Butyl Benzyl Phthalate	4.4 J	1 / 3	3/30/2007	MW-3
Carbon Disulfide	100 J	3 / 123	5/1/2008	MW-1
Chlorobenzene	12	1 / 123	9/6/2006	B21-W
Chloroethane	0.8 J	1 / 123	9/6/2006	B20-W
Chloromethane	250 J	1 / 123	7/31/2008	MW-1
Naphthalene	10 J	2 / 111	9/6/2006	B21-W
n-Butylbenzene	4.7 J	1 / 107	9/6/2006	B21-W
n-Propylbenzene	15	1 / 107	9/6/2006	B21-W
Isophorone	7.4 J	1 / 3	3/30/2007	MW-3
Isopropylbenzene	11	1 / 107	9/6/2006	B21-W
p-Isopropyltoluene	4.5 J	1 / 107	9/6/2006	B21-W
Sec-Butylbenzene	3.4 J	1 / 107	9/6/2006	B21-W

J - Estimated value above the method detection limit, but below the reporting limit.

The Membrane Interface Probe and Additional Soil and Groundwater Investigation Report, Former Western Chemical Facility report concluded that the highest concentrations of contaminants are in the southern one-third of the property at depths of approximately 7, 10 to 14, and 19 feet below the ground surface (bgs). It further states that there is a general decline in concentrations from 19 to 25 feet bgs and that a continuous basal clay bed exists at 23 to 25 feet bgs. Assessment activities have not yet been performed significantly into the basal clay to determine its thickness. In addition, assessment has not been performed below the basal clay to determine if groundwater beneath it has been impacted by contaminants.

Indoor Vapor Intrusion

An indoor air quality (IAQ) survey was performed at the Site in February 2007 which was documented in *Indoor Air Survey, Onsite Building, Former Western Chemical Facility*, dated

April 2007, which was prepared by Dr. C.E. Schmidt and Ms. Teri L. Copeland. This work proceeded after verbal approvals from Regional Board staff were granted to implement the work described in *Workplan for Onsite Indoor Air Survey, Onsite Building, Former Western Chemical Facility*, dated February 2007, prepared by Dr. C.E. Schmidt, Ph.D. and Teri L. Copeland, D.A.B.T. Results for the initial IAQ report and subsequent surveys (2008 and 2009) indicate the following maximum concentrations, along with most current concentrations (2009) of 21 VOCs that were detected in at least one sample in ambient indoor air above their respective reporting limits:

Table 5

Contaminant	Revised Maximum Concentrations Detected, Onsite Ambient Air ($\mu g/m^3$)	Maximum Concentrations Detected, Onsite Ambient Air-July 2009 ($\mu g/m^3$)	Indoor Air Commercial/ Industrial Land Use CHHSL[1] ($\mu g/m^3$)	USEPA RSL[2] Industrial Air ($\mu g/m^3$)
Acetone	330	230	---	140,000
Benzene	**11.84**	**3**	**0.141**	**1.6**
2-Butanone	12	6.2 J	---	22,000
Chloromethane	5.2	5.2 J	---	390
1,2-DCA	**0.44 J**	**<3**	**0.195**	0.47
Dichloromethane (Methylene Chloride)	**1,500**	**140**	**---**	**26**
1,4-Dioxane	**0.76 (0.88J)**	<54	**---**	**1.6**
Ethylbenzene	10.97	5.2	---	4.9
4-Ethyltoluene	11.41	7.2	---	---
Hexane	14.53	6 J	---	---
1,1,2,2-Tetrachloroethane	**0.9J**	<10	**---**	**0.21**
PCE	**34.93**	<5.1	**0.693**	**2.1**
THF	5.79	1.3 J	---	---
Toluene	66.14	34	438	22,000
TCE	**46**	**22**	**2.04**	**6.1**
1,2,4-Trimethylbenzene	20	20	---	31
1,3,5-Trimethylbenzene	7.6	7.6	---	26
1,1,2-TCA	**2.65J**	<4.1	**---**	**0.77**
Vinyl Chloride	**1.69J**	<1.9	**0.0524**	**2.8**
m-& p-Xylene	35.84	19	1,020	3,100
o-Xylene	12.41	7.1		

[1] CHHSL = California Human Health Screening Levels
[2] RSL = Regional Screening Levels published by USEPA, April 2009
J Estimated value above the method detection limit, but below the reporting limit.
--- No value is available.
Detected values that exceed CHSSLs or RSLs are in bold.

Of the VOCs detected during the IAQ, three were contaminants detected within a shallow soil vapor extraction (SVE) system [a.k.a. "Slab Isolation System" (SIS)] currently operated beneath the building slab to reduce indoor vapor intrusion of contaminants from the subsurface. The three contaminants were PCE, TCE, and dichloromethane (methylene chloride). Of these, neither PCE nor TCE were used within the building on the date the IAQ

surveys were performed. As a result, the report concluded that "the detection of PCE and TCE, both of which were present in the subsurface at elevated concentrations, in indoor air at concentrations higher than outdoor air qualitatively supports the potential of a subsurface, vapor intrusion pathway at the site."

Two more-recent indoor air quality surveys were performed at the Site which indicated a generally downward trend in the concentrations of VOCs present in ambient indoor breathing space at the Site. These results are documented in two reports written by JPR Technical Services, Inc., *Engineering Controls Evaluation, Former Western Chemical Facility* (dated October 30, 2008); and *Semi-Annual Indoor Air Sampling, Former Western Chemical Facility* (dated September 25, 2009).

Table 6 lists additional contaminants that have been detected at least once, detected infrequently, and are not included in Table 5. Those contaminants that were also detected along with their maximum concentrations and detection frequency are as follows:

Table 6

Contaminant	Maximum Concentration Detected ($\mu g/m^3$)	Detection Frequency (detections / analyses completed)	Date Sampled	Sample Identification
1,1,2-Trichloro-1,2,2-Trifluoroethane	1.18 J	1 / 30	2/7/2007	AAI-06-01
1,1-Dichloroethene	2.76 J	4 / 30	2/7/2007	AAI-06-01
1,2-Dichlorobenzene	1.76 J	1 / 30	2/8/2007	AAI-05-02
1,3-Dichlorobenzene	0.79 J	3 / 30	2/7/2007	AAI-04-01
1,4-Dichlorobenzene	2.25 J	4 / 30	2/8/2007	AAI-05-02
Benzyl Chloride	15 J	6 / 18	7/16/2009	AAI-03-1
Chlorobenzene	0.5 J	1 / 30	2/8/2007	AAI-05-2
Chloroethane	1.19 J	6/ 30	2/7/2007	AAI-05-2
Chloromethane	5.2 J	28 / 30	7/16/2009	AAI-03-1
Dichlorodifluoromethane	6.3	17 / 30	7/16/2009	AAI-06-1
Ethanol	81	18 / 18	8/14/2008	AAI-06-1
Ethyl Acetate	9.4 J	2 / 18	8/15/2008	AAI-06-2
4-Methyl-2-pentanone	1.09 J	8 / 30	2/8/2007	AAI-05-2
Styrene	3.13 J	5 / 30	2/8/2007	AAI-02-2
Trichlorofluoromethane	2.26 J	12 / 30	2/7/2007	AAI-06-1
Vinyl Acetate	94	15 / 18	7/16/2009	AAI-05-1

J Estimated value above the method detection limit, but below the reporting limit.

A slab isolation system (SIS) is currently being operated at the Site. The SIS is a vapor extraction system that is connected to wells with shallow screen intervals within the vadose zone and directly beneath the Site's building foundation. The SIS is designed and operated to reduce indoor vapor intrusion from the subsurface. Based upon results presented in the *Quarterly Monitoring Report, Third Quarter 2009, Former Western Chemical Facility*, dated October 15, 2009, prepared by JPR Technical Services, Inc., 27 contaminants were reported in soil gas vapor samples collected at the influent of the SIS. These samples represent composite values of influent concentrations from multiple wells connected to the SIS. Table

7 presents the maximum and most current concentrations of the 27 contaminants that were detected since the SIS began operating in 2005:

Table 7

Contaminant	Maximum Concentration Detected ($\mu g/L$)	Maximum Concentration Detected ($\mu g/m^3$)	Maximum Concentration Detected-3rd Qtr 2009 ($\mu g/L$)	Maximum Concentration Detected-3rd Qtr 2009 ($\mu g/m^3$)	Shallow Soil Gas Commercial/ Industrial Land Use CHHSL[1] ($\mu g/m^3$)
Acetone	32	32,000	5.9	5,900	---
Benzene	**2.6**	**2,600**	**0.19J**	**190J**	**122**
2-Butanone	1.1J	1,100J	0.25J	250J	---
Carbon Disulfide	19	19,000	2	2,000	---
Carbon Tetrachloride	**0.16**	**160**	0.025J	25J	**84.6**
Chloroform	4.5	4,500	0.041	41	---
1,1-DCA	11	11,000	1.40	1,400	---
1,1-DCE	400	400,000	12	12,000	---
1,2-DCA	**8.8**	**8,800**	**0.2J**	**200J**	**167**
cis 1,2-DCE	4.7	4,700	4.7	4,700	44,400
trans 1,2-Dichloroethene (trans 1,2 – DCE)	2.5	2,500	0.013J	13J	88,700
1,4-Dioxane	7.6	7,600	<0.58	<580	---
Ethylbenzene	0.54	540	0.037	37	---
4-Ethyl-toluene	0.06	60	<0.039	<39	---
MTBE	10	10,000	<0.12	<120	13,400
Methylene Chloride (Dichloromethane)	140	140,000	1.1J	1,100J	---
PCE	**7,100**	**7,100,000**	**180**	**180,000**	**603**
THF	3.2	3,200	<0.047	<47	---
Toluene	10	10,000	1.40	1,400	378,000
1,1,1-TCA	1,200	1,200,000	50	50,000	2,790,000
1,1,2-TCA	6.6	6,600	0.28J	280J	---
TCE	**4,400**	**4,400,000**	**150**	**150,000**	**1,770**
TCFM	0.32	320	0.035J	35J	---
1.1.2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	230	230,000	8.6	8,600	---
1,2,4-Trimethylbenzene	0.64J	640J	<0.079	<79	---
Vinyl Chloride	**2.2**	**2,200**	**2.2**	**2,200**	**44.8**
o-Xylene	0.53	530	0.19	190	879,000
p/m –Xylene	1.7	1,700	0.074	74	887,000

[1] CHHSL = California Human Health Screening Levels
J Estimated value above the method detection limit, but below the reporting limit.
--- No value is available.
Detected values that exceed CHSSLs are in bold.

Table 8 lists additional contaminants that have been detected at least once, detected infrequently, and are not included in Table 7. Those contaminants that were also detected along with their maximum concentrations and detection frequency are as follows:

Table 8

Contaminant	Maximum Concentration Detected ($\mu g/m^3$)	Detection Frequency (detections / analyses completed)	Date Sampled	Sample Identification
1,2,4-Trichlorobenzene	870 J	1 / 47	12/26/2006	SIS Influent
1,3,5-Trimethylbenzene	33 J	4 / 47	8/16/2007	SIS Influent
4-Methyl-2-Pentanone	5.1 J	2 / 47	4/23/2009	SIS Influent
Bromodichloromethane	1.400	1 / 47	8/26/2006	SIS Influent
Chlorobenzene	5.6	1 / 47	6/18/2009	SIS Influent
Chloroethane	4.2	1/ 47	6/18/2009	SIS Influent
Chloromethane	1.1 J	1/ 47	6/18/2009	SIS Influent
Cyclohexane	280	4 / 4	6/20/2007	SIS Influent
Dichlorodifluoromethane	5.5	1 / 47	6/18/2009	SIS Influent
Ethanol	2,500	5 / 9	3/13 2009	SIS Influent
Ethyl Acetate	29 J	1 / 6	6/18/2009	SIS Influent
Ethylbenzene	540	10 / 47	1/28/2009	SIS Influent
Heptane	200 J	3 / 4	6/20/2007	SIS Influent
Hexachloro-1,3-Butadiene	5,000	3 / 47	12/26/2006	SIS Influent
Hexane	400 J	4 / 8	5/21/2009	SIS Influent
Isopropanol	210	1 / 4	9/26/2007	SIS Influent
Styrene	960 J	10 / 47	7/24/2007	SIS Influent
Tert-Butyl-Alcohol	930	3 / 9	1/28/2009	SIS Influent
Trichlorofluoromethane	320	11 / 47	6/20/2007	SIS Influent
Vinyl Acetate	53	1 / 47	9/29/2006	SIS Influent

J Estimated value above the method detection limit, but below the reporting limit.

Soil Vapor Remediation

Except for the operation of the SIS, remediation efforts have not been implemented. The impact of the SIS is limited to the approximate footprint of the Site building within the shallow vadose zone beneath the Site.

9. **Regulatory Status:** Prior to issuance of this Cleanup and Abatement Order (CAO), there were two active Orders associated with this Site, dated September 3, 2008, and September 11, 2008. In addition, modifications to these orders were made in correspondence dated between November 13, 2008, and July 7, 2010. These Orders with modifications required investigation reports, an evaluation of engineering controls, indoor air sampling work plans and reports, work plans and reports for the assessment of soil, groundwater, and soil vapor, work plans and reports for the installation of additional groundwater monitoring wells, and electronic submittals of data to the GeoTracker geographic information system. There have been no documented regulatory violations associated with these Orders.

10. **Sources of Information:** The sources for the evidence summarized above include but are not limited to: reports and other documentation in Regional Board files, telephone calls and e-mail communication between responsible party attorneys and consultants, and Site visits.

CONCLUSIONS

11. **Pollution of Waters of the State:** The Dischargers have caused or permitted, or threatens to cause or permit, waste to be discharged where it is or probably will be discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance.

12. Regional Board staff will consider cleanup goals in accordance with the following State Policies:

    a. *"Antidegradation Policy"* (State Board Resolution No 68-16) which requires attainment of background levels of water quality, or the highest level of water quality that is reasonable in the event that background levels cannot be restored. Cleanup levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of water, and not result in an exceedance of water quality objectives in the Basin Plan.

    b. *"Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304"* (State Board Resolution No. 92-49) which sets forth criteria to consider for those cases of pollution wherein restoration of water quality to background levels may not be reasonable.

13. Pursuant to section 13304 of the California Water Code, the Regional Board may seek reimbursement for all reasonable costs to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action.

14. This action is being taken for the protection of the environment and as such is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, section 21000 et seq.) in accordance with California Code of Regulations, title 14, section 15308.

THEREFORE, IT IS HEREBY ORDERED, pursuant to section 13304 of the California Water Code, that Dischargers shall cleanup and abate waste emanating from 14650 Firestone Boulevard, La Mirada, California in accordance with the following requirements:

1. **Develop and Update a Site Conceptual Model:** The Site Conceptual Model (SCM) should include a written presentation with graphic illustrations of the release scenario and the dynamic distribution of wastes from the Site and vicinity. The SCM shall be constructed based upon actual data collected from the Site and any other nearby sites that add to the accuracy of the SCM.

    a. The SCM shall be updated as new information becomes available. Updates to the SCM should be included in all future technical reports submitted.

2. **Complete Delineation of Contamination:** Completely delineate the extent of soil, soil vapor, and groundwater contamination caused by the release of VOCs and any other contaminants of concern from the Site.

    a. The delineation shall be completed both vertically and laterally. Groundwater and soil assessment for shallow zones (above the "basal clay") has been ongoing under Regional Board-approved work plans.

        i. After sufficient interim remedial action has occurred in the shallow zone (see Item #3

such that the potential for downward migration of contaminants would be minimized, the deeper zones shall be delineated to determine the extent of contamination into these zones, if any.

b. If ongoing reinterpretation of new assessment data derived from the tasks performed suggest that modification or expansion of the tasks proposed in the Work Plan is necessary for complete assessment, one or more Work Plan addendums shall be submitted to the Regional Board to provide for full assessment.

3. **Conduct Remedial Action:** Initiate a phased cleanup and abatement program with the cleanup of any remaining soil, soil vapor, and groundwater contamination and the abatement of threatened beneficial uses of water and pollution sources as highest priority. Specifically, you shall:

a. Perform interim remedial action to remediate the vadose zone and shallow aquifer onsite and near the site where the highest concentrations of contaminants are detected.

b. Develop a comprehensive Remedial Action Plan (RAP) for all remaining shallow-zone contamination originating from the Site and submit it for Regional Board review and approval. The RAP shall include, at a minimum:

i. A program for preventing the continuing spread of existing contaminant plumes in groundwater;

ii. Proposed cleanup goals with a protocol and schedule to reach them. The cleanup goals shall be based on:

1. Soil cleanup levels set forth in the Regional Board's *Interim Site Assessment and Cleanup Guidebook, May 1996.*
2. Human health protection levels set forth in the current *USEPA Soil Screening Levels*.
3. Protection from vapor intrusion and protection of indoor air quality based on the California Environmental Protection Agency's January 2005 (or later version) *Use of Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties*. Soil vapor sampling requirements are stated in the Department of Toxic Substances Control (DTSC) and Regional Board January 2003 *Advisory – Active Soil Gas Investigations,* and the DTSC February 2005 (or latest version) *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*.
4. Groundwater cleanup goals shall consider California's MCLs, Notification Levels for drinking water as established by the State Department of Public Health, Ocean Plan, or the California Toxic Rules, affected water resources, and current and anticipated future land uses.

iii. Submit quarterly remediation progress reports to this Regional Board. The quarterly remediation progress reports shall document all performance data associated with operating systems. Remediation progress reports shall be submitted according the following schedule:

Monitoring Quarter	Monitoring Period	Report Due Date
First Quarter	January – March	April 15
Second Quarter	April – June	July 15
Third Quarter	July – September	October 15
Fourth Quarter	October – December	January 15

c. Develop a comprehensive RAP for deeper-zone contamination originating from the Site, if future assessment indicates that this is necessary, and submit it for Regional Board review and approval. The RAP shall include the same minimum requirements specified in Item 3b.

4. **Conduct Groundwater Monitoring:** Continue the existing quarterly groundwater monitoring program.

   a. New wells shall be installed in order to complete the groundwater monitoring well network. The intention of these wells is to monitor plume movement and to evaluate remediation progress. Submit proposed well location and construction specifications for Regional Board consideration.

   b. As new wells are installed they are to be incorporated into the groundwater monitoring program. The quarterly groundwater monitoring reports shall be submitted according to the following schedule with the next report due by **October 15, 2010**.

Monitoring Quarter	Monitoring Period	Report Due Date
First Quarter	January – March	April 15
Second Quarter	April – June	July 15
Third Quarter	July – September	October 15
Fourth Quarter	October – December	January 15

5. **Involvement of the Public:** Encourage public participation. Prepare and submit for review a *Public Participation Plan*, with the goal of providing the stakeholders with:

   a. Information, appropriately targeted to the literacy and translational needs of the community, about contamination investigation and remedial activities; and

   b. Periodic, meaningful opportunities to comment upon and to influence investigation and cleanup activities.

   Public participation activities shall coincide with key decision-making points throughout the process as specified or as directed by the Executive Officer.

6. **Time Schedule:** The Dischargers shall submit all required work plans and reports within the time schedule listed in Attachment B attached hereto and incorporated herein by reference.

7. The Regional Board's authorized representative(s) shall be allowed:

   a. Entry upon premises where a regulated facility or activity is located, conducted, or where records are stored, under the conditions of this CAO;
   b. Access to copy any records that are stored under the conditions of this CAO;

c. Access to inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this CAO; and
d. The right to photograph, sample, and monitor the Site for the purpose of ensuring compliance with this CAO, or as otherwise authorized by the California Water Code.

8. **Contractor/Consultant Qualification:** A California licensed professional civil engineer or geologist, or a certified engineering geologist or hydrogeologist shall conduct or direct the subsurface investigation and cleanup program. All technical documents shall be signed by and stamped with the seal of the above-mentioned qualified professionals that reflects a license expiration date.

9. This CAO is not intended to permit or allow the Dischargers to cease any work required by any other CAO issued by the Regional Board, nor shall it be used as a reason to stop or redirect any investigation or cleanup or remediation programs ordered by the Regional Board or any other agency. Furthermore, this CAO does not exempt the Dischargers from compliance with any other laws, regulations, or ordinances which may be applicable, nor does it legalize these waste treatment and disposal facilities, and it leaves unaffected any further restrictions on those facilities which may be contained in other statutes or required by other agencies.

10. The Dischargers shall submit 30-day advance notice to the Regional Board of any planned changes in name, ownership, or control of the Site and shall provide 30-day advance notice of any planned physical changes to the Site that may affect compliance with this CAO. In the event of a change in ownership or operator, the Dischargers also shall provide 30-day advance notice, by letter, to the succeeding owner/operator of the existence of this CAO, and shall submit a copy of this advance notice to the Regional Board.

11. Abandonment of any groundwater well(s) at the Site must be approved by and reported to the Executive Officer at least 30 days in advance. Any groundwater wells removed must be replaced within a reasonable time, at a location approved by the Executive Officer. With written justification, the Executive Officer may approve of the abandonment of groundwater wells without replacement. When a well is removed, all work shall be completed in accordance with California Department of Water Resources Bulletin 74-90, "California Well Standards," Monitoring Well Standards Chapter, Part III, Sections 16-19.

12. The Regional Board, through its Executive Officer, may revise this CAO as additional information becomes available. Upon request by the Dischargers, and for good cause shown, the Executive Officer may defer, delete or extend the date of compliance for any action required of the Dischargers under this CAO. The authority of the Regional Board, as contained in the California Water Code, to order investigation and cleanup, in addition to that described herein, is in no way limited by this CAO.

13. Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

14. Failure to comply with the terms or conditions of this CAO may result in imposition of civil liabilities, imposed either administratively by the Regional Board or judicially by the Superior Court in accordance with sections 13304, 13308, and/or 13350 of the California Water Code, and/or referral to the Attorney General of the State of California.

15. None of the obligations imposed by this CAO on the Dischargers are intended to constitute a debt, damage claim, penalty or other civil action which should be limited or discharged in a bankruptcy proceeding. All obligations are imposed pursuant to the police powers of the State of California intended to protect the public health, safety, welfare, and environment.

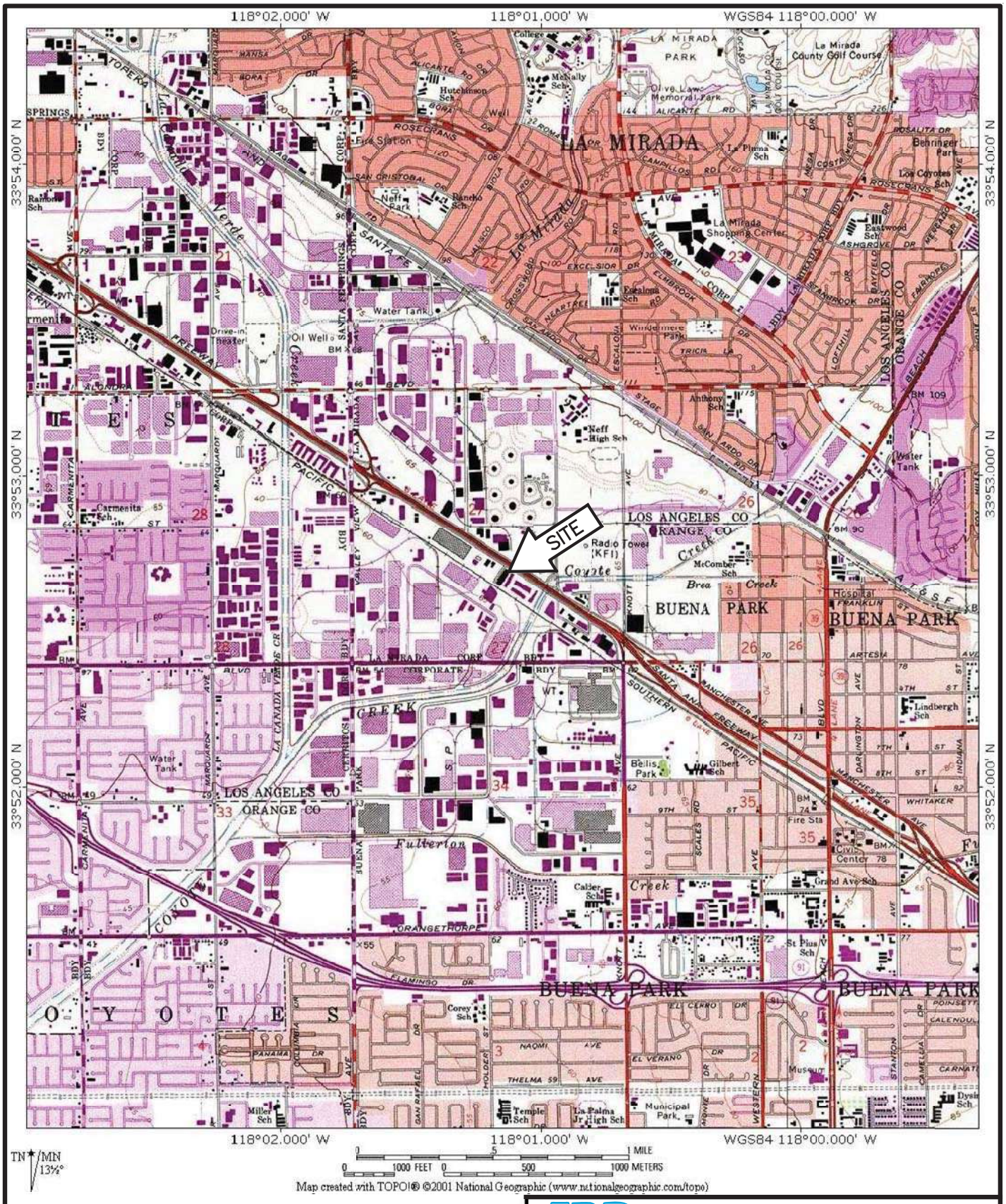
Ordered by: _____ Date: July 30, 2010

Ken Harris
Acting Assistant Executive Officer

Attachment A (Maps)

FIGURE 1: SITE LOCATION MAP

FIGURE 2: SITE VICINITY MAP

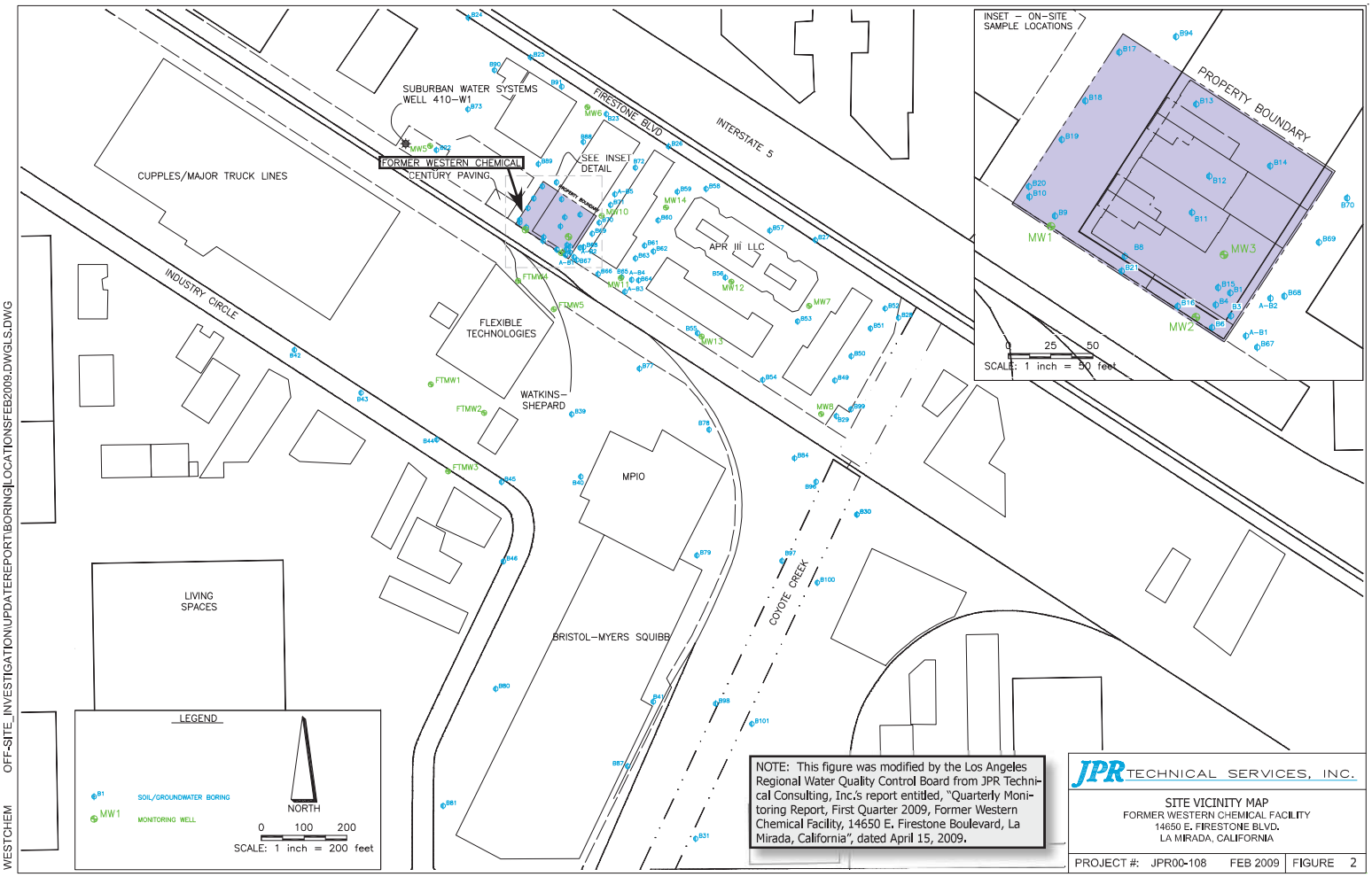


NOTE: This figure was modified by the Los Angeles Regional Water Quality Control Board from JPR Technical Consulting, Inc.'s report entitled, "Quarterly Monitoring Report, First Quarter 2009, Former Western Chemical Facility, 14650 E. Firestone Boulevard, La Mirada, California", dated April 15, 2009.

JPR TECHNICAL SERVICES, INC.

SITE LOCATION MAP
FORMER WESTERN CHEMICAL FACILITY
14650 E. FIRESTONE BLVD.
LA MIRADA, CALIFONRIA

PROJECT #: JPR00-108 | FIGURE 1



NOTE: This figure was modified by the Los Angeles Regional Water Quality Control Board from JPR Technical Consulting, Inc.'s report entitled, "Quarterly Monitoring Report, First Quarter 2009, Former Western Chemical Facility, 14650 E. Firestone Boulevard, La Mirada, California", dated April 15, 2009.

JPR TECHNICAL SERVICES, INC.

SITE VICINITY MAP
FORMER WESTERN CHEMICAL FACILITY
14650 E. FIRESTONE BLVD.
LA MIRADA, CALIFORNIA

PROJECT #: JPR00-108 | FEB 2009 | FIGURE 2

WESTCHEM OFF-SITE_INVESTIGATION\UPDATEREPORT\BORING\LOCATIONSFEB2009.DWG|LS.DWG

Attachment B: Time Schedule

	Directive	Due Date
1	**Develop and Update a Site Conceptual Model:** Provide updates to the existing Site Conceptual Model in all future technical reports. Updates shall be complete, stand-alone Site Conceptual Models, as opposed to addendums.	**Required in all future technical reports**

	Directive	Due Date
2	**Complete Delineation of Contamination**	
2a	Delineation of the shallow-zone (above the "basal clay") shall be completed. A report documenting the full extent of VOCs within the shallow-zone soil, soil vapor, and groundwater shall be submitted to this Regional Board.	**January 20, 2011**
2ai	Delineation of deeper zones (below the "basal clay"). Work plans and reports associated with deeper zone assessment will be required following remediation of the shallow zone.	**To Be Determined by the Regional Board**
2b	Work Plan Addendums: Iterative additional assessment work plans and associated reports may be needed if near-term assessment work does not accomplish full delineation of the shallow zone. The Regional Board will consider designating new due dates if additional work is needed.	**To Be Determined by the Regional Board**

	Directive	Due Date
3	**Conduct Remedial Action**	
3a	Submit the final plan for elements of the interim remedial action plan or an alternative interim approach for review by this Regional Board.	**September 10, 2010**
3b	Develop and submit a full-scale shallow-zone Remedial Action Plan.	**January 31, 2011**
3c	Submit a deeper zone Remedial Action Plan, if necessary, following deeper zone assessment.	**To Be Determined by the Regional Board**

	Directive	Due Date
4	**Conduct Groundwater Monitoring**	
4a	Complete installation of offsite groundwater monitoring wells.	Proposed well locations and specifications are due by **August 31, 2010** All shallow-zone groundwater monitoring wells shall be installed by **December 15, 2010**
4b	Groundwater Monitoring Reports <u>Monitoring Period</u> January to March April to June July to September October to December	Quarterly each year The first report due under this CAO is due **October 15, 2010** <u>Report Due Date</u> **April 15th** **July 15th** **October 15th** **January 15th**

	Directive	Due Date
5	**Involvement of the Public:** Prepare and submit a *Public Participation Plan* for Regional Board review.	**October 29, 2010**

GSI Environmental Inc. on behalf of the City of Torrance (GSI)

GSI Project No. 4835

11 January 2021

Mr. Hugh Marley
Assistant Executive Officer
Los Angeles Regional Water Quality Control Board
Site Cleanup Program Unit IV
320 West 4th Street, Suite 200
Los Angeles, CA 90013
hugh.marley@waterboards.ca.gov

Re: **City of Torrance Technical Comments to LARWQCB Draft Cleanup and Abatement Order No. R4-20XX-XXXX**
Skypark Commercial Properties (portion of Assessor Parcel No. 7377-006-906)
24701 – 24777 Crenshaw Boulevard and 2530, 2540, and 2600 Skypark Drive
Torrance, California (SCP NO. 1499)

Dear Mr. Marley:

On behalf of the City of Torrance (City), GSI Environmental Inc. (GSI) has prepared these comments to the draft Cleanup and Abatement Order (draft CAO) prepared by the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board), and transmitted to the City of Torrance in a letter dated 30 November 2020. The Los Angeles Water Board draft CAO directs asserted responsible parties associated with the Skypark Commercial Properties located at 24701 to 24777 Crenshaw Boulevard and 2530, 2540, and 2600 Skypark Drive, Torrance, California (the Site) to "assess, monitor, and cleanup waste and abate the effects of discharges of wastes," at the Skypark Commercial Properties.

The Skypark Commercial Properties are comprised of two sets of parcels, which are referred to in the draft CAO as the Hi-Shear Corporation (Hi-Shear) Property and the East Adjacent Properties (EA Properties), as follows:

- The Hi-Shear Property is identified with the property address of 2600 Skypark Drive, Torrance, CA, and has been leased by H-Shear and its corporate successor (LISI Aerospace) since 1954 for the manufacture, production, assembly, and cleaning of fasteners for the aerospace industry. Hi-Shear and its corporate successors are collectively referred to herein as "Hi-Shear."
- The commercial properties located east of the Hi-Shear Property are referred to as the EA Properties. The EA Properties are further subdivided into the following three properties:
    - EA Property 1 is identified with the property addresses of 24751 and 24777 Crenshaw Boulevard, Torrance, CA, and is currently occupied by South Bay Lexus (vehicle dealership);
    - EA Property 2 is identified with the property addresses of 24707, 24747 and 24701 Crenshaw Boulevard, Torrance, CA, and is currently occupied by Dasco Engineering Corporation (manufacturer of precision mechanical aircraft and space components); and

- EA Property 3 is identified with the property addresses of 2530 and 2540 Skypark Drive, Torrance, CA, and is currently occupied by Robinson Helicopter.

E.1 The draft CAO appears to be designed to generally address historical releases of volatile organic compounds (VOCs), most notably tetrachloroethene (PCE) and trichloroethene (TCE), but provides no description of the predominant VOC source areas, namely on the Hi-Shear Property, and provides no description of the historical Hi-Shear operations that resulted in the principal discharges of the VOCs of concern. In summary, as currently written, the draft CAO does not describe known source areas where releases of PCE and TCE occurred on the Hi-Shear Property; does not describe the historical operations conducted on the Hi-Shear Property that resulted in these releases; does not discuss the substantial data that had been generated on the Hi-Shear Property from prior environmental investigations dating back to 1991; and does not set forth any particular requirements directed at the Hi-Shear Property for the complete assessment and remediation of these known source areas. The draft CAO should therefore be revised to be consistent with State Board Resolution No. 92-49, and past Los Angeles Water Board CAOs at other sites throughout the Los Angeles Region, to focus on the known source areas or "hot spots" of the VOCs, and to direct particular remediation efforts at these known source areas.

E.2 Additional assessment at the downgradient portions of the Site (i.e., EA Properties) may be performed in parallel with the remediation of the "hot spot" areas on the Hi-Shear Property, and any final CAO that is issued at this time, may be subsequently revised to incorporate additional release areas identified from additional assessment work. However, the lack of any mention or direction in the draft CAO for immediate remediation of the known "hot spot" areas on the Hi-Shear Property will only result in significant additional delay in cleaning up the overall contamination to be addressed, and correspondingly, will allow unnecessary continued migration of PCE and TCE from the Hi-Shear Property, all to the detriment of the health and safety of the public and the environment.

The following are specific proposed comments to the identified sections of the draft CAO.

CAO Section – Site History

The Los Angeles Water Board provides limited information in this section regarding the Site activities involving Constituents of Concern. For the Hi-Shear Property, the draft CAO indicates "Wastes generated as part of the activities contained COCs, including TCE and PCE, perchlorate, 1,4-dioxane, metals, and total petroleum hydrocarbons." CAO's, including this draft CAO, in its discussion of identified responsible parties, should include specific information regarding the source areas where releases to soil, groundwater, and soil vapor are known to have occurred.

GSI had previously summarized the site characterization data identifying various release areas of PCE and TCE on the Hi-Shear Property, in a Technical Memorandum, dated 9 June 2020, as well as in a Power Point presentation provided to the Los Angeles Water Board in a virtual conference call on 12 August 2020. (Both documents have previously been provided to the Los Angeles Water Board and are included in Attachment A.[1]) None of the specific information regarding the Hi-Shear operations, nor the substantial TCE and PCE contamination discovered on the Hi-Shear Property from these operations, is discussed, however, in the draft CAO.

As described in the attached GSI Technical Memorandum and Power Point presentation, several historical features located at the Hi-Shear Property have provided pathways for releases of TCE and PCE to the subsurface and, correspondingly, the groundwater:

[1] On behalf of Hi-Shear, Hi-Shear's lawyers, Hamrick & Evans, responded and provided comments to GSI's 9 June 2020 technical memorandum in a letter dated 12 November 2020. GSI responded to the Hi-Shear's Hamrick & Evans' letter, which was provided to the Los Angeles Water Board on 8 January 2021, and is included herein as Attachment A.

- 18 underground storage tanks (USTs), including clarifiers, in-ground plating pits, and plating sumps, all utilized in the Hi-Shear operations;
- Sewer lines – historical records describe the detection of TCE and PCE in discharge to the sewer system and the degradation of the sewer system due to Hi-Shear waste discharge; and
- A drywell located and presumably previously utilized by Hi-Shear on the Hi-Shear Property.

The list of equipment that has been operated by Hi-Shear under numerous SCAQMD permits for one or more years between 1968 and the present, includes the following (listings verbatim from SCAQMD records):

- SPRAY BOOTH PAINT AND SOLVENT
- DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)
- SCRUBBER, OTHER VENTING S.S.
- DEGREASER PERCHLOROETHYLENE (>1LB VOC/D)
- STORAGE TANK TRICHLOROETHYLENE
- CHLORINE TREATING
- COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
- SOLV RECLAIM (1 STAGE) METHYLENE CHLORID
- STORAGE TANK FUEL OIL
- PLAN RULE 1166 (CONTAMINATED SOIL HAND.)
- I C E (50-500 HP) EM ELEC GEN-DIESEL
- I C E (50-500 HP) EM FIRE FGHT-DIESEL
- WASTE WATER EVAPORATION
- AFTERBURNER, DIRECT FLAME
- WASTE WATER TREATING (>50000 GAL/DAY)
- TANK, CADMIUM - PLATING
- TANK, SURFACE PREPARATION - OTHER ACIDS
- SOIL TREAT VAPOR EXTRACT OTHER VOC UNDER
- TANK, NITRIC ACID
- TANK, OTHER AQUEOUS SOLUTION
- SCRUBBER, PARTICULATES VENTING S.S.
- SCRUBBER, PARTICULATES VENTING M.S>
- TANK, SULFURIC/PHOSPHORIC ACID - ANODIZING
- SOLV RECLAIM STILL (1 STAGE) HYDROCARB
- DIP TANK COATING WAX
- DIP TANK COATING MISC
- OVEN, COOKING OR CURING
- SPRAY MACHINE - COATING

- SPRAY BOOTH(S) (1 - 5) W/ AFTERBURNER
- SOIL TREAT VAPOR EXTRACT GASOLINE UNDER
- SCRUBBER, OTHER VENTING M.S.
- SPRAY BOOTHS (>5) WITH AFTERBURNER
- SURFACE PREP TANK CONT. CHROMIC ACID
- SCRUBBER, TOXICS VENTING
- SOLVENTS MISC STRIPPING
- WASTE WATER TREATING (20000-50000 GAL/D)

A permit is listed in SCAQMD records as Permit Number P66723 dated 6 April 1976 for "Degreaser Perchloroethylene (<1LB VOC/D)." The permit listing establishes that Hi-Shear conducted a PCE degreasing operation on the Hi-Shear Property, in addition to Hi-Shear's use of various TCE storage tanks. Inexplicitly, in the draft CAO, the Los Angeles Water Board references degreasers identified as being used on EA Property 1, but does not identify or summarize any of the degreasers or other numerous pertinent historical site features for the Hi-Shear Property. The absence of a summary of historical site features and equipment where chemicals were historically used and handled on the Hi-Shear Property, is a material deficiency in the draft CAO, as, pursuant to California State Water Board Resolution No. 92-49, this historical information must be discussed in the draft CAO, and from an environmental consultant's standard of care perspective, must be incorporated into the overall conceptual site model and must be considered in the selection of site remediation activities.

E.3

CAO Section – Evidence of Waste Discharge and Basis for Section 13304 Order

TCE and PCE were detected in soil samples collected at the Hi-Shear Property in 1990 as part of an investigation following the removal of a waste oil UST, yet the draft CAO begins its history of environmental investigations of the Hi-Shear Property in 2016. Subsequent to 1990, various investigations identified the presence of dense nonaqueous phase liquid (DNAPL) beneath the Hi-Shear Property, and indicated that TCE in groundwater associated with sources at the Hi-Shear Property was migrating east towards the EA Properties and towards residential properties located east of Crenshaw.

Soil sampling at the Hi-Shear Property identified eight areas of potential concern (AOPCs) for releases of total petroleum hydrocarbons (TPH), TCE and PCE. Both TCE and PCE were detected in soil samples collected at five of the eight AOPCs. Hi-Shear's soil and groundwater investigations have identified significant TCE and PCE source areas on the Hi-Shear Property, substantial concentrations of TCE and PCE in groundwater beneath the Hi-Shear Property, and the existence of a groundwater plume migrating from the Hi-Shear Property east, to the EA Properties.

The draft CAO omits 26 years of reports and relevant information on the history of environmental investigations and groundwater monitoring. The relevant environmental investigation, and monitoring reports are available on the Los Angeles Water Board GeoTracker Website. Attachment B presents a summary of the 59 site assessment and investigation reports and 47 groundwater monitoring reports, available on the State Water Resources Control Board's GeoTracker Website prior to the 9 September 2016 Interim Offsite Assessment Report (IOAR) included in Section 4.a. of the draft CAO.

Regarding the glaring lack of data referenced in the draft CAO on the Hi-Shear Property, at a minimum, the draft CAO should be revised to include certain key environmental reports and the associated findings available for the Hi-Shear Property, summarized as follows:

- 3 May 1991, Hygienetics, Inc., (Hygienetics), Phase I Environmental Site Assessment (ESA) Report. The Hygienetics ESA was prepared for the Hi-Shear Property on behalf of Chemical Bank. The report:
    - Described the use and storage of chlorinated solvents, including the use of degreasers, at Heat Treat Building #2 and Plating/Parts Cleaning Building #5, and included a site plan showing a large facility with significant manufacturing operations and identified 18 USTs, including two plating pits with capacity of 50,000 and 75,000 gallons.
    - Included the construction details for a dry-well at Building #3.
    - Documented that Hi-Shear acknowledged that discharges to the sewer by Hi-Shear degraded the main sewer line on Skypark Drive.
- 15 May 1991, Camp, Dresser & McKee, Inc. (CDM), Report of Subsurface Soil Investigation at the Hi-Shear Torrance Facility. Following the removal of a waste oil UST at the "oil yard," soil contamination was identified and the CDM report described the results of soil sampling at four borings at the location of the former waste oil UST. These initial soil sampling results indicated that a significant TCE and PCE release had occurred at the Hi-Shear Property.
    - TCE was detected in all eight soil samples at concentrations ranging from 5,400 micrograms per kilogram (µg/kg) (HS1 at 61.5 feet bgs) to 5,500,000 µg/kg (HS3 at 50.0 feet bgs).
    - PCE was detected in all eight soil samples at concentrations ranging from 1,700 µg/kg (HS1 at 61.5 feet bgs) to 1,600,000 µg/kg (HS3 at 50.0 feet bgs).

E.4

- 21 September 2001, BBL Environmental Services, Inc., (BBL), Deep Soils and Groundwater Investigation Progress Report. The BBL report presented the following figures showing the nature and extent of TCE contamination (Attachment C):
    - TCE concentration contours in groundwater with the area of TCE-impact groundwater extending from sources at the Hi-Shear Property to areas East of Crenshaw; and.
    - TCE migration model that identified DNAPL at a perched water table and clay layer beneath the Hi-Shear Property and a "Dissolved TCE Plume" extending to MW-8 (located at EA Property 3) and beyond.
- 15 March 2010, Winefield & Associates, Inc., (W&A), Site Conceptual Model (SCM) Report. The SCM Report identified eight separate AOPCs for the release of VOCs to the subsurface and provided a summary of soil sampling data collected at these AOPCs. The SCM Report presented:
    - A figure depicting the estimated aerial extent of AOPCs 1 through 8;
    - A Conceptual Exposure Model identifying COPC sources, exposure pathways, and associated receptors at the Hi-Shear Property;
    - Fence diagrams (cross section) depicting soil lithology to approximately 110 feet below grade that identify in yellow-colored shading the "Estimated Extent of VOCs in Soil," which is depicted to impact shallow to deeper soils below the depth to groundwater at approximately 90 feet below grade, depicts impacting "Perched

Groundwater" and silt and clay soils at approximately 55 to 60 feet below grade, and identifies detected concentrations of TCE, PCE, and other VOCs throughout the vertical soil column beneath the Hi-Shear Property. The fence diagrams are included to this letter as Attachment D.

The absence of any material discussion of Hi-Shear operations on its property, and the lack of any discussion of the identified release areas and findings of the prior environmental assessments characterizing the nature and extent of contamination on the Hi-Shear Property, are substantial deficiencies with the draft CAO, and will hinder genuine efforts to remediate the impacted groundwater.

For example, a discussion of the eight AOPCs identified in the 2010 SCM Report, including the current status of investigation and remediation efforts, would result in the requirement of focused specified actions to address known source areas of TCE and PCE to the subsurface. The draft CAO should therefore be revised to be consistent with State Board Resolution No. 92-49, and to include a description of historical operations and known source areas on the Hi-Shear Property, as well as the particular characterization data on the Hi-Shear Property, and to direct an immediate cleanup effort of the Hi-Shear Property.

CAO Section – Required Actions

The draft CAO requires the development of a Site Conceptual Model, Site Assessment Work Plans, Human Health Risk Assessment, and Conducting Remedial Action, specifically through the preparation of an Interim Remedial Action Plan (IRAP) for "cleanup of wastes in soil, soil vapor, and groundwater originating from the Site based on current available environmental data."

The draft CAO goes on to list three required remedial action reports/work plans related to the Hi-Shear Property. Yet, the draft CAO does not identify any areas at the Hi-Shear Property where specific investigation or remediation actions should be focused. The draft CAO must thus be revised to identify actions warranted at the eight AOPCs listed in the 2010 SCM Report, as well as other areas at the Hi-Shear Property where additional investigation is warranted. For example, historical records documented the detection of TCE and PCE in discharges to the sewer system at the Hi-Shear Property, as well as the degradation of the sewer system due to Hi-Shear waste discharges.[2] Clearly, assessment of the sewer system at the Hi-Shear Property is necessary, and the draft CAO should be revised to explicitly direct this assessment.

E.5

Site investigation data identify that the Hi-Shear Property is the primary un-mitigated source of TCE and PCE to groundwater and soil vapor in the area. The subsurface data, which has been collected for the Hi-Shear Property for over 30 years under Los Angeles Water Board oversight, overwhelmingly identify the need for remediation on the Hi-Shear Property. There is thus no technical basis for further delay in requiring remediation of the identified areas of TCE and PCE release on the Hi-Shear Property.

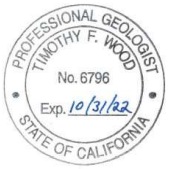
The draft CAO therefore should be revised to identify the specific source areas at the Hi-Shear Property, the operations of Hi-Shear that caused the contamination in these source areas, and to require immediate remediation of the known source areas, including immediate remediation of the groundwater migrating from the Hi-Shear Property. These known source areas were identified by Hi-Shear's consultants under Los Angeles Water Board oversight, starting in the early 1990s.

[2] This information is presented in Section 1.3 of the 9 June 2020 GSI Technical Memorandum.

Should you have any questions or comments regarding this letter, please contact either of the undersigned at 949.679.1070.

Sincerely,

GSI Environmental Inc.



Timothy F. Wood, PG, CHG
Principal Geologist

Peter Scaramella
Senior Risk Assessor

Attachments

Attachment A – 8 January 2021 GSI Letter to Los Angeles Water Board with GSI 9 June 2020 Technical Memorandum and 12 August 2020 Power Point Presentation
Attachment B – Chronology of Site Assessment, Investigation, and Monitoring Reports at the Hi-Shear Property prior to September 2016
Attachment C – Figures 5 and 7, BBL, 2001, Deep Soils and Groundwater Investigation Progress Report
Attachment D – Figures 10 and 11, W&A, 2010, "Known VOC Contamination in Soil," Site Conceptual Model

cc:

Renee Purdy, LA Regional Quality Control Board (Renee.Purdy@waterboards.ca.gov)
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Attachments

GSI Job No.: 4835
Issued: 11 January 2021

GSI ENVIRONMENTAL

Attachment A

8 January 2021 GSI Letter to Los Angeles Water Board with GSI 9 June 2020 Technical Memorandum and 12 August 2020 Power Point Presentation

GSI Project No. 4835

08 January 2021

Dr. Arthur Health, Environmental Program Manager
Ms. Jillian Ly, Unit Chief
Site Cleanup Program Unit IV
Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Transmitted via email

Re: **Response to Hi-Shear's Response and Comments to GSI's Technical Memorandum of 9 June 2020**
Skypark Commercial Properties (Assessor Parcel No. 7377-006-906)
24701 – 24777 Crenshaw Boulevard and 2530, 2540, and 2600 Skypark Drive
Torrance, California (SCP NO. 1499)

Dear Dr. Health and Ms. Ly:

GSI Environmental Inc. (GSI) has prepared this response on behalf of the City of Torrance (City) to the 12 November 2020 letter prepared by Hamrick & Evans, LLP (Hamrick & Evans) on behalf of Hi-Shear Corporation (Hi-Shear). The Hamrick & Evans letter provided responses and comments to GSI's 9 June 2020 Technical Memorandum regarding a "Review and Analysis of Current Data on Historical Site Use and Environmental Conditions at the Hi-Shear Site, 2600 Skypark Drive, Torrance, California."

The GSI technical memorandum provided a preliminary summary of the Hi-Shear on-site operations that involved the use of the chlorinated solvent trichloroethene (TCE) and tetrachloroethene (PCE), and the results of Environmental Site Assessment activities that have identified significant source areas of TCE and PCE at the Hi-Shear Property to soil, soil vapor, and groundwater. In a webinar presentation to the Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board) on 12 August 2020, GSI summarized the analysis and findings presented in the technical memorandum as well as the results of soil vapor data collected by Hi-Shear in January, March, and April 2020.[1] GSI's 9 June 2020 Technical Memorandum and 12 August 2020 PowerPoint (PPT) presentation are attached to this letter.

In their 12 November 2020 letter, Hamrick & Evans states that the GSI Technical Memorandum concludes that "there were no HVOC releases at the East Adjacent Properties and that the HVOCs detected there have migrated solely from the Hi-Shear Property." This statement is a misrepresentation of the results and GSI's discussion thereof, presented in the GSI Technical Memorandum. As stated in the Technical Memorandum, Hi-Shear's consultant (Genesis Engineering & Redevelopment, Inc. [Genesis]) has advanced the narrative that there are two distinct plumes of soil vapor and groundwater at the Skypark Properties. Hi-Shear's position is false and unsupported by the data, and the appearance of a "bisected" plume in recent years is the result of limited pilot test remediation efforts by Hi-Shear.

The objective of our Technical Memorandum was to respond to Hi-Shear's mischaracterization of the soil vapor and groundwater conditions, and to summarize the areas at the Hi-Shear Property where known or suspected releases of PCE and TCE occurred, and where remediation efforts should be directed immediately with the issuance of a Cleanup and Abatement Order (CAO) issued directly for the Hi-Shear Property. As the TCE and PCE soil vapor and groundwater plumes represent a single plume emanating from the Hi-Shear Property, cleanup efforts should be

[1] Genesis Engineering & Redevelopment, Inc. (Genesis), 2020. Soil, Soil Vapor, and Groundwater Delineation, Module III – Interim Report, Skypark-Crenshaw Environmental Task Force, July 3.

initiated at the Hi-Shear Property in parallel with further investigation efforts at the downgradient areas.

Hi-Shear has allowed TCE and PCE released to groundwater at the Hi-Shear property to migrate downgradient for over 30 years. Further, this 30-year failure to address the groundwater plume migrating from the Hi-Shear Property has been allowed to continue under the oversight of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board). Even now, Hi-Shear continues to delay implementation of adequate remediation efforts at the Hi-Shear Property, which recent sampling by Hi-Shear's consultant only further documents is the primary source of TCE and PCE in groundwater and soil vapor that has migrated east of the Hi-Shear Property.

The Hamrick & Evans letter presented two lines of criticism (Comments A and B) to the GSI Technical Memorandum. We are responding to each line of criticism below:

Hamrick & Evans Comment A: *The GSI Technical Memorandum Fails to Consider Historic Publicly Available Operational Documents Associated with the East Adjacent Properties*

As stated in the first line of the 9 June 2020 GSI Technical Memorandum, GSI conducted a review of currently available historical records, Environmental Site Assessment reports, groundwater monitoring and remedial actions, and available analytical data for the groundwater plume containing CVOC concentrations (primarily TCE and PCE) at the Hi-Shear Property because to date, no CAO has been issued for the Hi-Shear Property despite the identification of significant releases of VOCs to the subsurface for over 30 years. GSI did not indicate that a similar review was performed for the EA Properties.

Historical Site use information for other properties located in the vicinity of the Hi-Shear Property, including the EA Properties, was provided by the City of Torrance to the Los Angeles Board under separate cover. In addition, work plans for characterization at EA Property 1 were submitted to Los Angeles Board in August 2020.[2] The results of the additional assessment activities may indicate the need for remediation efforts at the EA Properties, but this possible result does not alter the fact that significant primary source areas remain at the Hi-Shear Property that require remediation.

GSI does not "ascribe complete responsibility to Hi-Shear" as dramatically and falsely asserted by Hamrick & Evans in its letter, but instead, GSI points to the multiple lines of evidence that indicate the Hi-Shear Property is the primary un-mitigated source of TCE and PCE to groundwater and soil vapor in the area. The subsurface data, which has been collected for the Hi-Shear Property for over 30 years under Los Angeles Water Board oversight, identify the need for remediation on the Hi-Shear Property.

There is no technical basis for further delay in remediation of the Hi-Shear Property, and continued delay will only further exacerbate the subsurface migration of the groundwater and soil vapor plumes. The Los Angeles Water Board is pursuing other parties for investigation of the EA Properties, yet extensive historical and subsurface data exists supporting that a CAO is warranted for the Hi-Shear Property specifically.

Hamrick & Evans Comment B: *The Torrance GSI Technical Memorandum Fails to Include and Address Existing Technical Data*.

Hamrick & Evans indicates that the maximum concentrations of 1,1-dichloroethene (1,1-DCE) and PCE in soil vapor are higher at the EA Properties than the Hi-Shear Property, and "There is no plausible mechanism by which VOC migration on the Hi-Shear Property onto the East Adjacent Properties could possibly produce *higher* VOC concentrations on the East Adjacent properties than on the H-Shear property."

[2] MK Environmental Consulting, Inc., 2020, Data Gap Workplan, 24751-24777 Crenshaw Boulevard, Torrance, CA, August 21; Ramboll US Corporation, 2020, Data Gap Work Plan, 24751/24777 Crenshaw Boulevard, Torrance, California, August.

The Hamrick and Evans evaluation ignores that soil vapor sampling at the Hi-Shear Property only occurred after soil vapor extraction (SVE) was implemented at select areas from March 1999 to November 2002.[3] No soil vapor sampling was completed at the Hi-Shear Property prior to the implementation of SVE. Thus, a comparison of maximum VOC concentrations in soil vapor at the Hi-Shear Property and EA Properties is disingenuous and technically unsupportable, and part of the Hi-Shear Team's apparent continued attempt to put forth a false narrative deflecting responsibility for impacts to the subsurface from Hi-Shear's operations.

We note that Hamrick & Evans omitted PCE data collected at the Hi-Shear property that is higher than the maximum concentrations presented in their letter and, more importantly, we note that soil vapor sampling was conducted at the Hi-Shear Property after soil vapor extraction had been performed, thus a direct comparison of maximum reported concentrations in soil vapor is not appropriate.

Hamrick & Evans also compares 1,1-DCE and PCE concentrations in groundwater samples collected at the regional groundwater table beneath the Hi-Shear Property to perched groundwater collected at the EA Properties. Similar to soil vapor on the Hi-Shear Property, incomplete remedial efforts on the Hi-Shear Property have distorted the pattern of VOC migration since their release. Based on its evaluation, Hamrick & Evans concludes, "It is simply implausible for VOC to "de-gas" from regional groundwater, migrate 30 feet up through the unsaturated zone and a semi-confining clay unit, and result in higher concentrations in perched groundwater than in regional groundwater." We agree that this migration pathway is implausible. However, Hamrick & Evans further concludes that "the presence of HVOCs in perched groundwater can only be the result of independent release on the [EA] Properties."

Additional assessment is required to determine the source of VOCs at perched groundwater beneath the EA Properties. It also remains to be determined if perched groundwater at the EA Properties is impacting the downgradient regional groundwater. The proposed data gap assessment at EA Properties 1 may further delineate the presence and extent of a perched groundwater zone and potentially identify sources of VOCs. Regardless, what is currently known is that VOC releases at the Hi-Shear Property have impacted regional groundwater, and remediation efforts at the Hi-Shear Property should not be delayed to further evaluate the perched zone.

Hamrick & Evans outline a series of criticisms of GSI's use of BIOCHLOR, which are directly addressed below to highlight the continued obfuscation of data by the Hi-Shear Team.

Initial criticisms:

1. Hamrick & Evans: *The model can simulate only a single source with a constant concentration through time when all of the data indicate that there are multiple sources contributing TCE to groundwater.*

   GSI RESPONSE: As described in the GSI Technical Memo, BIOCHLOR is a screening level model and was utilized in this instance to help evaluate how far the TCE plume could extend if no engineered controls or source area reduction measures were implemented. While the current implementation does not seek to capture every single source, the modeling results indicate that a source of TCE in the vicinity of MW-18, having source concentrations consistent with those observed historically at MW-18, would be capable of migrating downgradient at significant concentrations, similar to those observed at the site. Furthermore, the modeling results support the observation that the groundwater plume was subsequently bifurcated from the limited Hi-Shear groundwater remediation efforts.

[3] Winefield & Associates, Inc., (W&A), 2010. Site Conceptual Model, LISI Aerospace, 2600 Skypark Drive, Torrance, California 90505, March 15.

2. Hamrick & Evans: *Transport can only be modeled in one direction (1D) when the plume has clearly spread in three directions (3D).*

   GSI RESPONSE: BIOCHLOR models advection (i.e., the bulk flow of water) as a 1D process but does simulate dispersion (i.e., the spreading of contaminants in groundwater) as a 3D process. As such, the model does account for 3D spreading of contaminants.

Additional Criticisms:

1. Hamrick & Evans: *The model assumes that source concentration is constant over time. This assumption ignores the source removal activities that include operation of the SVE system at the Hi-Shear Property that has been estimated to have removed 100,000 pounds of VOC. Therefore, the source concentration has not been constant over time. In addition, all monitoring wells on the Hi-Shear Property have shown gradually decreasing VOC concentrations over time, which also supports decreasing source concentration over time.*

   GSI RESPONSE: SVE systems primarily remove soil vapor, not dissolved groundwater concentrations. Thus, while the SVE system may have partially remediated any DNAPL or vapors in the vadose zone, the SVE system would likely not have affected any DNAPL submerged under the water table and in contact with the groundwater-bearing unit. Thus, modeling the groundwater source concentration as constant is a reasonable assumption, even with removal of contaminant mass by a SVE system.

2. Hamrick & Evans: *The source is placed near MW-18 in the center of the site. However, the main source area (i.e., where the highest soil and soil vapor VOC concentrations have been detected) is along the western boundary of the Site near MW-1 and approximately 400 feet east of MW-18. Not only are there multiple source areas, which contradicts the model's fundamental assumptions, but the largest source area was not even chosen to be the starting point of the model, further detracting from its reliability.*

   GSI RESPONSE: The source was placed near MW-18, the monitoring well location with the highest historical TCE concentrations in groundwater. While there may be other potential sources contributing to soil or soil vapor concentrations, the focus of the BIOCHLOR screening model was to evaluate groundwater sources. Historical concentrations in MW-1 were typically between 10,000 and 20,000 micrograms per liter (µg/L; max ~30,000 µg/L) between 1992 and 2004, and concentrations have been below 100 ug/L since approximately 2004. In contrast, TCE concentrations in MW-18 historically were over 40,000 ug/L until the 2017 EISB injection event, indicating that a source of TCE to **groundwater** is in the vicinity of MW-18.

3. Hamrick & Evans: *The model assumes that TCE is added to groundwater only in the source area on the Hi-Shear site. This assumption ignores the addition of TCE to groundwater resulting from the degradation of PCE in groundwater as well as dissolution of TCE into groundwater from soil vapor all along the flow path.*

   GSI RESPONSE: TCE concentrations in groundwater at the Hi-Shear Property are more than an order of magnitude greater than PCE concentrations, and at many locations, PCE has not been detected historically. Thus, including PCE breakdown to TCE in the modeling process would not affect the overall conclusions of the model that a source of TCE in the vicinity of MW-18, having source concentrations consistent with those observed historically at MW-18, would be capable of migrating downgradient at significant concentrations, similar to those observed at the Hi-Shear Property, EA Properties, and east of Crenshaw Boulevard.

4. Hamrick & Evans: *The model assumes that TCE degrades in accordance with first order decay. However, there are no site-specific first order decay rates that have been measured and the rates were calculated by literature-derived values. The biodegradation rate of TCE is highly dependent of site-specific conditions and the modelers provide no justification that the literature-derived rates are appropriate for this site. Furthermore, negative first order rate constants were calculated for seven (7) (aka 30%) of the twenty-three (23) wells. A negative rate constant means that TCE concentration is increasing, and almost one third of the calculated rate constants indicate TCE is added to groundwater outside of the single modeled source area. TCE concentrations can increase by adding TCE to groundwater along the flow path (i.e., additional source areas) or by PCE degradation. Neither of these processes are acknowledged whatsoever in the Torrance GSI Technical Memorandum, nor are they simulated in the model.*

   GSI RESPONSE: As clearly documented on pg. 29 of the GSI Technical Memorandum, site-specific first order decay rates were calculated from historical groundwater monitoring data, and no literature-derived values were used in the modeling approach presented in GSI's Technical Memorandum.

5. Hamrick & Evans: *The TCE decay rate used in the modeling equates to a 50% concentration decrease every seven (7) years. The data for TCE concentrations over time shown in the Module V report and all groundwater-monitoring reports indicate that there was no concentration decrease between 1991 and 2001 while the model predicts a greater than 50% decrease over that 10-year period. Therefore, the TCE decay rate set forth in the model is inconsistent with environmental data that has been part of the public record for almost two decades.*

   GSI RESPONSE: The first-order decay rate is an average among all wells, and thus any individual well will not track the half-life every seven years.

In summary, as outlined above and described in the GSI Technical Memo, BIOCHLOR is a screening level model that was used to evaluate how far the TCE plume from an identified Hi-Shear source area to groundwater could extend if no engineered controls or source area reduction measures were implemented. While this evaluation does not seek to capture every single potential source, the modeling results indicate that a source of TCE in the vicinity of MW-18, having source concentrations consistent with those observed historically at MW-18, would be capable of migrating downgradient at significant concentrations, similar to those observed at the Hi-Shear Property, EA Properties, and east of Crenshaw Boulevard. Furthermore, the modeling results support the observation that the groundwater plume was subsequently bifurcated due to the limited Hi-Shear groundwater remediation efforts.

Finally, Hamrick & Evans' criticisms regarding potential source areas at adjacent properties or modeling assumptions do not alter the known sources areas for VOCs at the Hi-Shear Property,

which have plainly not been adequately remediated, and have resulted in a regional groundwater plume that extends far beyond the Hi-Shear Property and east of Crenshaw Boulevard.

As shown in our Technical Memorandum, Hi-Shear's own consultants have acknowledged the significant sources of TCE and PCE and the presence of DNAPL at the Hi-Shear property, as well as the migration of VOCs in groundwater from the Hi-Shear Property to downgradient properties since the early 1990s.

The incomplete remediation efforts at the Hi-Shear property have not addressed the Hi-Shear source areas and must be remediated to adequately address the groundwater plume that extends East of Crenshaw Boulevard.

Should you have any questions or comments regarding this request, please contact one of the undersigned at 949.679.1070.

Sincerely,

GSI Environmental Inc.

Timothy F. Wood, PG, CHG
Principal Geologist

Peter Scaramella
Senior Risk Assessor

cc: Hugh Marley, Los Angeles Water Board
Kevin Lin, LA Regional Quality Control Board
Aram Chaparyan, City of Torrance, City Manager
Travis Van Ligten, Esq., Rutan & Tucker, LLP
Alan Fenstermacher, Esq., Rutan & Tucker, LLP
Richard Montevideo, Esq., Rutan & Tucker, LLP

Attachments:
9 June 2020 GSI Technical Memorandum to Los Angeles Water Board
12 August 2020 GSI PowerPoint Presentation to Los Angeles Water Board

GSI ENVIRONMENTAL

TECHNICAL MEMORANDUM

TO: **Rene Purdy, Executive Officer, LA Regional Water Quality Control Board**

Cc: **Rutan & Tucker, LLP**

FROM: **Timothy F. Wood, P.G., CHG, Kate E. Richards, P.G., CHG, and Peter Scaramella**

RE: Review and Analysis of Current Data on Historical Site Use and Environmental Conditions at the Hi-Shear Site, 2600 Skypark Drive, Torrance, California

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GSI Environmental Inc. (GSI) has conducted a review of currently available historical records, Environmental Site Assessment reports, groundwater monitoring and remedial actions, and available analytical data for the groundwater plume containing chlorinated volatile organic compound (CVOC) concentrations (primarily trichloroethylene [TCE] and tetrachloroethene [PCE]) at the Hi-Shear Corporation ("Hi-Shear") site located at 2600 Skypark Drive, Torrance, California (referred to herein as the "Hi-Shear Site"). The Hi-Shear Site has been leased by H-Shear and its corporate successors (currently LISI Aerospace) since 1954 for the manufacture, production, assembly and cleaning of fasteners for the aerospace industry (Los Angeles Regional Water Quality Control Board [LARWQCB], 2020). Hi-Shear and its corporate successors are collectively referred to herein as "Hi-Shear."

This technical memorandum provides a preliminary summary of the Hi-Shear on-Site operations that involved the use of TCE and PCE and the results of Environmental Site Assessment activities that have identified significant source areas of TCE and PCE at the Hi-Shear Site to soil, soil vapor, and groundwater.

In addition, GSI has reviewed available soil vapor and groundwater data collected at the Hi-Shear Site and downgradient areas, which indicate that TCE and PCE are migrating in groundwater from the Hi-Shear Site to commercial and residential properties located east (and hydraulically downgradient) of the Hi-Shear Site.

Key findings of this review are:

1. Hi-Shear's operations involved the significant use and storage of TCE and PCE on the Hi-Shear Site, historical Hi-Shear operational Site features provided pathways for TCE and PCE to be released to the subsurface, and waste handling practices were documented to be poor in 1991.
2. Soil, soil vapor, and groundwater data identify releases of TCE and PCE at historical Hi-Shear operational Site features, and these releases have caused a soil vapor and groundwater plume beneath the Hi-Shear Site, EA Properties, and Residential Properties.
3. The TCE and PCE soil vapor and groundwater plumes represent a single plume emanating from the Hi-Shear Site.
4. TCE is the remedy driver for groundwater impacts both on the Hi-Shear Site and downgradient on the EA Properties and Residential Properties.

The narrative being forwarded by Hi-Shear's consultant (Genesis Engineering & Redevelopment,

Inc. [Genesis]) that there are two distinct plumes of soil vapor and groundwater is false and unsupported by the data. The plume was "bisected" in recent years from limited pilot test remediation efforts by Hi-Shear.

Background information related to this technical evaluation is presented below. The historical information and environmental site assessment data that support the key findings are presented in Sections 1 through 3.

Sources of Documents Reviewed

GSI obtained publicly available agency records and environmental site assessment reports from the following sources:

- South Coast Air Quality Management District (SCAQMD);
- Los Angeles County Sanitation Districts (LACSD) Industrial Waste Division; and
- State Water Resources Control Board (State Water Board) GeoTracker website.

Hi-Shear initiated operations at the Hi-Shear Site in the mid-1950s. However, the earliest environmental site assessment report identified by GSI was prepared in 1991.

Site Description

The approximately 12.25-acre Hi-Shear Site is identified within Los Angeles County Assessor's parcel number (APN) 7377-006-905. The Hi-Shear Site is bound to the south by the Torrance Municipal Airport, to the north by Skypark Drive, and to the west by Lowe's Home Improvement Center (Lowe's). The Hi-Shear Site historically included the area currently occupied by Lowe's until approximately 2006, when this portion of the Hi-Shear Site was subleased by Hi-Shear to La Caze Development and redeveloped.

The commercial properties located within APN 7377-006-905 and east of the Hi-Shear Site are referred to as the Eastern Adjacent Properties (EA Properties). The EA Properties are further subdivided into the following three properties:

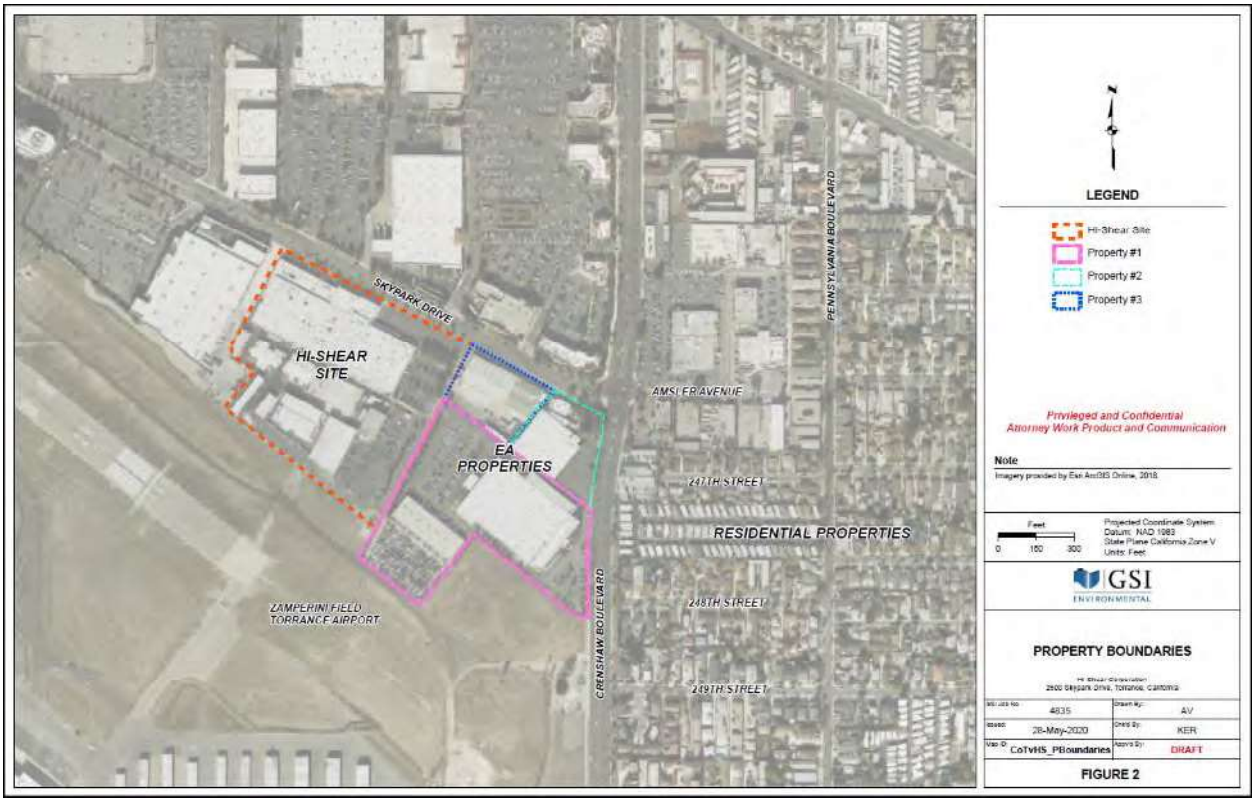
- EA Property 1 is identified with 24751 and 24777 Crenshaw Boulevard and currently occupied by South Bay Lexus (vehicle dealership);
- EA Property 2 is identified with 24707, 24747 and 24701 Crenshaw Boulevard and currently occupied by Dasco Engineering Corporation (manufacturer of precision mechanic aircraft and space components); and
- EA Property 3 is identified with 2530 and 2540 Skypark Drive and currently occupied by Robinson Helicopter.

The entire parcel APN 7377-006-906, which includes the Hi-Shear Site, Lowe's, and EA Properties, is owned by the City of Torrance and has been leased to commercial entities since 1954.

The residential neighborhood located within the City of Lomita and east of the EA Properties and of Crenshaw Boulevard, is herein referred as the "Residential Properties."

The Hi-Shear Site, EA Properties, and Residential Properties are shown on Exhibit 1 below.

Exhibit 1. Property Boundaries



Constituents of Concern (COCs) in Groundwater

The primary constituents of concern (COCs) in groundwater at the Hi-Shear and adjacent properties are TCE and PCE. Other detected VOCs include daughter products cis-1,2-dichloroethylene (cis-1,2-DCE) and vinyl chloride, as well as 1,1-dichloroethylene (1,1-DCE), 1,1,1-trichloroethane (1,1,1-TCA), trans-1,2-dichloroethylene (trans-1,2-DCE), 1,2-dichloroethane, 1,1,2-trichloroethane, benzene, toluene, ethylbenzene, hexavalent chromium, 1,4-dioxane, and perchlorate (Alta Environmental LP, [Alta], 2017). A review of available groundwater monitoring data indicates that TCE is the constituent detected at the highest concentrations and the remedy driver for groundwater impacts at the Hi-Shear Site, adjacent EA properties, and Residential Properties. For example, on-Site, the maximum historical measured TCE concentration (190,000 micrograms per liter [µg/L] in MW-3) is almost 12 times greater than the maximum measured historical concentration of PCE (16,000 µg/L in MW-3). In groundwater monitoring well MW-18 (which is located on the Hi-Shear Site and reported the highest TCE concentrations in August 2018), TCE concentrations have exceeded PCE concentrations by a factor of approximately 30 to 60 times (i.e., TCE concentrations are greater than 1 order-of-magnitude [OoM] than PCE).

1.0 Hi-Shear's operations involved the significant use and storage of TCE and PCE on the Hi-Shear Site, historical Hi-Shear operational Site features provided pathways for TCE and PCE to be released to the subsurface, and waste handling practices were documented to be poor in 1991.

The Hi-Shear aerospace fastener manufacturing operations includes and previously included fastener manufacturing, heat treatment, process coating, ordinance assembly, plating with in-ground plating pits, and parts cleaning. These operations typically had included the use, storage and handling of significant quantities of chlorinated solvents. The use of significant quantities of TCE and PCE at the Hi-Shear Site is consistent with typical aerospace manufacturing and the subsurface data at the Site. "Aerospace manufacturers often use large quantities of solvents in a variety of cleaning and degreasing operations including parts cleaning, process equipment cleaning, and surface preparation for coating applications," (United States Environmental Protection Agency [USEPA], 1998).

Historical records obtained to date for the Hi-Shear Site identified equipment that typically involved the use of TCE and PCE and that was located throughout the Hi-Shear Site. Solvent degreasers were located at several buildings since at least 1968 and at least 18 underground storage tanks (USTs) were located at the Hi-Shear Site. The Hi-Shear operations included a distillation unit for the distillation of spent solvent and a wastewater treatment plant for treating industrial wastewater from the plating operations (Hygienetics, Inc., [Hygienetics], 1991). These features indicate the Hi-Shear operations were of considerable size and involved the use and storage of significant quantities of TCE and PCE.

Historical features at the Hi-Shear Site include structures that are frequently associated with chemical releases to the subsurface. A shallow drywell was located on the Hi-Shear Site, and dry-wells historically were used for waste disposal. In addition, clarifiers, and USTs were located at the Hi-Shear Site, and these structures are prone to leakage and release of solvents.

Historical records document that Hi-Shear waste handling practices were poor. Hi-Shear waste handling practices resulted in releases of TCE and PCE to the subsurface, including the discharge of waste to the sewer system that connected to the main sewer lines on Skypark Drive and Crenshaw Boulevard. TCE and PCE have been detected in samples collected from waste discharged to the sewer. The waste discharged at the Hi-Shear Site was associated with degradation of the sewer system.

A summary of historical information that describes the operations, historical features, and waste handling practices at the Hi-Shear Site is provided below. Note that we have not attempted to summarize all of the information reviewed to date and additional information likely is available at the LARWQCB office and from other sources, which have not been available for review due to COVID-19 impacts to the LARWQCB file review procedures. As such, the information presented below is a preliminary summary of key findings. Based on the records reviewed to date, GSI believes additional historical information may be available in the LARWQCB's physical files with information relevant to the identification of the historical use and release of TCE and PCE on the Hi-Shear Site.

1.1 Hi-Shear operations used TCE and PCE since at least 1968

SCAQMD "Permit to Operate" records were obtained for the Hi-Shear Site using their searchable online database for Facility ID No. 11192 (Hi-Shear Corporation).[1] These records document

[1] https://www.aqmd.gov/nav/online-services/public-records/public-document-search

equipment that has been permitted for use at the Site since 1968, including equipment that utilizes TCE, PCE and other chlorinated solvents.

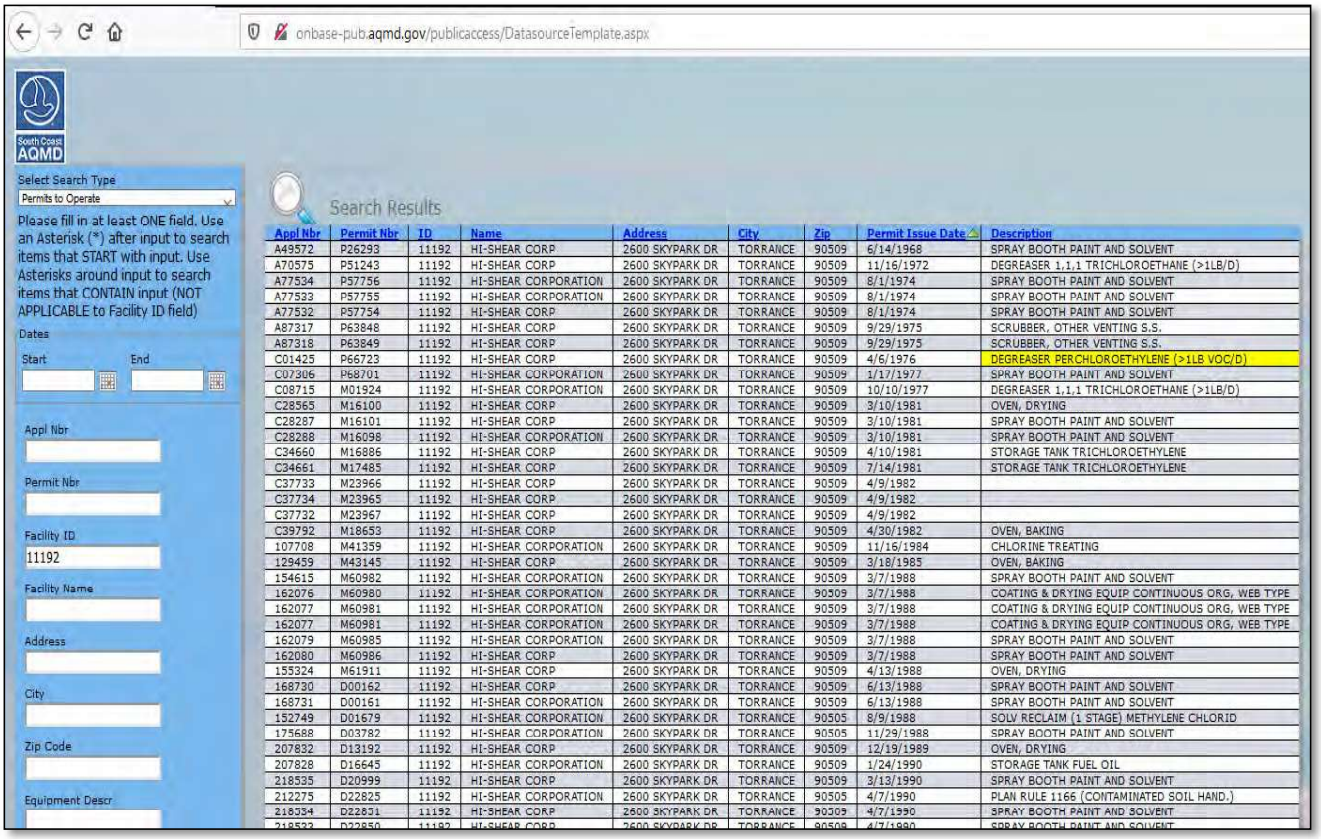
The list of equipment that has been operated by Hi-Shear under an SCAQMD permit for one or more years between 1968 and the present includes (listings verbatim from SCAQMD records):

- SPRAY BOOTH PAINT AND SOLVENT
- DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)
- SCRUBBER, OTHER VENTING S.S.
- DEGREASER PERCHLOROETHYLENE (>1LB VOC/D)
- STORAGE TANK TRICHLOROETHYLENE
- CHLORINE TREATING
- COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
- SOLV RECLAIM (1 STAGE) METHYLENE CHLORID
- STORAGE TANK FUEL OIL
- PLAN RULE 1166 (CONTAMINATED SOIL HAND.)
- I C E (50-500 HP) EM ELEC GEN-DIESEL
- I C E (50-500 HP) EM FIRE FGHT-DIESEL
- WASTE WATER EVAPORATION
- AFTERBURNER, DIRECT FLAME
- WASTE WATER TREATING (>50000 GAL/DAY)
- TANK, CADMIUM - PLATING
- TANK, SURFACE PREPARATION - OTHER ACIDS
- SOIL TREAT VAPOR EXTRACT OTHER VOC UNDER
- TANK, NITRIC ACID
- TANK, OTHER AQUEOUS SOLUTION
- SCRUBBER, PARTICULATES VENTING S.S.
- SCRUBBER, PARTICULATES VENTING M.S>
- TANK, SULFURIC/PHOSPHORIC ACID - ANODIZING
- SOLV RECLAIM STILL (1 STAGE) HYDROCARB
- DIP TANK COATING WAX
- DIP TANK COATING MISC
- OVEN, COOKING OR CURING
- SPRAY MACHINE - COATING
- SPRAY BOOTH(S) (1 - 5) W/ AFTERBURNER
- SOIL TREAT VAPOR EXTRACT GASOLINE UNDER

- SCRUBBER, OTHER VENTING M.S.
- SPRAY BOOTHS (>5) WITH AFTERBURNER
- SURFACE PREP TANK CONT. CHROMIC ACID
- SCRUBBER, TOXICS VENTING
- SOLVENTS MISC STRIPPING
- WASTE WATER TREATING (20000-50000 GAL/D)

The permit below is listed in SCAQMD records as Permit Number P66723 dated 6 April 1976 for "Degreaser Perchloroethylene (<1LB VOC/D)." The permit listing (Exhibit 1-1) establishes that Hi-Shear operated a PCE degreasing operation in addition to TCE storage tanks. The permit identifies a Detrex degreaser and solvent recovery still (Exhibit 1-2).

Exhibit 1-1. SCAQMD Permit Records for Hi-Shear Site



onbase-pub.aqmd.gov/publicaccess/DatasourceTemplate.aspx

South Coast AQMD

Select Search Type

Permits to Operate

Please fill in at least ONE field. Use an Asterisk (*) after input to search items that START with input. Use Asterisks around input to search items that CONTAIN input (NOT APPLICABLE to Facility ID field)

Dates

Start End

Appl Nbr

Permit Nbr

Facility ID 11192

Facility Name

Address

City

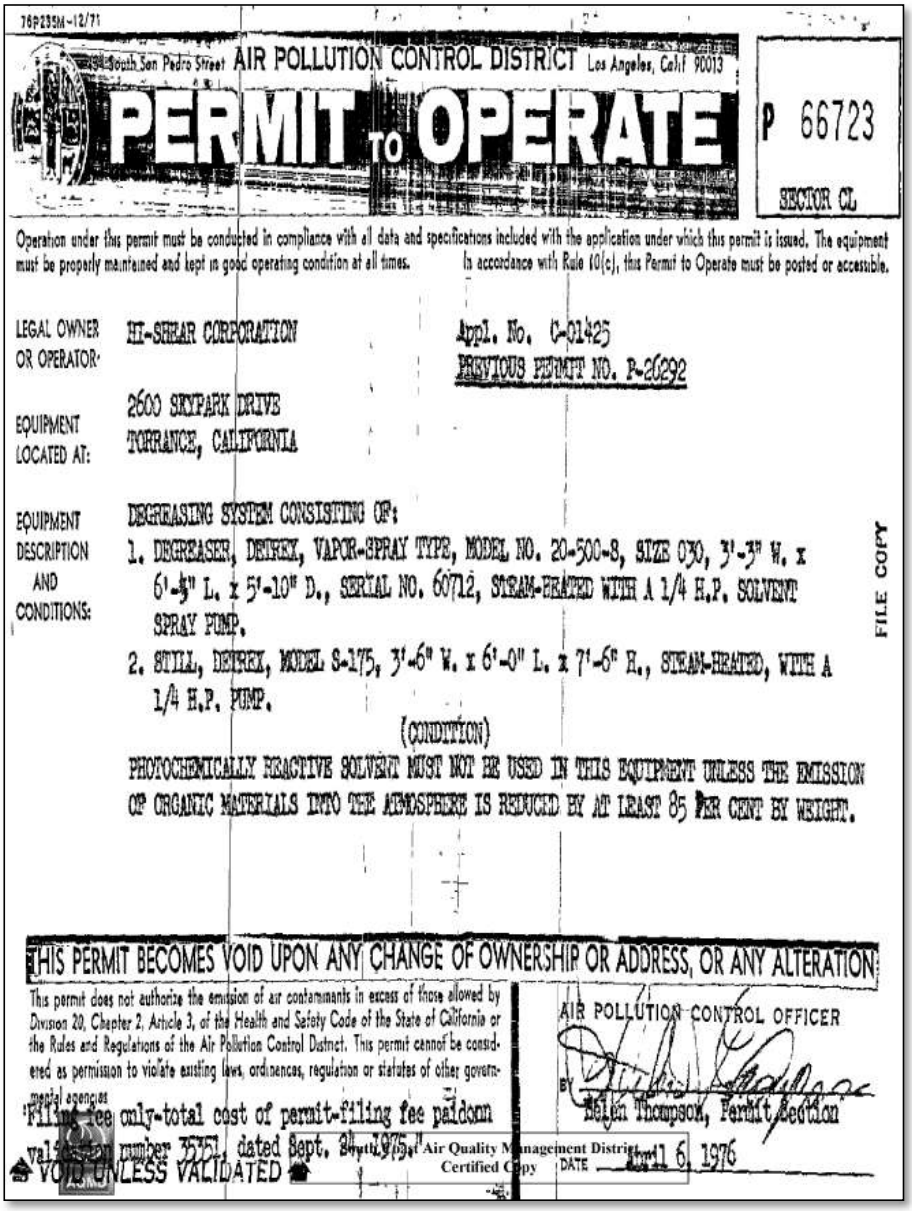
Zip Code

Equipment Descr

Search Results

Appl Nbr	Permit Nbr	ID	Name	Address	City	Zip	Permit Issue Date	Description
A49572	P26293	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	6/14/1968	SPRAY BOOTH PAINT AND SOLVENT
A70575	P51243	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	11/16/1972	DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)
A77534	P57756	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	8/1/1974	SPRAY BOOTH PAINT AND SOLVENT
A77533	P57755	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	8/1/1974	SPRAY BOOTH PAINT AND SOLVENT
A77532	P57754	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	8/1/1974	SPRAY BOOTH PAINT AND SOLVENT
A87317	P63848	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	9/29/1975	SCRUBBER, OTHER VENTING S.S.
A87318	P63849	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	9/29/1975	SCRUBBER, OTHER VENTING S.S.
C01425	P66723	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/6/1976	DEGREASER PERCHLOROETHYLENE (>1LB VOC/D)
C07306	P68701	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	1/17/1977	SPRAY BOOTH PAINT AND SOLVENT
C08715	M01924	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	10/10/1977	DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)
C28565	M16100	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/10/1981	OVEN, DRYING
C28287	M16101	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/10/1981	SPRAY BOOTH PAINT AND SOLVENT
C28288	M16098	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/10/1981	SPRAY BOOTH PAINT AND SOLVENT
C34660	M16886	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/10/1981	STORAGE TANK TRICHLOROETHYLENE
C34661	M17485	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	7/14/1981	STORAGE TANK TRICHLOROETHYLENE
C37733	M23966	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/9/1982	
C37734	M23965	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/9/1982	
C37732	M23967	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/9/1982	
C39792	M18653	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/30/1982	OVEN, BAKING
107708	M41359	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	11/16/1984	CHLORINE TREATING
129459	M43145	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/18/1985	OVEN, BAKING
154615	M60982	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	SPRAY BOOTH PAINT AND SOLVENT
162076	M60980	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
162077	M60981	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
162077	M60981	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	COATING & DRYING EQUIP CONTINUOUS ORG, WEB TYPE
162079	M60985	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	SPRAY BOOTH PAINT AND SOLVENT
162080	M60986	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/7/1988	SPRAY BOOTH PAINT AND SOLVENT
155324	M61911	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/13/1988	OVEN, DRYING
168730	D00162	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	6/13/1988	SPRAY BOOTH PAINT AND SOLVENT
168731	D00161	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	6/13/1988	SPRAY BOOTH PAINT AND SOLVENT
152749	D01679	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90505	8/9/1988	SOLV RECLAIM (1 STAGE) METHYLENE CHLORID
175688	D03782	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90505	11/29/1988	SPRAY BOOTH PAINT AND SOLVENT
207832	D13192	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	12/19/1989	OVEN, DRYING
207828	D16645	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90509	1/24/1990	STORAGE TANK FUEL OIL
218535	D20999	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	3/13/1990	SPRAY BOOTH PAINT AND SOLVENT
212275	D22825	11192	HI-SHEAR CORPORATION	2600 SKYPARK DR	TORRANCE	90505	4/7/1990	PLAN RULE 1166 (CONTAMINATED SOIL HAND.)
218534	D22831	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/7/1990	SPRAY BOOTH PAINT AND SOLVENT
218533	D22850	11192	HI-SHEAR CORP	2600 SKYPARK DR	TORRANCE	90509	4/7/1990	SPRAY BOOTH PAINT AND SOLVENT

Exhibit 1-2. Permit for "Degreaser Perchloroethylene"



76P235M-12/71

9150 South San Pedro Street AIR POLLUTION CONTROL DISTRICT Los Angeles, Calif 90013

PERMIT TO OPERATE

P 66723

SECTOR CL

Operation under this permit must be conducted in compliance with all data and specifications included with the application under which this permit is issued. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 10(c), this Permit to Operate must be posted or accessible.

LEGAL OWNER OR OPERATOR: HI-SHEAR CORPORATION

Appl. No. C-01425
PREVIOUS PERMIT NO. P-26292

EQUIPMENT LOCATED AT: 2600 SKYPARK DRIVE
TORRANCE, CALIFORNIA

EQUIPMENT DESCRIPTION AND CONDITIONS:

DEGREASING SYSTEM CONSISTING OF:

1. DEGREASER, DETREX, VAPOR-SPRAY TYPE, MODEL NO. 20-500-8, SIZE 030, 3'-3" W. x 6'-½" L. x 5'-10" D., SERIAL NO. 60712, STEAM-HEATED WITH A 1/4 H.P. SOLVENT SPRAY PUMP.
2. STILL, DETREX, MODEL S-175, 3'-6" W. x 6'-0" L. x 7'-6" H., STEAM-HEATED, WITH A 1/4 H.P. PUMP.

(CONDITION)

PHOTOCHEMICALLY REACTIVE SOLVENT MUST NOT BE USED IN THIS EQUIPMENT UNLESS THE EMISSION OF ORGANIC MATERIALS INTO THE ATMOSPHERE IS REDUCED BY AT LEAST 85 PER CENT BY WEIGHT.

FILE COPY

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR ADDRESS, OR ANY ALTERATION

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 20, Chapter 2, Article 3, of the Health and Safety Code of the State of California or the Rules and Regulations of the Air Pollution Control District. This permit cannot be considered as permission to violate existing laws, ordinances, regulation or statutes of other governmental agencies.

AIR POLLUTION CONTROL OFFICER

BY Helen Thompson, Permit Section

Filing fee only-total cost of permit-filing fee paidcon validation number 35751, dated Sept. 24, 1975.

Air Quality Management District Certified Copy

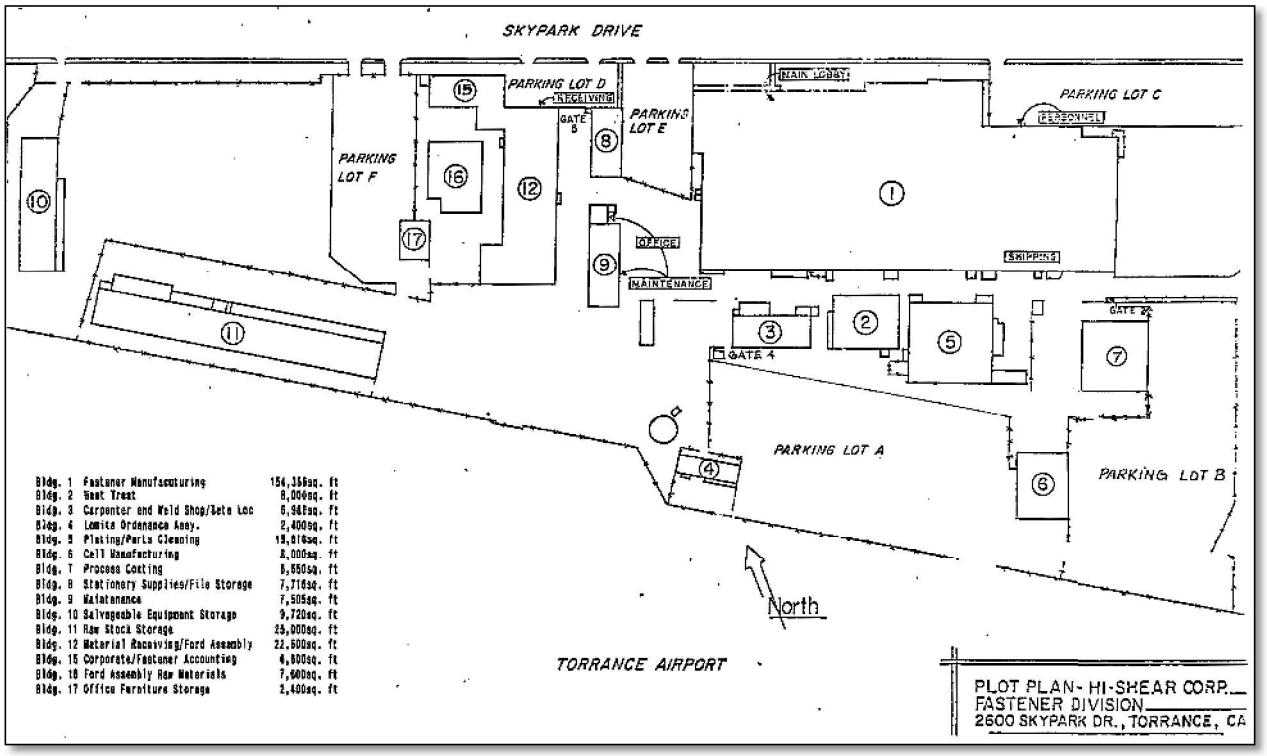
DATE April 6, 1976

VOID UNLESS VALIDATED

1.2 Hi-Shear operations involved extensive storage, handling and use of solvents

Hi-Shear operated a large-scale aerospace fastener manufacturing operation at the Hi-Shear Site. In 1991, a Phase I Environmental Site Assessment was performed at the Hi-Shear Site on behalf of Chemical Bank by Hygienetics (1991). The Hygienetics report included the following Site plan, which shows a large facility with significant manufacturing operations:

Exhibit 1-3. 1991 Site Plan (Hygienetics, 1991)



The Hygienetics report described the use and storage of chlorinated solvents, including the use of degreasers, at Heat Treat Building #2 and Plating/Parts Cleaning Building #5. The 1991 assessment summarized the USTs that were present at the Hi-Shear facility in 1991:

Exhibit 1-4. List of USTs at Hi-Shear in 1991 (Hygienetics, 1991)

UNDERGROUND STORAGE VESSELS
PAST AND PRESENT

NUMBER	LOCATION	CONTENTS	VOLUME
1*	Southeast of Bldg. #9	Waste Oil	?
2	North of Bldg. #5	Plating Clarifier	2,000 gal
3	East of Bldg. #5	Plating Clarifier	2,000 gal
4	East of Bldg. #5	East Plating Pit	50,000 gal
5	West of Bldg. #5	West Plating Pit	75,000 gal
6	Bldg. #1	Grind Oil	2,000 gal
7	Bldg. #1	Coolant Oil	800 gal
8	Bldg. #1	Grind Oil	2,000 gal
9	Bldg. #1	Water Sump	900 gal
10	Southwest of Bldg. #3	Waste Oil Sump	2,000 gal
11	Bldg. #3	Steam Clean Sump	275 gal
12*	West of Bldg. #3	Waste Oil	250 gal
13*	West of Bldg. #3	Waste Oil	250 gal
14*	West of Bldg. #3	Waste Oil	250 gal
15*	West of Bldg. #6	Gasoline	?
16*	West of Bldg. #6	Gasoline	?
17	South of Bldg. #3	Soap, Grease & Water	?
18	South of Bldg. #3	Soap, Grease & Water	?

The Hygienetics report describes poor tracking practices for the USTs:

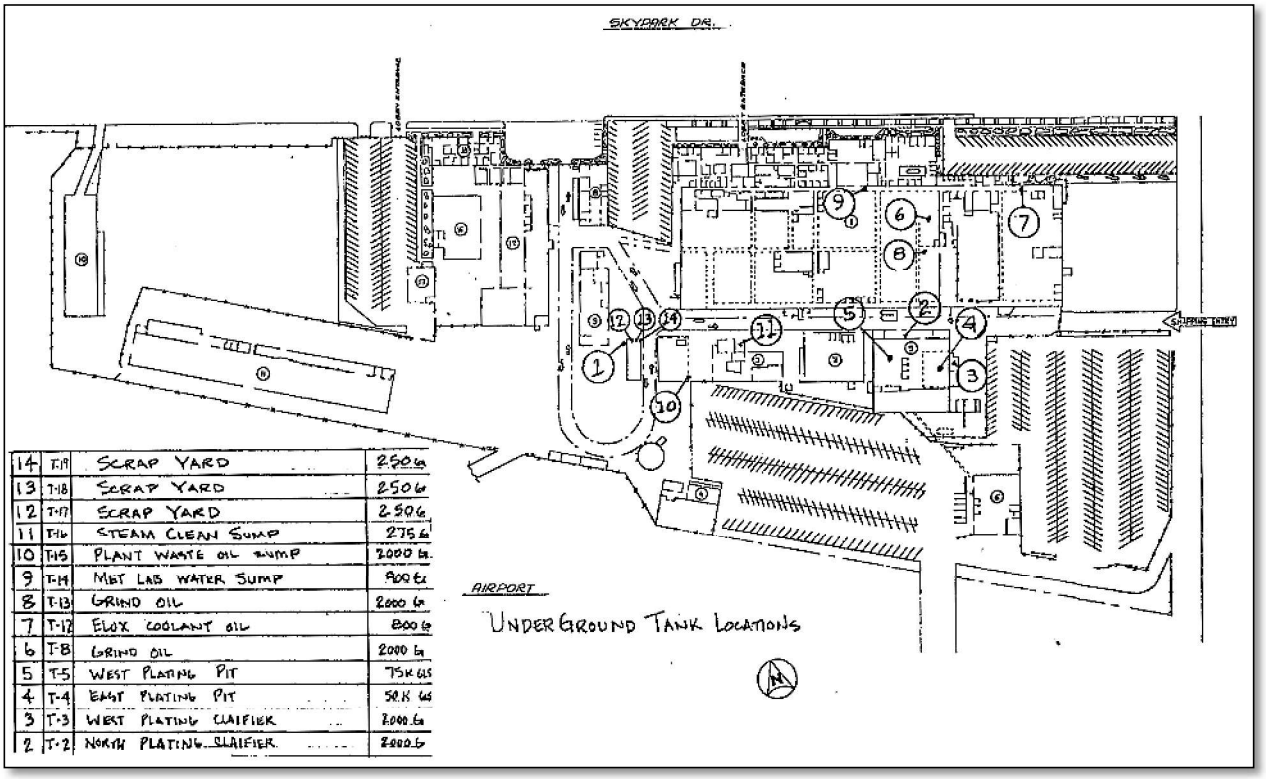
> *According to Hi-Shear, 11 underground storage tanks were registered. Of these 11 tanks, six have been removed and five still remain. However, it appears that there have been a total of 18 underground storage tanks on-Site (Hygienetics, 1991).*

In addition, Hygienetics noted that:

> *No documentation was available on-Site regarding the integrity testing of the tanks currently on-Site (Hygienetics, 1991).*

The Hygienetics presentation of the 18 USTs is included below as Exhibit 1-5.

Exhibit 1-5. 1991 Location of USTs Plan (Hygienetics, 1991)



At Building 5, two clarifiers and two plating pits were present in 1991 and the large capacity of the plating pits (50,000 and 75,000 gallons) indicate a large operation that would have involved significant quantities of solvents. The Hygienetics report also describes the degreasing operations at Building 5:

> *The southern part of Building #5 is dedicated to parts cleaning. Several degreasers are located here for removal of oil and grease with solvents (Hygienetics, 1991).*

Based on the SCAQMD permit records, the degreaser operations included the use of both TCE and PCE (Exhibit 1-1).

1.3 Historical site features provided pathways for release of solvents to subsurface

Historical Site features that provided pathways for the release of TCE and PCE to the subsurface include a drywell, clarifiers, USTs, and sewer lines.

Drywell

Based on a 1992 Floor Plan for the Process Coating Building by SM Daderian & Associates, a drywell with a drain leading to a 24-inch diameter by 18-inch long pipe filled with fist size stones and gravel was located at Building 3. Exhibit 1-6 shows the drywell detail and Exhibit 1-7 shows the complete floor plan that includes this detail.

Exhibit 1-6. 1992 Floor Plan Call Out showing Drywell Detail (Part of Exhibit 1-7)

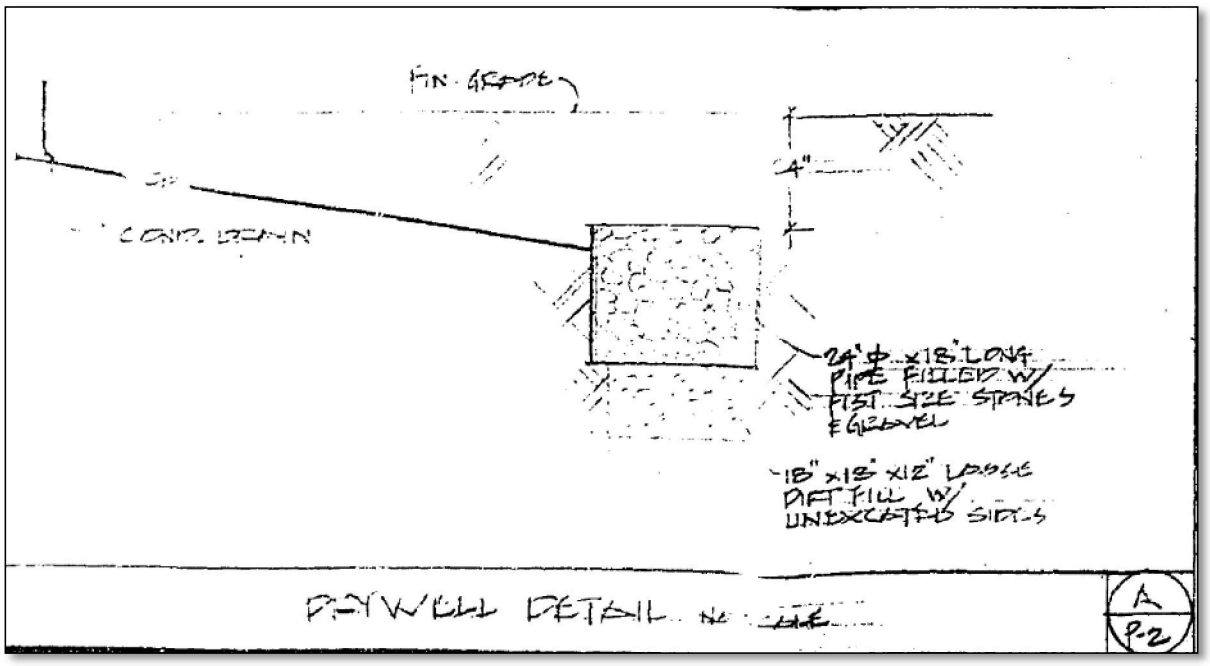
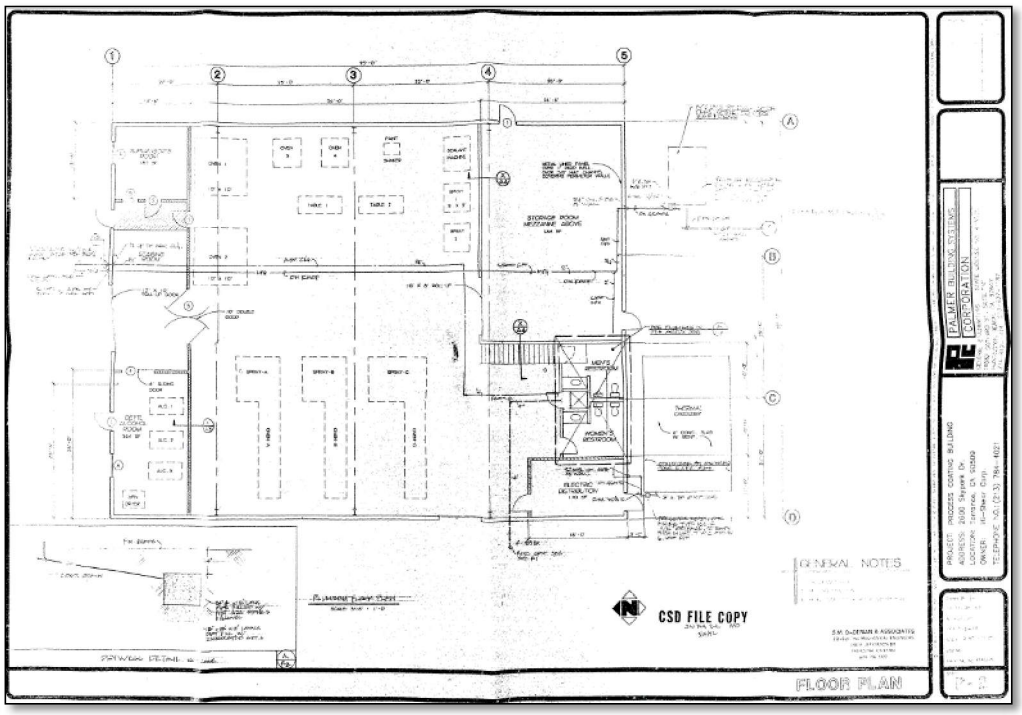


Exhibit 1-7. 1992 Floor Plan for the Process Coating Building Showing Drywell Detail



The dry well design provides a direct path to release liquids directly into soil.

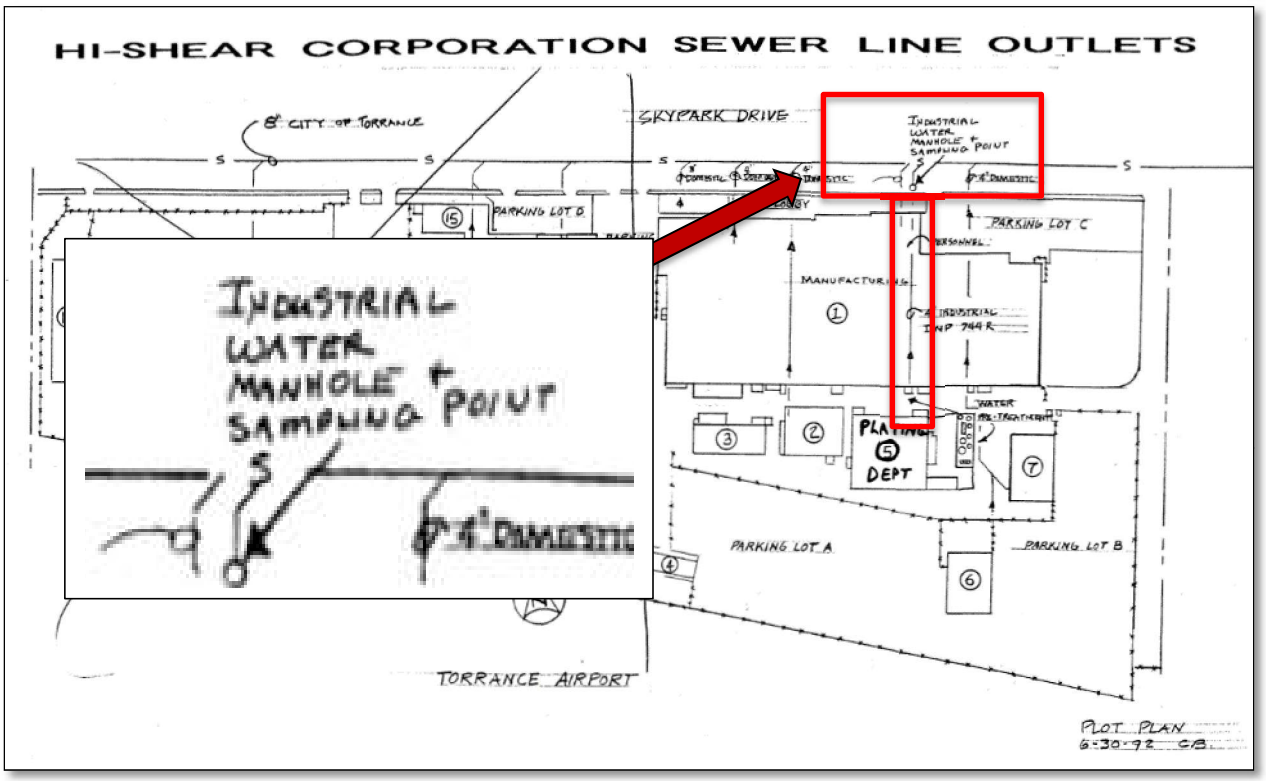
USTs and Clarifiers

As described above, at least 18 USTs, including in-ground plating pits and plating sumps, were located at the Hi-Shear Site. The Hygienetics report indicated that "[n]o documentation was available on-Site regarding the integrity testing of the tanks currently on-Site" (Hygienetics, 1991). USTs can leak from associated use activities including filling, dispensing, and storage through incidental and accidental spills, leaking piping and USTs from corrosion and compromise of seals and fittings. USTs are commonly associated with releases of VOCs to soil, soil vapor, and groundwater.

Sewer Lines Associated with Industrial Waste Water Discharge

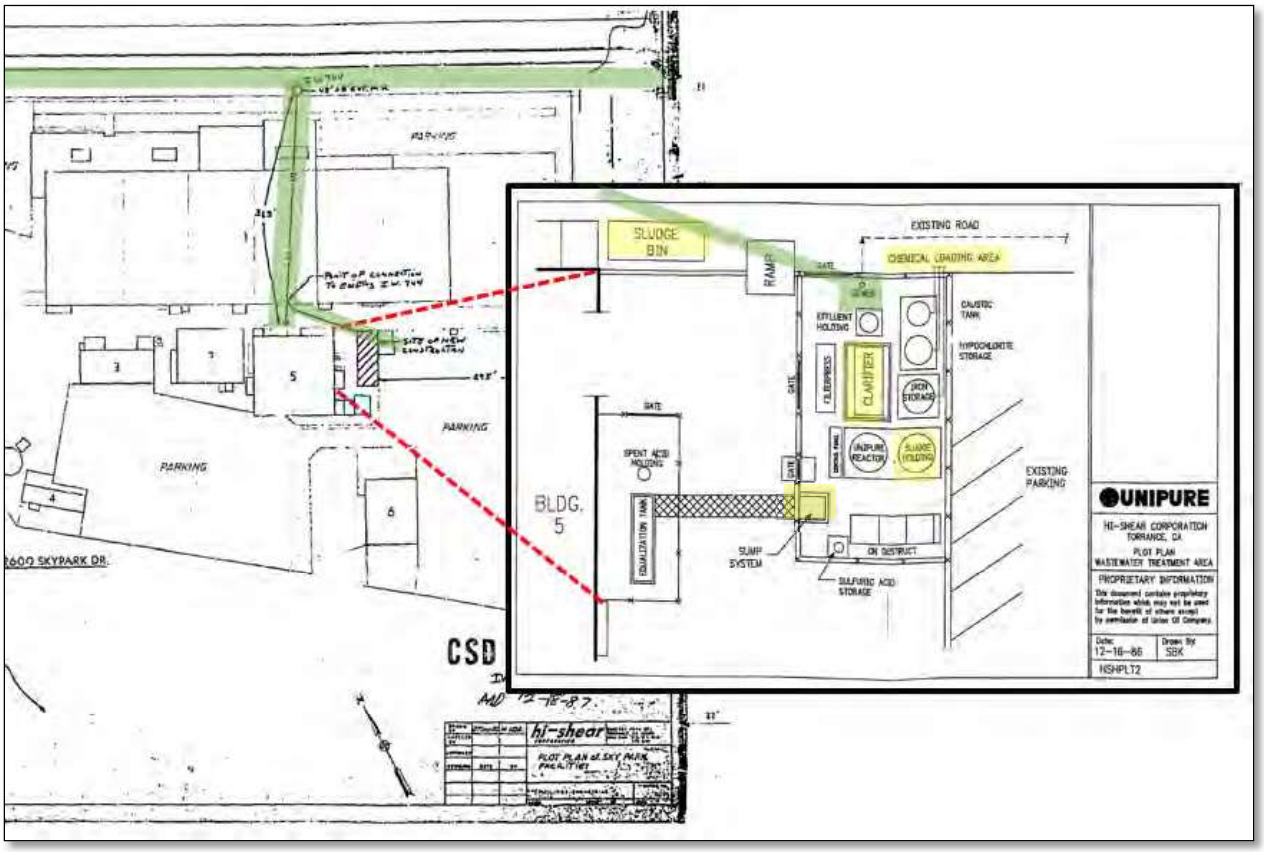
Records obtained from LACSD identify sewer lines between Building 5 and the sewer outfall identified as the "Industrial Water Manhole and Sampling Point" on the 1992 Plot Plan shown below (Exhibit 1-8). The sewer lines are shown to flow from the vicinity of Building 5 directly to the Industrial Water Manhole and Sampling Point.

Exhibit 1-8. 1992 Figure Identifying "Industrial Water Manhole and Sampling Point" and Sewer Lines



Additional LACSD records from 1986 identify the area to the east of Building 5 as having a clarifier, sump, sludge bin, and chemical loading area near a sewer inlet. The maps below identify the above ground features in yellow and the general location of the sewer lines in green (Exhibit 1-9).

Exhibit 1-9. 1986 and 1987 Figures Identifying Detail of Eastern Side of Building 5



Notes: Above ground features = Yellow; Sewer Lines = Green

Building 5 also contained two large (50,000 and 75,000 gallon) in-ground plating pits and a degreasing operation: The Hygeinetics report describes the degreasing operations at Building 5: "The southern part of Building #5 is dedicated to parts cleaning. Several degreasers are located here for removal of oil and grease with solvents" (Hygienetics, 1991). A plating pit and plating clarifier also were located at the southeast corner of Building 5 (Exhibit 1-5).

1.4 Historical records document the detection of TCE and PCE in discharge to the sewer system and degradation of sewer system due to Hi-Shear waste discharge

Hygienetics identified Hi-Shear had an Industrial Waste Water Discharge Permit since 1956 (Hygienetics, 1991). Plating operations at Hi-Shear generated two primary waste streams: (1) cyanide rinse water and (2) concentrated acid waste (Hygienetics, 1991). The Hygienetics report (1991) documented Hi-Shear acknowledged that discharges to the sewer by Hi-Shear degraded the main sewer line on Skypark Drive:

> *It appears that past discharges of acidic waste have dissolved the City of Torrance Skypark Drive sewer main in several places. Hi-Shear has agreed that this is most*

probably due to their discharge. A preliminary study was performed to determine if the manhole deterioration has resulted in the release of heavy metal contaminates into the exposed earth. Soil samples taken below the dissolved manhole indicate that all possible metal contaminants levels are within regulatory limits.

Soil samples were not analyzed for VOCs. However, discharges to the sewer by Hi-Shear likely has resulted in the release of TCE and PCE to the subsurface along the sewer main on Skypark Drive, which flows east to Crenshaw Boulevard.

In 1987, Hi-Shear built a waste treatment plant located east of Building 5 (Hygienetics, 1991). Despite the construction of this plant, industrial water discharge sample records indicate VOCs were present in industrial water discharge from the Hi-Shear Site. Industrial water discharge sample (IWS) analytical results from sampling events that included analysis for VOCs were obtained from LACSD files for the years 1989 through 2012. Twelve events identified concentrations of either PCE, TCE, or 1,1,1-TCA in IWS. Twelve events did not identify PCE, TCE, or 1,1,1-TCA, but used laboratory reporting limits for VOCs that exceeded 10 µg/L and three additional events used reporting limits for VOCs that exceeded 20 µg/L. After six sampling events in 1991 that identified concentrations of 1,1,1-TCA ranging to 1,040 µg/L, 1,1,1-TCA was only reported intermittently and not reported on 13 analytical reports that identified VOCs. The sampling events with reported VOC concentrations are identified in the table below (Exhibit 1-10).

Exhibit 1-10. IWS Events with Documented VOCs in Wastewater

Sampling Date	PCE (µg/L)	TCE (µg/L)	1,1,1-TCA (µg/L)
23 Jan 1989	**7.3**	<5	**110**
2 Feb 1989	<5	<5	**129**
25 Apr 1991	<5	<5	**220**
11 Oct 1991	<5	<5	**85**
6 Nov 1991	<5	<5	**370**
7 Nov 1991	<5	<5	**1040**
17 Feb 2000	**11**	<10	<10
7 Nov 2000	**1.5**	<0.5	NR
40 Apr 2002	**5.2**	<0.5	NR
25 Sep 2002	<1.0	**2.3**	NR
30 Apr 2010	<0.5	**2.9**	<0.5
4 Jun 2010	<2.0	**2.3**	<2

NR = Not Reported

Based on the evidence presented above, Hi-Shear has discharged PCE and TCE to the sewer system as well as acidic waste that had degraded the sewer system. This is an area where additional investigation is warranted by Hi-Shear.

1.5 Historical records document poor handling and tracking practices of hazardous waste in 1991

Hygienetics indicated that poor compliance with hazardous waste labeling and tracking requirements were observed during its 1991 assessment:

> *Hygienetics investigated Hi-Shear's compliance with RCRA regulations concerning hazardous waste. Hygienetics' investigation revealed that labeling of containers is the biggest non-compliance issue. Hygienetics did not observe proper hazardous waste stickers applied to any hazardous waste on-Site*
>
> *Additionally, accumulation dates were not provided on hazardous waste containers in the temporary storage areas. Hi-Shear representatives indicated that they have been cited for improper labeling of on-Site hazardous waste. (Hygienetics, 1991).*

In summary, historical records describe an extensive manufacturing operation that involved significant quantities of solvents, including TCE and PCE, at the Hi-Shear Site. Multiple historical Site features are potential pathways for TCE and PCE to enter the subsurface, including at least 18 USTs and the sewer system that received industrial waste discharge. Finally, historical records also describe poor waste handling practices.

2.0 Soil, soil vapor, and groundwater data identify releases of TCE and PCE at historical at features Hi-Shear operational Site features, and these releases have caused a soil vapor and groundwater plume beneath the Hi-Shear Site, EA Properties, and residential properties.

Hi-Shear detected TCE and PCE in soil samples collected in 1990 as part of an investigation following the removal of a waste oil UST. Subsequent investigations identified the presence of dense nonaqueous phase liquid (DNAPL) and TCE beneath the Hi-Shear Site and indicated that TCE in groundwater associated with sources at the Hi-Shear Site was migrating east of the Hi-Shear Site to the EA Properties and Residential Properties. Soil sampling at the Hi-Shear Site identified eight areas of potential concern (AOPCs) for releases of total petroleum hydrocarbons (TPH), TCE and PCE. Both TCE and PCE were detected in soil samples collected at five of the eight AOPCs. Hi-Shear's soil and groundwater investigations have identified TCE and PCE source areas at the Hi-Shear Site, TCE and PCE in groundwater beneath the Hi-Shear Site and acknowledged that the groundwater plume has migrated from the Hi-Shear Site east to the EA Properties.

2.1 Groundwater monitoring reports prepared on behalf of Hi-Shear acknowledge migration of impacted groundwater off-site in the early 1990s

Groundwater monitoring was initiated at the Hi-Shear Site in 1991 with the installation of monitoring wells at the "oil yard" area southeast of Building 9 to evaluate groundwater impacts associated with a release at a waste oil UST (identified as Tank 1 in Exhibit 1-5). In December 1988, the 2,000 gallon capacity, steel UST that was used to store waste machine cutting and cooling oils was removed and TPH was detected in soil samples at concentrations of 22,040 and 125,130 milligrams per kilogram (mg/kg) (Camp, Dresser & McKee, Inc. [CDM], 1991). Subsequently, four soil borings (HS1 to HS4) were advanced to depths of 40 to 60 feet bgs using hollow stem augers in May 1991 (CDM, 1991). Two soil samples were collected from each boring and analyzed for TPH and VOCs:

- TCE was detected in all eight soil samples at concentrations ranging from 5,400 micrograms per kilogram (µg/kg) (HS1 at 61.5 feet bgs) to 5,500,000 µg/kg (HS3 at 50.0 feet bgs).
- PCE was detected in all eight soil samples at concentrations ranging from 1,700 µg/kg (HS1 at 61.5 feet bgs) to 1,600,000 µg/kg (HS3 at 50.0 feet bgs) (CDM, 1991).

To evaluate if VOCs detected in soil had impacted groundwater, seven groundwater monitoring wells (MW-1 through MW-7) were installed at the Hi-Shear Site in 1991 and 1992 and one monitoring well (MW-8) was installed downgradient of the Hi-Shear facility at the Robinson Helicopter property in 1992. Groundwater monitoring was conducted in 1993 on behalf of Hi-Shear by Blasland, Bouck & Lee (BBL). BBL concluded a TCE plume was present in groundwater at the Hi-Shear Site, the flow of groundwater beneath the Hi-Shear Site was to the east, and the TCE plume extended off-Site to the east: "*The downgradient offsite well MW-8 contained 2,900 [µg/L] of TCE indicating that the contaminant plume has extended off-Site*" (BBL, 1993). For this sampling event, TCE was detected at a concentration of the 23,000 µg/L in monitoring well MW-3, which is located south of Building 3. Thus, Hi-Shear acknowledged in 1993 that a release of TCE at the Hi-Shear Site had resulted in a groundwater plume that extended to the EA Properties.

The BBL figures showing the groundwater elevation contours and estimated TCE plume area are included as Exhibits 2-1 and 2-2. Note that MW-8 is located east of MW-5 (shown in Exhibit 2-5).

Exhibit 2-1. Groundwater Elevation Contour (BBL, 1993)

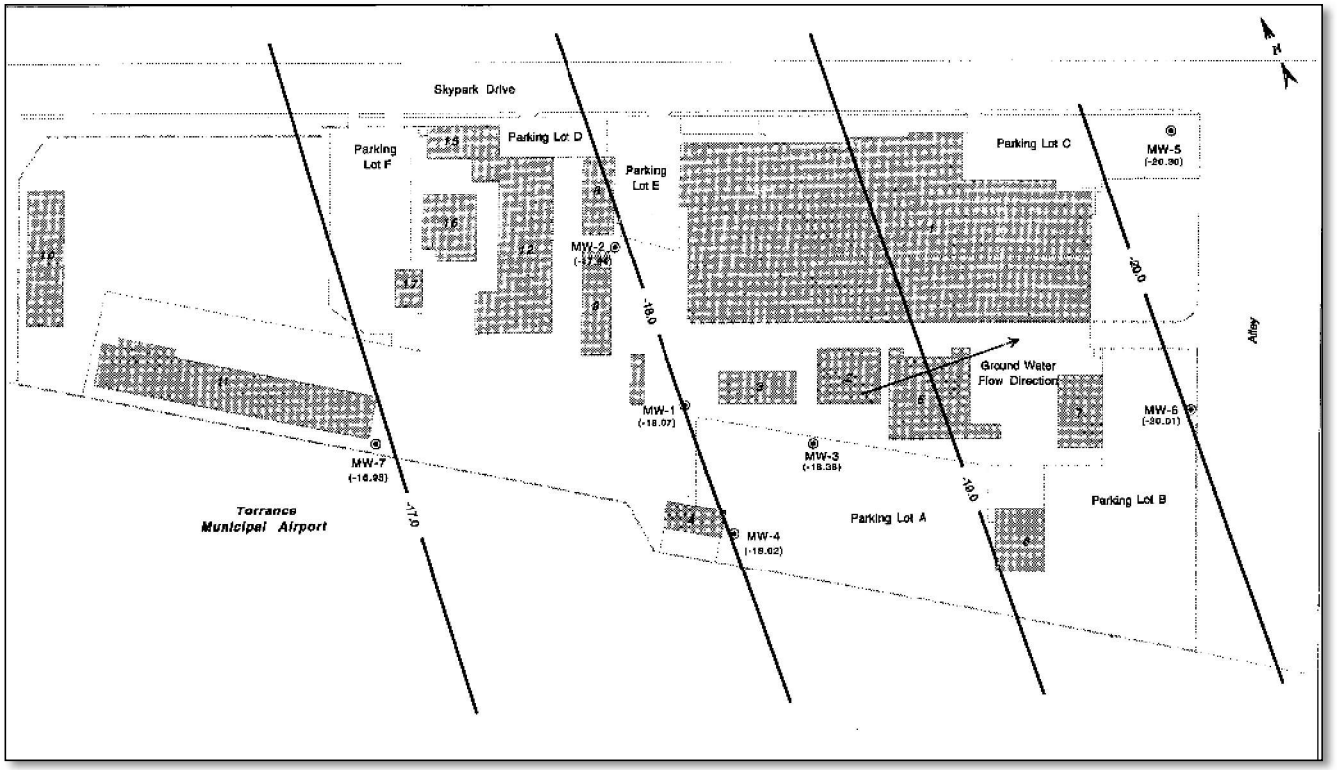
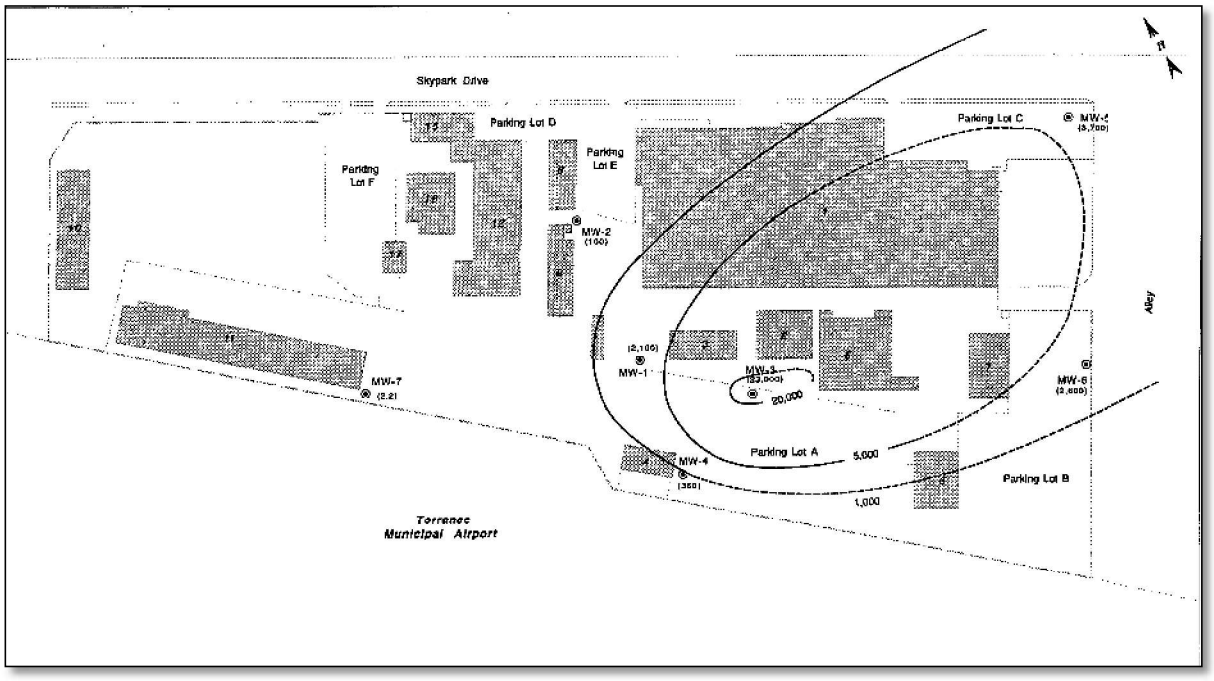
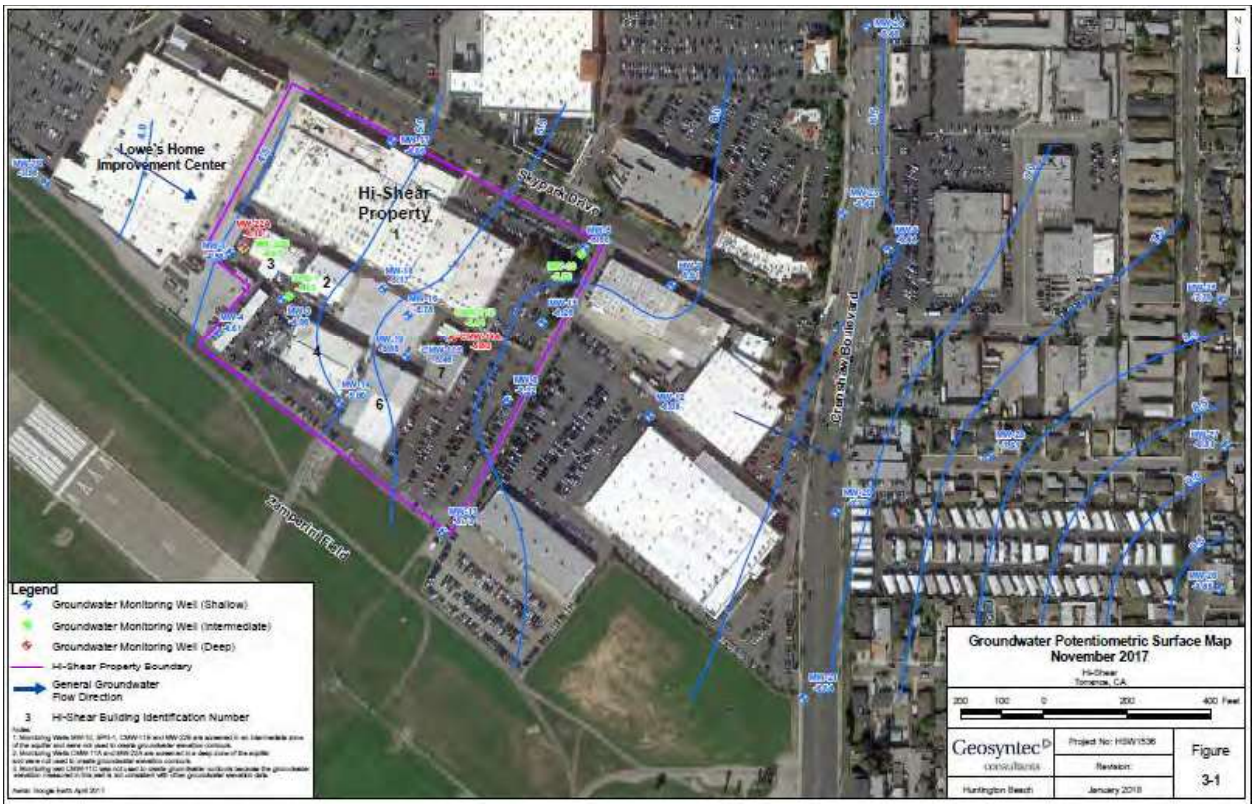


Exhibit 2-2. TCE Concentrations in Groundwater in 1993 (BBL, 1993)



Subsequent GW monitoring indicates the groundwater flow direction is generally toward the southeast perpendicular to the southeastern Hi-Shear Site boundary, resulting in groundwater moving from the Hi-Shear Site to the EA properties and residential properties, as shown on Exhibit 2-3 (Geosyntec Consultants, Inc. [Geosyntec], 2018).

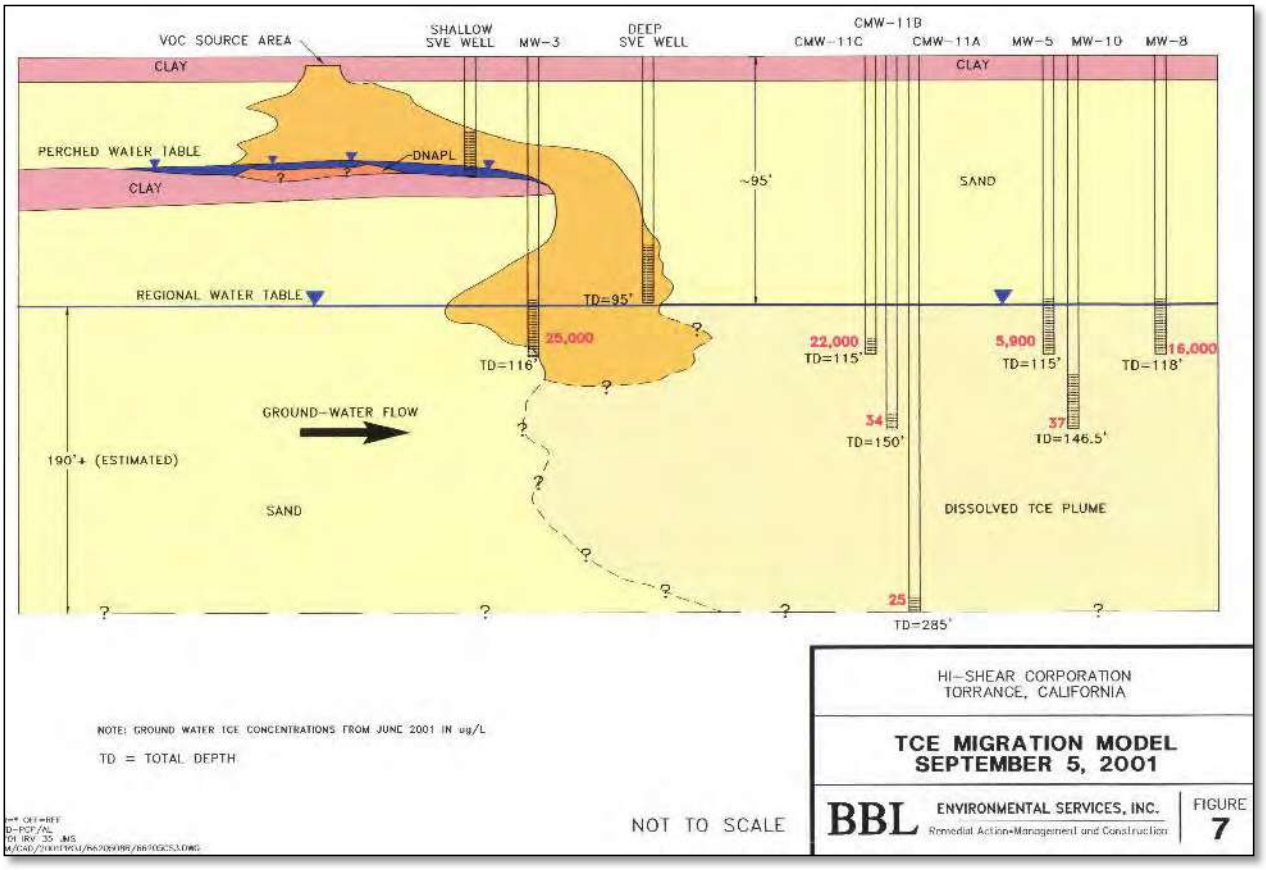
Exhibit 2-3. Groundwater Potentiometric Surfaces – November 2017



2.2 Hi-Shear site assessment reports acknowledge the presence of DNAPL beneath the Hi-Shear Site in 2001

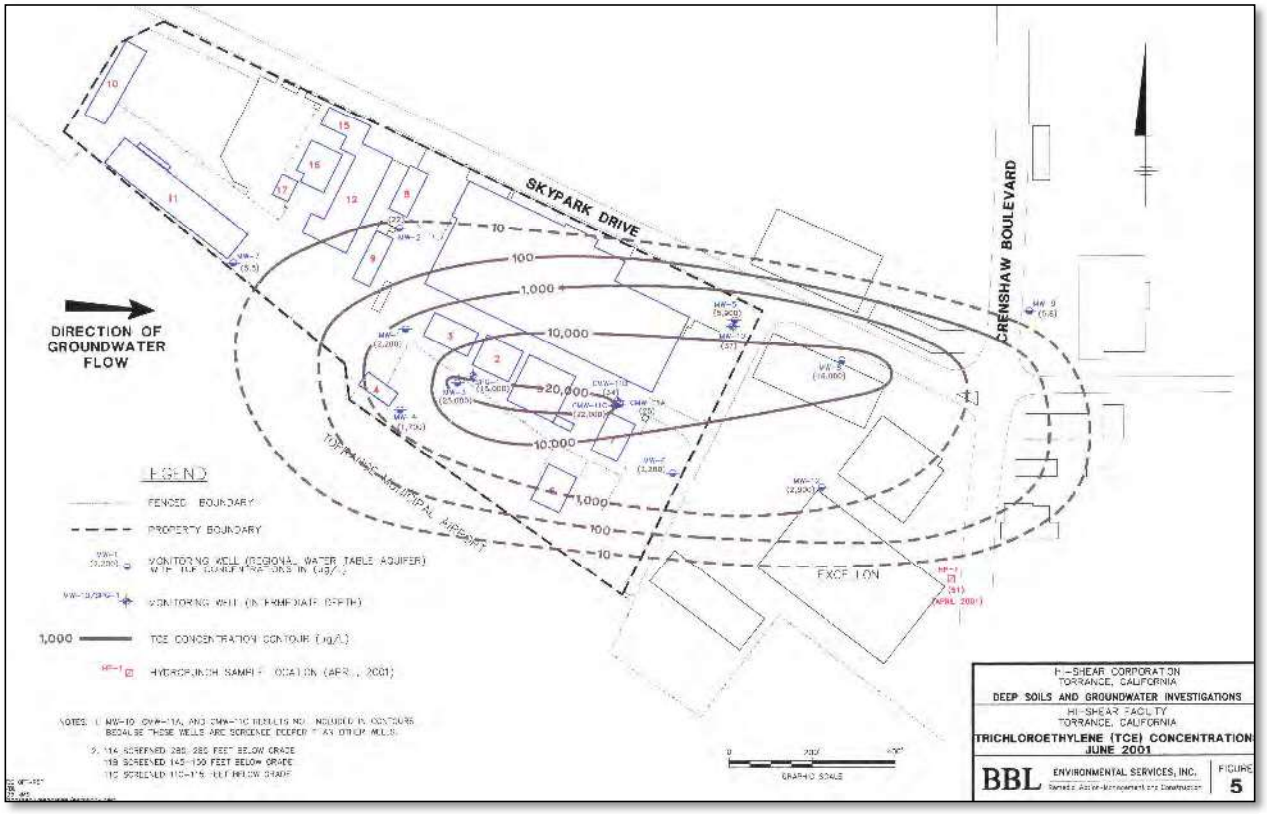
In 2001, five soil borings were advanced to depths of 95 feet bgs to evaluate VOC concentrations and the presence of dense nonaqueous phase liquid (DNAPL; chlorinated solvents TCE and PCE are liquids that are denser than water) in deeper soils at depths of 60 feet bgs to groundwater (~95 feet bgs). In a progress report of the soil investigation, BBL included a figure depicting the presence of DNAPL within the on-Site TCE plume:

Exhibit 2-4. TCE Migration Model prepared by BBL (2001)



Hi-Shear acknowledged TCE and DNAPL associated with a "VOC Source Area" upgradient of MW-3 that resulted in a "dissolved TCE plume" moving offsite and impacted groundwater at the EA Properties (MW-8 at Robinson Helicopter) and further east. The BBL progress report also included a plan view depiction of the TCE plume migrating from the Hi-Shear Site east to the EA Properties and Residential Properties.

Exhibit 2-5. TCE in Groundwater in 2001 (BBL, 2001)



In addition to TCE, PCE was detected in soil samples collected by BBL at the Hi-Shear Site. The results of TCE and PCE in soil samples collected by BBL in 2001 indicated that detection of elevated concentrations of PCE was coincident with elevated concentrations of TCE. For example, both the highest detected concentration of TCE and PCE in soil samples collected in 2001 were collected in samples collected at VPO-2, which was located south of Building 2:

- At 44 feet bgs, 4,100,000 µg/kg of TCE and 190,000 µg/kg of PCE,
- At 65 feet bgs, 120,000 µg/kg of TCE and 120,000 µg/kg of PCE, and
- At 90 feet bgs, 15,000 µg/kg of TCE and 5,200 µg/kg of PCE (BBL, 2001).

In comparison, one soil sample was collected at 50 feet bgs at the soil boring advanced for the installation of MW-12 at the EA Property 1. In this soil sample, TCE was detected at a concentration of 120 µg/kg and PCE was detected at a concentration of 67 µg/kg. The detected concentrations of PCE and TCE are over 4 orders of magnitude lower than PCE and TCE concentrations at VPO-2 and are not consistent with a release at the EA Property 1.

The site investigation data indicate that the source area for VOCs at the Hi-Shear Site is associated with both PCE and TCE.

2.3 Hi-Shear's environmental site assessment reports identify TCE and PCE release areas at the Hi-Shear Site

In 2010, a Site Conceptual Model (SCM) report was prepared for the Hi-Shear Site by Winefield & Associates, Inc. (W&A). As part of the SCM, the existing site characterization data was compiled and AOPCs for the release of VOCs to the subsurface were identified. As shown in Exhibit 2-6, eight AOPCs were identified.

Exhibit 2-6. AOPCs Identified in 2010 at Hi-Shear Site (W&A, 2010)

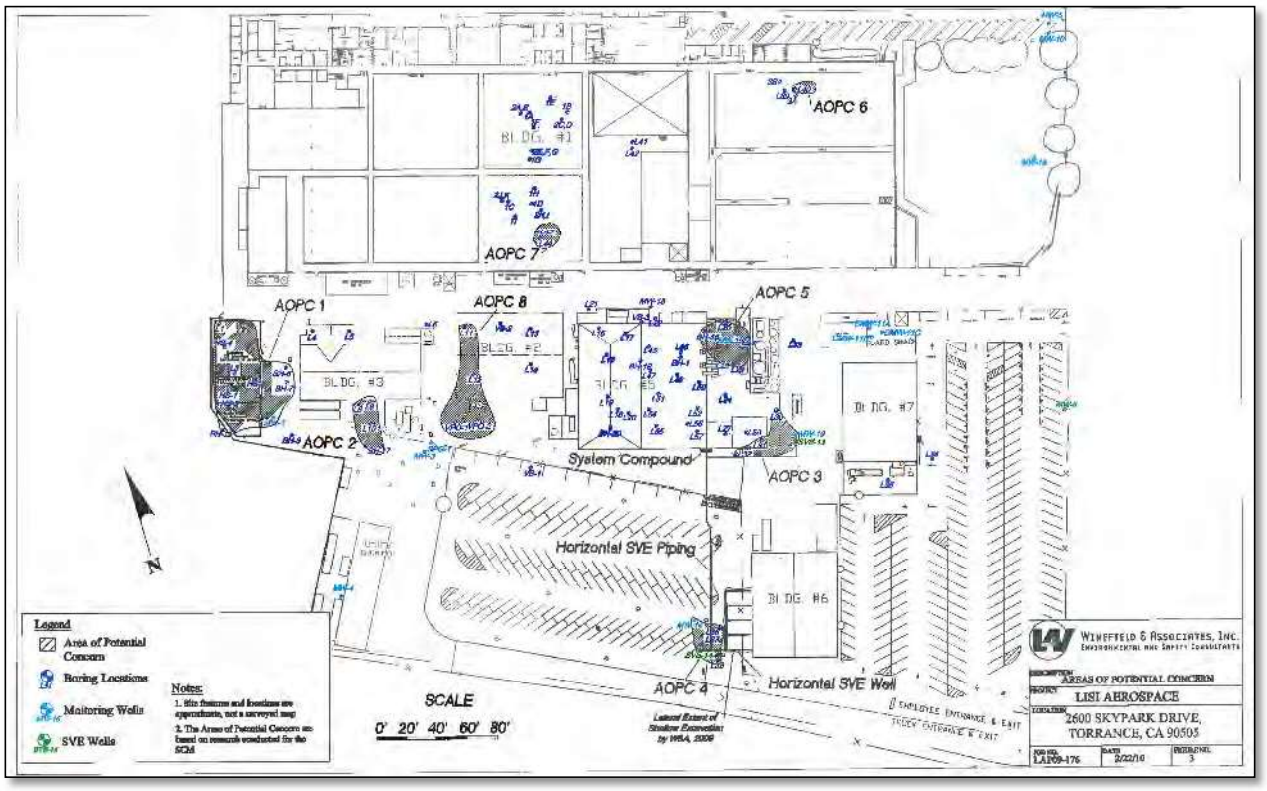


Exhibit 2-6 also shows that limited soil sampling was completed to investigate potential AOPCs and delineate areas associated with VOC release at the east portion of Building 1 (including areas around AOPC 8), Building 3 (where a dry-well was located and may still be present), exterior to Building 5 (south and east of AOPC 3; north and east of AOPC 5), Building 6, and Building 7.

A brief summary of soil data is presented in the 2010 SCM report for several AOPCs. Notably, the range of PCE, TCE, and TPH concentrations are presented by depth:

Exhibit 2-7. AOPC 1 Soil Data – Location of Former Waste Oil UST #1 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 10 feet & 25 to 50 Feet	11 to 840 (µg/kg)
TCE	5 to 70 feet	7 to 820 (µg/kg)
TPH	25 to 40 feet	84 to 1,034 (mg/kg)

Exhibit 2-8. AOPC 3 Soil Data – Southeast corner of Building 5 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 25 feet and 90 ft	30 to 1,600 µg/kg
TCE	5 to 45 feet and 60 to 90 ft	88 to 35,000 µg/kg
TPH	5 to 25 ft	380 to 2,372 mg/kg

Exhibit 2-9. AOPC 5 Soil Data – Northeast corner of Building 5 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 15 feet	12 to 150 µg/kg
TCE	5 to 15 feet	18 to 360 µg/kg

Exhibit 2-10. AOPC 7 Soil Data – Building 7 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 20 ft	50 to 250 µg/kg
TCE	5 to 20 ft	100 to 980 µg/kg
TPH	5 to 20 ft	230 to 9,461 mg/kg

The 2010 SCM Report summarizes significant concentrations of PCE and TCE in soil at multiple AOPCs across the Hi-Shear Site. PCE and TCE were detected in soil samples collected at depths from 5 feet to 90 feet bgs. Given the dates of operations at the Hi-Shear Site, these data indicate that a long-term source of both TCE and PCE was present that would impact groundwater at the Hi-Shear Site and migrate to downgradient off-Site properties.

3.0 The TCE and PCE soil vapor and groundwater plume represents a single plume emanating from the Hi-Shear Site

There is a single plume of TCE and PCE spread across the Hi-Shear Site, EA properties, and Residential Properties, which has emanated from the Hi-Shear Site. The current plume appearance of having "two lobes" is a result of incomplete remediation efforts along the Hi-Shear Site boundary. Groundwater monitoring data collected following completion of the Phase I remediation program indicate the current plume contains two areas of elevated TCE concentrations, separated by the area where the Phase I remediation program successfully reduced the contaminant mass. One high concentration area remains on the Hi-Shear Site in the vicinity of MW-18, and the other high concentration area is located on the EA properties in the vicinity of MW-12.

GSI conducted semi-analytical modeling of TCE fate and transport from the Hi-Shear source to downgradient properties, which showed that the observed groundwater conditions are indicative of a single source located in the vicinity of MW-18. Modeling of historical mass flux from the Hi-Shear Site to the EA properties indicates substantial mass loading of TCE to off-Site properties, with ongoing mass flux to downgradient properties. Furthermore, given the historical TCE and PCE concentrations, TCE is the remedy driver for groundwater impacts on the Hi-Shear Site and downgradient EA properties and Residential Properties.

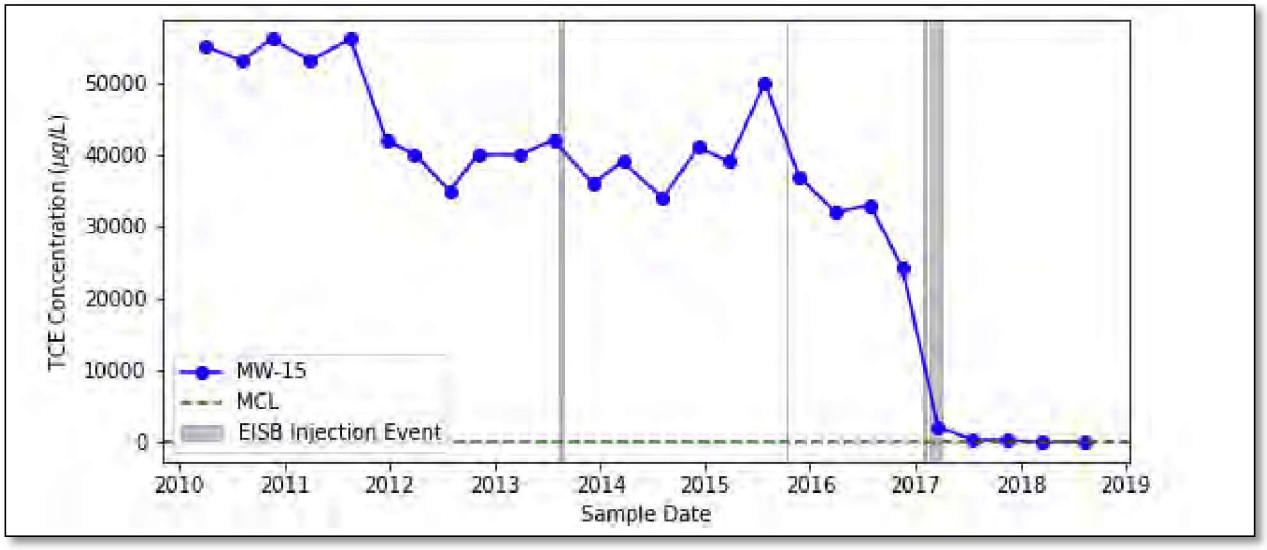
3.1 Groundwater Remedial Action Created the Current Groundwater Plume

Hi-Shear Corporation has implemented two pilot-scale and one full-scale remediation events. These events have included injection of bioremediation substrates (3DMe and HRC Primer), bioaugmentation culture (BDI Plus), and a chemical reductant (CRS). The dates of application and specific material injected were:

- August 12-22, 2013: Pilot-scale injections of 3DMe and HRC Primer through six injection wells (IW1 through IW6) screened from 87 to 112 feet below ground surface (bgs) and installed cross-gradient and upgradient of monitoring well MW-15 (Alta, 2014);
- October 13-15, 2015: Pilot-scale injections of 3DMe, CRS, and BDI Plus through the same six injection wells (IW1 through IW6) used in the August 2013 pilot test (Alta, 2016); and
- January 31 to April 5, 2017: Full-scale (Phase I) injections of 3DMe, CRS, and BDI Plus through 75 dual-nested injection wells (IW7 through IW81) screened from 88-98 feet bgs and 103-113 feet bgs and 2 previously installed single-cased wells IW3 and IW5 (Alta, 2017).

The results achieved at monitoring well MW-15, which is located downgradient of the source zone and along the Hi-Shear Site boundary, shows the success of the 2017 remedial action. Exhibit 3-1 summarizes the TCE concentrations measured over time at MW-15, along with the dates of remedial injections. As shown on Exhibit 3-1, TCE concentrations at MW-15 exhibited minimal response to the two pilot tests; however, significant reductions were achieved as a result of the more substantial remedial efforts of the full-scale Phase I program.

Exhibit 3-1. TCE concentrations over time in monitoring well MW-15.



The magnitude and extent of the TCE plume before treatment (2015) and after treatment (2018) are depicted on Exhibits 3-2 and 3-3, respectively. Exhibit 3-2 indicates a single plume emanating downgradient from a presumed source located in the vicinity of monitoring wells MW-3 and MW-18, which is the same area identified by BBL in 2001 with the highest concentrations of TCE in groundwater.

Exhibit 3-2. TCE groundwater plume in July 2015, before Hi-Shear Phase I remediation

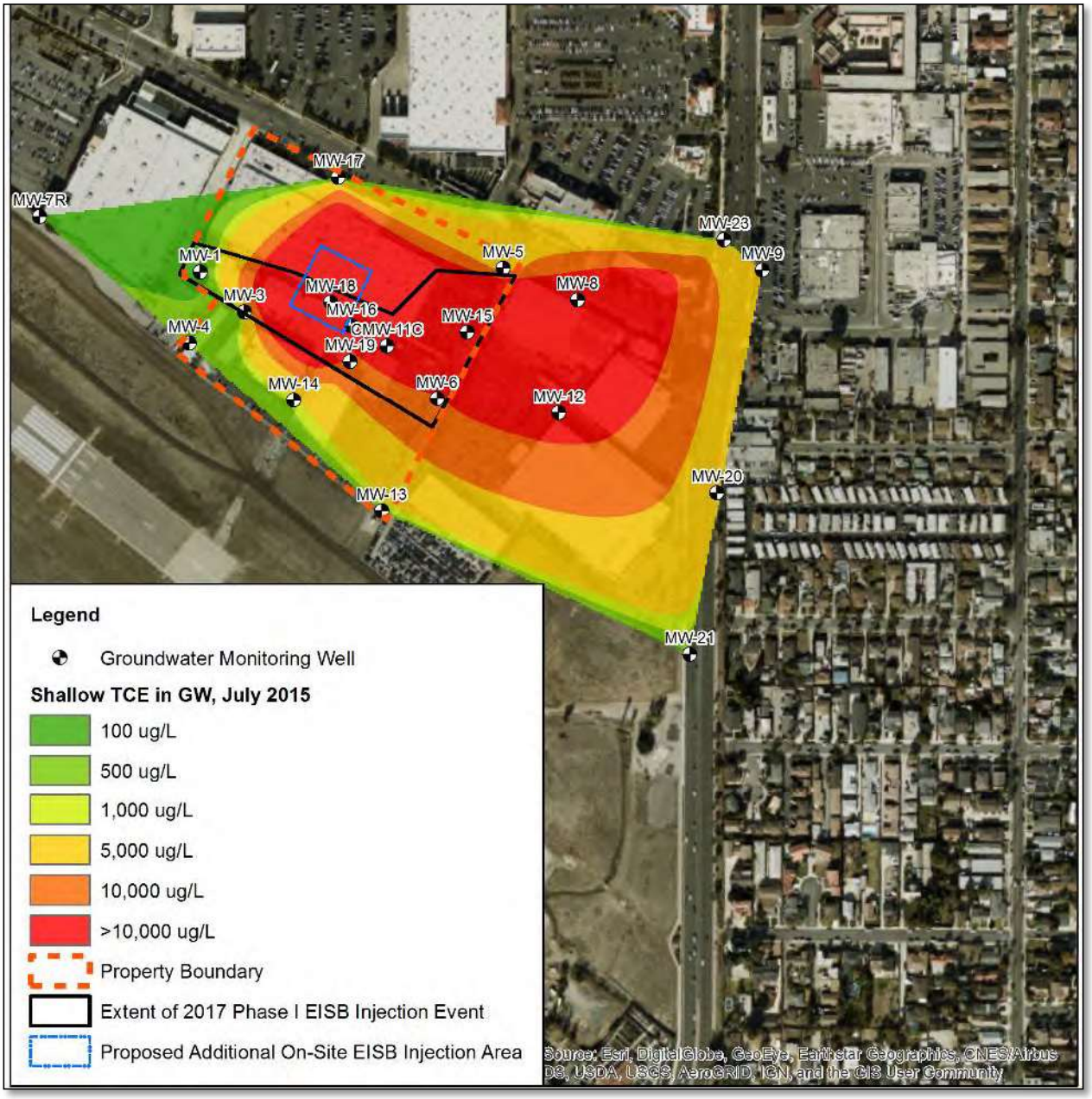
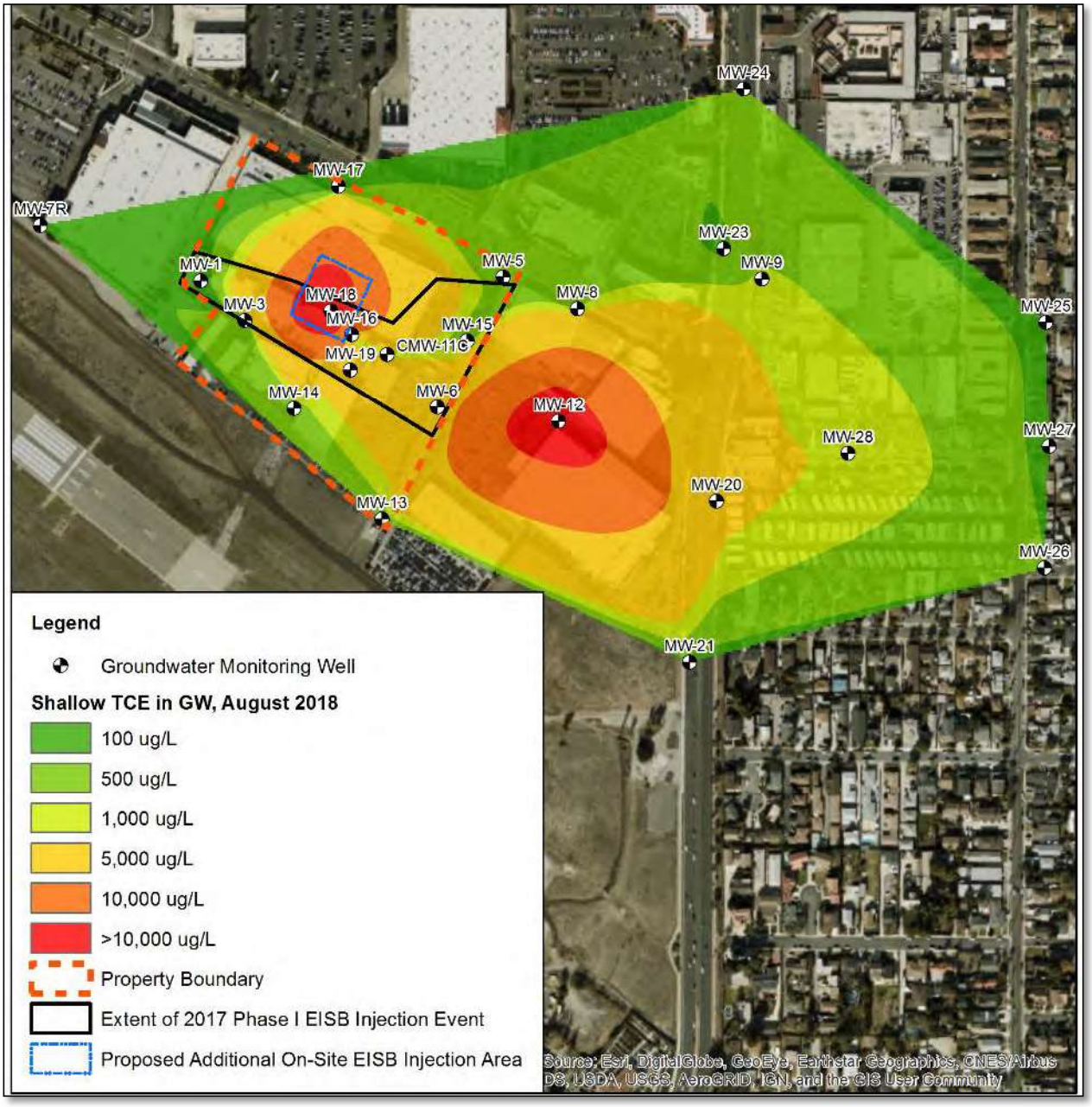


Exhibit 3-3 demonstrates that the 2017 full-scale Phase I injection program was effective in reducing TCE concentrations within the treatment zone, particularly in the area along and just upgradient of the Hi-Shear Site and EA properties boundary. As shown in this exhibit, the area of reduced concentrations in groundwater bisecting the former plume into two higher concentration lobes closely matches the shape of the injection area. Although not evident in this depiction, the density of the treatment injections along the eastern property boundary of the Hi-Shear Site was higher than other locations to the west. Combined with the higher source-area

initial concentrations in the MW-18 area, the resulting concentrations in groundwater correlate well with the completed injection program.

Two hot spots of elevated TCE concentrations exceeding 10,000 µg/L remain, one within the upgradient portion of the treatment zone near the MW-18 Hi-Shear source area; and one downgradient of the treatment zone in the vicinity of off-Site well MW-12. As discussed herein, the bifurcated plume is indicative of a single TCE plume with localized treatment and does not indicate the presence of a source around MW-12.

Exhibit 3-3. TCE groundwater plume in August 2018, after Hi-Shear Phase I remediation



3.2 TCE Plume Modeling of TCE shows a TCE source on the Hi-Shear Site in the vicinity of MW-18

The BIOCHLOR Natural Attenuation Decision Support System (Aziz et al., 2000) model (version 2.2) was utilized to simulate plume conditions based on Site-specific hydrogeologic and decay parameters. BIOCHLOR is a screening-level model that simulates natural attenuation of dissolved chlorinated solvents (e.g., TCE) and has the ability to simulate one-dimensional advection, three-dimensional dispersion, linear adsorption, and biotransformation via reductive dichlorination (the dominant biotransformation process at many chlorinated solvent sites). The model was originally designed to help answer questions like how far a dissolved chlorinated solvent plume will extend if no engineered controls or source area reduction measures are implemented.

Input parameters for BIOCHLOR were selected based on documented Site-specific conditions and historical analytical results from groundwater monitoring wells. An approximate groundwater seepage velocity of 130 feet per year was estimated based on a gradient of 0.001 to 0.002 foot/foot in the east-southeast direction in 2018, consistent with historical observations (Alta, 2017), a horizontal hydraulic conductivity of 50 feet per day (Genesis, 2018), and an assumed effective porosity of 0.2. The source thickness was assumed to be 25 feet thick and 200 feet wide. Representative historical concentrations of CVOCs in monitoring well MW-18, which was installed in the approximate area of a source zone, were used as source concentrations in groundwater.

First-order decay rates were calculated for each groundwater monitoring well following the approach described in Newell et al. (2002). Exhibit 3-4 presents the results for the 32 monitoring wells. As shown on Exhibit 3-4, 18 monitoring wells show a positive first-order decay rate, thus indicating decreasing concentrations, and seven monitoring wells indicate increasing concentrations (negative decay rate). First-order decay rates were not calculated for seven wells that had over 50% non-detect values. The median decay rate was approximately 0.1 per year, equating to a half-life of about 7 years, meaning that concentrations are expected to reduce by approximately half every 7 years. Based on the first-order decay rates presented in Exhibit 3-4, a biotransformation decay rate of 0.1 per year was used for TCE.

Exhibit 3-4. First-order decay rates calculated for monitoring wells

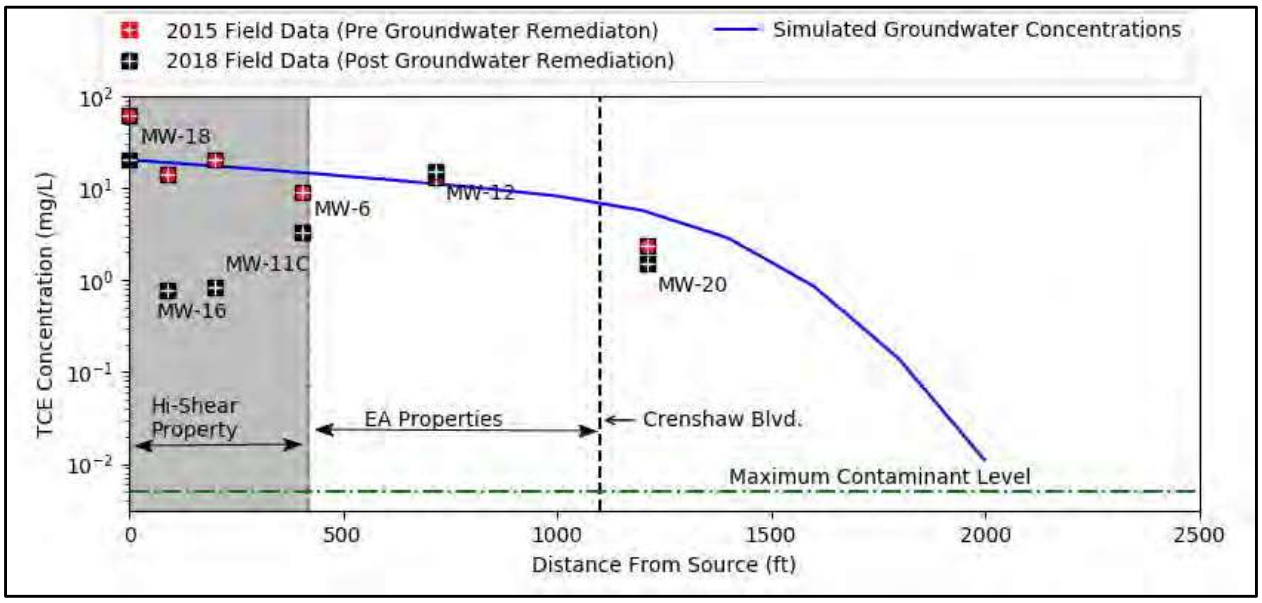
Well	K_{point} (1/yr)	Well	K_{point} (1/yr)
CMW-11A	ND	MW-15	0.667
CMW-11B	-0.0531	MW-16	0.183
CMW-11C	0.142	MW-17	0.303
MW-1	0.32	MW-18	0.126
MW-3	0.245	MW-19	0.128
MW-4	0.127	MW-20	0.0389
MW-5	0.0773	MW-21	-0.439
MW-6	-0.0929	MW-22A	ND
MW-7	0.146	MW-22B	ND
MW-7R	ND	MW-23	-0.234
MW-8	-0.0635	MW-24	ND
MW-9	-0.209	MW-25	ND
MW-10	0.176	MW-26	0.413
MW-12	-0.0725	MW-27	ND
MW-13	0.076	MW-28	0.127
MW-14	0.22	SPG-1	0.525

The simulated TCE profile shown in Exhibit 3-5, represents TCE concentrations in groundwater 30 years after a release on the Hi-Shear property near MW-18. This simulated TCE profile represents TCE concentrations with biodegradation, but without any remedial actions (i.e., without accounting for the recent 2017 enhanced in-situ bioremediation [EISB] injections). Exhibit 3-5 also shows measured TCE concentrations from before the full-scale injection event (July 2015 pre groundwater remediation; red) and after the full-scale injection event (August 2018 post groundwater remediation; black) measured in wells downgradient of MW-18 (presumed source), including MW-16, MW-11C, MW-6, MW-12, and MW-20.

Prior to the full-scale injection events in 2017, the historical TCE concentrations along the well transect (red squares) closely match the modeled TCE plume, indicating that the observed monitoring data are consistent with a single-source TCE plume migrating from the Hi-Shear property. Within the extent of the injections, the post groundwater remediation field data collected in 2018 (black squares) demonstrate a decrease in TCE concentrations below the simulated TCE profile, which highlights the effect the 2017 remedial action had on TCE concentrations within the injection area in groundwater. Downgradient of the property boundary and beyond the injection points, the TCE concentrations in 2018 (post groundwater remediation) more closely resemble the simulated TCE profile, with substantial TCE concentrations that exceed the MCL (extending approximately 1,000 feet downgradient of Crenshaw Boulevard). These findings support a single TCE plume that has emanated downgradient from the Hi-Shear property, with the observed bifurcation of the TCE plume (see Exhibit 3-3) resulting from the 2017 EISB injections and not

due to a second source of TCE downgradient of the Hi-Shear property. These modeling results indicate that a source of TCE in the vicinity of MW-18 has migrated downgradient at significant concentrations and was subsequently bifurcated from the limited Hi-Shear groundwater remediation efforts.

Exhibit 3-5. Simulated TCE concentrations without groundwater remediation shown as distance from the Hi-Shear source



3.3 TCE Mass Flux is leaving the Hi-Shear Site across the EA Properties Boundary

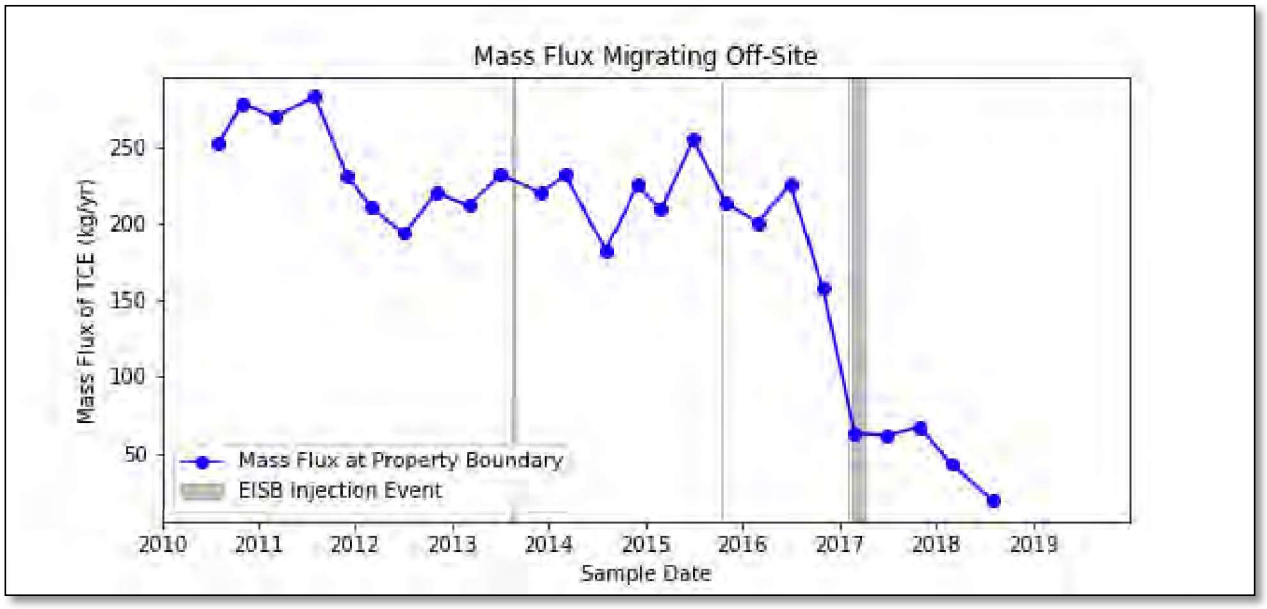
The GSI Mass Flux Toolkit (Farhat et al., 2011), which was developed for the Department of Defense ESTCP program, was utilized to estimate the mass flux currently leaving the Hi-Shear Site across the eastern property boundary, which is generally oriented perpendicular to groundwater flow. This mass flux represents the historical and ongoing loading of TCE (and other Site constituents) from the Hi-Shear Site to downgradient EA properties and Residential Properties.

A transect of monitoring wells across the eastern property boundary, generally oriented perpendicular to the predominant groundwater flow direction, was selected: MW-5, MW-15, MW-6, and MW-13. The Mass Flux Toolkit assumes that the ends of the transect are clean (i.e., contain a constituent concentration of 0 µg/L). Since the objective of this analysis was to estimate the mass flux of TCE across the eastern property boundary, not the width of the entire plume, the transect was truncated 1 foot beyond either terminal monitoring well (i.e., MW-5 to the north and MW-13 to the south). This assumption implies that the mass flux across the entire TCE plume is greater than the mass flux reported here. MW-10, which is located approximately 18 feet south of MW-5, was not used in this analysis because it is screened approximately 30 feet deeper than the other four monitoring wells utilized in this transect. Additional input parameters to the Mass Flux Toolkit include a representative hydraulic gradient of 0.0015 foot/foot and a horizontal hydraulic conductivity of 50 feet per day (Genesis, 2018). While the vertical extent of groundwater impacts has not been fully delineated, a 25-foot thickness was assumed here and represents the interval over which EISB injections were implemented (i.e., 88 to 113 feet bgs). The mass flux

was calculated for the time period for which monitoring data were collected from each of the four wells (i.e., August 2010 through August 2018).

Exhibit 3-6 illustrates the estimated mass flux across the eastern property boundary between wells MW-5 and MW-13. Approximately 230 kilogram (kg) of TCE per year migrated from the Hi-Shear Site to the EA properties between 2010 and 2017, with an unknown quantity having migrated prior to 2010. The 2017 full-scale Phase I EISB injections appear to have substantially reduced the mass flux across the eastern property boundary, but approximately 20 to 70 kg of TCE continue to migrate from the Hi-Shear Site to the EA properties annually, contributing to an ongoing release of TCE from the Hi-Shear to downgradient EA properties. Without additional significant groundwater remediation on the Hi-Shear Site, the rate of TCE migrating off-Site will continue to increase as the high TCE concentrations upgradient at a source, near MW-18, move downgradient and across the eastern property boundary.

Exhibit 3-6. Mass flux of TCE migrating from the Hi-Shear Site across the eastern property boundary, as calculated in the Mass Flux Toolkit



While monitoring data along Crenshaw Boulevard are more limited temporally, the mass flux of TCE was estimated across Crenshaw Boulevard with the following transect: MW-24, MW-23, MW-9, MW-20, and MW-21, with 100 feet included on either end of the transect to an assumed concentration of 0 µg/L TCE. Input concentrations were based on data collected between July 2016 and August 2018 from transect monitoring wells, which represents the period for which concentrations were measured in each of the monitoring wells. The total mass flux of TCE across Crenshaw Blvd. ranges from approximately 20 to 50 kg TCE per year, which represents the additional mass of TCE that continues to migrate across Crenshaw Blvd. each year.

4.0 TCE is the remedy driver for groundwater impacts both on the Hi-Shear Site and downgradient on the EA Properties and the Residential properties.

A review of available groundwater monitoring data indicates that TCE is the remedy driver for groundwater impacts on the Hi-Shear Site, EA Properties, and Residential Properties. For example, the maximum historical measured TCE concentration on the Hi-Shear Site (190,000 µg/L in MW-3) is almost 12 times greater than the maximum measured historical concentration of PCE (16,000 µg/L) in MW-3.

TCE has also in most sample locations been detected at concentrations exceeding PCE on the EA properties:

- MW-20: TCE is 5 to 34 times greater than PCE;
- MW-9 and MW-23: TCE is 3 to over 475 times greater than PCE; and
- MW-21: PCE concentrations typically exceed TCE concentrations, but both concentrations are relatively low (within 1 OoM of the MCL).

Downgradient of Crenshaw Boulevard within the Residential Properties:

- MW-28: TCE is 11 to 38 times greater than PCE; and
- MW-22A, MW-22B, MW-24, MW-25, MW-26, and MW-27: PCE has not been detected.

These data clearly identify that potential sources of PCE are not contributing significantly to the primary TCE plume migrating downgradient from documented Hi-Shear sources.

5.0 References

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GSI ENVIRONMENTAL

HI-SHEAR SITE
2600 SKYPARK DRIVE
TORRANCE, CA 90505

Timothy Wood, PG, CHG
Bita Tabatabai, PE
Peter Scaramella
Kate Richards, PG, CHG

August 12, 2020 Water Board Meeting

INTRODUCTION

- **On behalf of the City of Torrance, GSI Environmental has been reviewing documents pertaining to the Hi-Shear Site since 2018.**
- **GSI Environmental has reviewed available Site documents dating back to 1991**
- **GSI Environmental Inc., 2020, Technical Memorandum, 9 June**

Timothy Wood, PG, CHG
Principal Geologist

Bita Tabatabai, PE
Principal Engineer

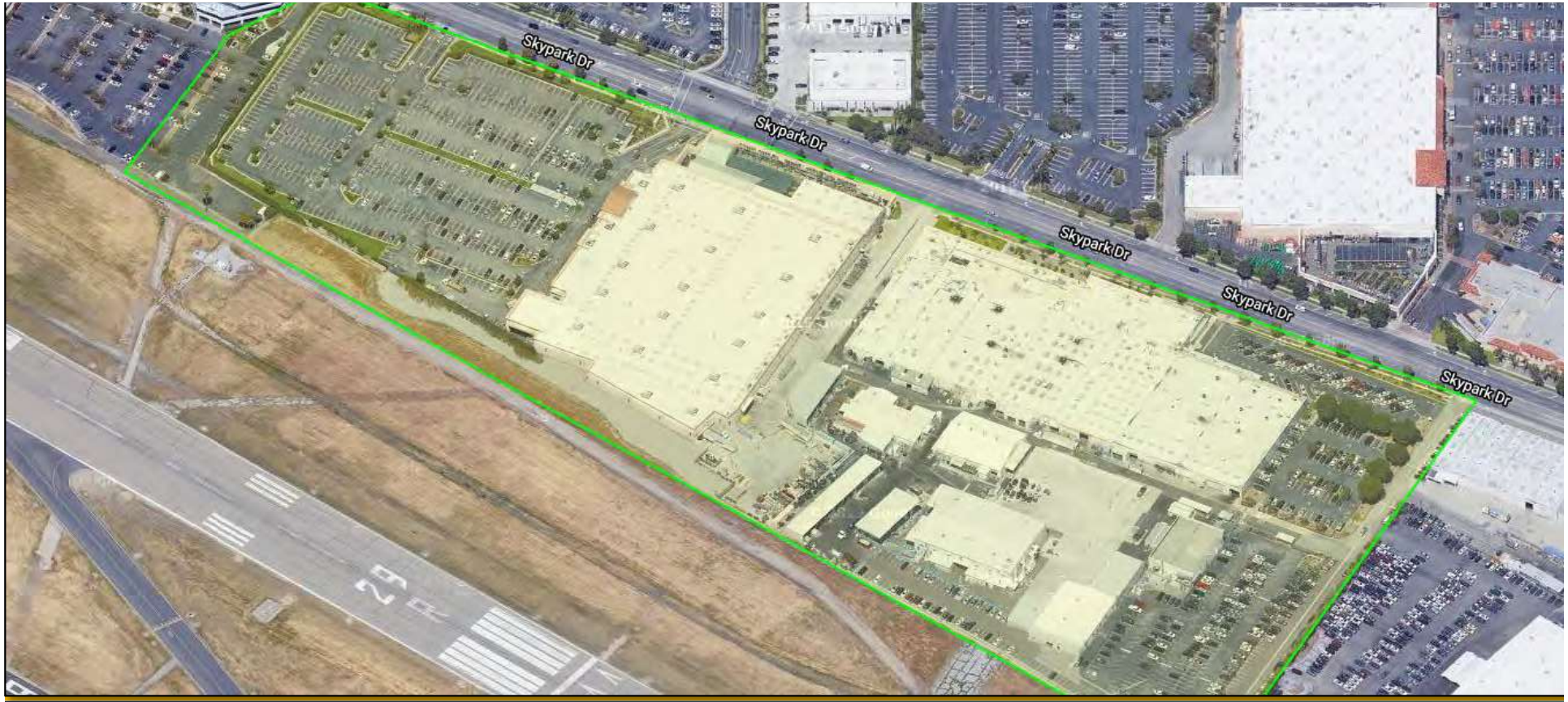
Kate E. Richards, PG, CHG
Senior Hydrogeologist

Peter Scaramella
Senior Risk Assessor

PRESENTATION OVERVIEW

- Hi-Shear historical use of TCE and PCE
- Site characterization data
- TCE and PCE groundwater and soil vapor plume
- Recent soil vapor data
- Next steps for Hi-Shear on-site remediation

➡ ***Based on soil vapor concentrations and the groundwater plume, a Cleanup and Abatement Order is warranted for Hi-Shear Site***



HI-SHEAR HISTORICAL USE OF TCE AND PCE

Timothy Wood, PG, CHG
Principal Geologist

RWQCB INVOLVEMENT AT HI-SHEAR

- 1992 to 2005 – Groundwater investigation and monitoring reports submitted by Hi-Shear's consultant to RWQCB
- 2005 to 2007 – RWQCB SLIC Case No. 218
  - Oversight for redevelopment of western portion of Hi-Shear Site (La Caze Development)
- 2009 – RWQCB issues 13267 Order to Hi-Shear
- 2016 to 2017 – RWQCB issues 13267 letters to EA Properties:
  - 18 Apr 2016 – South Bay Lexus and City of Torrance
  - 10 Oct 2017 – Magellan Aerospace (former Aeronca Facility)
  - 10 Oct 2017 – Excellon Automation
- 2019 and 2020 – RWQCB issues 13267 and 13383 Orders to Hi-Shear
- 13 Jan 2020 – RWQCB issues 13267 letter Re EA Properties
- 12 May 2020 – RWQCB issues 13267 letter Re EA Properties

➢ ***Timeline based on documents available on GeoTracker***

HI-SHEAR HISTORICAL SITE USE

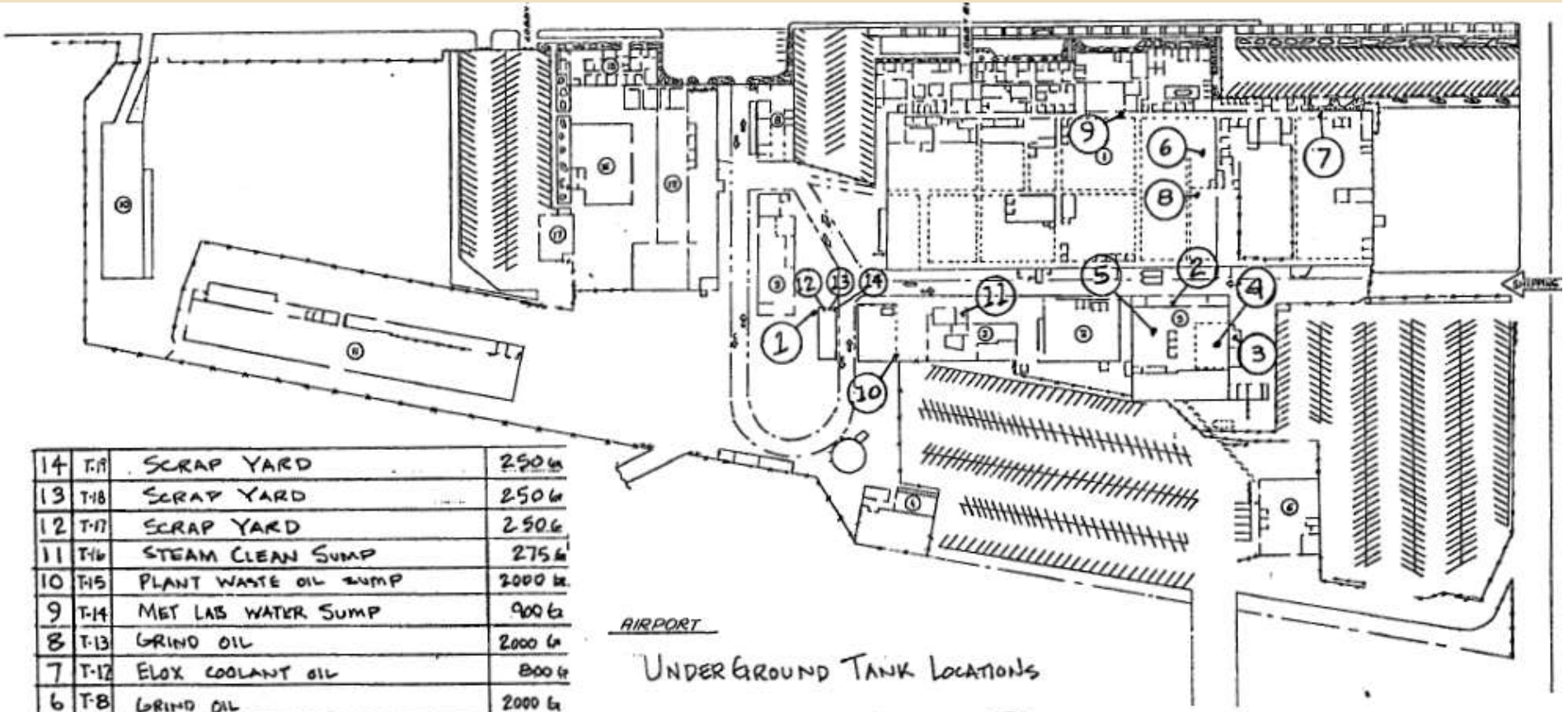
Hi-Shear Site has been leased by Hi-Shear and its corporate successors (currently LISI Aerospace) since 1954.

Hi-Shear Site features provided pathways for release of solvents to subsurface

- **18 underground storage tanks (USTs), including:**
  - **Waste oil UST associated with release of TCE and PCE**
  - **Plating pits (75,000- and 50,000-gallon capacity)**
- **Drywell historically located at Building 3**
- **Sewer Lines Associated with Industrial Wastewater Discharge**
- **Documentation of poor compliance with hazardous waste labeling and tracking requirements (Hygienetics 1991)**

1991 MAY 5 – ENVIRONMENTAL SITE ASSESSMENT; HYGIENETICS

Partial summary of USTs:



14	T-19	SCRAP YARD	250 G
13	T-18	SCRAP YARD	250 G
12	T-17	SCRAP YARD	250 G
11	T-16	STEAM CLEAN SUMP	275 G
10	T-15	PLANT WASTE OIL SUMP	2000 G
9	T-14	MET LAB WATER SUMP	900 G
8	T-13	GRIND OIL	2000 G
7	T-12	ELOX COOLANT OIL	800 G
6	T-8	GRIND OIL	2000 G
5	T-5	WEST PLATING PIT	75K GS
4	T-4	EAST PLATING PIT	50.K G
3	T-3	WEST PLATING CLAIFIER	2000 G
2	T-2	NORTH PLATING CLAIFIER	2000 G

1991 MAY 5 – ENVIRONMENTAL SITE ASSESSMENT; HYGIENETICS

Partial summary of USTs:

TABLE 2

UNDERGROUND STORAGE VESSELS
PAST AND PRESENT

NUMBER	LOCATION	CONTENTS	VOLUME
1*	Southeast of Bldg. #9	Waste Oil	?
2	North of Bldg. #5	Plating Clarifier	2,000 gal
3	East of Bldg. #5	Plating Clarifier	2,000 gal
4	East of Bldg. #5	East Plating Pit	50,000 gal
5	West of Bldg. #5	West Plating Pit	75,000 gal
6	Bldg. #1	Grind Oil	2,000 gal
7	Bldg. #1	Coolant Oil	800 gal
8	Bldg. #1	Grind Oil	2,000 gal
9	Bldg. #1	Water Sump	900 gal
10	Southwest of Bldg. #3	Waste Oil Sump	2,000 gal
11	Bldg. #3	Steam Clean Sump	275 gal
12*	West of Bldg. #3	Waste Oil	250 gal
13*	West of Bldg. #3	Waste Oil	250 gal
14*	West of Bldg. #3	Waste Oil	250 gal
15*	West of Bldg. #6	Gasoline	?
16*	West of Bldg. #6	Gasoline	?
17	South of Bldg. #3	Soap, Grease & Water	?
18	South of Bldg. #3	Soap, Grease & Water	?

User: ltrapp

SCAQMD Facility Equipment List Report

Run Date : 04/14/2020 10:10 AM

Facility: 11192 HI-SHEAR CORPORATION
Last Inspection: 01/08/2010 On Hold: N Suspended: N
Contact: CAROL GRUBER (310) 7844083 RECLAIM: N
Location Address: 2600 SKYPARK DR, TORRANCE 90505-2975 Sector:LC
Mailing Address: 2600 SKYPARK DR, TORRANCE 90505-2975 Sector:LC
Instruction:

Status: Active
TS: TS-74 Toxics: Non-chrome Plating
TITLE V: N AIRS ID: 0603702296

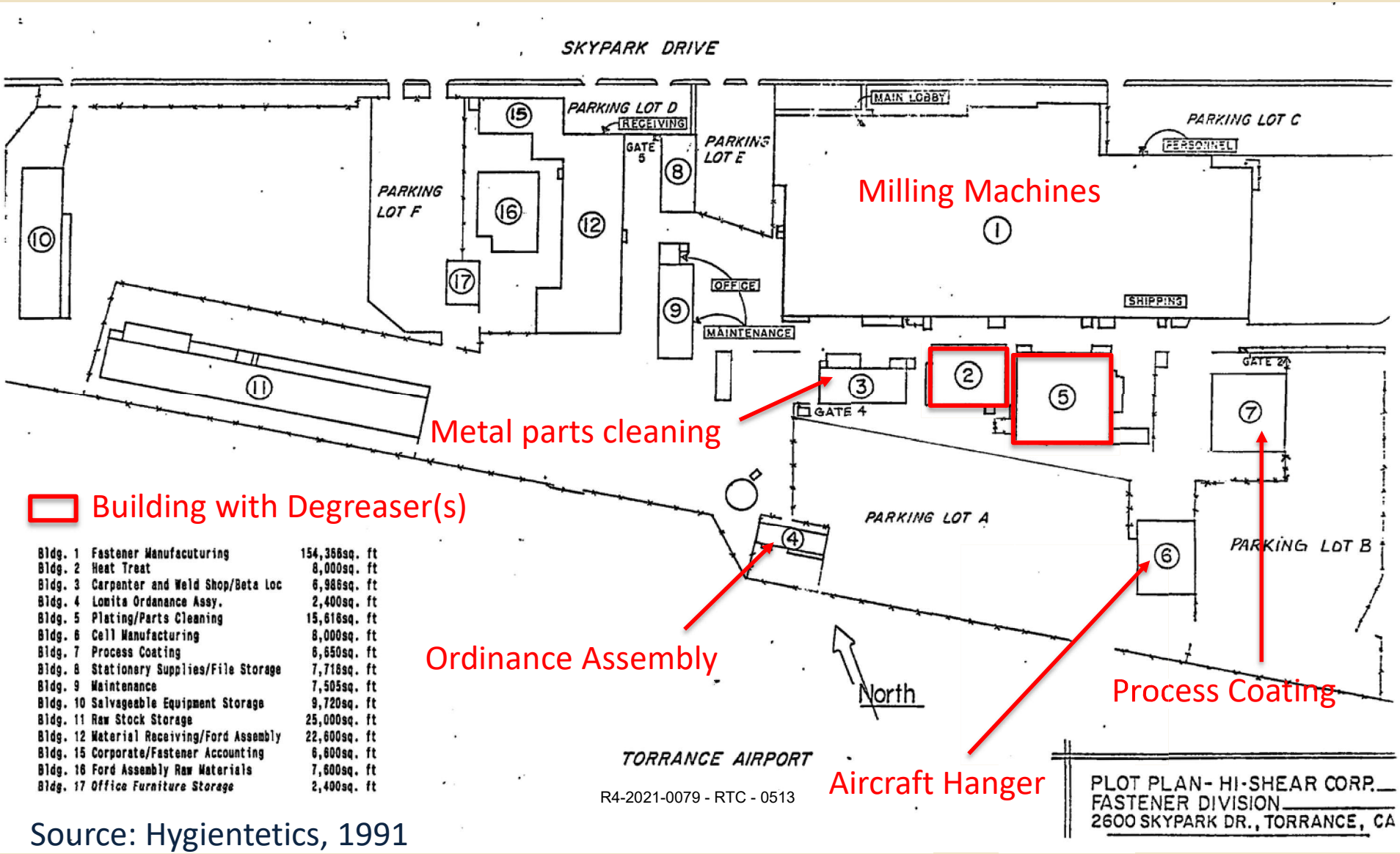
MR: A 5 SIC: 3451 Team: X
Quarter: 0100 - inspect in 2nd quarter, every year
Assignment: 481956
Inspector: EE02 ELEANOR F ELEAZAR
Inspection Date:
Disposition:

Application No.	Permit No.	Permit Issue Date	Permit Status	Equipment Category		BCAT/CCAT Description	Application Date	Application Status
A87318	P63849	09/29/1975	INACTIVE	000285	BCAT	TANK CHROME PLATING HEXAVALENT	01/01/1990	PERMIT TO OPERATE GRANTED
C01425	P66723	04/06/1976	INACTIVE	000222	BCAT	DEGREASER PERCHLOROETHYLENE (>1lb VOC/d)	01/01/1900	PERMIT TO OPERATE GRANTED
C07306	P68701	01/17/1977	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1900	PERMIT TO OPERATE GRANTED
C08715	M01924	10/10/1977	INACTIVE	000221	BCAT	DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)	01/01/1990	PERMIT TO OPERATE GRANTED
C28287	M16101	03/10/1981	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1900	PERMIT TO OPERATE GRANTED
C28288	M16098	03/10/1981	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1990	PERMIT TO OPERATE GRANTED
C28565	M16100	03/10/1981	INACTIVE	000265	BCAT	OVEN, DRYING	01/01/1900	PERMIT TO OPERATE GRANTED
C34660	M16886	04/10/1981	INACTIVE	420900	BCAT	STORAGE TANK TRICHLOROETHYLENE	01/01/1900	PERMIT TO OPERATE GRANTED
C34661	M17485	07/14/1981	INACTIVE	420900	BCAT	STORAGE TANK TRICHLOROETHYLENE	01/01/1900	PERMIT TO OPERATE GRANTED
C37732	M23967	04/09/1982	INACTIVE	40	CCAT	SCRUBBER, OTHER VENTING S.S.	01/01/1990	PERMIT TO OPERATE GRANTED
C37733	M23966	04/09/1982	INACTIVE	40	CCAT	SCRUBBER, OTHER VENTING S.S.	01/01/1990	PERMIT TO OPERATE GRANTED
C37734	M23965	04/09/1982	INACTIVE	40	CCAT	SCRUBBER, OTHER VENTING S.S.	01/01/1900	PERMIT TO OPERATE GRANTED
C39792	M18653	04/30/1982	INACTIVE	000264	BCAT	OVEN, BAKING	01/01/1990	PERMIT TO OPERATE GRANTED
C42860	M26931		INACTIVE	000265	BCAT	OVEN, DRYING	01/01/1900	PERMIT TO OPERATE GRANTED
Z02577	909641		INACTIVE	70	CCAT	CONTROL ETO STERILIZATION HOSPITAL	01/01/1900	PERMIT TO OPERATE GRANTED
Z02577	909641		INACTIVE	248915	BCAT	SERV STAT STORAGE & DISPENSING GASOLINE	01/01/1900	PERMIT TO OPERATE GRANTED
A49572	P26293	06/14/1968	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1990	PERMIT TO OPERATE GRANTED
A70575	P51243	11/16/1972	INACTIVE	000221	BCAT	DEGREASER 1,1,1 TRICHLOROETHANE (>1LB/D)	01/01/1900	PERMIT TO OPERATE GRANTED
A77532	P57754	08/01/1974	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1990	PERMIT TO OPERATE GRANTED
A77533	P57755	08/01/1974	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1900	PERMIT TO OPERATE GRANTED
A77534	P57756	08/01/1974	INACTIVE	60	CCAT	SPRAY BOOTH PAINT AND SOLVENT	01/01/1900	PERMIT TO OPERATE GRANTED
A87317	P63848	09/29/1975	INACTIVE	40	CCAT	SCRUBBER, OTHER VENTING S.S.	01/01/1990	PERMIT TO OPERATE GRANTED
A87317	P63848	09/29/1975	INACTIVE	000281	BCAT	TANK CHEMICAL MILLING	01/01/1990	PERMIT TO OPERATE GRANTED
A87318	P63849	09/29/1975	INACTIVE	40	CCAT	SCRUBBER, OTHER VENTING S.S.	01/01/1990	PERMIT TO OPERATE GRANTED

Inspector: _____ Date: _____ Reviewed By: _____ Date: _____

Inspector: _____ Date: _____ Reviewed By: _____ Date: _____

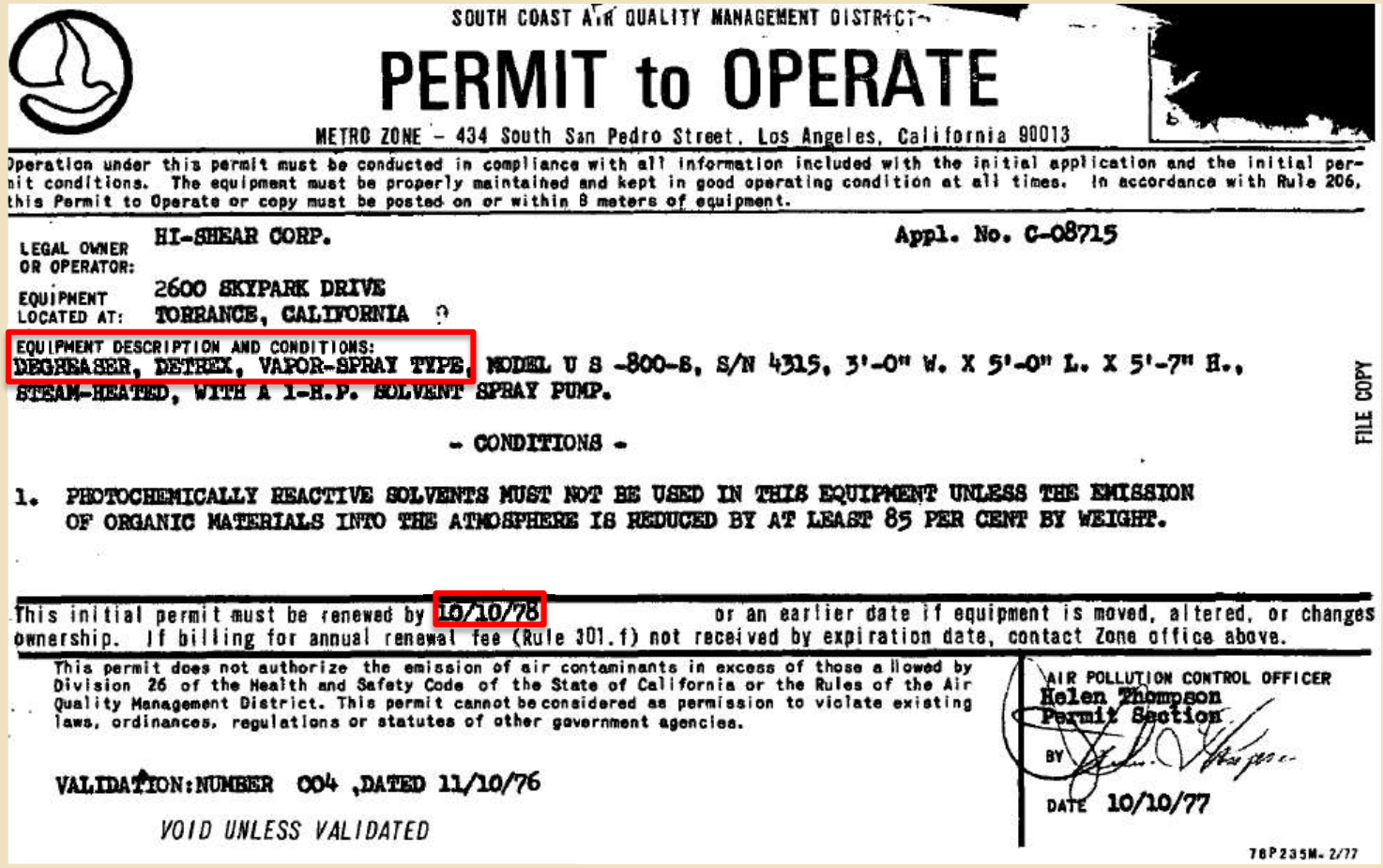
HI-SHEAR SITE PLAN



Bldg. 1	Fastener Manufacturing	154,366sq. ft
Bldg. 2	Heat Treat	8,000sq. ft
Bldg. 3	Carpenter and Weld Shop/Beta Loc	6,986sq. ft
Bldg. 4	Lomita Ordanance Assy.	2,400sq. ft
Bldg. 5	Plating/Parts Cleaning	15,616sq. ft
Bldg. 6	Cell Manufacturing	8,000sq. ft
Bldg. 7	Process Coating	6,650sq. ft
Bldg. 8	Stationary Supplies/File Storage	7,718sq. ft
Bldg. 9	Maintenance	7,505sq. ft
Bldg. 10	Salvageable Equipment Storage	9,720sq. ft
Bldg. 11	Raw Stock Storage	25,000sq. ft
Bldg. 12	Material Receiving/Ford Assembly	22,600sq. ft
Bldg. 15	Corporate/Fastener Accounting	6,600sq. ft
Bldg. 16	Ford Assembly Raw Materials	7,600sq. ft
Bldg. 17	Office Furniture Storage	2,400sq. ft

Source: Hygientetics, 1991

SCAQMD RECORDS FOR HI-SHEAR – DETREX DEGREASERS



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PERMIT to OPERATE

METRO ZONE – 434 South San Pedro Street, Los Angeles, California 90013

Operation under this permit must be conducted in compliance with all information included with the initial application and the initial permit conditions. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 206, this Permit to Operate or copy must be posted on or within 8 meters of equipment.

LEGAL OWNER OR OPERATOR: HI-SHEAR CORP. Appl. No. C-08715

EQUIPMENT LOCATED AT: 2600 SKYPARK DRIVE TORRANCE, CALIFORNIA

EQUIPMENT DESCRIPTION AND CONDITIONS:
DEGREASER, DETREX, VAPOR-SPRAY TYPE, MODEL U S -800-S, S/N 4315, 3'-0" W. X 5'-0" L. X 5'-7" H., STEAM-HEATED, WITH A 1-H.P. SOLVENT SPRAY PUMP.

FILE COPY

- CONDITIONS -

1. PHOTOCHEMICALLY REACTIVE SOLVENTS MUST NOT BE USED IN THIS EQUIPMENT UNLESS THE EMISSION OF ORGANIC MATERIALS INTO THE ATMOSPHERE IS REDUCED BY AT LEAST 85 PER CENT BY WEIGHT.

This initial permit must be renewed by 10/10/78 or an earlier date if equipment is moved, altered, or changes ownership. If billing for annual renewal fee (Rule 301.f) not received by expiration date, contact Zone office above.

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the Rules of the Air Quality Management District. This permit cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

VALIDATION: NUMBER 004 ,DATED 11/10/76

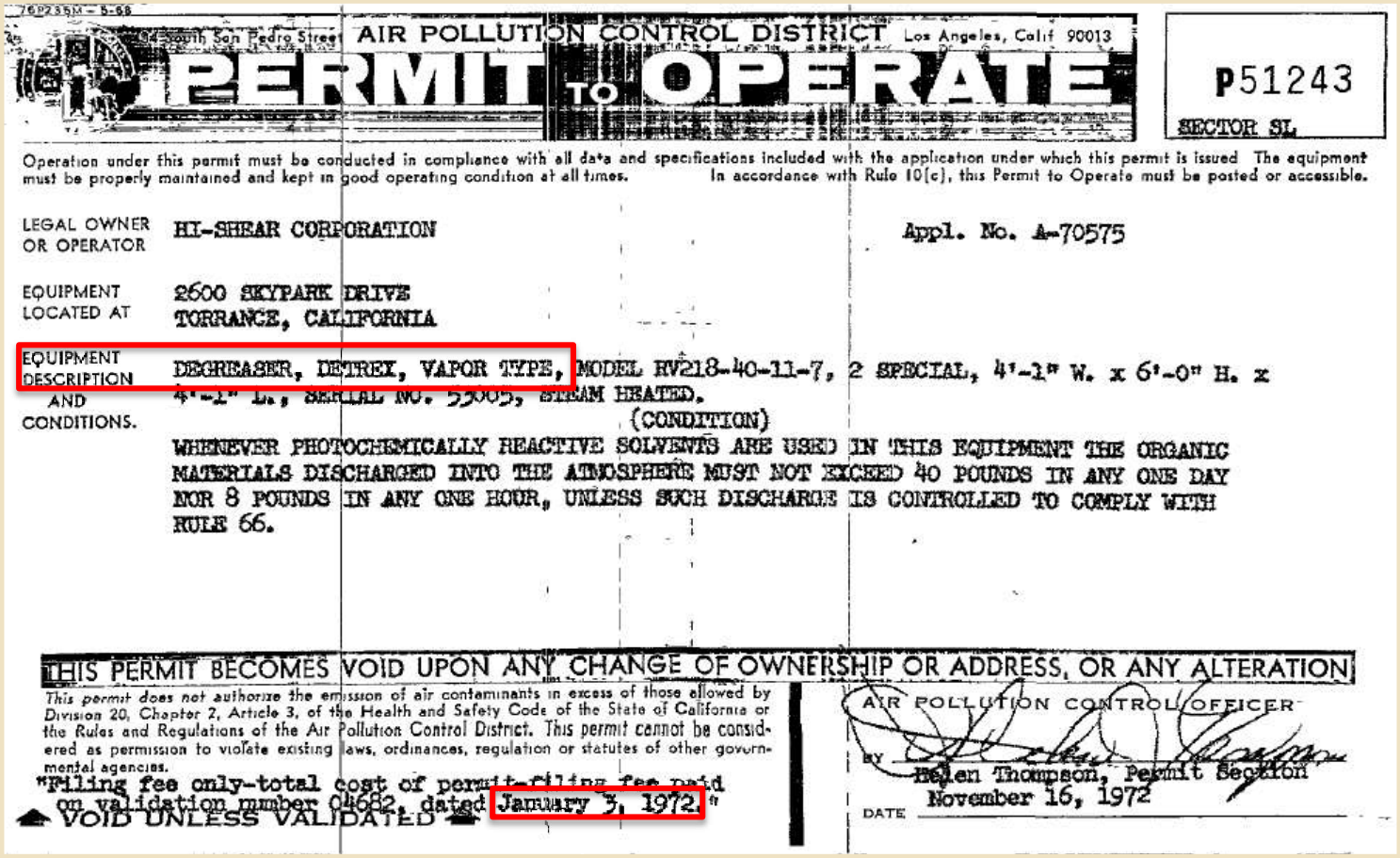
VOID UNLESS VALIDATED

AIR POLLUTION CONTROL OFFICER
Helen Thompson
Permit Section
BY
DATE 10/10/77

78P235M-2/77

Source: SCAQMD file review

SCAQMD RECORDS FOR HI-SHEAR – DETREX DEGREASERS



76P235M – 5-68

AIR POLLUTION CONTROL DISTRICT Los Angeles, Calif 90013

PERMIT TO OPERATE

P51243

SECTOR SL

Operation under this permit must be conducted in compliance with all data and specifications included with the application under which this permit is issued. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 10(c), this Permit to Operate must be posted or accessible.

LEGAL OWNER OR OPERATOR: HI-SHEAR CORPORATION

Appl. No. A-70575

EQUIPMENT LOCATED AT: 2600 SKYPARK DRIVE
TORRANCE, CALIFORNIA

EQUIPMENT DESCRIPTION AND CONDITIONS: DEGREASER, DETREX, VAPOR TYPE, MODEL HV218-40-11-7, 2 SPECIAL, 4'-1" W. x 6'-0" H. x 4'-2" L., SERIAL NO. 55005, STEAM HEATED.

(CONDITION)

WHENEVER PHOTOCHEMICALLY REACTIVE SOLVENTS ARE USED IN THIS EQUIPMENT THE ORGANIC MATERIALS DISCHARGED INTO THE ATMOSPHERE MUST NOT EXCEED 40 POUNDS IN ANY ONE DAY NOR 8 POUNDS IN ANY ONE HOUR, UNLESS SUCH DISCHARGE IS CONTROLLED TO COMPLY WITH RULE 66.

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR ADDRESS, OR ANY ALTERATION

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 20, Chapter 2, Article 3, of the Health and Safety Code of the State of California or the Rules and Regulations of the Air Pollution Control District. This permit cannot be considered as permission to violate existing laws, ordinances, regulation or statutes of other governmental agencies.

Filing fee only-total cost of permit-filing fee paid on validation number 01682, dated January 3, 1972.

VOID UNLESS VALIDATED

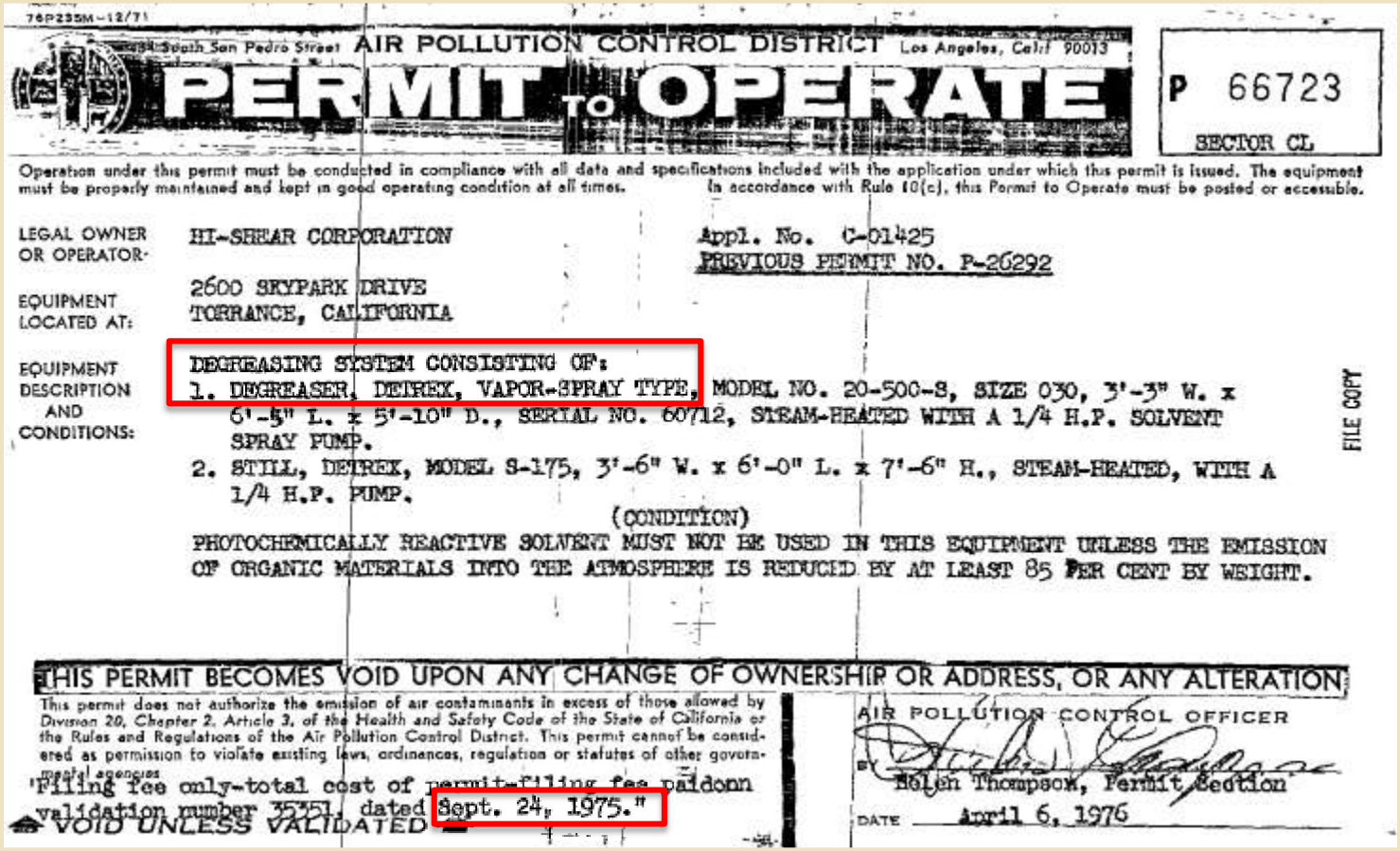
AIR POLLUTION CONTROL OFFICER

BY Helen Thompson, Permit Section

DATE November 16, 1972

Source: SCAQMD file review

SCAQMD RECORDS FOR HI-SHEAR – DETREX DEGREASERS



76P235M-12/71

9424 South San Pedro Street AIR POLLUTION CONTROL DISTRICT Los Angeles, Calif 90013

PERMIT TO OPERATE

P 66723

SECTOR CL

Operation under this permit must be conducted in compliance with all data and specifications included with the application under which this permit is issued. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 10(c), this Permit to Operate must be posted or accessible.

LEGAL OWNER OR OPERATOR: HI-SHEAR CORPORATION

Appl. No. C-01425
PREVIOUS PERMIT NO. P-26292

EQUIPMENT LOCATED AT: 2600 SKYPARK DRIVE
TORRANCE, CALIFORNIA

EQUIPMENT DESCRIPTION AND CONDITIONS:

DEGREASING SYSTEM CONSISTING OF:

1. DEGREASER, DETREX, VAPOR-SPRAY TYPE, MODEL NO. 20-500-S, SIZE 030, 3'-3" W. x 6'-5" L. x 5'-10" D., SERIAL NO. 60712, STEAM-HEATED WITH A 1/4 H.P. SOLVENT SPRAY PUMP.
2. STILL, DETREX, MODEL S-175, 3'-6" W. x 6'-0" L. x 7'-6" H., STEAM-HEATED, WITH A 1/4 H.P. PUMP.

FILE COPY

(CONDITION)

PHOTOCHEMICALLY REACTIVE SOLVENT MUST NOT BE USED IN THIS EQUIPMENT UNLESS THE EMISSION OF ORGANIC MATERIALS INTO THE ATMOSPHERE IS REDUCED BY AT LEAST 85 PER CENT BY WEIGHT.

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR ADDRESS, OR ANY ALTERATION

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 20, Chapter 2, Article 3, of the Health and Safety Code of the State of California or the Rules and Regulations of the Air Pollution Control District. This permit cannot be considered as permission to violate existing laws, ordinances, regulation or statutes of other governmental agencies.

"Filing fee only-total cost of permit-filing fee paidonn validation number 35351, dated Sept. 24, 1975."

VOID UNLESS VALIDATED

AIR POLLUTION CONTROL OFFICER

BY Helen Thompson, Permit Section

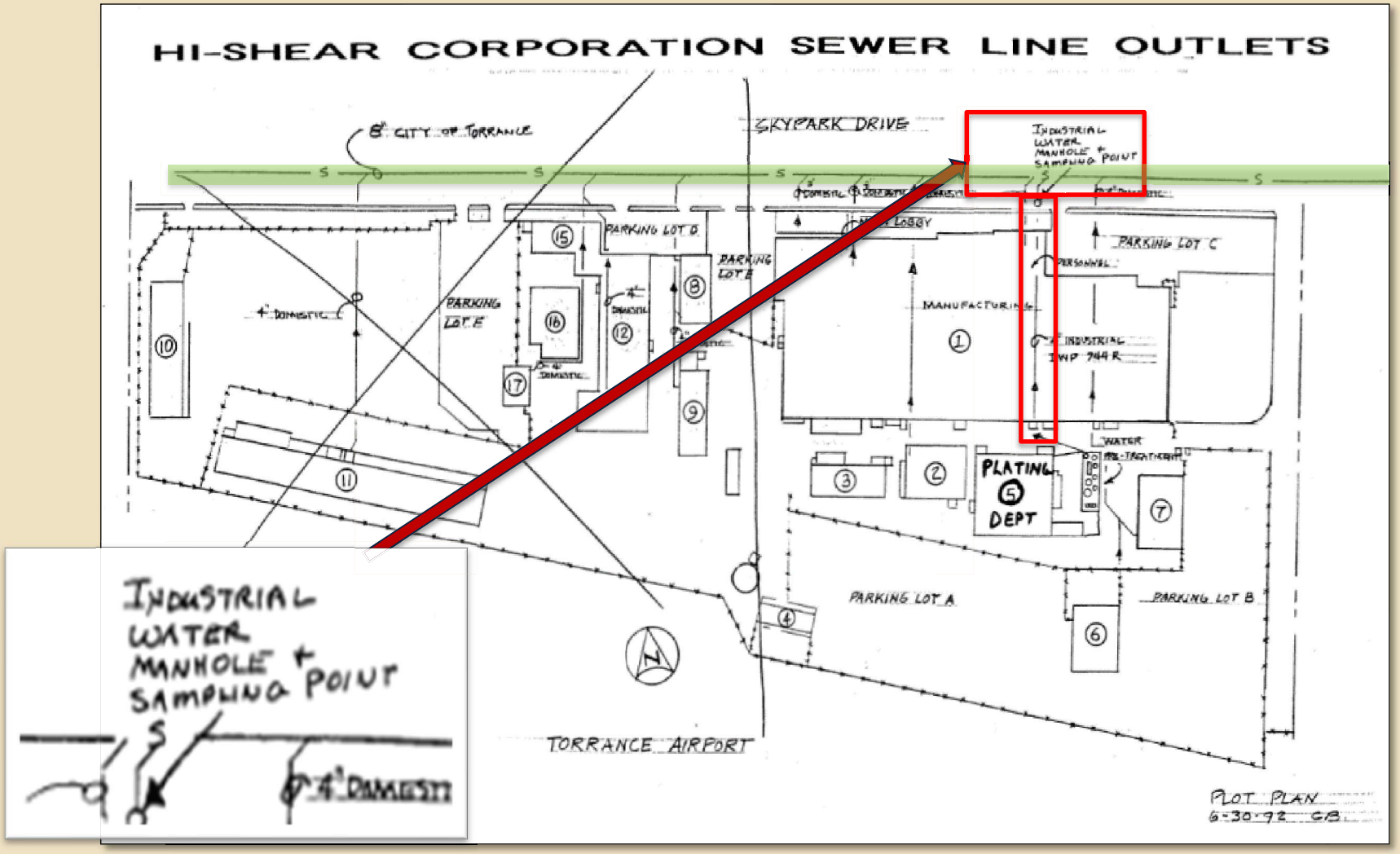
DATE April 6, 1976

Source: SCAQMD file review

HI-SHEAR DISCHARGE TO SEWER

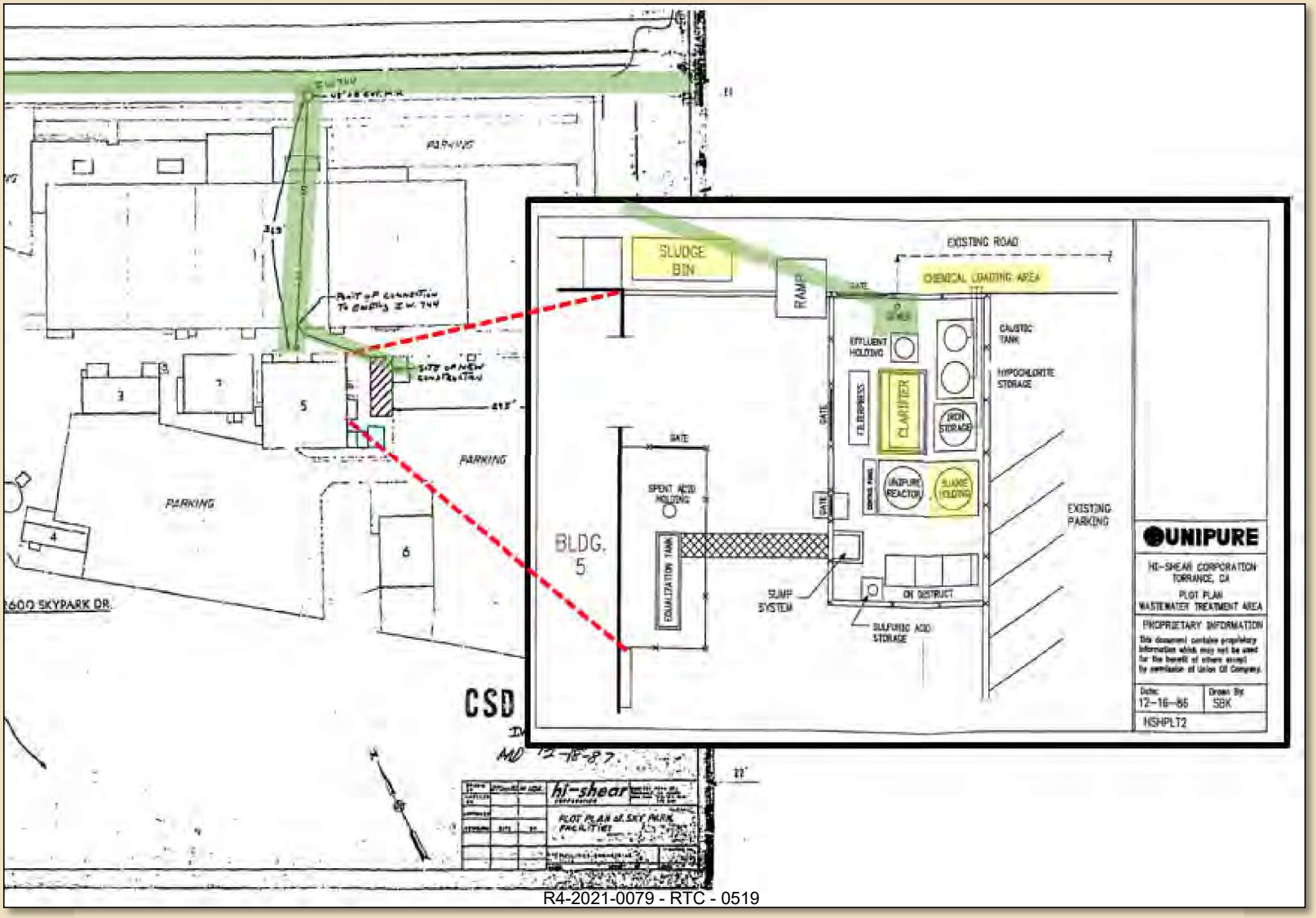
- **Industrial water discharge samples (IWS) for 1989 through 2012 indicate VOCs released to sewer.**
  - **PCE, TCE or 1,1,1-TCA detected in 12 sampling events.**
- **1991 Environmental Assessment report documented Hi-Shear acknowledged that discharges to the sewer by Hi-Shear degraded the main sewer line on Skypark Drive:**
  - ***It appears that past discharges of acidic waste have dissolved the City of Torrance Skypark Drive sewer main in several places. Hi-Shear has agreed that this is most probably due to their discharge. A preliminary study was performed to determine if the manhole deterioration has resulted in the release of heavy metal contaminates into the exposed earth. Soil samples taken below the dissolved manhole indicate that all possible metal contaminants levels are within regulatory limits.***

HI-SHEAR SITE PLAN



Source: Hygienetics, 1991

HI-SHEAR SITE PLAN



Source: Hygienetics, 1991

SITE CHARACTERIZATION DATA

Timothy Wood, PG, CHG
Principal Geologist

HI-SHEAR SITE CHARACTERIZATION

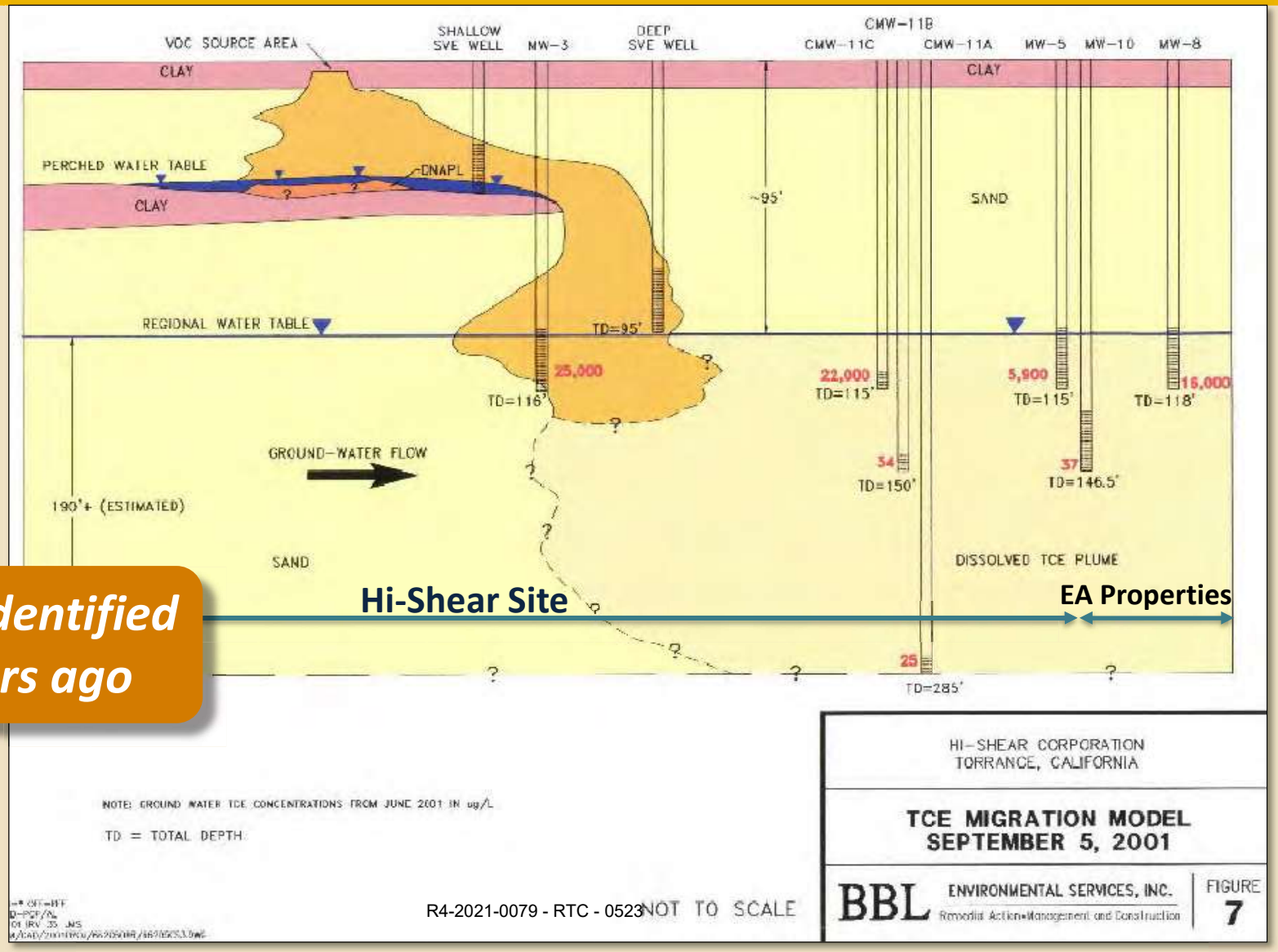
- **Groundwater monitoring reports prepared on behalf of Hi-Shear acknowledge migration of VOCs in groundwater off-site in the early 1990s**
- **Hi-Shear site assessment reports acknowledge the presence of DNAPL beneath the Hi-Shear Site in 2001**
- **Hi-Shear's environmental site assessment reports identify TCE and PCE release areas at the Hi-Shear Site**
  - ***Additional sampling at historical Site features will likely identify additional source areas for TCE and PCE***

SITE ASSESSMENT AND REMEDIATION TIMELINE

- 1992 to 2005 – Groundwater investigation and monitoring reports submitted by Hi-Shear's consultant to RWQCB
  - July 1998 – Remedial Action Plan (RAP) submitted to RWQCB
- March 1999 – SVE initiated
- 2005 to 2007 – RWQCB SLIC Case No. 218
  - Oversight for redevelopment of western portion of Site (La Caze Development)
  - RWQCB Issued letters regarding remediation activities (SVE)
- 2009 – RWQCB issues 13627 Order to Hi-Shear
  - May 2012 – RAP addendum submitted to RWQCB
- August 2013: Pilot-scale injections near well MW-15
- October 2015: Pilot-scale injections near well MW-15
- 2016 to 2017 – RWQCB issues 13267 letters to EA Properties
- January 31 to April 5, 2017: Full-scale (Phase I) injections through 75 dual-nested injection wells 2 previously installed single-cased wells IW3 and IW5
- April 2018 - SVE system shut down for repairs and system redesign
- 2019 and 2020 – RWQCB issues 13267 and 13383 Orders to Hi-Shear

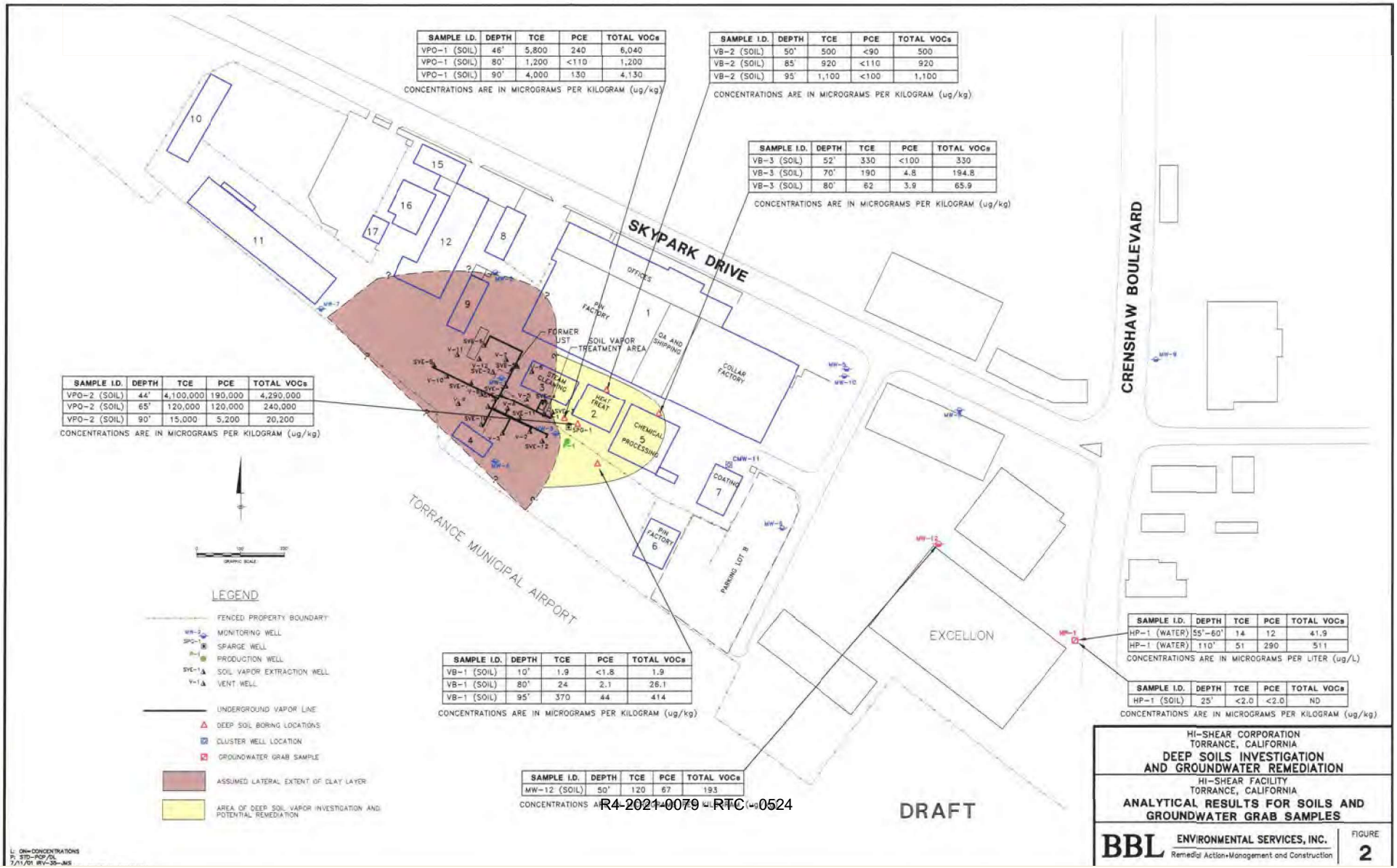
➡ *To date no clean up and abatement order has been issued*

TCE MIGRATION MODEL PREPARED ON BEHALF OF HI-SHEAR



DNAPL identified 20 years ago

2001 SEP 21 – DEEP SOILS AND GROUNDWATER INVESTIGATION PROGRESS REPORT; BBL



SAMPLE I.D.	DEPTH	TCE	PCE	TOTAL VOCs
VPO-1 (SOIL)	46'	5,800	240	6,040
VPO-1 (SOIL)	80'	1,200	<110	1,200
VPO-1 (SOIL)	90'	4,000	130	4,130

CONCENTRATIONS ARE IN MICROGRAMS PER KILOGRAM (ug/kg)

SAMPLE I.D.	DEPTH	TCE	PCE	TOTAL VOCs
VB-2 (SOIL)	50'	500	<90	500
VB-2 (SOIL)	85'	920	<110	920
VB-2 (SOIL)	95'	1,100	<100	1,100

CONCENTRATIONS ARE IN MICROGRAMS PER KILOGRAM (ug/kg)

SAMPLE I.D.	DEPTH	TCE	PCE	TOTAL VOCs
VB-3 (SOIL)	52'	330	<100	330
VB-3 (SOIL)	70'	190	4.8	194.8
VB-3 (SOIL)	80'	62	3.9	65.9

CONCENTRATIONS ARE IN MICROGRAMS PER KILOGRAM (ug/kg)

SAMPLE I.D.	DEPTH	TCE	PCE	TOTAL VOCs
VPO-2 (SOIL)	44'	4,100,000	190,000	4,290,000
VPO-2 (SOIL)	65'	120,000	120,000	240,000
VPO-2 (SOIL)	90'	15,000	5,200	20,200

CONCENTRATIONS ARE IN MICROGRAMS PER KILOGRAM (ug/kg)

SAMPLE I.D.	DEPTH	TCE	PCE	TOTAL VOCs
VB-1 (SOIL)	10'	1.9	<1.8	1.9
VB-1 (SOIL)	80'	24	2.1	26.1
VB-1 (SOIL)	95'	370	44	414

CONCENTRATIONS ARE IN MICROGRAMS PER KILOGRAM (ug/kg)

SAMPLE I.D.	DEPTH	TCE	PCE	TOTAL VOCs
MW-12 (SOIL)	50'	120	67	193

CONCENTRATIONS ARE IN MICROGRAMS PER KILOGRAM (ug/kg)

SAMPLE I.D.	DEPTH	TCE	PCE	TOTAL VOCs
HP-1 (WATER)	55'-60'	14	12	41.9
HP-1 (WATER)	110'	51	290	511

CONCENTRATIONS ARE IN MICROGRAMS PER LITER (ug/L)

SAMPLE I.D.	DEPTH	TCE	PCE	TOTAL VOCs
HP-1 (SOIL)	25'	<2.0	<2.0	ND

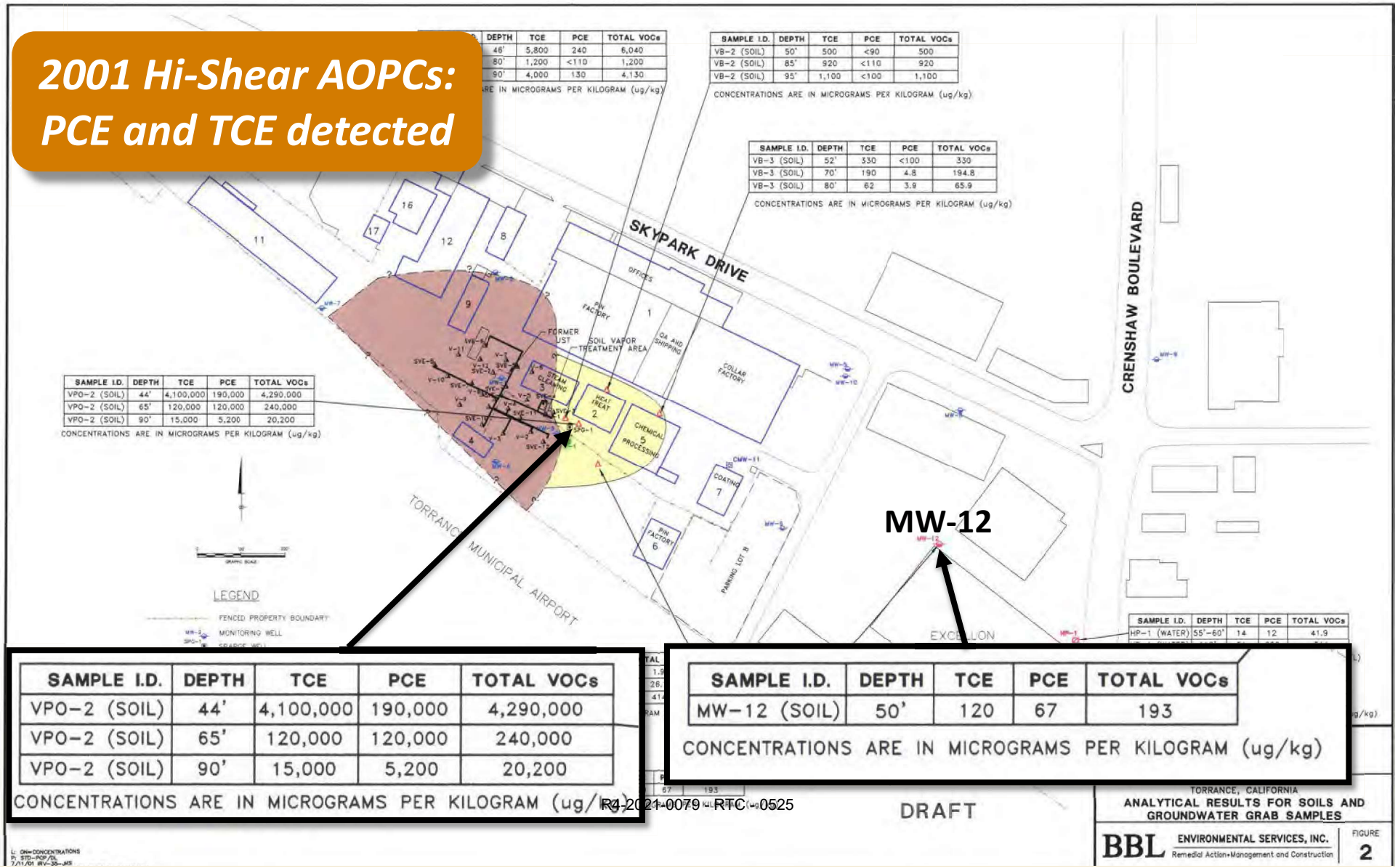
CONCENTRATIONS ARE IN MICROGRAMS PER KILOGRAM (ug/kg)

HI-SHEAR CORPORATION
TORRANCE, CALIFORNIA
DEEP SOILS INVESTIGATION AND GROUNDWATER REMEDIATION
HI-SHEAR FACILITY
TORRANCE, CALIFORNIA
ANALYTICAL RESULTS FOR SOILS AND GROUNDWATER GRAB SAMPLES
BBL ENVIRONMENTAL SERVICES, INC. Remedial Action•Management and Construction
FIGURE 2

R4-2021-0079 RTC 0524

2001 SEP 21 – DEEP SOILS AND GROUNDWATER INVESTIGATION PROGRESS REPORT; BBL

2001 Hi-Shear AOPCs: PCE and TCE detected



SAMPLE I.D.	DEPTH	TCE	PCE	TOTAL VOCs
VPO-2 (SOIL)	44'	4,100,000	190,000	4,290,000
VPO-2 (SOIL)	65'	120,000	120,000	240,000
VPO-2 (SOIL)	90'	15,000	5,200	20,200

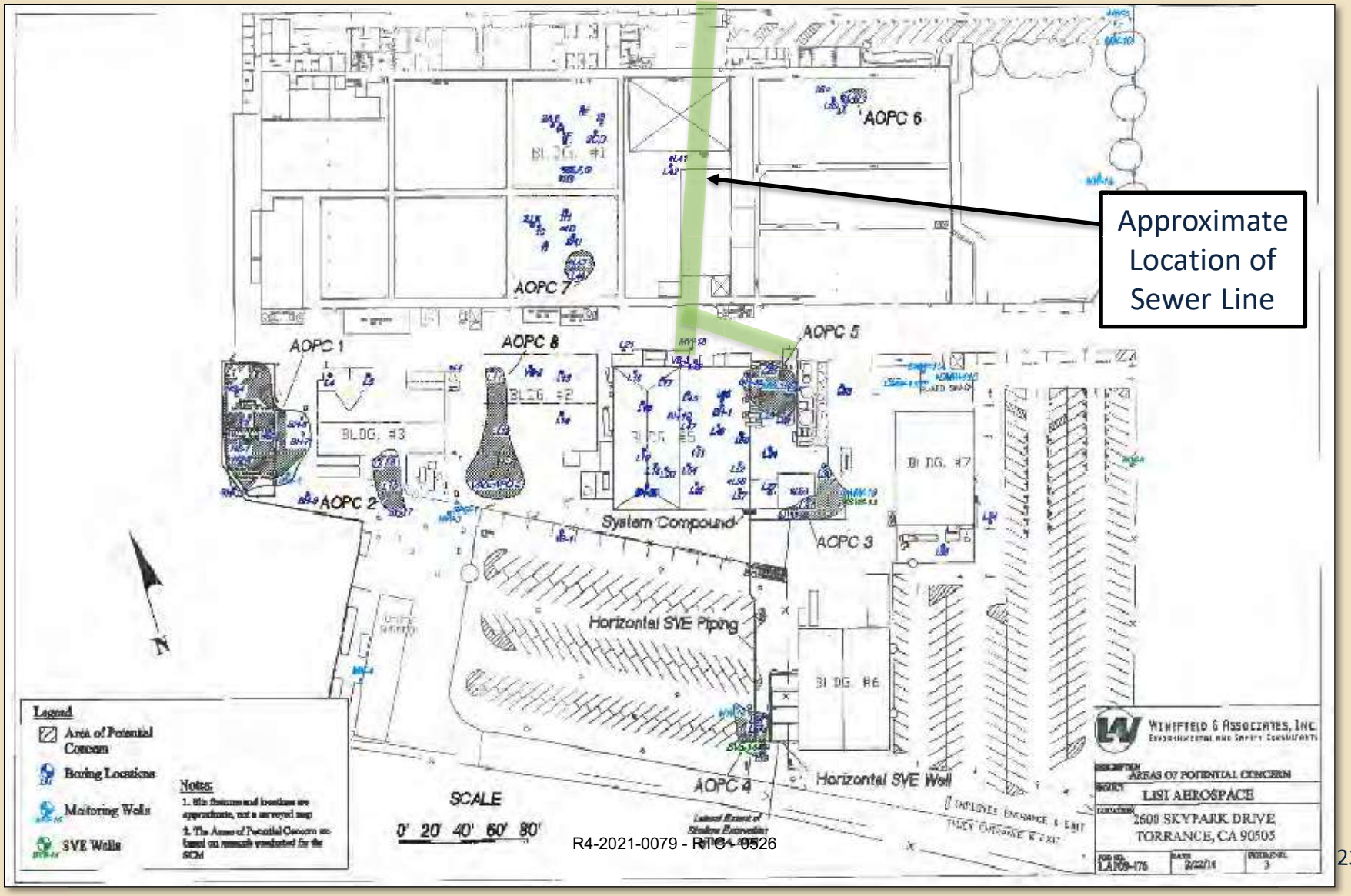
CONCENTRATIONS ARE IN MICROGRAMS PER KILOGRAM (ug/kg)

SAMPLE I.D.	DEPTH	TCE	PCE	TOTAL VOCs
MW-12 (SOIL)	50'	120	67	193

CONCENTRATIONS ARE IN MICROGRAMS PER KILOGRAM (ug/kg)

R4-2021-0079 RTC 0525

AREAS OF POTENTIAL CONCERN (W&A 2010)



SOIL DATA AT AREAS OF POTENTIAL CONCERN (W&A 2010)

Exhibit 2-7. AOPC 1 Soil Data – Location of Former Waste Oil UST #1 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 10 feet & 25 to 50 Feet	11 to 840 (µg/kg)
TCE	5 to 70 feet	7 to 820 (µg/kg)
TPH	25 to 40 feet	84 to 1,034 (mg/kg)

Exhibit 2-8. AOPC 3 Soil Data – Southeast corner of Building 5 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 25 feet and 90 ft	30 to 1,600 µg/kg
TCE	5 to 45 feet and 60 to 90 ft	88 to 35,000 µg/kg
TPH	5 to 25 ft	380 to 2,372 mg/kg

Exhibit 2-9. AOPC 5 Soil Data – Northeast corner of Building 5 (W&A 2010)

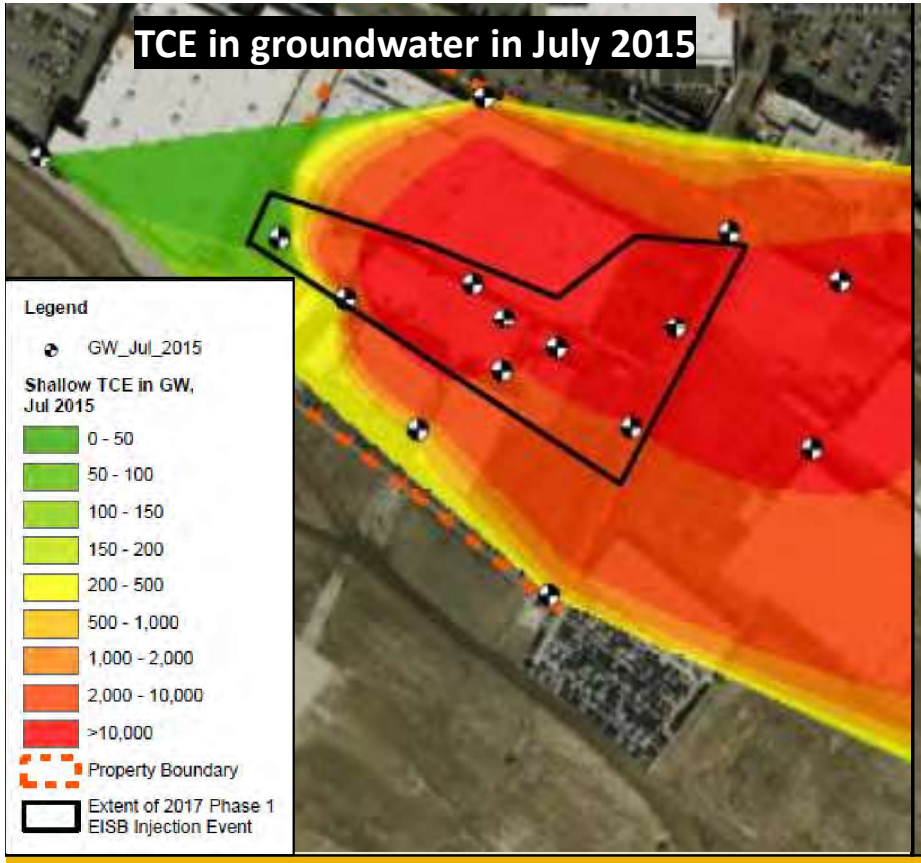
Contaminant	Depth found Below Grade	Concentration
PCE	5 to 15 feet	12 to 150 µg/kg
TCE	5 to 15 feet	18 to 360 µg/kg

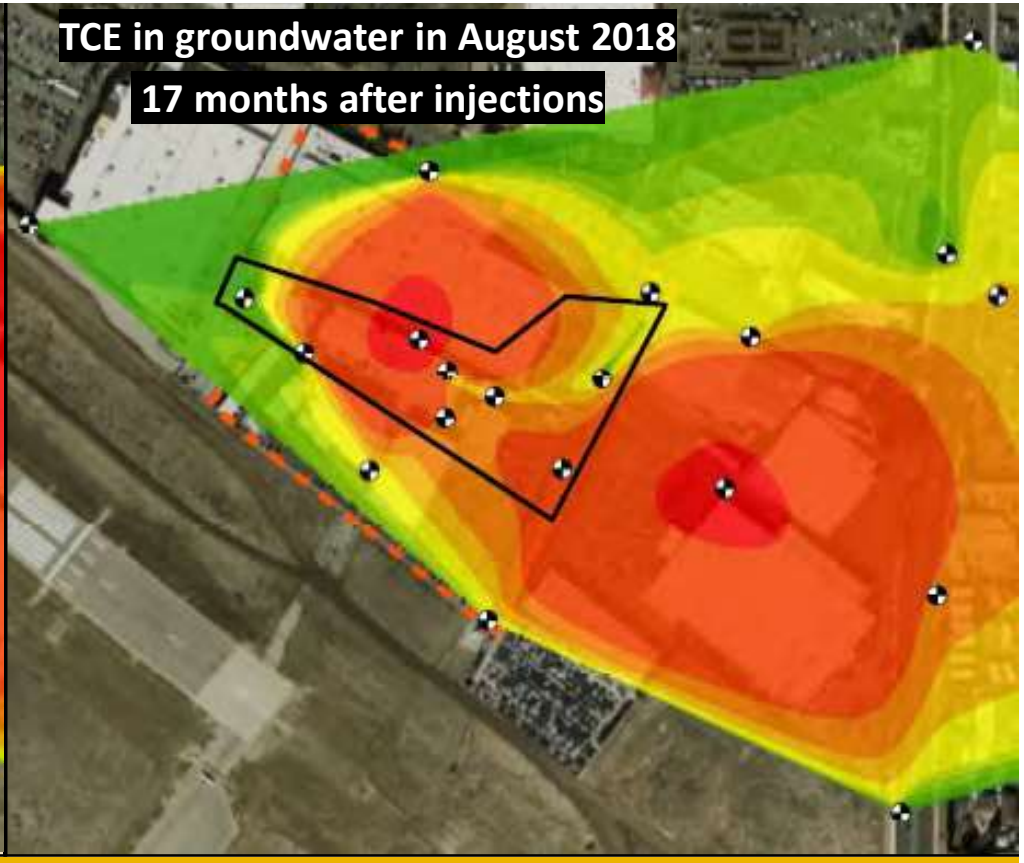
Exhibit 2-10. AOPC 7 Soil Data – Building 7 (W&A 2010)

Contaminant	Depth found Below Grade	Concentration
PCE	5 to 20 ft	50 to 250 µg/kg
TCE	5 to 20 ft	100 to 980 µg/kg
TPH	5 to 20 ft	230 to 9,461 mg/kg

HI-SHEAR SITE

- **Residual sources on Hi-Shear site need to be addressed with SVE and groundwater treatment**
  - **SVE system shut down for repairs in April 2018 and remains deactivated**
- **Cleanup and Abatement Order warranted to achieve progress towards remediation of soil and groundwater at Hi-Shear Site**





TCE AND PCE GROUNDWATER AND SOIL VAPOR PLUME

Kate Richards, PG, CHG
Senior Hydrogeologist

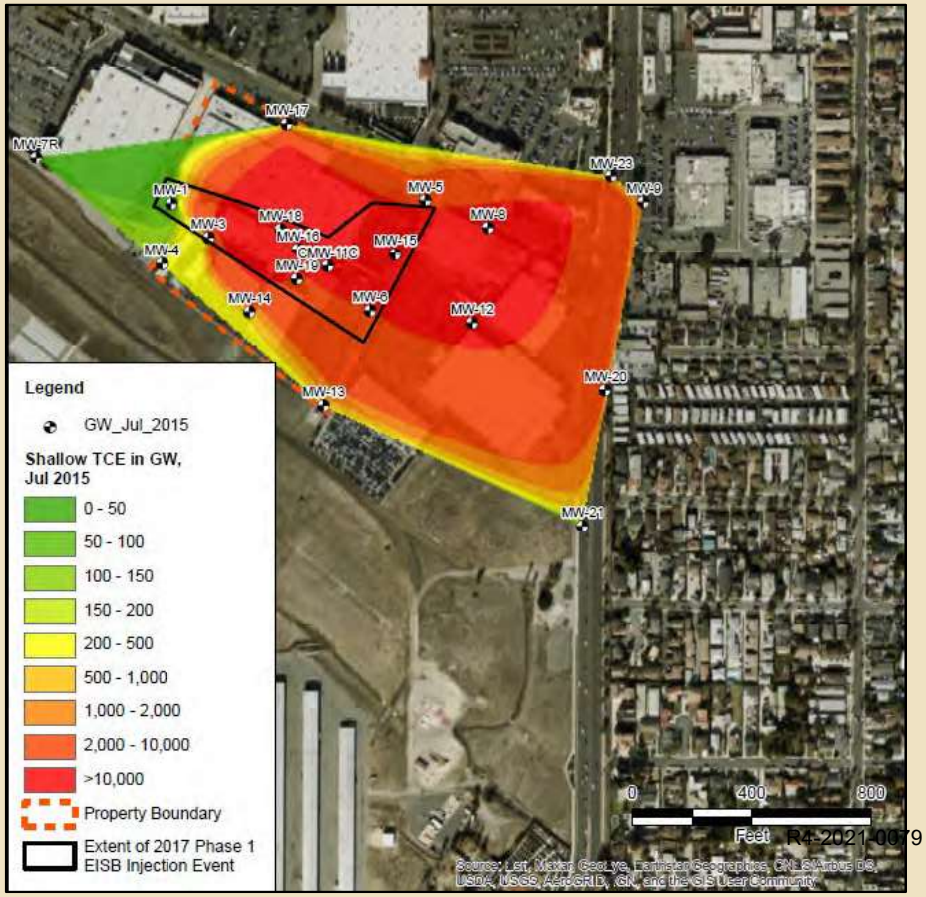
ON-SITE GROUNDWATER REMEDIATION

- August 12-22, 2013: Pilot-scale injections of 3DMe and HRC Primer through six injection wells near well MW-15 (Alta, 2014);
- October 13-15, 2015: Pilot-scale injections of 3DMe, CRS, and BDI Plus through the same six injection wells near well MW-15 (Alta, 2016); and
- January 31 to April 5, 2017: Full-scale (Phase I) injections of 3DMe, CRS, and BDI Plus through 77 injection wells (Alta, 2017).

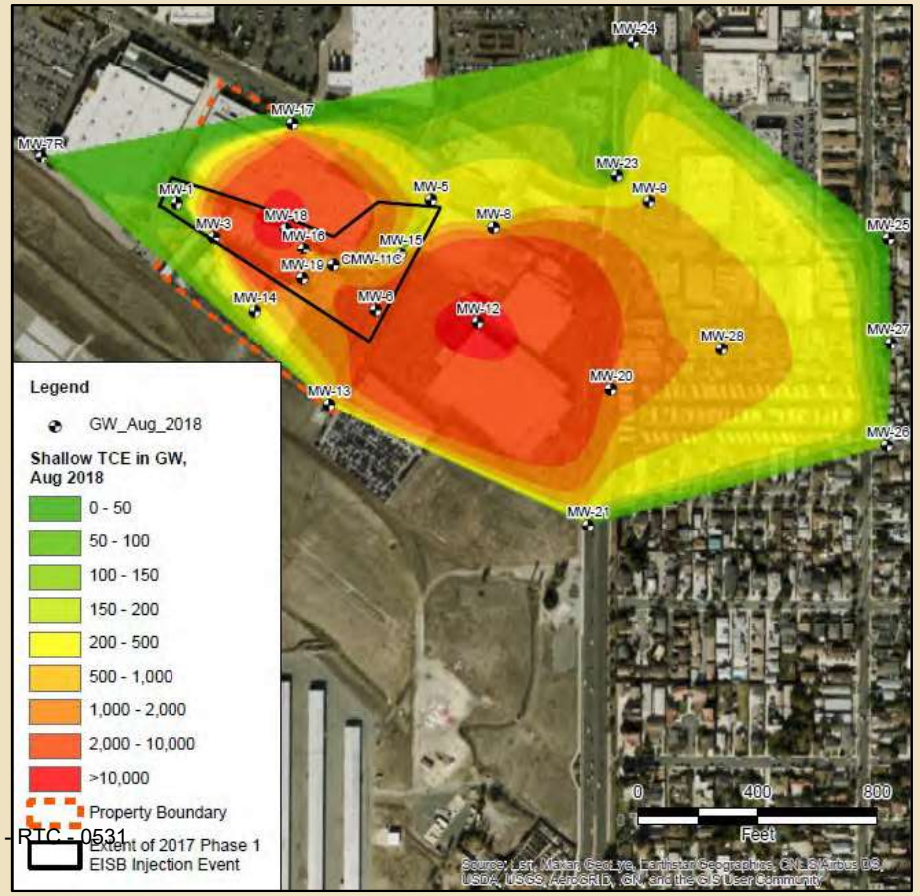
GROUNDWATER REMEDIAL ACTION HAS CREATED A TWO-LOBE PLUME

- **Groundwater Remedial Action Created the Current Bifurcated Groundwater Plume**
- **Full-scale (Phase I) injections January 31 to April 5, 2017 full-scale (Phase I) injections**

TCE in groundwater in July 2015



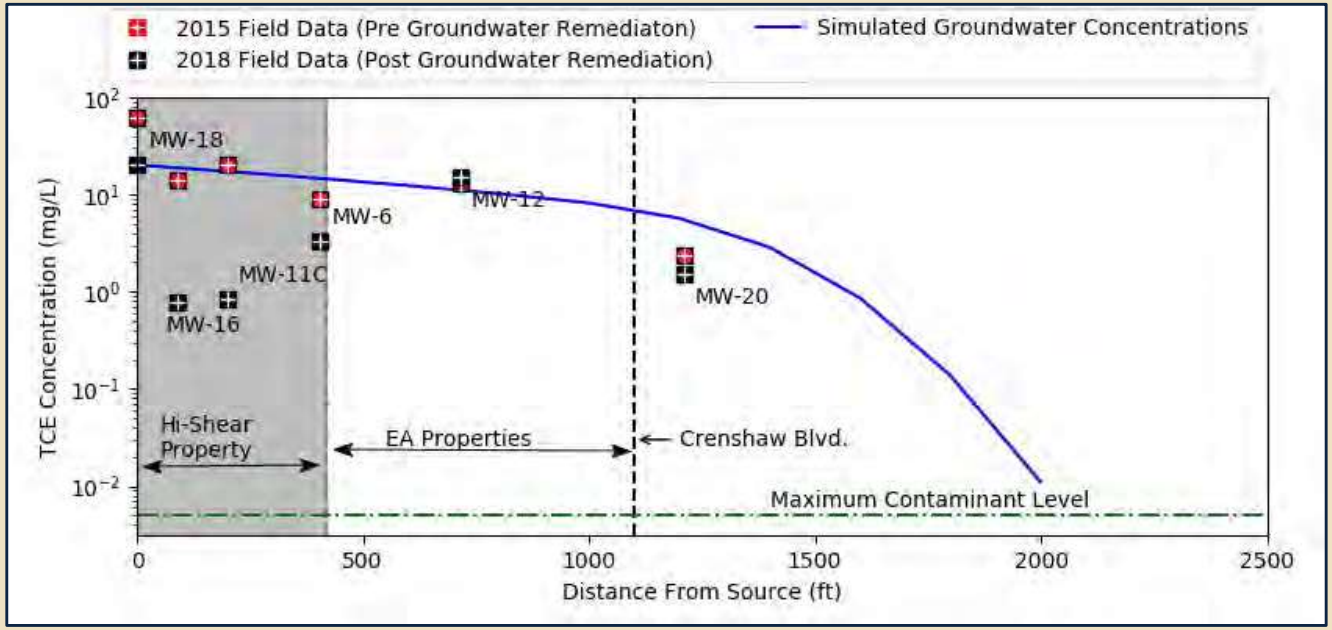
TCE in groundwater in August 2018 – 17 months after injections



R4-2021-0079 - RTC - 0531

TCE PLUME MODELING

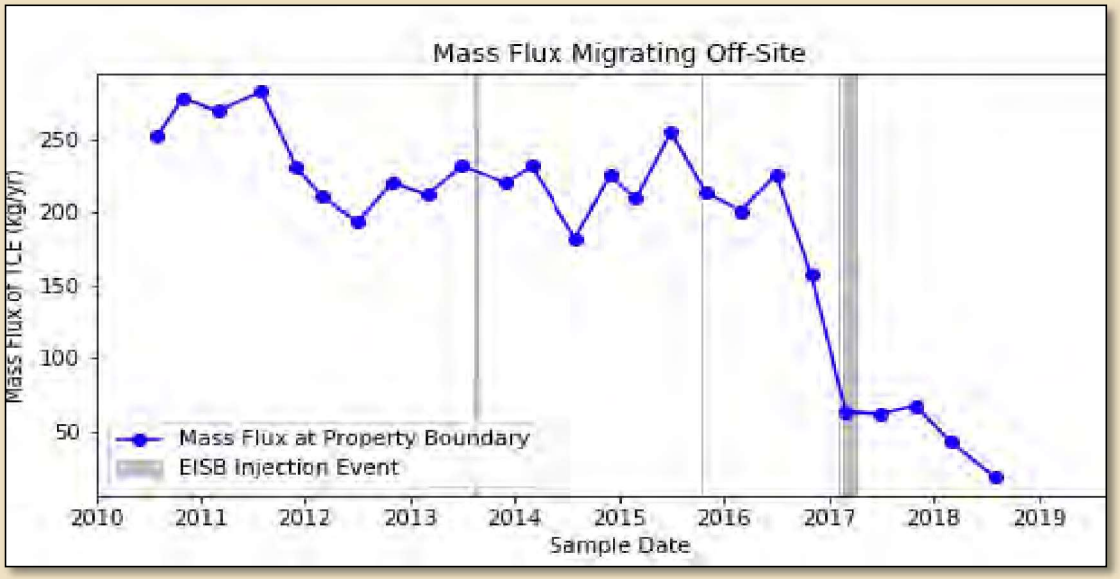
TCE Plume Modeling of TCE shows a TCE source on the Hi-Shear Site in the vicinity of MW-18

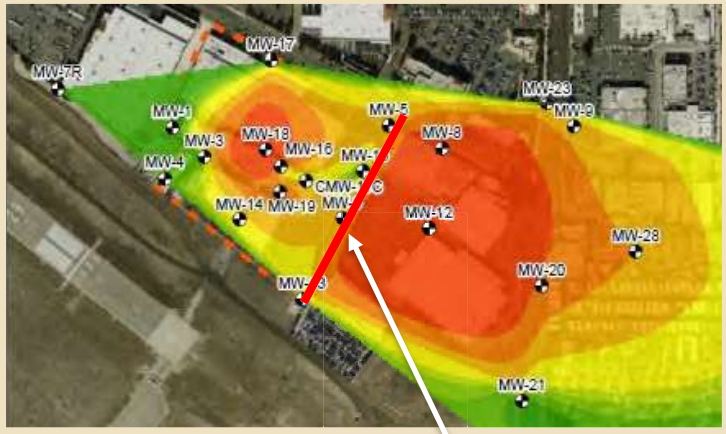


- The BIOCHLOR Natural Attenuation Decision Support System (Aziz et al., 2000) model was used to simulate TCE.
- Simulated TCE profile representing 30 years after release on Hi-Shear Property.
- Prior to the full-scale injection events in 2017 (red squares), closely match the modeled TCE plume, indicating that the observed monitoring data are consistent with a single-source TCE plume migrating from the Hi-Shear property.

MASS FLUX MIGRATION OFF -SITE

TCE Mass Flux is leaving the Hi-Shear Site across the EA Properties Boundary

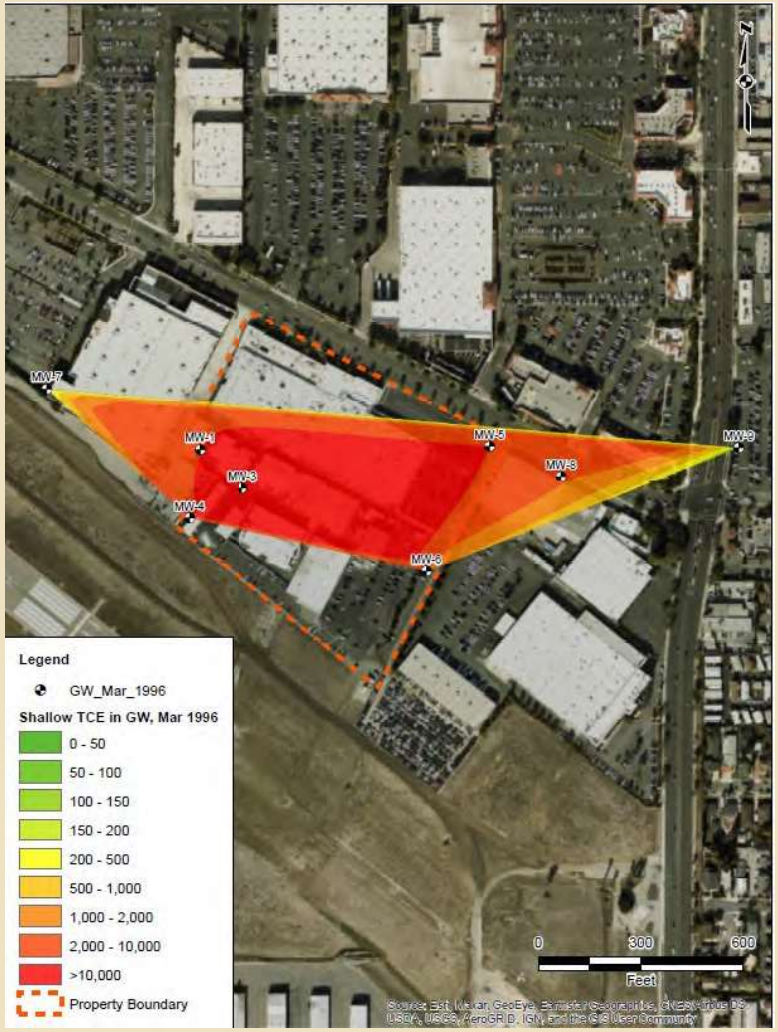




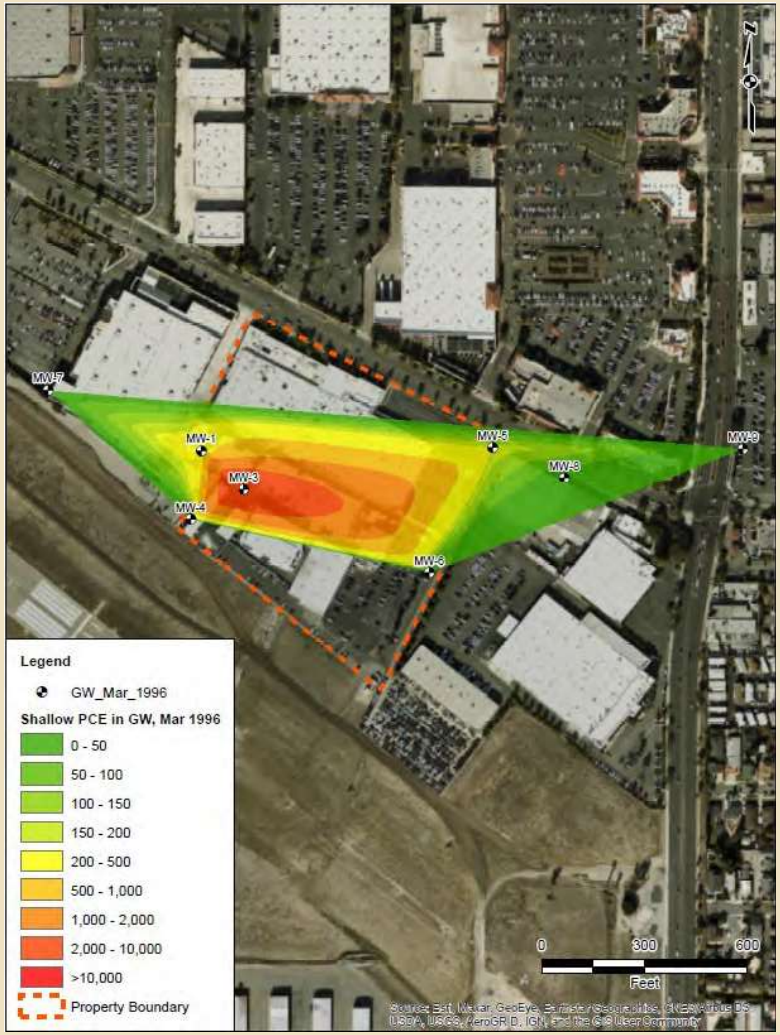
- Using the Mass Flux Toolkit, the TCE Mass Flux leaving the Hi-Shear Site was calculated.
- 20 to 70 kg of TCE continue to migrate from the Hi-Shear Site annually.
- The rate of TCE migrating off-Site will continue to increase as the high TCE concentrations upgradient, near MW-18 migrate downgradient.

TCE AND PCE IN ~90’ BGS GROUNDWATER – 1996

(Concentrations in micrograms per liter)



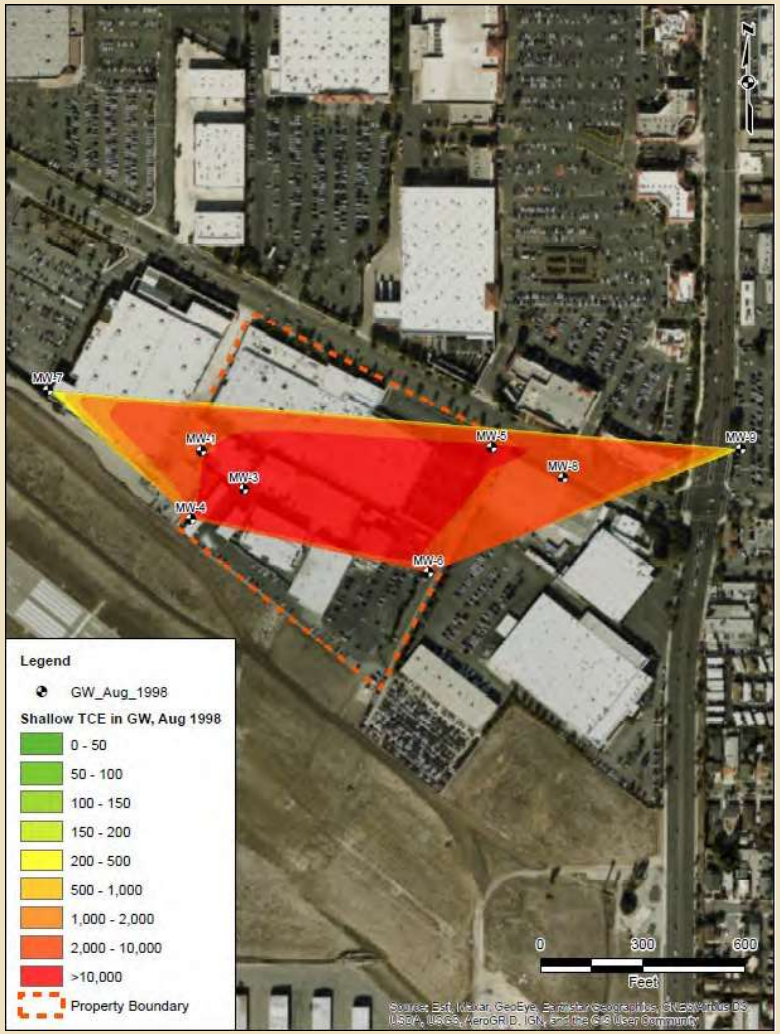
TCE March 1996



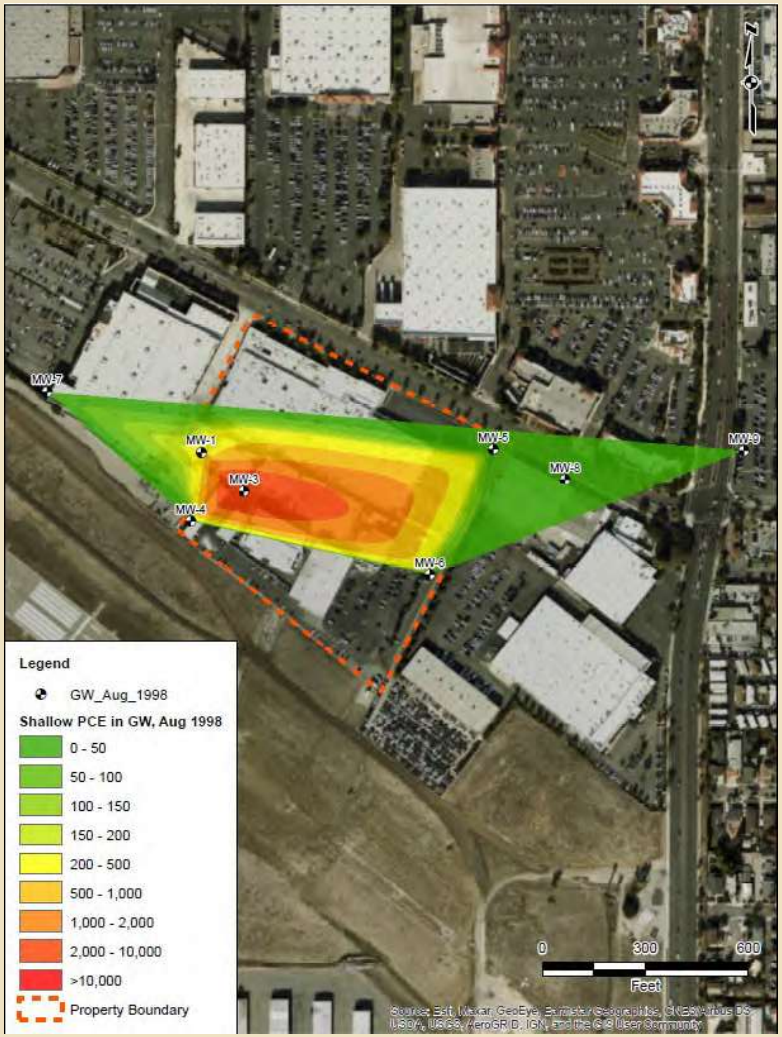
PCE March 1996

TCE AND PCE IN ~90’ BGS GROUNDWATER – 1998

(Concentrations in micrograms per liter)



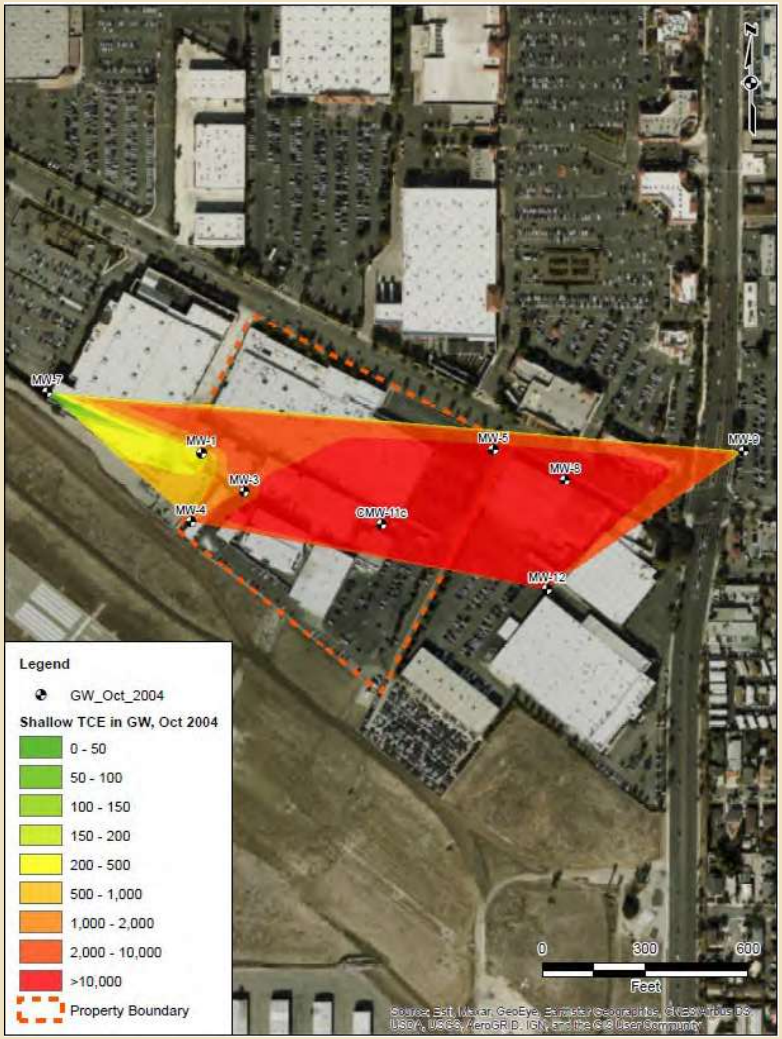
TCE August 1998



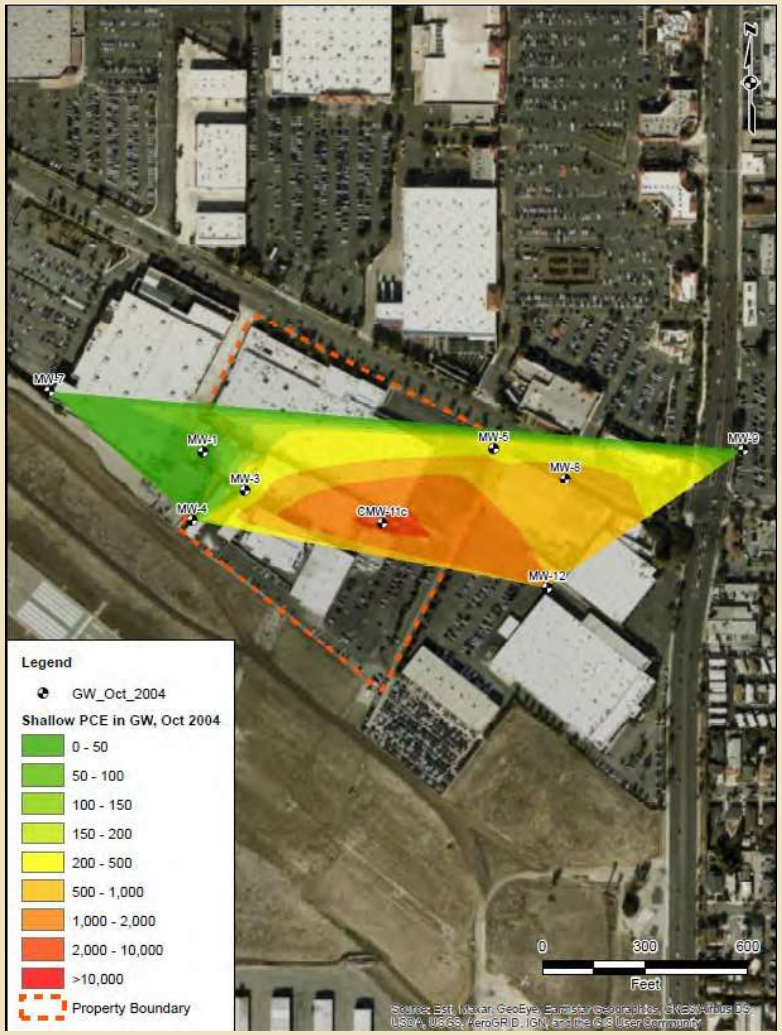
PCE August 1998

TCE AND PCE IN ~90’ BGS GROUNDWATER – 2004

(Concentrations in micrograms per liter)



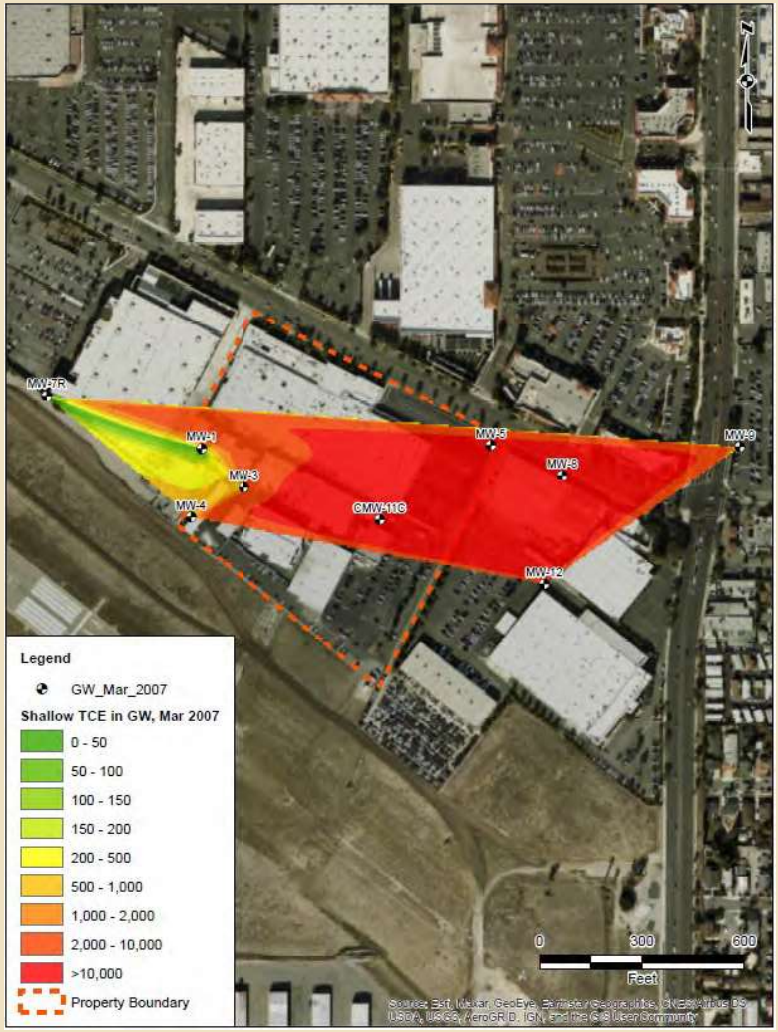
TCE October 2004



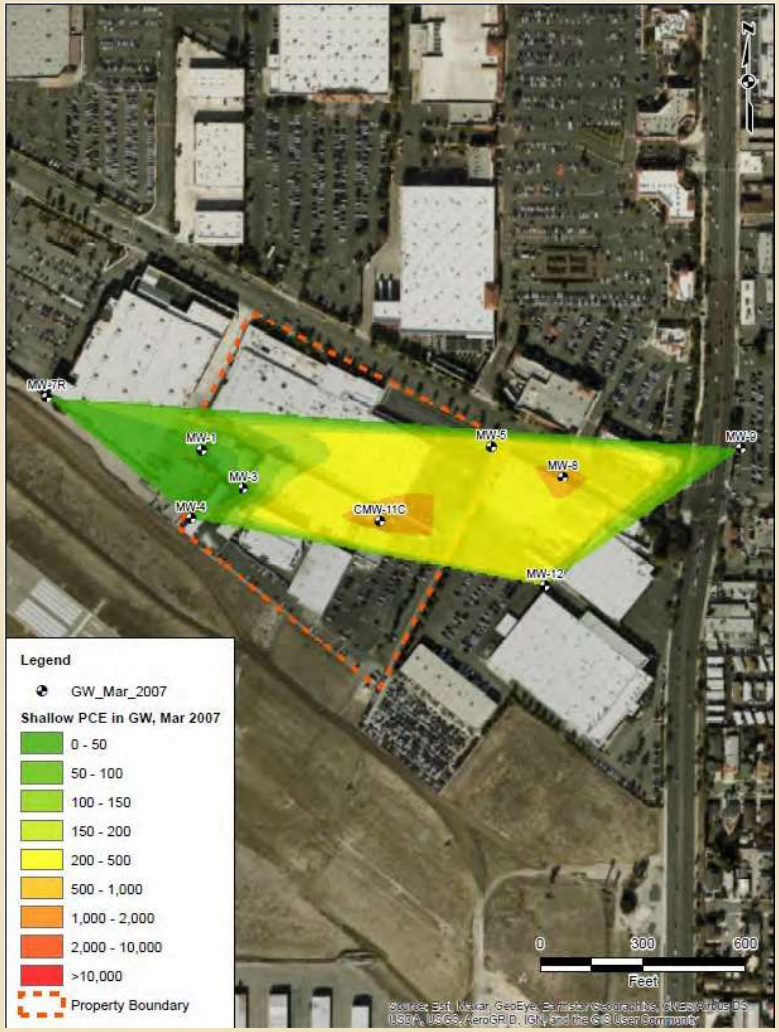
PCE October 2004

TCE AND PCE IN ~90’ BGS GROUNDWATER – 2007

(Concentrations in micrograms per liter)



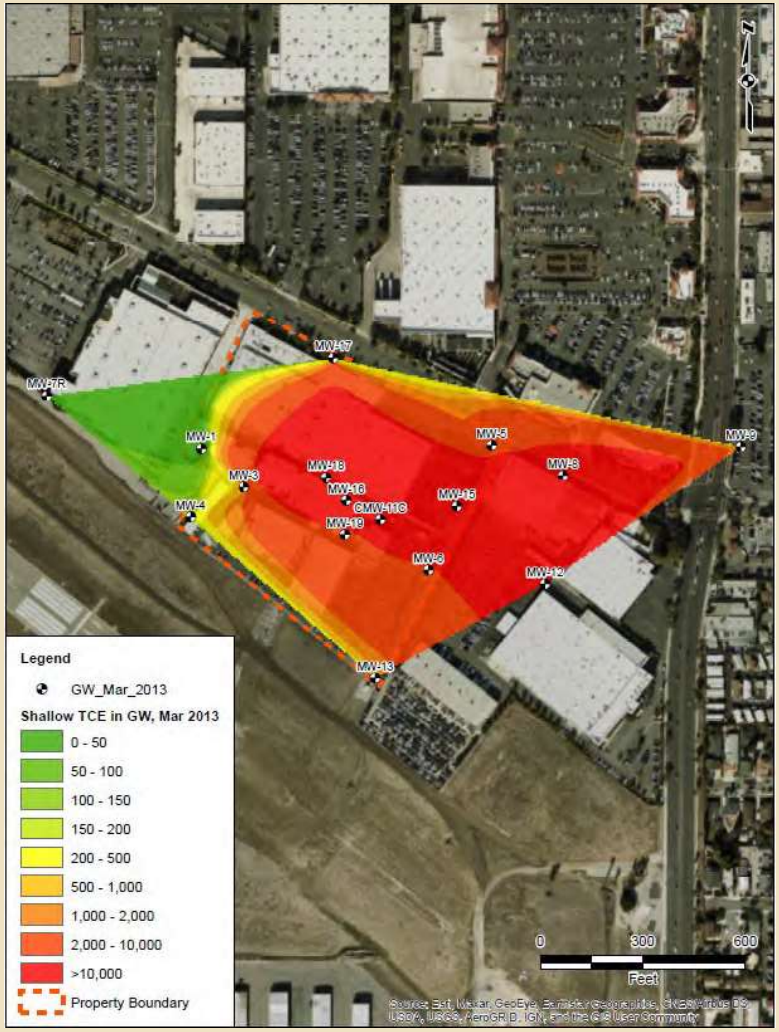
TCE March 2007



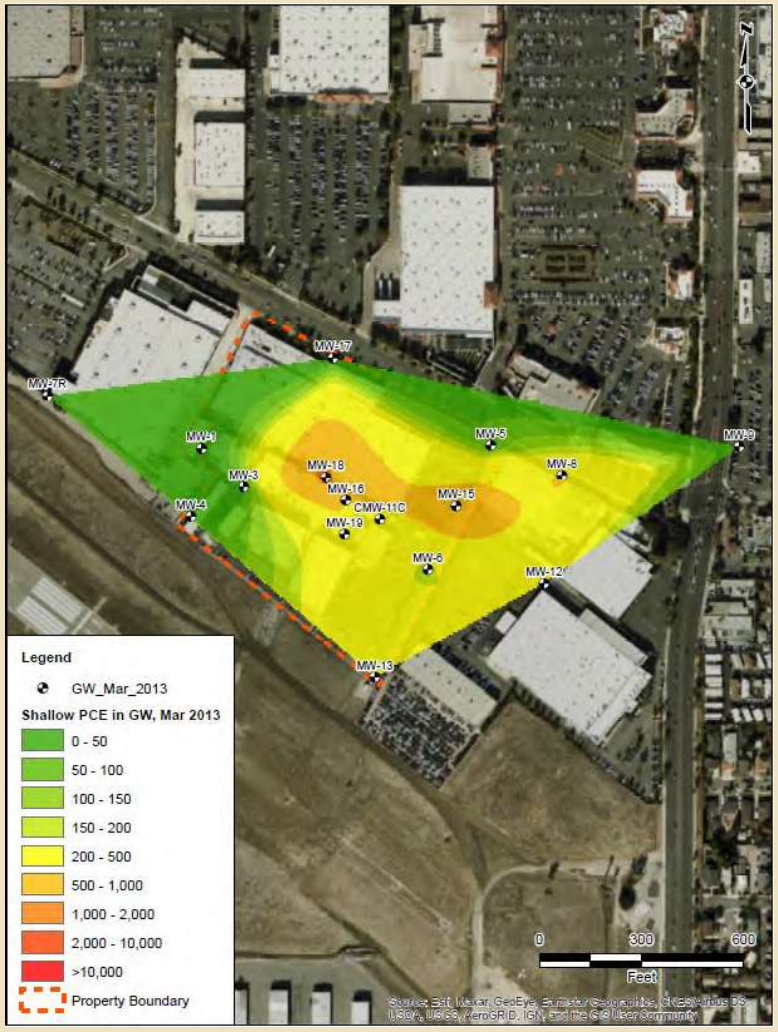
PCE March 2007

TCE AND PCE IN ~90’ BGS GROUNDWATER – 2013

(Concentrations in micrograms per liter)



TCE March 2013

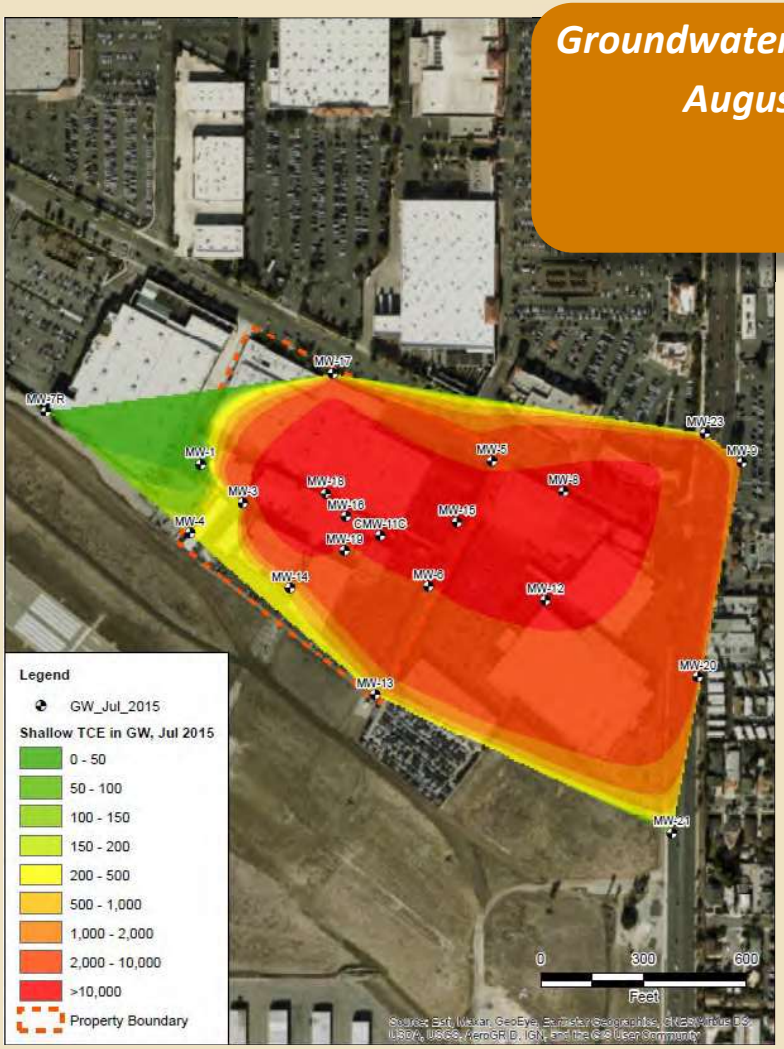


PCE March 2013

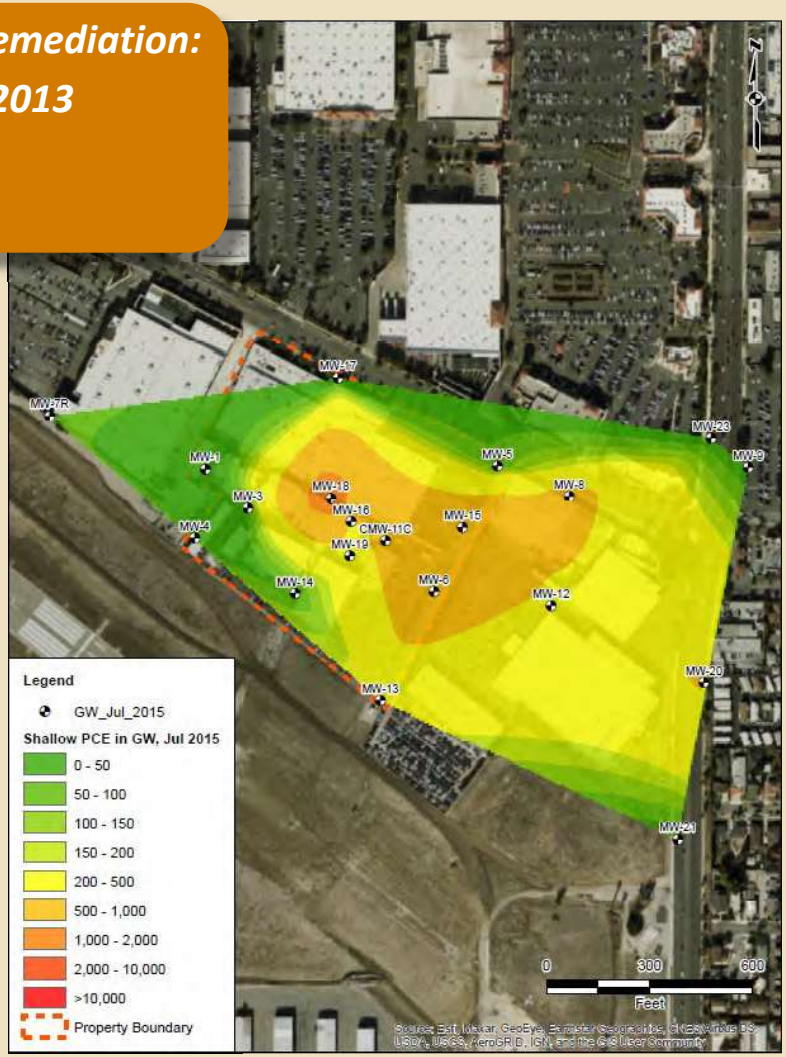
TCE AND PCE IN ~90’ BGS GROUNDWATER – 2015

(Concentrations in micrograms per liter)

Groundwater remediation: August 2013



TCE July 2015



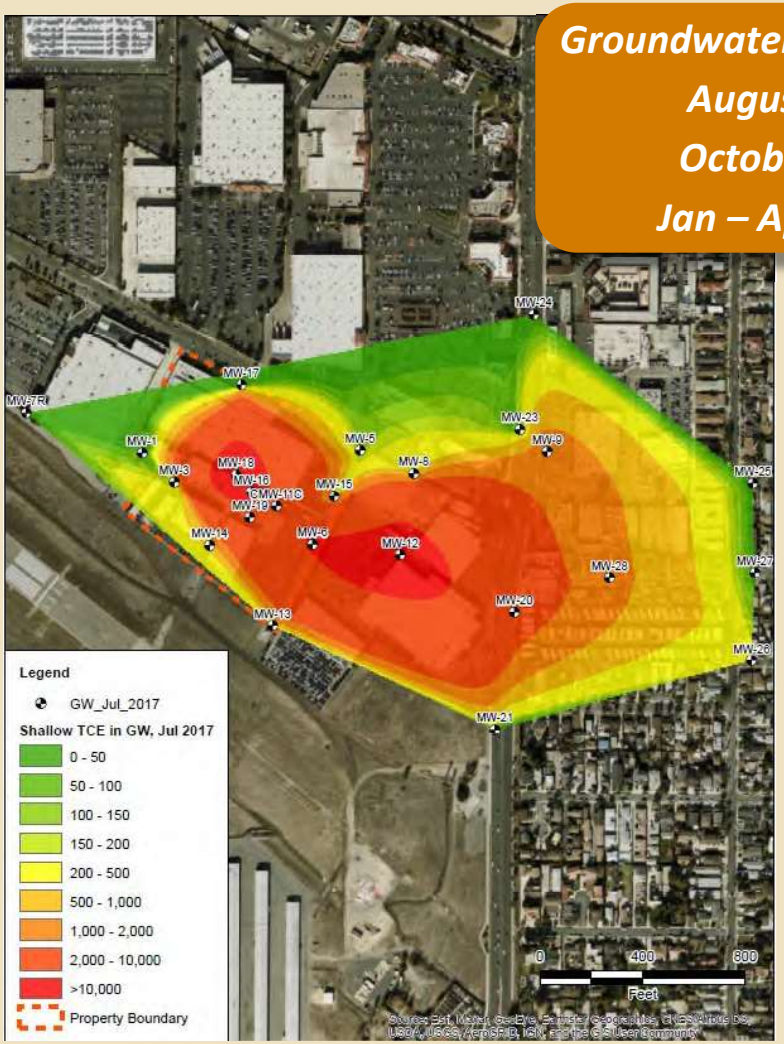
PCE July 2015

R4-2021-0079 - RTC - 0539

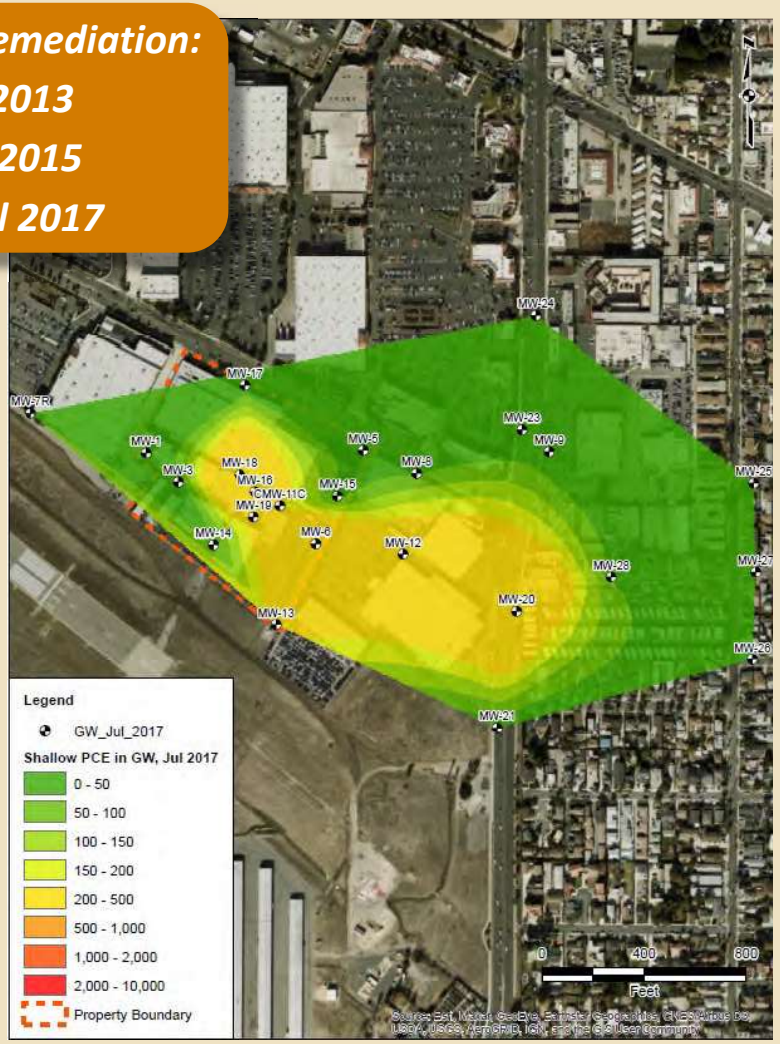
TCE AND PCE IN ~90’ BGS GROUNDWATER - 2017

(Concentrations in micrograms per liter)

Groundwater remediation:
August 2013
October 2015
Jan – April 2017



TCE July 2017
(2 months after injections)

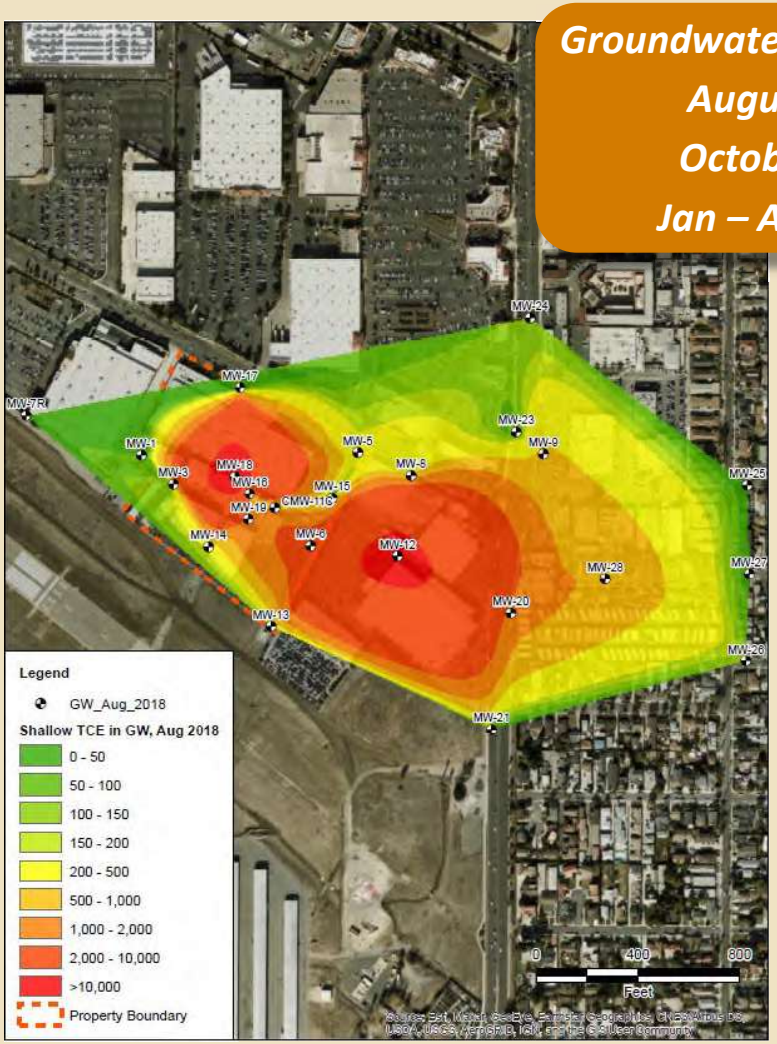


PCE July 2017
(2 months after injections)

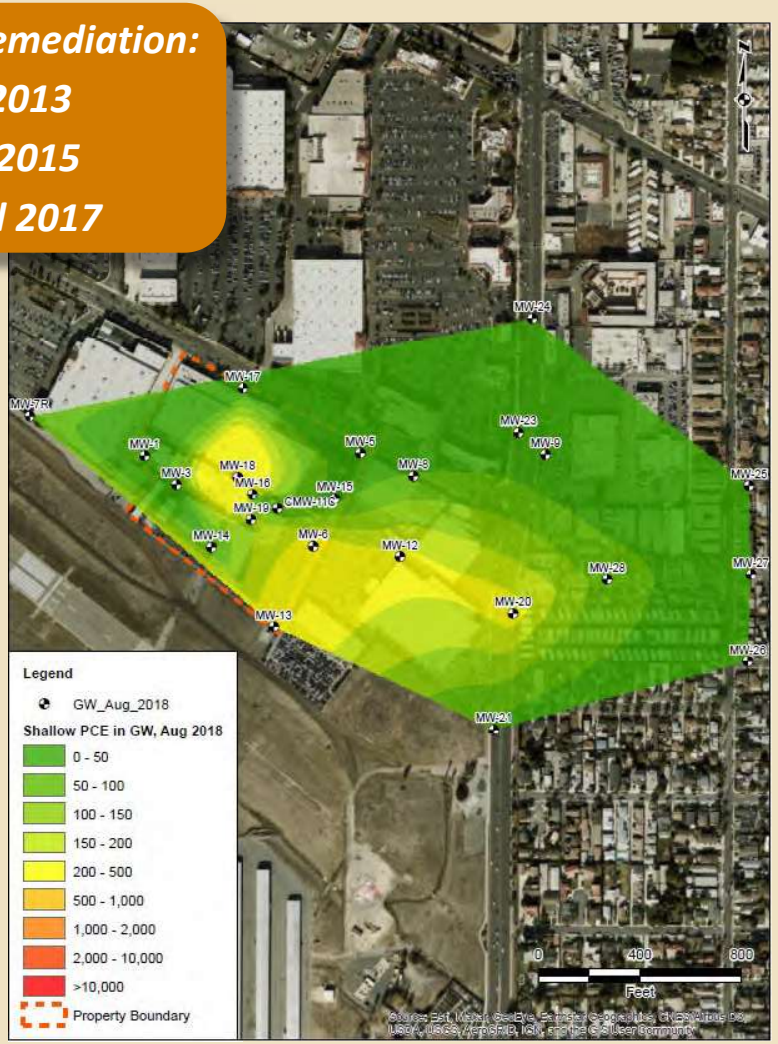
TCE AND PCE IN ~90’ BGS GROUNDWATER - 2018

(Concentrations in micrograms per liter)

Groundwater remediation:
August 2013
October 2015
Jan – April 2017



TCE August 2018
(17 months after injections)

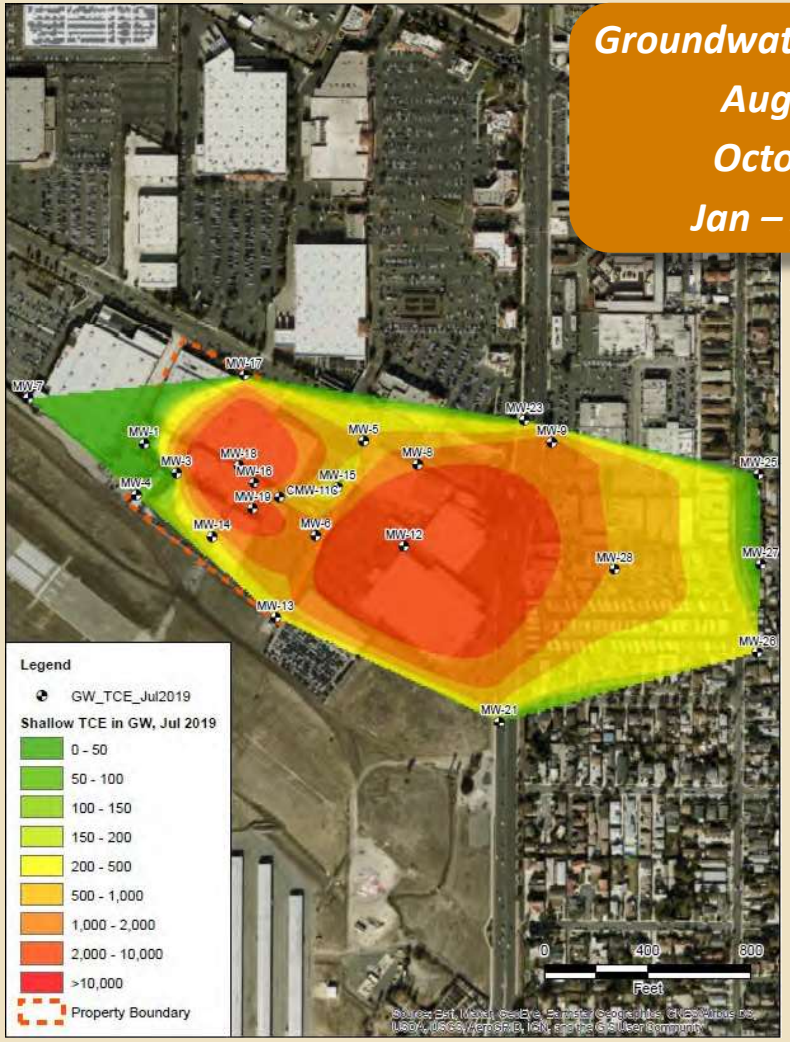


PCE August 2018
(17 months after injections)

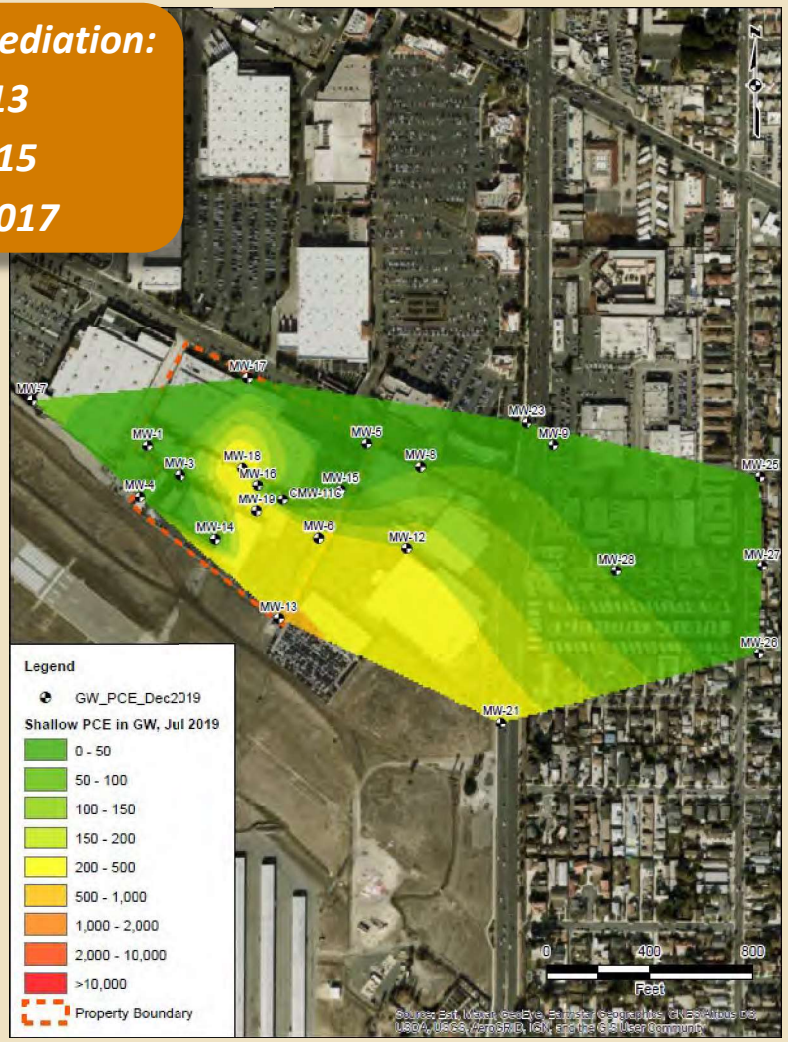
TCE AND PCE IN ~90’ BGS GROUNDWATER - 2019

(Concentrations in micrograms per liter)

Groundwater remediation:
August 2013
October 2015
Jan – April 2017



TCE July 2019
(27 months after injections)

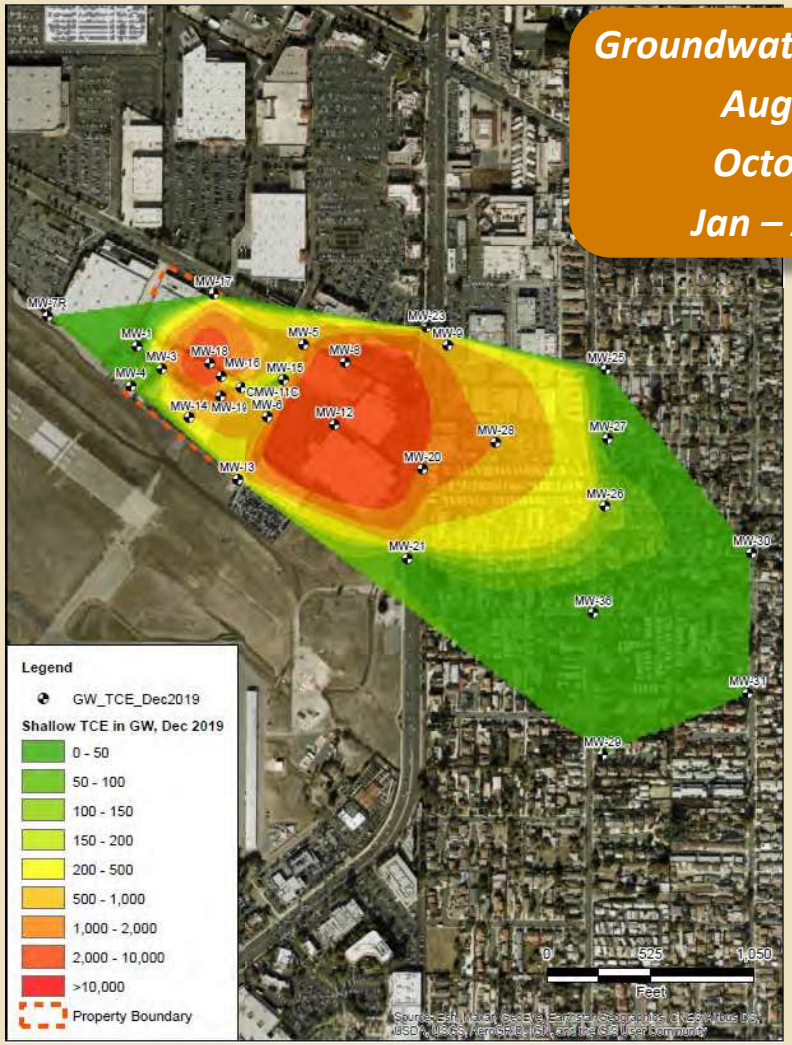


PCE July 2019
(27 months after injections)

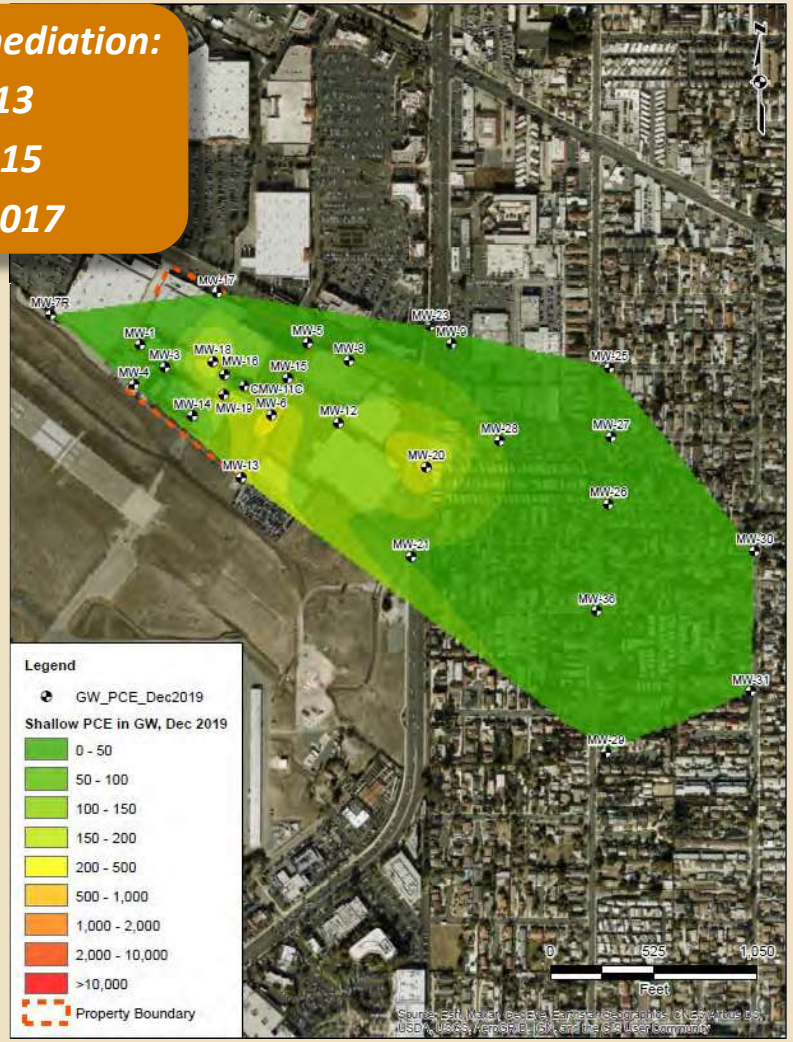
TCE AND PCE IN ~90’ BGS GROUNDWATER - 2019

(Concentrations in micrograms per liter)

Groundwater remediation:
August 2013
October 2015
Jan – April 2017



TCE December 2019
(33 months after injections)



PCE December 2019
(33 months after injections)

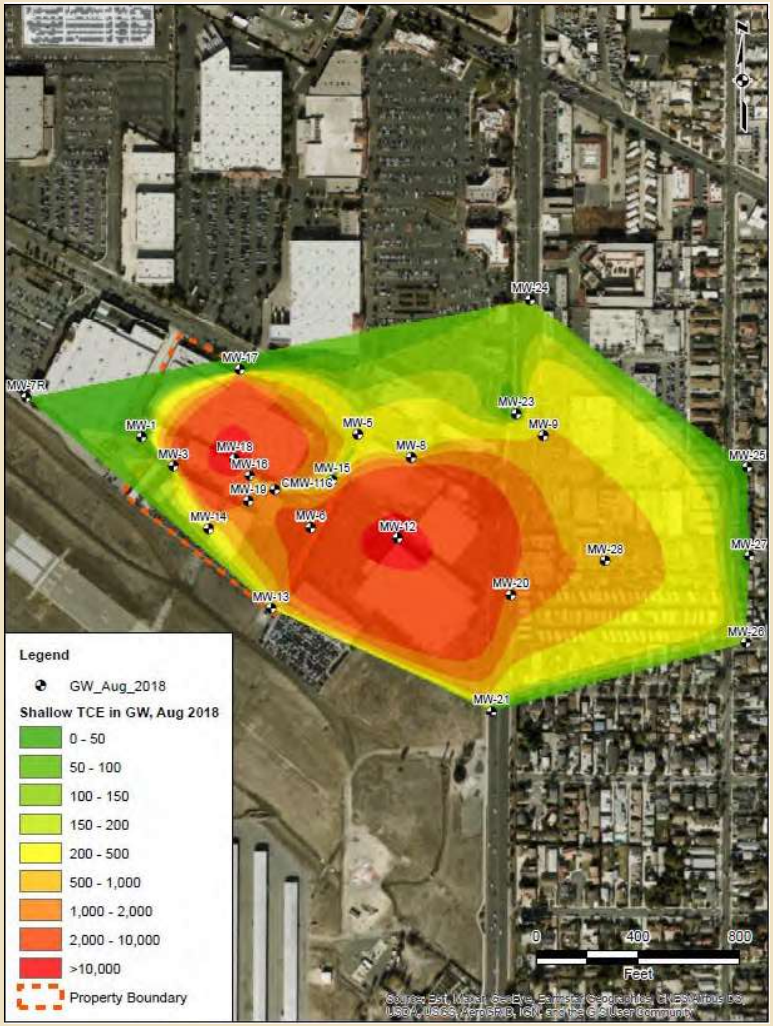
SOIL VAPOR AND GROUNDWATER IMPACTS ASSOCIATED WITH HI-SHEAR SITE

- Single plume emanating from Hi-Shear Site
- Groundwater remedial action bifurcated the plume creating the current two-lobe groundwater plume
- Observed TCE concentrations match TCE plume modeling showing a single TCE source on the Hi-Shear Site in the vicinity of MW-18
- TCE mass flux is leaving the Hi-Shear Site across the EA Properties boundary
- Incomplete remediation of soil and groundwater at the Hi-Shear Site

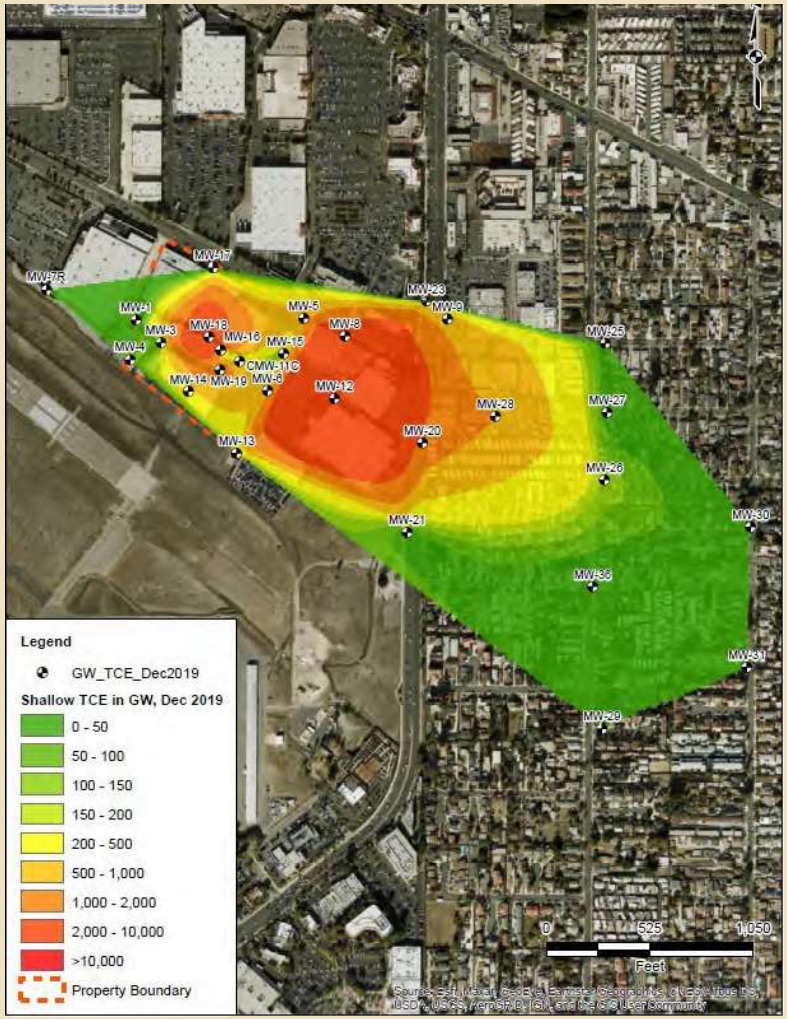
RECENT SOIL VAPOR DATA

Peter Scaramella
Senior Risk Assessor

RECENT TCE CONCENTRATION TREND IN GROUNDWATER



TCE August 2018
(17 months after injections)

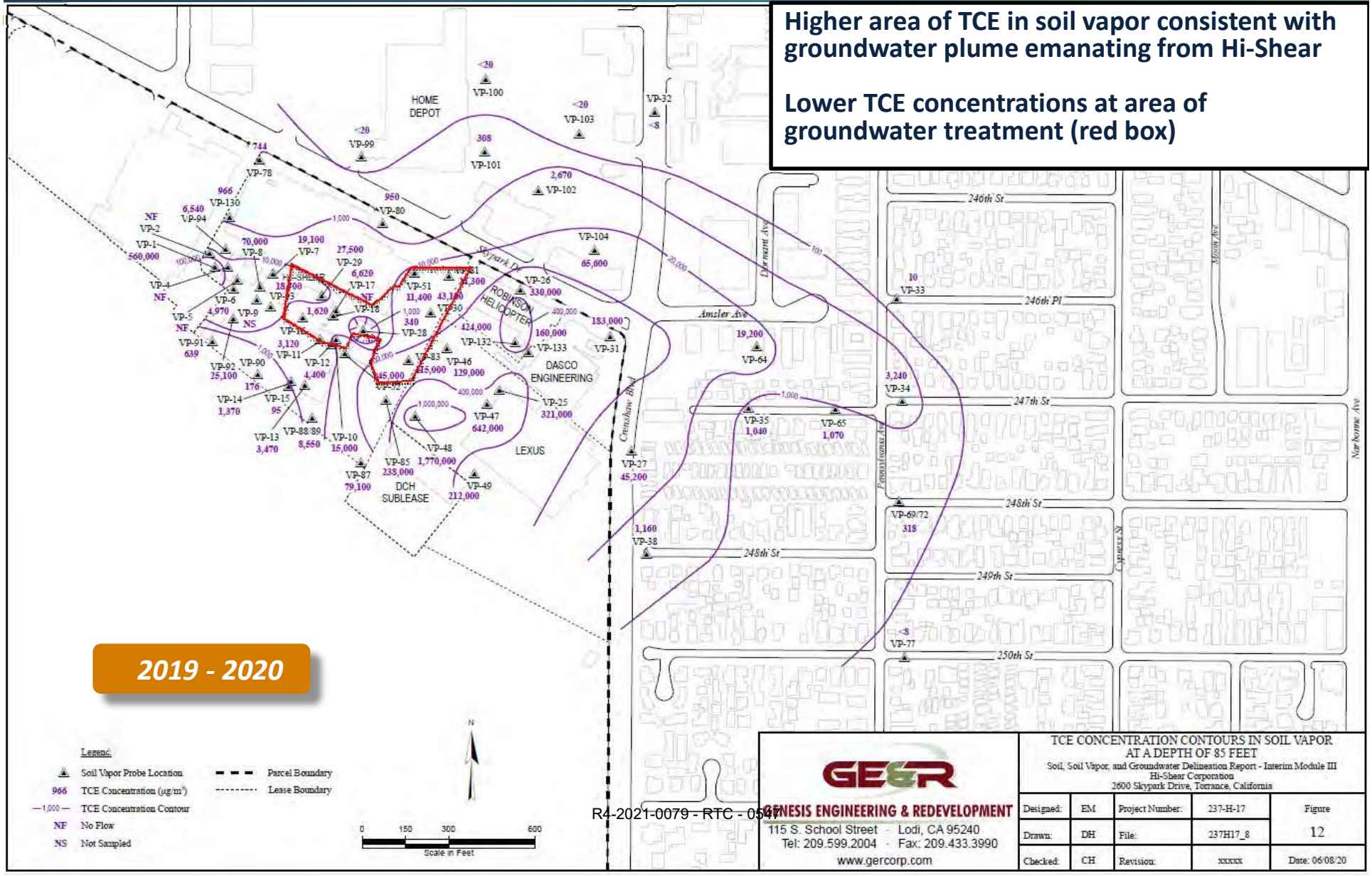


TCE December 2019
(33 months after injections)

TCE SOIL VAPOR DATA – 85 FEET BGS

Higher area of TCE in soil vapor consistent with groundwater plume emanating from Hi-Shear

Lower TCE concentrations at area of groundwater treatment (red box)

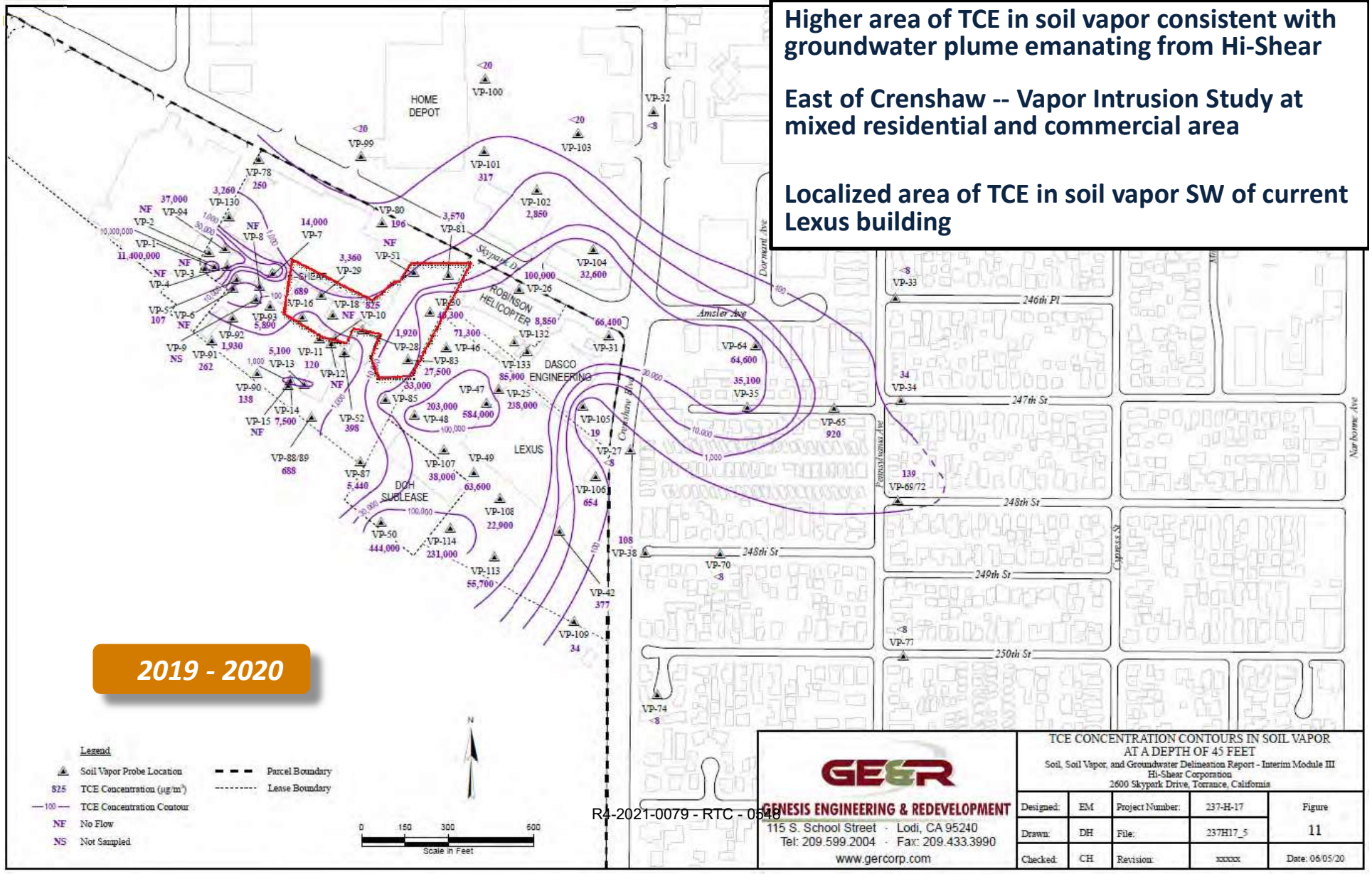


TCE SOIL VAPOR DATA – 45 FEET BGS

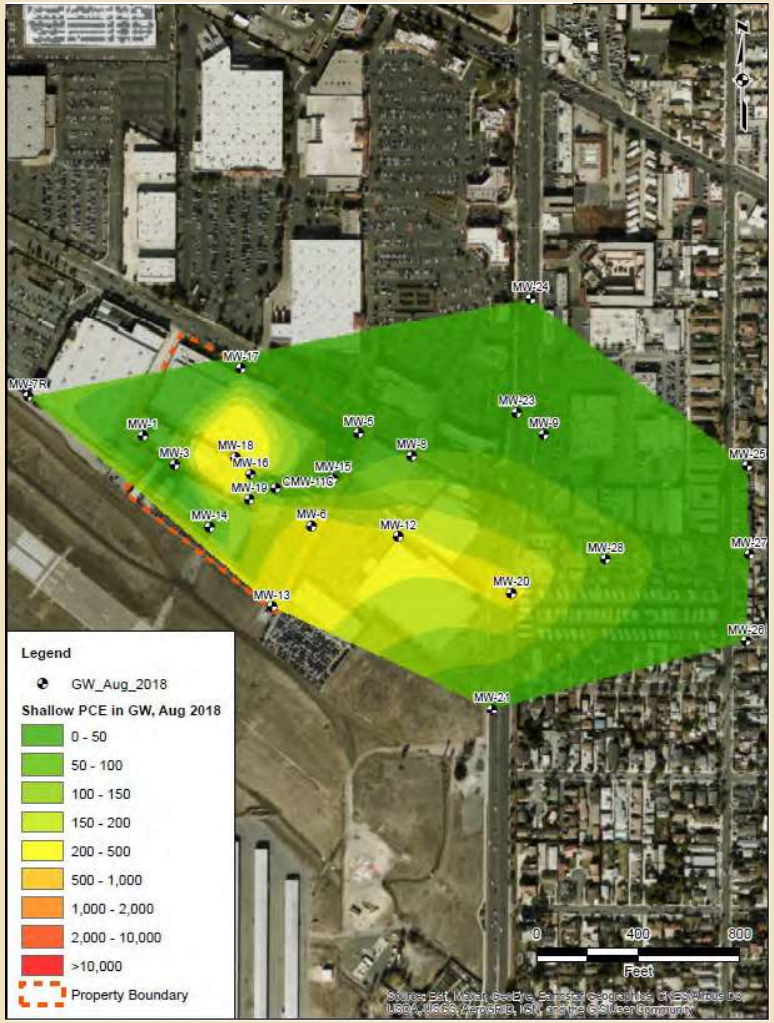
Higher area of TCE in soil vapor consistent with groundwater plume emanating from Hi-Shear

East of Crenshaw -- Vapor Intrusion Study at mixed residential and commercial area

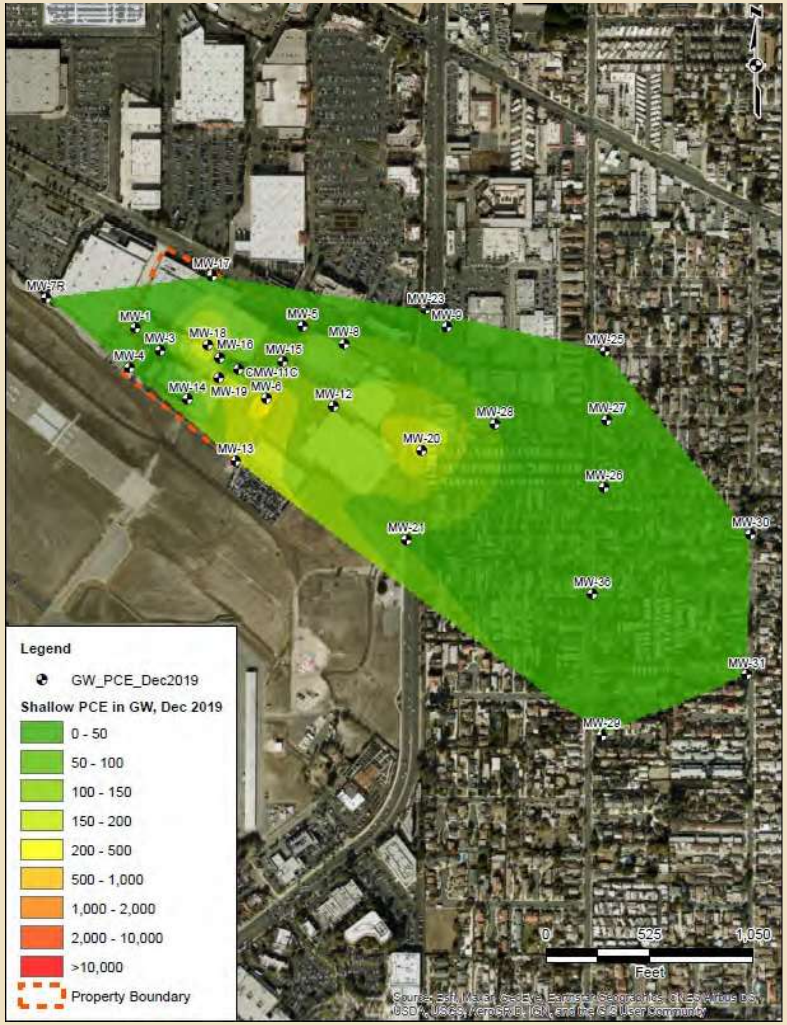
Localized area of TCE in soil vapor SW of current Lexus building



RECENT PCE CONCENTRATION TREND IN GROUNDWATER

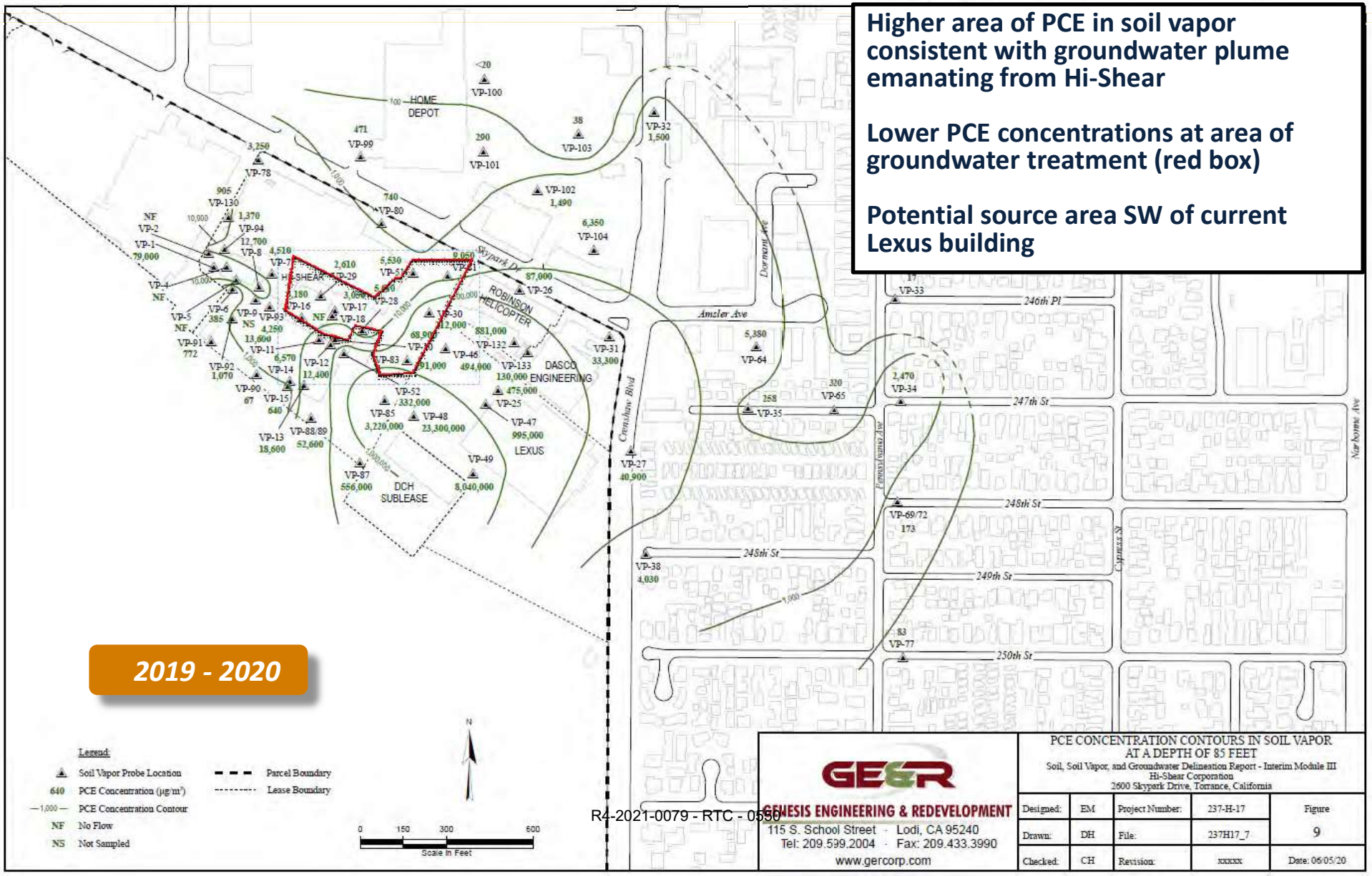


PCE August 2018
(17 months after injections)



PCE December 2019
(33 months after injections)

PCE SOIL VAPOR DATA – 85 FEET BGS

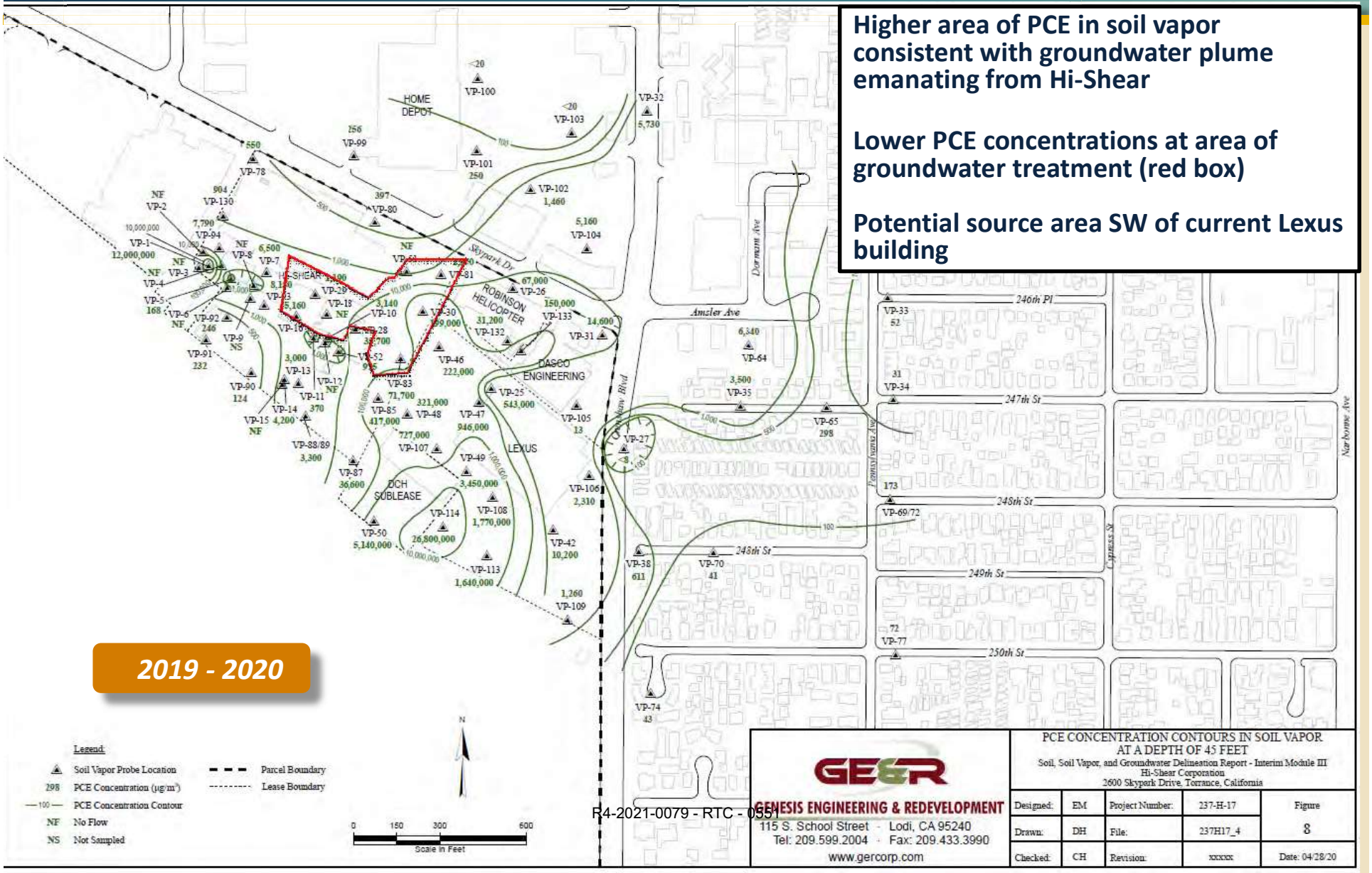


Higher area of PCE in soil vapor consistent with groundwater plume emanating from Hi-Shear

Lower PCE concentrations at area of groundwater treatment (red box)

Potential source area SW of current Lexus building

PCE SOIL VAPOR DATA – 45 FEET BGS

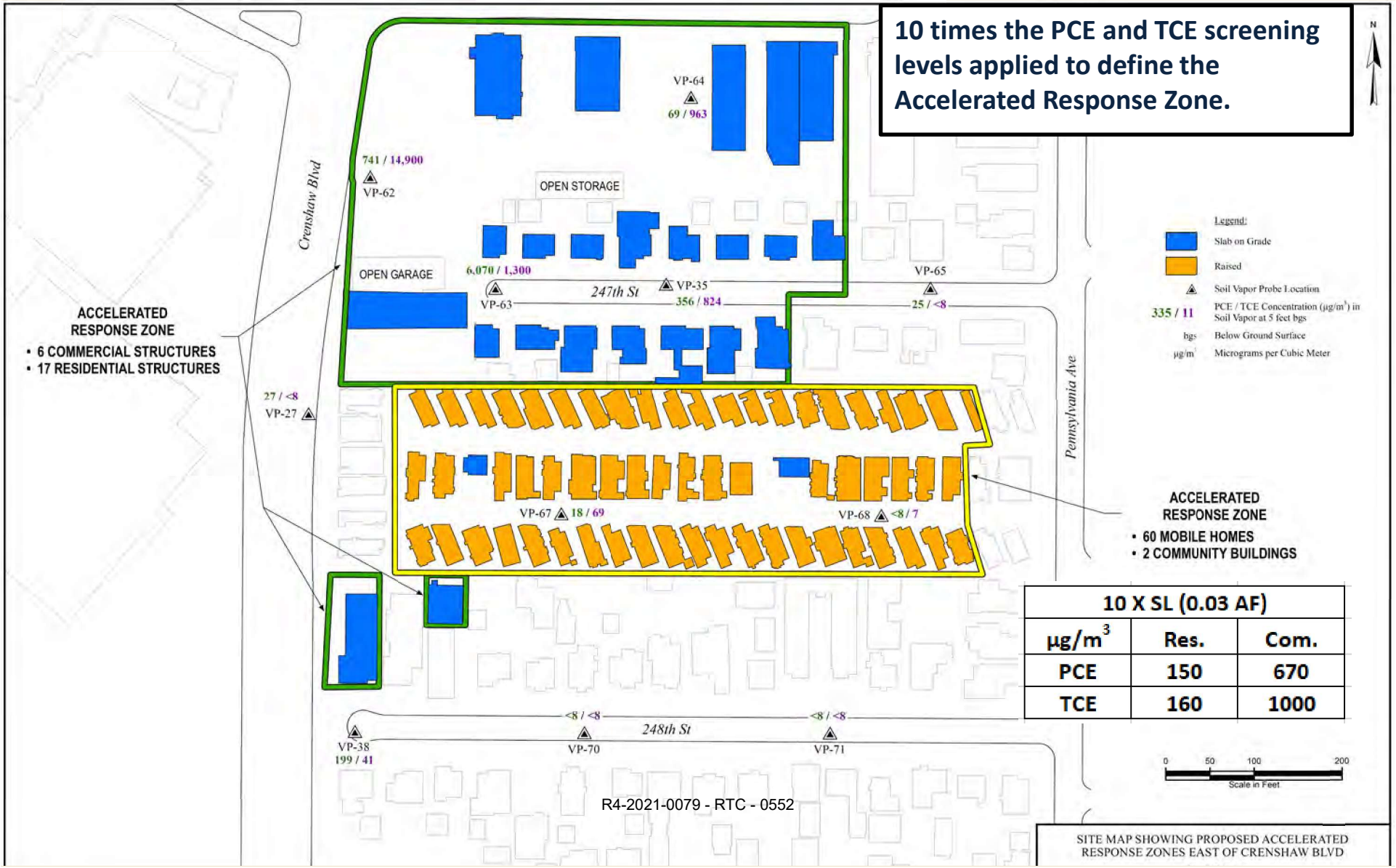


Higher area of PCE in soil vapor consistent with groundwater plume emanating from Hi-Shear

Lower PCE concentrations at area of groundwater treatment (red box)

Potential source area SW of current Lexus building

VAPOR INTRUSION RESPONSE PLAN – ACCELERATED RESPONSE ZONE



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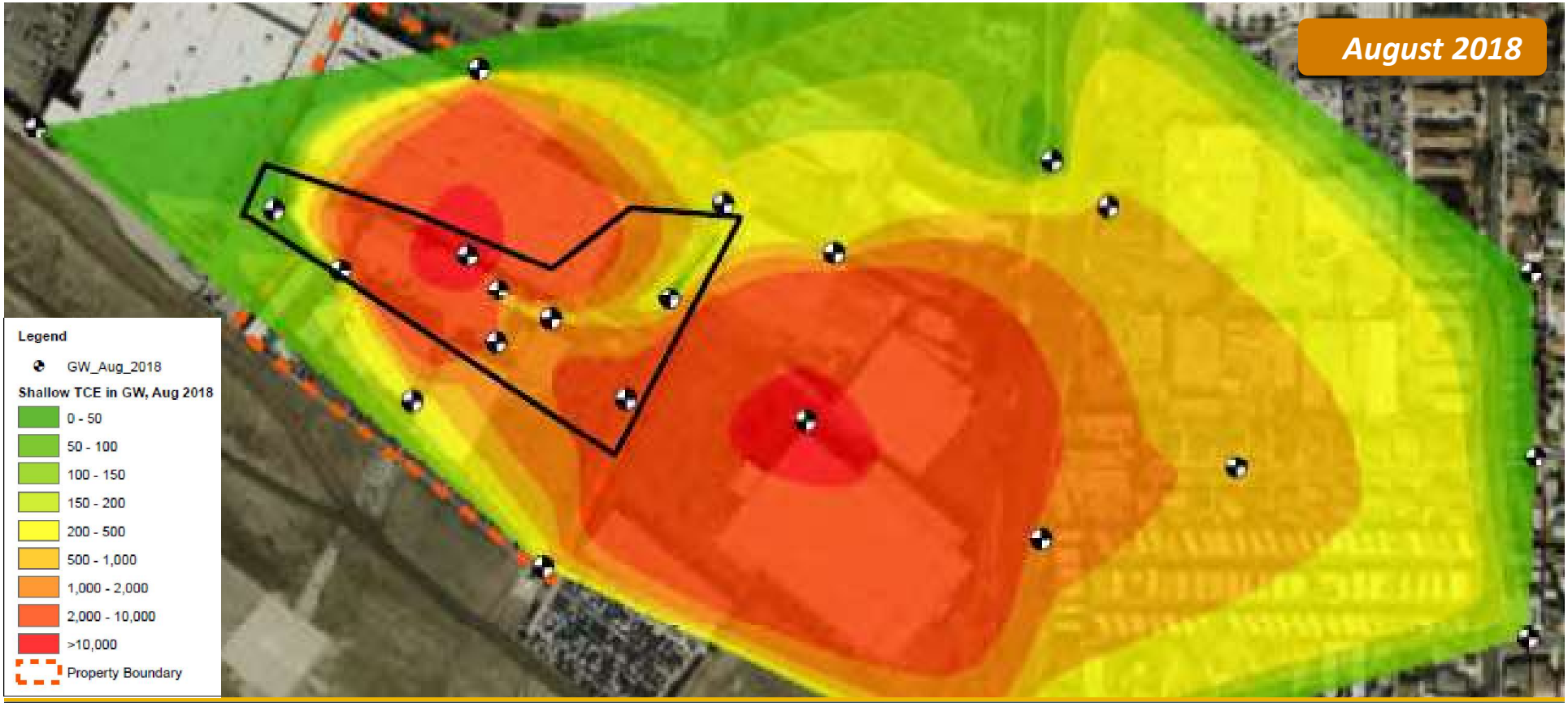
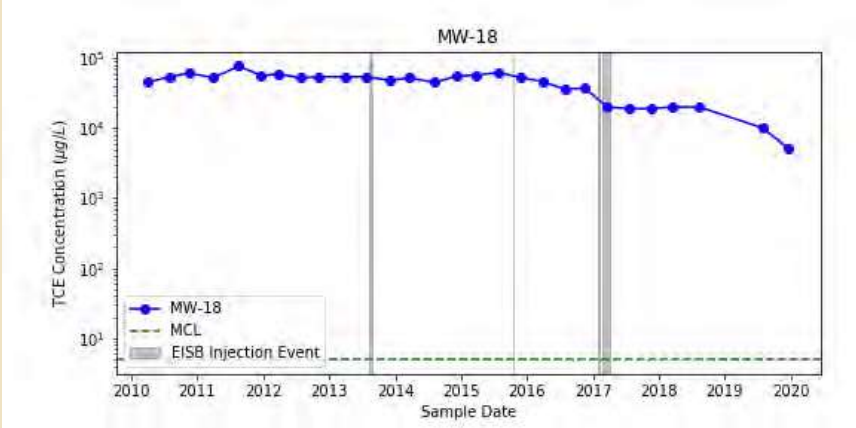


NEXT STEPS FOR HI-SHEAR ON-SITE REMEDIATION

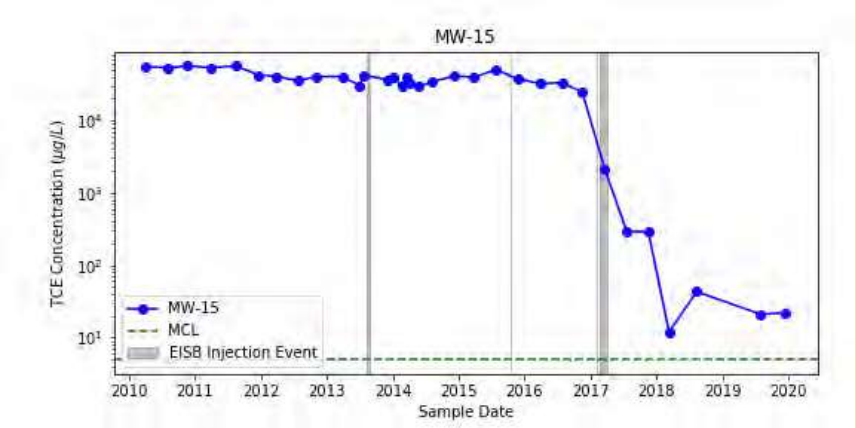
Bita Tabatabai, PE
Principal Engineer

ON-SITE GROUNDWATER REMEDIAL EFFORTS HAVE BEEN SUCCESSFUL

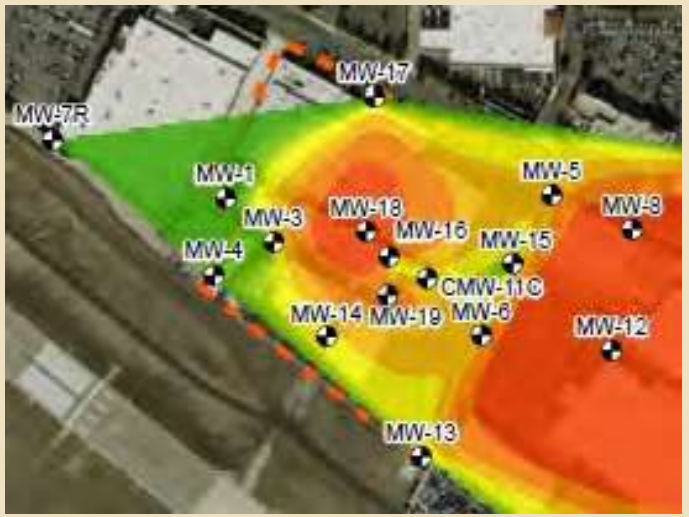
MW-18 - located in the center of the Site



MW-15 - located in treatment zone

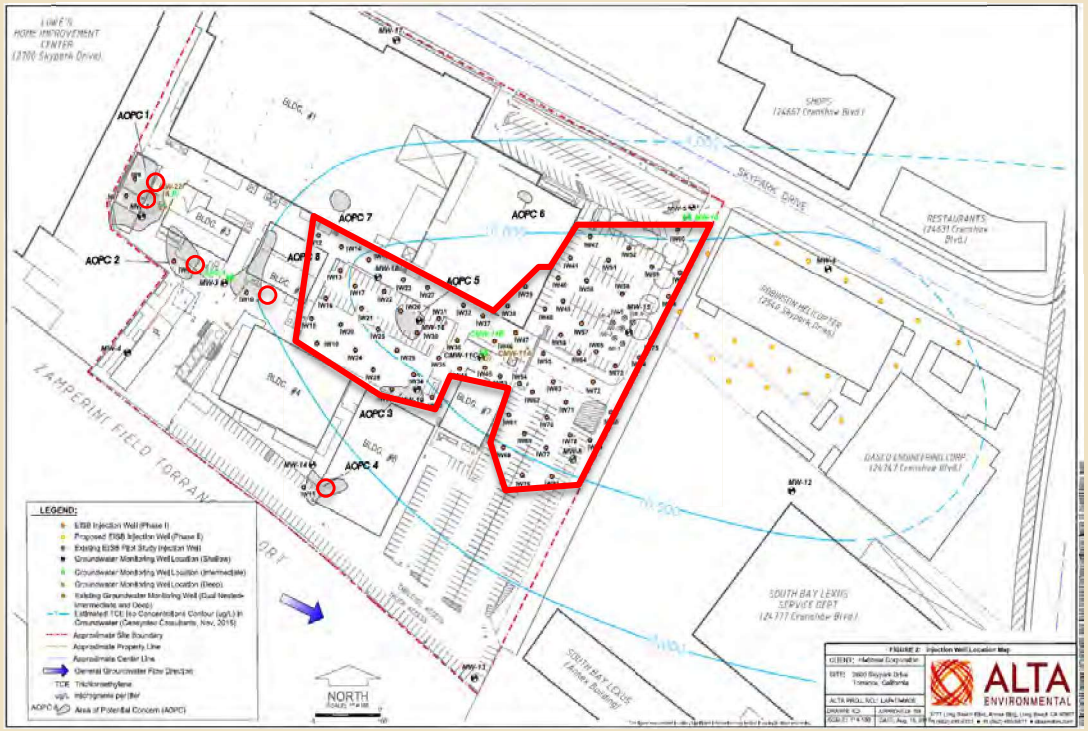


- **January 31 to April 5, 2017 full-scale (Phase I) injections of 3DMe, CRS, and BDI Plus was successful in reducing concentrations at injection area.**
- **Continued on-site remedial activities could further reduce on-site concentrations and thus reduce the mass flux leaving the Hi-Shear property.**
- **On-site remediation is a key component in the Hi-Shear plume clean up.**
- **Off-site remediation is ineffective until upgradient (on-site) sources are addressed.**

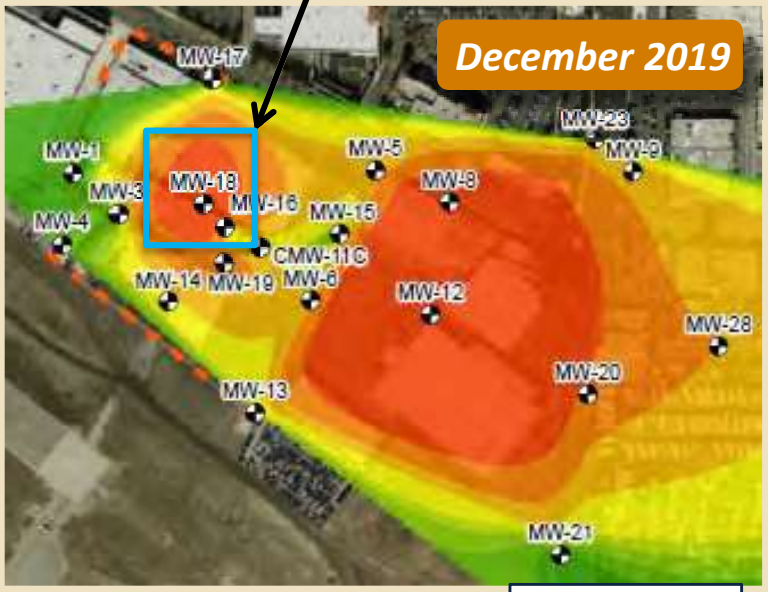


December 2019

ADDITIONAL ON-SITE GROUNDWATER REMEDIATION NEEDED



Additional On-Site Injection Locations

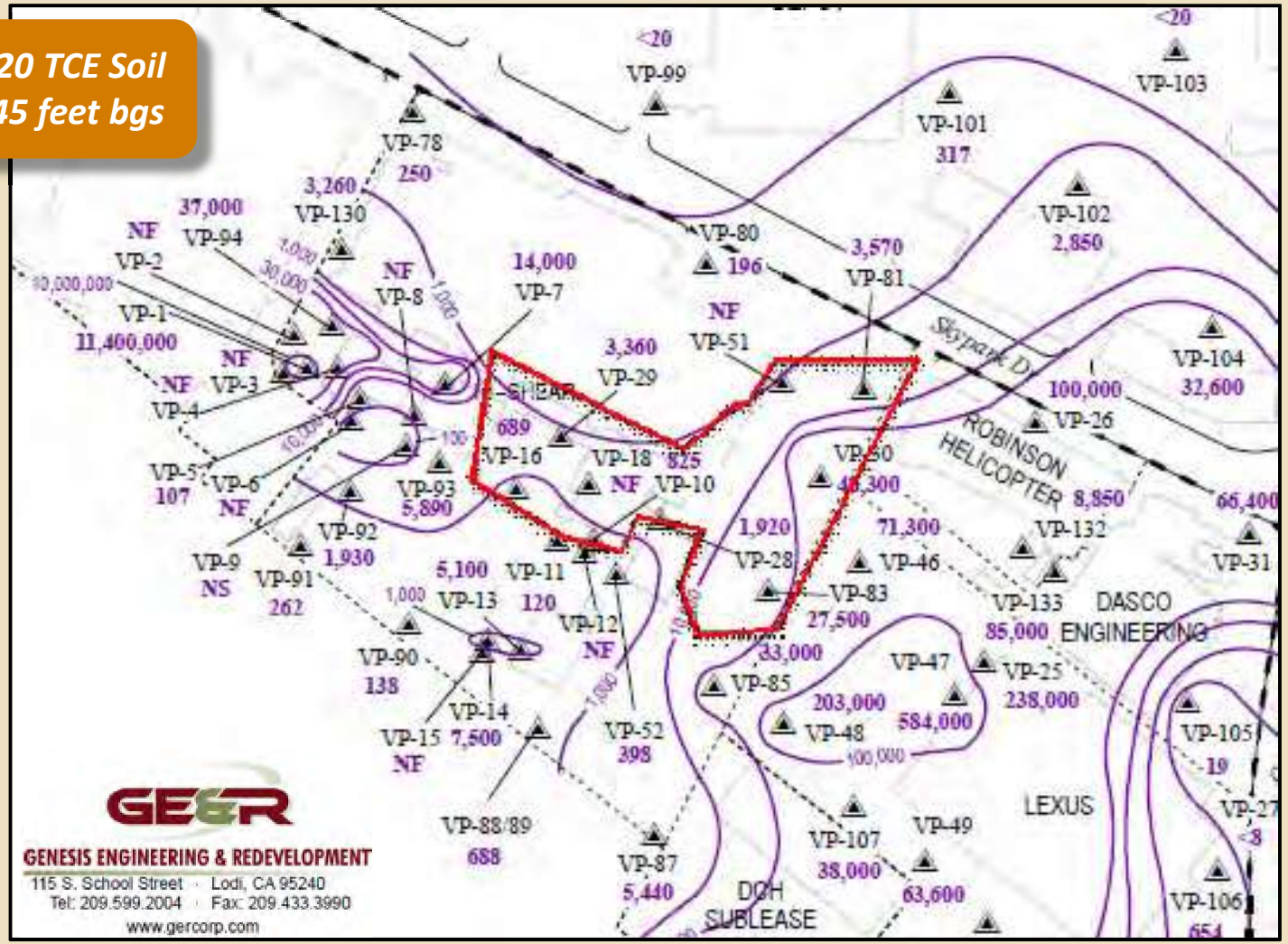


Legend
GW_TCE_Dec2019
Shallow TCE in GW, Dec 2019
0 - 50
50 - 100
100 - 150
150 - 200
200 - 500
500 - 1,000
1,000 - 2,000
2,000 - 10,000
>10,000
Property Boundary

- **Re-injection of remediation amendments within 77 existing on-Site wells.**
- **Injection of remediation amendments in 20 new injection wells installed on-Site, where TCE remains at concentrations exceeding 1,000 µg/L.**

ADDITIONAL ON-SITE VADOSE ZONE REMEDIATION NEEDED

2019 – 2020 TCE Soil Vapor at 45 feet bgs



HI-SHEAR SITE NEXT STEPS

- ***Based on soil vapor concentrations and the groundwater plume, a Cleanup and Abatement Order is warranted***

- ***Additional soil vapor extraction and groundwater remediation is needed***

GSI Job No.: 4835
Issued: 11 January 2021

GSI ENVIRONMENTAL

Attachment B

Chronology of Site Assessment, Investigation, and Monitoring Reports at the Hi-Shear Property prior to September 2016

GSI ENVIRONMENTAL

CHRONOLOGY OF SITE ASSESSMENT, INVESTIGATION, AND MONITORING REPORTS AT THE HI-SHEAR PROPERTY PRIOR TO SEPTEMBER 2016

No.	Date	Title	Author
1	03 March 1991	Environmental Site Assessment.	Hygienetics, Inc.
2	15 May 1991	Report of Subsurface Soil Investigation at the Hi-Shear Torrance Facility	Camp, Dresser & McKee, Inc. (CDM)
3	June 1991	Preliminary Site Investigation Former Underground Tank Area Hi-Shear Corporation	SCS Engineers
4	July 1991	Site Characterization Work Plan Former Underground Tank Area Hi-Shear Corporation	SCS Engineers
5	November 1991	Report for Soil Verification Borings Former Underground Waste Oil Tank Area	SCS Engineers
6	May 1992	Monitoring Well Installation Report Wells MW-5, MW-6, and MW-7.	SCS Engineers
7	15 September 1992	Status Report for the Hi-Shear Facility Located at 2600 Skypark Drive, Torrance California	Blasland, Bouck, & Lee (BBL)
8	14 September 1995	Report Environmental Site Evaluation Hi-Shear Corporation Facility Torrance, California	Geosyntec Consultants, Inc. (Geosyntec)
9	24 January 2001	Revised Perched Groundwater Quality Assessment	BBL
10	June 2001	Sensitive Receptor Investigation - Draft	BBL
11	13 June 2001	Soil Vapor Extraction System Operation and Maintenance Status Report	BBL
12	21 September 2001	Deep Soils and Groundwater Investigation Progress Report	BBL
13	02 October 2001	Letter to Hi-Shear RE Hydrocarbon Assessment	BBL
14	14 February 2002	Letter to Hi-Shear RE January 2002 Perched Groundwater Quality Assessment.	BBL
15	09 April 2002	Letter to Hi-Shear RE Deep Zone Soil Investigation	BBL
16	18 September 2002	Letter to Hi-Shear RE Perched Groundwater Assessment	BBL
17	15 September 2008	Phase II Subsurface Site Investigation Report	Environmental Engineering & Contracting, Int. (EEC_
18	15 January 2010	Well Installation Report LISI Aerospace Facility	Winefield & Associates, Inc. (W&A)
19	15 March 2010	Site Conceptual Model LISI Aerospace	W&A
20	30 September 2010	Soil Gas Survey Work Plan	W&A

GSI ENVIRONMENTAL

CHRONOLOGY OF SITE ASSESSMENT, INVESTIGATION, AND MONITORING REPORTS AT THE HI-SHEAR PROPERTY PRIOR TO SEPTEMBER 2016

No.	Date	Title	Author
21	30 September 2010	Risk Assessment Work Plan	W&A
22	07 February 2011	Final Report – VES-2 Site Remediation	W&A
23	18 February 2011	Revised Soil Gas Survey Work Plan	W&A
24	06 September 2011	Soil Gas Survey Report	Alta Environmental (Alta)
25	29 February 2012	Conceptual Groundwater Remedial Action Plan	Alta
26	31 May 2012	Aquifer Test Work Plan	Alta
27	31 May 2012	Enhanced Insitu Bioremediation Pilot Test Work Plan	Alta
28	31 May 2012	Soil Remedial Action Plan Addendum	Alta
29	31 May 2012	Soil Gas Survey Work Plan	Alta
30	23 August 2012	Report- Concrete Sampling and Analysis for Building No. 5	Alta
31	26 September 2012	Attenuation Factor Method Soil Cleanup Goals	Alta
32	28 February 2013	Soil Vapor Extraction Well Installation Work Plan	Alta
33	28 February 2013	Supplemental Soil Remedial Action Plan	Alta
34	28 February 2013	SVE Well Destruction Report	Alta
35	27 March 2013	Revised Enhanced Insitu Bioremediation Pilot Test Work Plan.	Alta
36	06 May 2013	Well Abandonment Report LISI Aerospace; Hi-Shear Corp – Building 4	Alta
37	28 June 2013	Aquifer Test Report	Alta
38	12 July 2013	Report of Waste Discharge Hi-Shear Corporation	Alta
39	14 October 2013	Report of Waste Discharge, Third Quarter 2013	Alta
40	13 January 2014	Report of Waste Discharge, Annual 2013	Alta

CHRONOLOGY OF SITE ASSESSMENT, INVESTIGATION, AND MONITORING REPORTS AT THE HI-SHEAR PROPERTY PRIOR TO SEPTEMBER 2016

No.	Date	Title	Author
41	13 January 2014	Report of Waste Discharge, Fourth Quarter 2013	Alta
42	22 January 2014	Enhanced In-Site Bioremediation Pilot Test Report	Alta
43	31 January 2014	Soil Vapor Extraction Well Installation Report	Alta
44	11 April 2014	Report of Waste Discharge, First Quarter 2014	Alta
45	11 July 2014	Report of Waste Discharge, Second Quarter 2014	Alta
46	18 September 2014	Work Plan to Continue Enhanced Insitu Bioremediation Pilot Test (with Injection of LARWQCB-Approved DHC)	Alta
47	15 October 2014	Report of Waste Discharge, Third Quarter 2014	Alta
48	15 January 2015	Report of Waste Discharge, Fourth Quarter 2014	Alta
49	30 January 2015	2014 Annual Report of Waste Discharge	Alta
50	15 April 2015	Report of Waste Discharge, First Quarter 2015	Alta
51	07 July 2015	Report of Waste Discharge, Second Quarter 2015	Alta
52	10 August 2015	Well and Probe Installation, Groundwater Monitoring, and Health Risk Assessment Report	Alta
53	06 October 2015	Report of Waste Discharge, Third Quarter 2015	Alta
54	13 November 2015	Additional Site Assessment Work Plan	Alta
55	29 January 2016	2015 Annual Report of Waste Discharge	Alta
56	29 January 2016	Report of Waste Discharge, Fourth Quarter 2015	Alta
57	12 February 2016	Second Enhanced In-Site Remediation Pilot Test Report	Alta
58	10 May 2016	Groundwater Remedial Action Plan	Alta
59	30 July 2016	Report of Waste Discharge, Second Quarter 2016	Alta

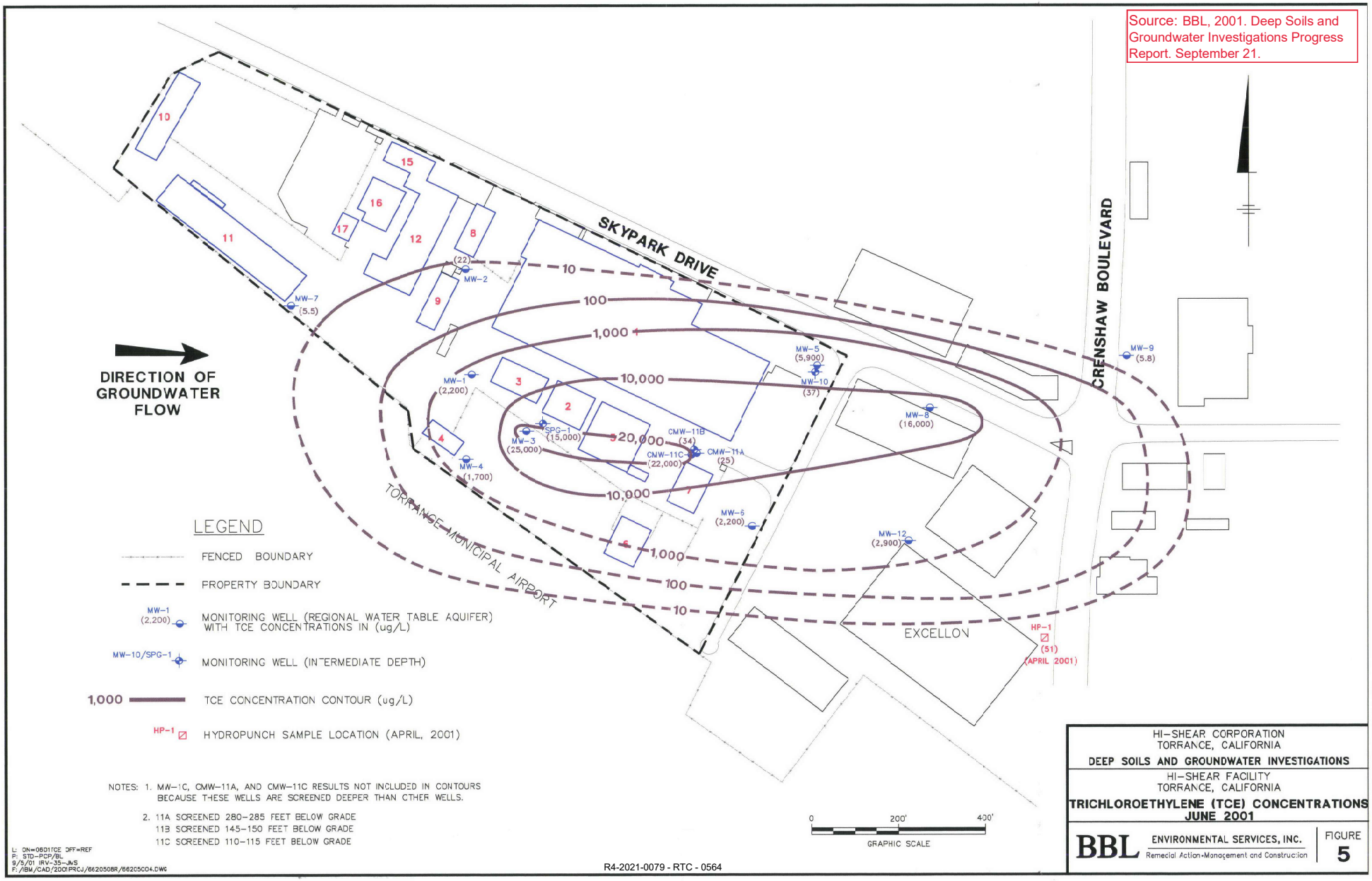
CHRONOLOGY OF SITE ASSESSMENT, INVESTIGATION, AND MONITORING REPORTS AT THE HI-SHEAR PROPERTY PRIOR TO SEPTEMBER 2016

No.	Date	Title	Author
1 to 10	28 January 1993 – 26 February 1999	Quarterly Groundwater Monitoring Report	BBL, 1993a; 1993b; 1993c; 1994a; 1994b; 1994c; 1995a; 1995b; 1995c; 1999
11 to 47	15 May 2005 – 31 May 2016	Tri-annual Groundwater Monitoring Report	Geosyntec, 2005a; 2005b; 2006a; 2006b; 2006c; 2007a; 2007b; 2007c; 2007d; 2008a; 2008b; 2008b; 2009a; 2009b; 2009c; 2010a; 2010b; 2010c; 2011a; 2011b; 2011c; 2012a; 2012b; 2012c; 2013a; 2013b; 2013c; 2014a; 2014b; 2014c; 2015a; 2015b; 2015c; 2016a; 2016b; 2016c;

Attachment C

Figures 5 and 7, BBL, 2001, Deep Soils and Groundwater Investigation Progress Report

ATTACHMENT C



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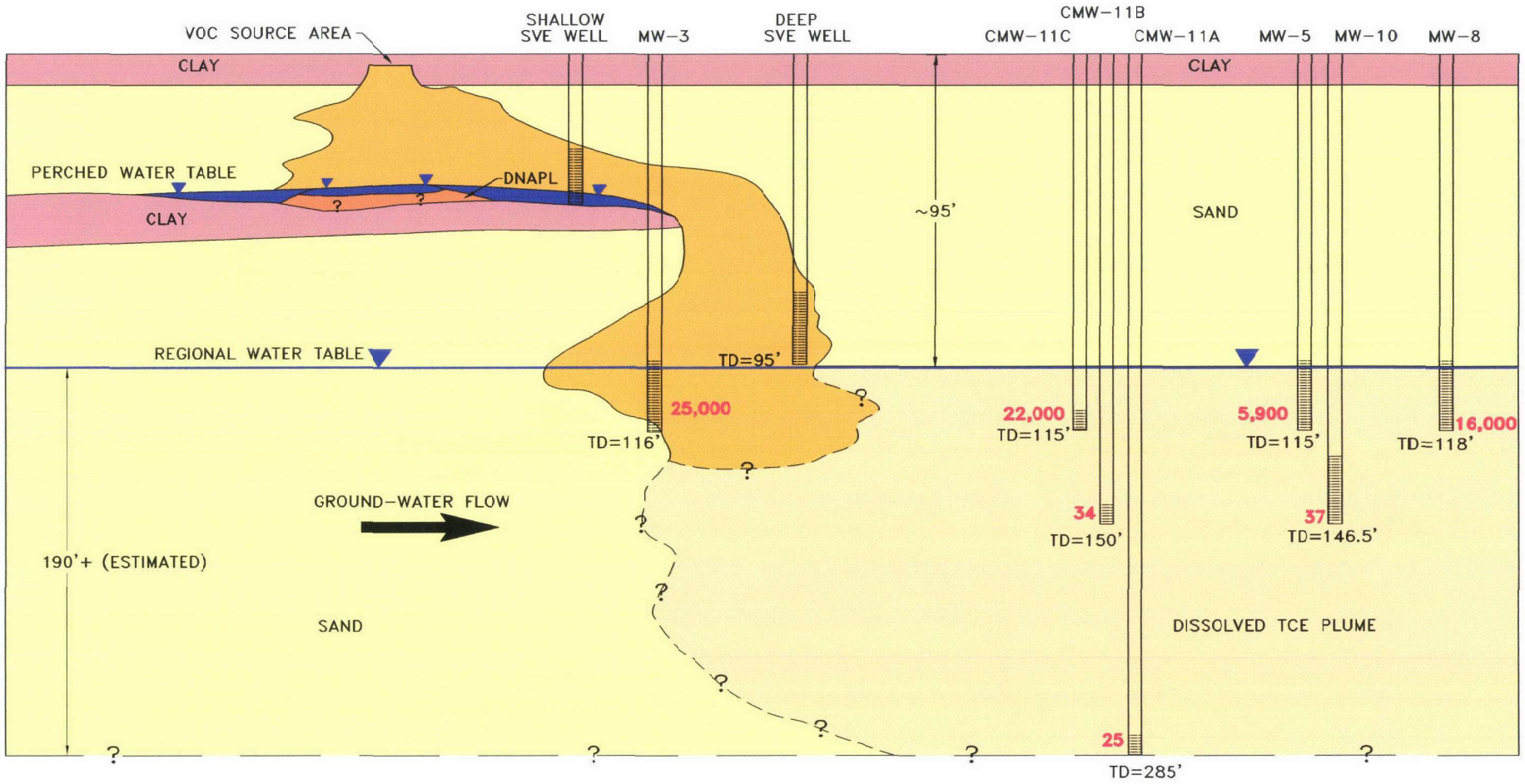
ATTACHMENT C

Source: BBL, 2001. Deep Soils and Groundwater Investigations Progress Report. September 21.



NOTE: GROUND WATER TCE CONCENTRATIONS FROM JUNE 2001 IN ug/L

TD = TOTAL DEPTH

NOT TO SCALE

HI-SHEAR CORPORATION
TORRANCE, CALIFORNIA

TCE MIGRATION MODEL
SEPTEMBER 5, 2001

BBL ENVIRONMENTAL SERVICES, INC.
Remedial Action•Management and Construction

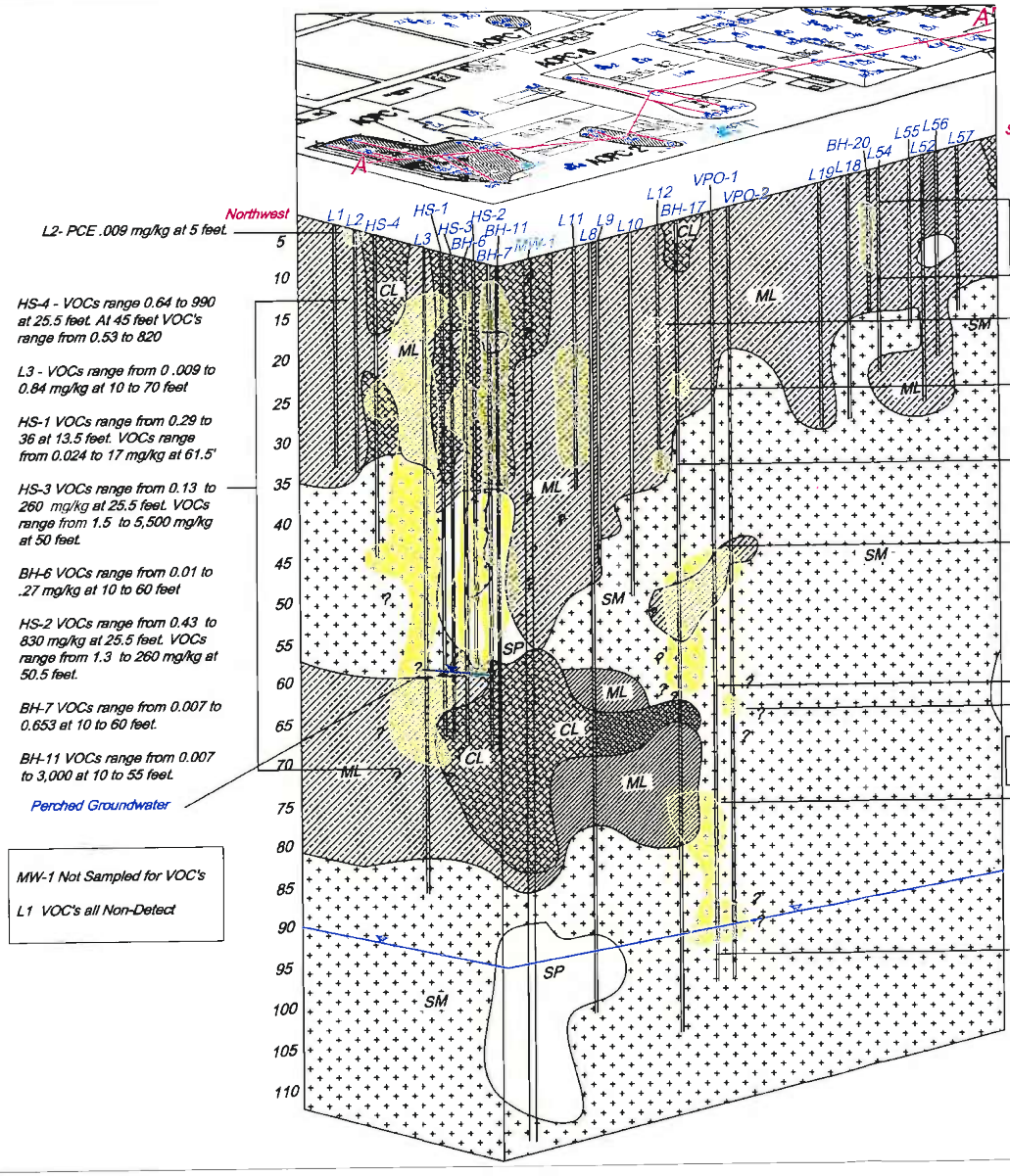
FIGURE 7

L: ON=* OFF=REF
P: STD-PCP/AL
1/15/01 IRV-35-JNS
F:/IBM/CAD/2001PROJ/6620508R/66205CS3.DWG

GSI ENVIRONMENTAL

Attachment D

Figures 10 and 11, W&A, 2010, "Known VOC Contamination in Soil,"
Site Conceptual Model



L2- PCE .009 mg/kg at 5 feet.

HS-4 - VOCs range 0.64 to 990 at 25.5 feet. At 45 feet VOC's range from 0.53 to 820

L3 - VOCs range from 0 .009 to 0.84 mg/kg at 10 to 70 feet

HS-1 VOCs range from 0.29 to 36 at 13.5 feet. VOCs range from 0.024 to 17 mg/kg at 61.5'

HS-3 VOCs range from 0.13 to 260 mg/kg at 25.5 feet. VOCs range from 1.5 to 5,500 mg/kg at 50 feet.

BH-6 VOCs range from 0.01 to .27 mg/kg at 10 to 60 feet

HS-2 VOCs range from 0.43 to 830 mg/kg at 25.5 feet. VOCs range from 1.3 to 260 mg/kg at 50.5 feet.

BH-7 VOCs range from 0.007 to 0.653 at 10 to 60 feet.

BH-11 VOCs range from 0.007 to 3,000 at 10 to 55 feet.

Perched Groundwater

MW-1 Not Sampled for VOC's

L1 VOC's all Non-Detect

L18, L19, L52, L54, L55, L56 & L57 not sampled for VOCs

BH-20 PCE 0.17 mg/kg, TCE 1 mg/kg at 10 feet. PCE 0.062 and TCE 0.48 mg/kg at 15 feet. PCE 0.018 mg/kg and TCE 0.2 mg/kg at 20 feet.

L12- PCE 0.068 mg/kg at 15 feet.

BH-17- PCE 0.0021 mg/kg and TCE 0.2 mg/kg at 25 feet.

L12- VOCs range from 0.018 to 0.077 mg/kg at 30 feet

BH-17 - TCE 0.58 mg/kg at 50 feet and 0.0055 mg/kg at 60 feet

VPO-1- PCE 0.24 mg/kg and TCE 5.8 mg/kg at 46 feet

VPO-2 PCE .190 mg/kg and TCE 4.1 mg/kg at 44 feet

VPO-2– PCE 0.12 mg/kg and TCE 0.12 mg/kg at 65 feet.

L8, L9 & L10 VOC's all Non-Detect

BH-17 PCE 0 .0043 mg/kg and TCE 0.028 at 7 5 feet

VPO-1 TCE 1.2 mg/kg at 80 feet. PCE 0.13 mg/kg and TCE 4 mg/kg at 90 feet

VPO-2 PCE 5.2 mg/kg and TCE 15 mg/kg at 90 feet

Legend

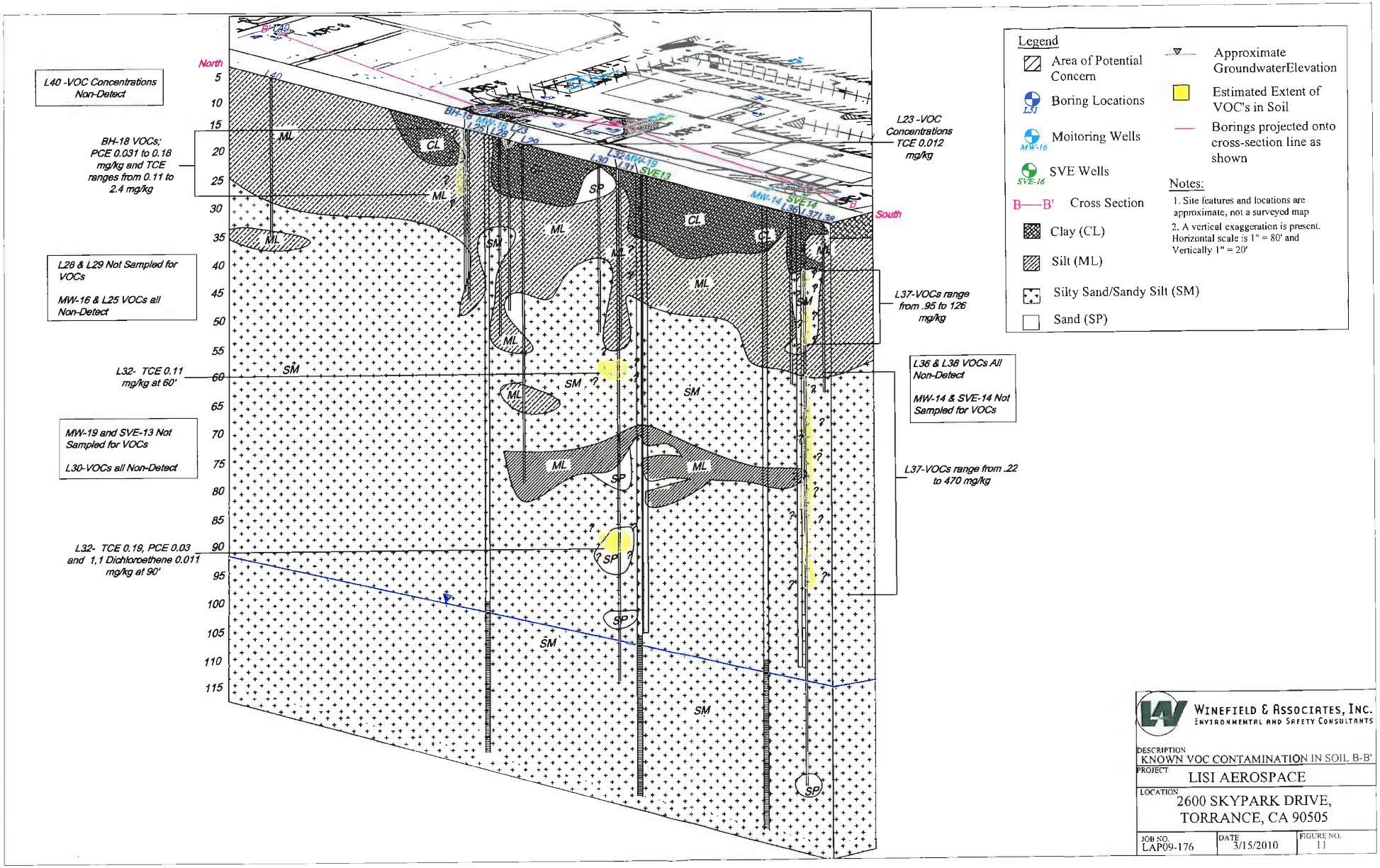
- Area of Potential Concern
- Boring Locations (LS1)
- Moitoring Wells (MW-16)
- SVE Wells (SVE-16)
- A—A' Cross Section
- Clay (CL)
- Silt (ML)
- Silty Sand/Sandy Silt (SM)
- Sand (SP)
- Borings projected onto cross-section line as shown
- Approximate Groundwater Elevation
- Estimated Extent of VOCs in Soil

Notes:

1. Site features and locations are approximate, not a surveyed map
2. A vertial exaggeration is present. The horizantal scale is 1"=80' and the vertical scale is 1"=20'

WINEFIELD & ASSOCIATES, INC.
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION	KNOWN VOC CONTAMINATION IN SOIL A-A'
PROJECT	LISI AEROSPACE
LOCATION	2600 SKYPARK DRIVE, TORRANCE, CA 90505
JOB NO.	LAP09-176
DATE	03/15/2010
FIGURE NO.	10



WINEFIELD & ASSOCIATES, INC.
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION	KNOWN VOC CONTAMINATION IN SOIL B-B'
PROJECT	LISI AEROSPACE
LOCATION	2600 SKYPARK DRIVE, TORRANCE, CA 90505
JOB NO.	LAP09-176
DATE	3/15/2010
FIGURE NO.	11

Gordon & Rees Scully Mansukhani on behalf of Robinson Helicopter (G&R)

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January 11, 2021

VIA EMAIL

Mr. Kevin Lin, P.E.
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013
Kevin.Lin@waterboards.ca.gov

Re: **Robinson Helicopter Comments: Draft Cleanup and Abatement Order No.: R4-20XX-XXXX**
Skypark Commercial Properties (Assessor Parcel No. 7377-0060906), 24701-24777 Crenshaw Boulevard and 2530, 2540, and 2600 Skypark Drive, Torrance, California (SCP NO. 1499)

Dear Mr. Lin:

On behalf of Robinson Helicopter ("Robinson"), I am writing to provide comments on the Draft Cleanup and Abatement Order ("Draft Order") referenced above from the Los Angeles Regional Water Quality Control Board ("RWQCB" or "Board"). These comments are provided in response to the November 30, 2020 letter providing the parties with an opportunity to comment on the Draft Order. By letter dated December 31, 2020, the Board extended the deadline from January 4, 2012 to January 11, 2021. In light of the multiple ongoing investigations at the Site and continuing generation of environmental data, and the relatively short amount of time provided within which to provide comments to this Draft Order, these comments submitted by Robinson may be supplemented at a later point in time.

I. SCOPE OF ORDER

The Order addresses contamination identified at the Site (identified as 24751, 24777, 24707, 24747, and 24701 Crenshaw Boulevard and 2530, 2540, and 2600 Skypark Drive in the City of Torrance), as well as Off-Site (generally described as residential areas east of Crenshaw Boulevard). The East Adjacent Properties are comprised of 24701-24777 Crenshaw Boulevard and 2530 and 2540 Skypark Drive ("EA Properties"). The two properties associated with Robinson are 24701, 24707, and 24747 Crenshaw Boulevard (Property 2), and 2530 and 2540 Skypark Drive (Property 3). Property 1 is identified as 24751 and 24777 Crenshaw Boulevard.

The Draft Order describes the groundwater contamination as a commingled plume that begins at the Hi-Shear property, spans the EA Properties, and extends further downgradient

beneath the Off-Site areas. The requirements imposed in the Draft Order are all-encompassing and include the submittal and implementation of a Site Conceptual Model, a Site Assessment Workplan to fully characterize the contamination, a Human Health Risk Assessment, including an ecological risk assessment, an Interim Remedial Action Plan, a Comprehensive Remedial Action plan, and ongoing Groundwater Monitoring. With the exception of the Site Conceptual Model, the Draft Order appears to place full responsibility upon each Discharger, including Robinson, to investigate, cleanup and abate the contamination for the entire 27-acre Site, and contamination that has migrated Off-Site.

F.1

II. EXECUTIVE SUMMARY OF THE LACK OF EVIDENCE IN THE DRAFT ORDER TO SUPPORT THE BOARD IDENTIFICATION OF ROBINSON AS A DISCHARGER RESPONSIBLE FOR CONTAMINATION AT THE SITE AND OFF-SITE

As to Property 2, the factual basis stated by the Board for its conclusion in the Draft Order that Robinson caused or permitted waste to be discharged into the waters of the State, which create or threaten to create a condition of pollution is the following: "Robinson, a manufacturer of rotorcraft and related components, occupied Property 2 from 1978 to 1996. Robinson has used halogenated solvents, liquid with cadmium, 1,1,1-TCA, methyl ethyl ketone (MEK), and methyl chloride on the property. Robinson has had violations for MEK and 'excess solvent usage' on the property." As to Property 3, the factual basis is stated as follows: "Robinson has occupied Property 3 since 1978. Robinson has operated spray booths for paint and solvent usage on the property." Draft Order, pages 4-5.

As for the Board's reliance for Property 2 on Robinson's use between 1978 and 1996 of halogenated solvents, liquid with cadmium, 1,1,1-TCA, methyl ethyl ketone ("MEK"), and methyl chloride, Robinson disputes that these materials were released to groundwater or contributed to the Site contamination; there is no current evidence showing such releases. More significantly, the Board unquestionably recognizes that PCE/TCE are the primary contaminants driving the response actions. Yet the Board cites no evidence that Robinson used PCE/TCE in its operations at the Site at any time or that Robinson engaged in any activities causing the release of PCE/TCE at any time.

F.2

Further, the Board's reliance for Property 3 on Robinson's operation of spray booths for paint and solvent usage appears to reflect the Board's "grasping for straws" approach as to Robinson. Robinson operated these booths in a responsible fashion, and there is no evidence that Robinson used PCE/TCE in the operation of the spray booth or that Robinson's use of the spray booths resulted in any releases to the environment.

III. FACTUAL AND LEGAL ARGUMENTS SUPPORTING ROBINSON'S POSITION THAT IT SHOULD NOT BE NAMED AS A DISCHARGER

In order to legally support that Robinson is a Discharger under California Water Code ("CWC") section 13304, Robinson must be either (i) an owner/lessee who causes a discharge of contamination that resulted in harm to the environment, or (ii) an owner/lessor who through actual knowledge or constructive knowledge permits a tenant to discharge contaminants. *See, e.g., San Diego Gas & Electric v. San Diego Regional Water Quality Control Board* (*"San Diego Gas & Electric"*) (2019) 36 Cal.App.5th 427, 431, *see also, United Artists Theatre Circuit*

v. San Francisco Regional Water Quality Control Board ("*United Artists*") (2019) 42 Cal.App.5th 851, 887.

A. <u>There Is No Evidence That Robinson Caused A Discharge of Contamination That Resulted in Harm to the Environment.</u>

The Order states the Site is approximately 27 acres in size in Torrance, California and includes property occupied by Hi-Shear and multiple tenants on the East Adjacent Properties of Hi-Shear Corporation ("EA Properties"). The entire parcel is owned by the City of Torrance and has been leased primarily to aviation or aerospace-related companies since 1954. Draft Order, page 2. Robinson is a tenant on Property 3 and was a tenant on Property 2 (Dasco is the current tenant). In response to assertions from Hi-Shear that the EA Properties may be partially responsible for the presence of VOCs in the subsurface, Robinson conducted an environmental assessment of Robinson's Property in 2018 that concluded as follows:

- A total of 58 soil samples and 82 soil vapors samples were collected at the Robinson's Properties and analyzed for VOCs.

- Sampling demonstrated that PCE in soil is limited in depth and concentration. The greatest concentrations of PCE and TCE detected in the 58 soil samples were 280 ug/kg and 37 ug/kg, respectively and located approximately 80 feet higher than the groundwater surface. PCE concentrations that are typically considered a source to groundwater are much higher, consistent with the concentrations detected on the Hi-Shear site.

F.3

- As discussed in a December 13, 2017 letter authored by Hi-Shear, a release of VOCs to the subsurface commonly results in a "bull's eye" around the release point with the concentrations diminishing with distance from the release point. This condition is not present at the Site.

- In comparison, soil samples collected from the Hi-Shear site after 14 years of soil remediation contained PCE and TCE at concentrations up to 1,500,000 ug/kg and 2,430,000 ug/kg, respectively. Further, soil vapor samples collected from the Hi-Shear site in 2011, after 12 years of SVE, contained PCE and TCE at concentrations up to 11,000 ug/L and 5,700 ug/L, respectively. Thus demonstrating the massive releases that occurred on the Hi-Shear site.

- On August 4, 2014, soil vapor samples were collected on the Hi-Shear site property from soil vapor probe VP-26, at 85 feet bgs. These samples collected from 85 feet bgs contained the greatest concentrations of PCE (112 ug/L) and TCE (173 ug/L). Samples from VP-26, at 5 foot probes contained the lowest concentrations of PCE (2.62 ug/L) and TCE 1 ug/L).

- The decrease in VOC concentrations with distance from the groundwater on the Hi-Shear site, and the similar concentrations of PCE and TCE detected in Hi-Shear probe VP-26 and soil vapor samples collected from the Site in 2015 and

2016 confirm that off-gassing from groundwater migrating from the Hi-Shear site has impacted soil vapor beneath Robinson's Properties.

See, Evaluation of Subsurface VOCs, 24701-24747 Crenshaw Boulevard & 2530-2540 Skypark Drive, Torrance, California, conducted by Frey Environmental, Inc. dated February 23, 2018, which is identified as the Evaluation Report in the Draft Order.

The results from the Evaluation Report show the soil vapor impacts on Robinson's Properties arise from the uncontrolled contaminated groundwater source at the Hi-Shear site and not from Robinson's Properties.

B. <u>The Highest Levels of VOCs are at Depth Suggesting an Upgradient Groundwater Source, and the Shallow Soil Vapor on the Robinson Properties is Not Likely to be Contributing to the Off-Site Impacts.</u>

"A Soil, Soil Vapor, and Groundwater Delineation Report - Module I" was submitted to the Board on March 13, 2020, on behalf of Hi-Shear Corporation by Genesis Engineering & Redevelopment, dated March 13, 2020. Module I reports that PCE and TCE in soil vapor increases with depth. The highest levels of VOCs are at depths between 45-85 feet with one exception on the east side of Crenshaw (not on the EA Properties) which is between 15 and 5 feet and is suggested to have a separate source. The levels at depth are consistent with the uncontrolled groundwater release from the Hi-Shear site.

F.4 A CAO requiring full characterization of Properties 2 and 3 is premature. The Draft Order relies largely on the Module III – Interim Report by Hi-Shear to assert that there are discharges from the EA Properties that commingle with the Hi-Shear plume. To date, the Board has not provided its review of the Module III -Interim Report which has significant unaddressed failings. Detailed comments on Module III – Interim Report are attached hereto. **Exhibit "A"**

C. <u>The Draft Order Contains No Facts to Support that Robinson is a Discharger.</u>

The only attempt to allege facts potentially supporting Robinson's liability as a Discharger is contained on pages 4 and 5 of the Draft Order. The Board states as follows as to Property 2: "Robinson, a manufacturer of rotorcraft and related components, occupied Property 2 from 1978 to 1996. Robinson has used halogenated solvents, liquid with cadmium, 1,1,1-TCA, methyl ethyl ketone (MEK), and methyl chloride on the property. Robinson has had violations for MEK and 'excess solvent usage' on the property." This is the sum and substance of the Board's evidence to support Robinson's liability as a Discharger as to Property 2. The Draft Order is vacant regarding any evidence that Robinson discharged, or even used, PCE/TCE on Property 2.

F.5 The only alleged evidence to support Robinson's liability as a Discharger for Property 3 is the following: "Robinson has occupied Property 3 since 1978. Robinson has operated spray booths for paint and solvent usage on the property." Draft Order, page 5. Once again, as to Property 3, the Board sites no evidence to show that Robinson discharged, or even used, PCE/TCE on Property 3.

D. <u>The Conclusory Findings in the Draft Order Fail to Establish that Robinson is Responsible for Any Alleged Discharges at Property 2 or Property 3 or Any Other Portion of the Site.</u>

The Draft Order does not contain any factual findings connecting Robinson to any discharge or potential discharge on Property 2 or Property 3, or any other portion of the Site. The conclusory statements concerning Robinson contained on pages 4 and 5 of the Draft Order lack the specificity necessary to support the designation of Robinson as a Discharger in a CAO.

Conclusory findings fall short of the relying on "sufficient evidence" in making its decisions. See, e.g., *Asociacion de Gente Unida v. Central Valley Regional Water Quality Control Board* (2012) 210 Cal.App.4th 1255, 1281 ("Board must ensure that sufficient evidence is analyzed to support its decision and that the evidence is summarized in an appropriate finding"), see also, *Topanga Assn. For a Scenic Community v. County of Los Angeles*, supra, 11 Cal.3rd at p. 516 ("administrative body [is required] to draw legally relevant sub-conclusions supportive of its ultimate decision; the intended effect is to facilitate orderly analysis and minimize the likelihood that the agency will randomly leap from evidence to conclusions.")

F.6 California Water Code §13304(a) requires, for example, a nexus of responsibility between the person subject to an order and any environmental impacts that the person subject to an order purportedly caused and the effect of any such purported actions on the environment. See *Tesoro Refining & Marketing Company v. Los Angeles Regional Water Quality Water Control Board* ("*Tesoro Refining*") (2019) 42 Cal.App.5th 453 (an order must rest on substantial evidence that establishes a nexus between the party who is named in the order and the contamination that is the subject of the order); See, also, e.g., *Redevelopment Agency of the City of Stockton v. BNSF Railway Co.* (9th Cir. 2011) 643 F.3d 668, 678 ("the words 'causes or permits' within section 13304 [of the Water Code] were not intended 'to encompass those whose involvement with a spill was remote and passive.'"). The Board's findings do not demonstrate that nexus between Robinson's Properties and a potential surface release and the groundwater plume and resulting soil vapor addressed in its Draft Order.

E. <u>There is Insufficient Support Referenced in the Draft Order to Place the Full Burden of the Draft Order on Robinson.</u>

"A Soil, Soil Vapor, and Groundwater Delineation Report – Module V", was submitted on behalf of Hi-Shear Corporation by Genesis Engineering & Redevelopment, dated April 3, 2020. Module V states that groundwater elevations have continued to rise at a rate of 1 foot per year since 2007, but fails to acknowledge that this increase contributes to the spread of contamination from the Hi-Shear site. Module V, 5.1. In this context, the two groundwater sampling locations are insufficient to support a conclusion that sources on the Robinson's Property are contributing to the groundwater and soil vapor plumes subject to the Order.

F.7 Additionally, the burden placed on the "discharger" must also be considered. The Board's guidance memorandum provides, in pertinent part, that both the "costs to the discharger and the affected public must be considered." See, State Board Guidance Memo, Feb. 16, 1995, p. 4-5, see also, CWC section 13241(d) (in establishing objectives, Board must consider "economic considerations"), *City of Arcadia v. State Water Resources Control Board* (2006) 135

Cal.App.4th 1392, 1413-1414. The costs to implement the Draft Order will be very significant, and the Board has not fairly considered the costs to Robinson in this analysis.

F. <u>The Issuance of a CAO would be Premature.</u>

The Board invites comments from only seven potentially responsible parties ("PRPs"). However, there are 61 additional PRPs in a lawsuit over the very same contamination which is the subject of the Draft Orde.

The lawsuit is entitled *City of Torrance v. Hi-Shear Corporation, et al.*, USDC Case No. 2:17-cv-07732-DSF-JPR (the "lawsuit"). Until recently, Hi-Shear was the only defendant in the lawsuit and this is understandable since it is evident that Hi-Shear released VOCs into the soils and groundwater. By any standard, Hi-Shear's discharges are substantial and the cause of the contaminated groundwater plume.

F.8

In an attempt to defray its liability, in December 2017 Hi-Shear filed a third-party complaint contending that Robinson and other PRPs contributed to Hi-Shear's contaminated groundwater plume. Despite over 30 years of field investigations, Hi-Shear has been unable to substantiate its allegations, and to date the only confirmed discharger of VOCs remains Hi-Shear.

Based on the existing data and Hi-Shear's acknowledgment of these substantial discharges, it appears that a CAO directed at Hi-Shear is justified but there is not a valid legal basis for issuing a CAO to Robinson.

At least implicitly, the RWQCB seems to recognize that it needs additional data and information to support adding other PRPs to a CAO. We understand that in or about January 15, 2021, Hi-Shear is scheduled to collect soil and groundwater samples at certain locations at the Torrance airport. For its part, Robinson is in the process of implementing the soil vapor intrusion workplan for Properties 2 and 3.

The field investigations at the Torrance airport are expected to yield information about whether activities there contributed to Hi-Shear's known contaminated groundwater plume. Robinson understands that field investigations at Property 1 may also yield additional information about releases at the Torrance airport, including a missile site which was formerly located at the airport, known as Nike Battery #57 (the "Nike missile base"). The field investigations at Property 1 may also yield information about the Hi-Shear site.

F.9

Property 1 is located down-gradient from both the Torrance airport and the Hi-Shear site and shares a southern and western border with both the airport and the Hi-Shear site, at least according to the boundaries which have now been drawn around Property 1. However, based on review of historical records, a portion of the land which is now included within the footprint of Property 1 was actually part of the Torrance airport and included portions of the former Nike missile base. This fact alone illustrates just how premature and misdirected issuing a CAO to Robinson would be.

F.10

Beyond waiting for the data which will be generated by the pending field work at the Torrance airport, and Properties 1-3 and elsewhere, the RWQCB should also invite comments from all of the PRPs in the pending lawsuit. While this additional data and information may still fall short of pinpointing whether there are others who contributed to Hi-Shear's contaminated groundwater plume, it will provide a much fuller and appropriate foundation for a CAO and for identifying the proper parties to a CAO.

F.11

This is further illustrated by the existing data on Hi-Shear's contaminated groundwater plume. Perchlorate, a well-known oxidizer found almost exclusively in rocket fuel, has been identified in this plume. The United States is a party to the pending lawsuit presumably because operations at the Torrance airport and at the Nike missile base contributed to the contaminated groundwater plume.

Based on our review of historical records, the United States owned and operated the Torrance airport during the 1940's and through later years and operated the Nike missile base from at least 1948 until 1972. Since then, portions of the area which were formerly part of the Nike missile base were removed from the footprint of the Torrance airport, were leased by the City of Torrance to private parties, and a portion of the area that formerly comprised the Nike missile base is now located within the footprint of Property 1.

Neither Robinson nor other PRPs who may have operated at Properties 1-3 would have operated the Nike missile base nor used perchlorate. Accordingly, the United States is the obvious and only known potential discharger of perchlorate in the area. Yet the United States is mentioned nowhere in the draft CAO nor has the RWQCB solicited comments or requested information from the United States. The United States, more than anyone else, is the PRP who will likely be most familiar with its activities at the Torrance airport. Presumably there are detailed and thorough manuals setting forth the storage, handling, and maintenance practices that the United States followed in handling weapons, including Nike missiles, especially since these weapons were a stones-throw away from residential communities.

The additional information from comments submitted by Hi-Shear, the United States, and others and from the data which will be generated during the course of upcoming field studies should greatly assist the RWQCB in assessing the scope of a final CAO and who to include in a final CAO. Until that information and data is received, it would be premature to issue a final CAO.

Lastly, Given the lawsuit is pending and discovery is ongoing, and there are approximately 68 parties identified yet only 7 of these parties are included in the Draft Order, Robinson submits that the federal court is the forum where the issues raised in the Draft Order, including the purported factual assertions, the parties' responsibilities and liabilities should be adjudicated.

A full and proper adjudication in the lawsuit will accomplish and further the Board's policy to include all appropriate responsible parties within its Orders. State Water Resources Control Board Resolution No. 92-49 (the Regional Boards will "make a reasonable effort to identify the discharges" and to "name other persons as dischargers." See, Res. No. 92-49(I)(B) & (II)(A)(4); see also December 1992 memorandum from the Office of the Chief Counsel, State

Water Resources Control Board, to Regional Board Executive Officers, "Responsible Party Orders" setting forth principles and policies for naming parties in any orders directed at an investigation or at ameliorating conditions in soils, groundwater, or vapor intrusions or impacts arising from the foregoing.).

G. The Draft Order Fails to Adequately Address the Required Cost/Benefit Analysis.

The Draft Order fails to comply with CWC section 13225, which requires the Board consider the costs versus the benefits of the contemplated order. Specifically, section 13225(c) states, in pertinent part, that "reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained therefrom." See also CWC section 13165 ["The state board may require any state or local agency to investigate and report on any technical factors involved in water quality control; provided that the burden, including costs, of such reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained therefrom."].

The only finding in the Draft Order regarding the Board's conducting of a cost/benefit analysis, is a conclusory statement in Finding 20, which provides, in pertinent part, as follows:

"As required by Water Code section 13267, the Regional Board has considered the burden and benefits of requiring these reports and has determine that the benefit to water quality and public health outweighs the costs of generating the required reports. Soil, soil vapor, and groundwater concentrations on- and off-Site are detected above their applicable screening levels that are protective of water quality and public health and have not been fully delineated. Regional Board staff, in reliance on best professional judgement and State Water Board data, estimates that compliance with Water Code section 13267 in this Order will cost approximately $2,000,000 to $5,000,000, depending upon the extent of the investigation needed. The benefits to be obtained of the required reports include protection of human health, drinking water, and elimination of soil, soil vapor, and groundwater contamination which currently impacts an entire community."

F.12

The Draft Order contains no evidence to support its conclusion of "approximately $2,000,000 to $5,000,000," and provides no breakdown of the estimated costs, and no explanation of the particular assessment or remedial work that is to be conducted for this estimated amount. Additionally, there is no explanation of any benefits from work to be conducted under the Draft Order, other than a very broad and general statement involving the "protection of human health," and there are clearly no "findings," let alone supporting evidence, for imposing the work under the Draft Order upon Robinson, when there is zero evidence to support that Robinson caused any discharges.

The Draft Order also does not identify the specific assessment and remedial work that is to be required of Robinson, which leaves the possibility that it is expected to conduct all of the work required in the Draft Order, even though the responsibility should be placed upon Hi-Shear alone. In sum, the Draft Order contains insufficient findings to support the conducting of the necessary cost/benefit analysis under CWC section 13225.

IV. REQUEST FOR EXTENSION, FOR MEETING WITH RWQCB, AND FOR HEARING

Although Robinson is providing these initial comments by the January 11, 2021 deadline, based on the missing information highlighted below, Robinson hereby requests the right to submit supplemental comments so that any forthcoming information and data may be evaluated in context rather than through the incomplete body of information and data which now exists. This is also important for the Board since it should base the CAO on reliable and complete information.

F.13

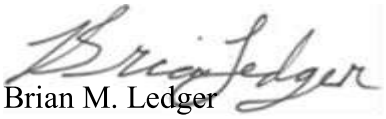
Robinson also requests (i) a meeting with the Board after all comments are submitted and the additional data is made available to discuss the foregoing with the Board, and (ii) a hearing and opportunity to be heard before the Board issues a final CAO. *See, e.g.*, 23 CCR § 2050.6.

V. CONCLUSION

Given the absence of evidence required to name Robinson as a Discharger, Robinson asserts it would be an abuse of discretion for the Board to issue a final CAO including Robinson as a named Discharger. In addition, given the current ongoing investigations being conducted at various areas at the Site and Off-Site, and the ongoing generation of new data, and the pending lawsuit, and the lack of any sufficient cost/analysis, Robinson asserts that the Board should refrain from issuing any final CAO until an appropriate time.

Sincerely,

GORDON REES SCULLY MANSUKHANI, LLP



Brian M. Ledger

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Exhibit "A"

Deficiencies with Module III should be addressed prior to requiring additional costly assessment of Properties 2 or 3:

There are number of inconsistencies in the report that warrant attention to improve clarity:

- The report states that the intent is to present data collected on the East Adjacent properties and Home Depot, but then steps outside this purpose drawing on data from the Hi-Shear and other locations off these properties to draw conclusions that aren't founded as the plumes have not been adequately delineated;

- Site geology discussion is stated to be limited to upper 85 feet but then discusses to depths beyond that depth;

- The discussion sometimes identifies properties by the occupant and other times by the address (see Section 4.0) which is confusing – clarity is needed;

- It appears isoconcentration maps (used as a snap-shot of soil vapor conditions) were developed by GER using data points collected over time, which is not accurate when reporting existing soil vapor conditions (VP-1 etc. and others). It assumes soil vapor concentrations remained constant over the period of time that data was used to create the isoconcentration maps that can lead to inaccuracies from an interpretive perspective;

    - Stantec recommends the presentation of data over time so the evolution and changes in soil vapor data can be evaluated;
    - Stantec noted some isoconcentration lines were closed without data points to support closing them – for example in the south/southwest of the study area;
    - Closed isoconcentration lines may, or may not be indicative of a source per the report. More detailed comparison and development of a CSM would assist in evaluating this aspect;
    - In addition, the evaluation of the distribution of VOCs laterally and vertically should also consider whether the probe is located in course-grained soils vs. fine-grained soil. The differences in the magnitude of concentrations at given locations may be influenced by geologic conditions rather than on location near a source.
    - Plotting soil and soil vapor concentrations on the cross section maps provided would assist in visualizing the distribution and extent of detected COPCs;

- Perched groundwater at around 50-60 ft. bgs;

  - Extent of perched groundwater may be localized but has not been fully mapped;
  - VP's 106, 108, 109, 113 and 114 indicated perched gw conditions;
  - Needs definition and warrants figures to map and explain extent of perched groundwater and how that relates to soil vapor detections and comparison with soil concentrations;

- A CSM should be developed upon completion of site characterization activities and would assist in better understanding the COPC's distribution of soil, soil vapor and groundwater (perched at 50-60 ft. bgs and deeper at ~90 ft. bgs)

- GER is utilizing Hero Note 3 screening levels for soil impacts. While those screening levels are intended to be protective of human health for depths reasonably accessible to receptors (e.g., 0 to 10-ft bgs for commercial receptors), they are not protective of groundwater MCLs. With groundwater beneath the site being impacted, the use of more stringent screening levels may be prudent when considering soil impact with respect to the need for additional remediation. Suggest using RWQCB-SFBR ESLs or EPA RSLs (more stringent) for protection of groundwater using MCLs as the target.

- The majority of the collected soil vapor data depicts an overall increase in concentrations with depth, suggesting the observed impacts are likely volatilizing off groundwater. A location that showed a clearly declining concentration trend with depth was VP-109 (located in the SE corner of the "east adjacent" properties). Locations VP-42 and VP-49 (Lexus-adjacent) and VP-105 (Dasco-adjacent) did not exhibit clear trends, while VP-108 (Lexus-adjacent) showed increasing concentrations to 30' then decreasing below.

- Soil data collected from VP-49 (Lexus-adjacent) and VP-50 (east-adjacent) appears to exhibit chlorinated impacts originating from perched GW; no other significant VOC concentrations were detected in soils collected as part of Module III.

- Section 5.1 discusses "unsaturated zone" impacts to soil at the Lexus Property, noting the highest PCE/TCE concentrations being detected in VP-50 at a depth of 55 feet bgs; while a boring log isn't available for review, Table 4 indicates a perched GW sample was collected in 2016 from VP-50. Accordingly, based on the depth of the observed contamination, it is likely that what is considered "unsaturated zone" impact likely represents dissolved or free-phase contamination that subsequently adsorbed to soil. The PCE/TCE distribution noted in soil for VP-50 (Table 3B) corroborates this conclusion.

- Figure 7 has the inward pointing isoconcentration lines centered at VP-29 and VP-83 labelled as "100"; however, the concentrations within fall in the 100-1,000 range and the labels for those isoconcentration lines should be revised accordingly to "1,000".

- Since Cal-EPA (DTSC and Water Board) considers that soil vapor samples collected at a depth of 15-feet bgs are the most representative depths for evaluating potential vapor intrusion and the need for mitigation, figures for the various COPCs at this depth would be informative.

- We note commonly observed differences between the Jones Environmental results (8260) and EPA TO-15 that are significant for several samples including VP-108 (RPD = 119%). Also, Jones purged and sampled at 2,000 ml/min vs. 200 ml/min recommended by DTSC for all but deeper probes. Consider addressing these uncertainties in the draft report. We note that such differences may be of less consequence for high concentration results but may be important where results approach screening levels.

- The discussion only refers to the chronic screening levels and not to acute screening levels. The text even goes so far as to state there are no screening levels for cis and trans 1,2-DCE (Section 7.2). This is not true. While there are no chronic screening levels, there are acute screening levels for these compounds. Decisions as to whether mitigation is warranted need to consider both screening levels.

- Section 5.2 Summary of Previous Off-Site Data also discusses data collected at Hi-Shear and locations other than the four properties identified in the purpose of the report.

- Section 6.0 describes installation of 15 multi-depth probes but no discussion of sampling other probes. In the findings section we learn of additional probes being sampled with no explanation as to why?

- Section 7.3 needs some work. Statements such as "PCE was detected in all but 4 of 5 groundwater samples…" means that PCE was detected in one sample. Reword this and similar bullets to state "PCE was detected in 4 of the 5 groundwater samples submitted for analysis…".

- Section 8.2 states, "These data provide a comprehensive picture…". This statement is not true. Delineation is not complete therefore, a comprehensive picture is not possible. Further, the report draws conclusions based on an incomplete picture. The report states that the highest concentrations are in the southernmost probes. Therefore it is premature to draw conclusions until further characterization is completed especially to the south.

- Section 8.2.5 states, "The extent of PCE and TCE have been delineated to below the relevant commercial or residential screening level north of the East Adjacent Properties where these two VOC are non-detectable in all probes at VP-100 and VP-103…." However, the detection limits for these probes and the one detection in VP-103 exceed the residential chronic screening level. Further, the two probes

to the west and east of these two probes report concentrations above residential and commercial screening levels.

- Section 9.0 Recommendations, No. 3, recommends source area investigations to support the development of interim mitigation measures. We believe the author may have meant remediation? Note that vapor intrusion mitigation measures are not developed based on source area investigations. VI mitigation measures are developed following indoor air vapor intrusion studies, indoor source investigations, and a comparison with indoor air and outdoor air concentrations.

Cermak & Inglin, LLP on behalf of Esterline Technologies Corporation (C&I)

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January 26, 2021

BY E-MAIL

Kevin Lin, P.E.
Water Resource Control Engineer
Los Angeles Regional Water Quality Control Board
Site Cleanup Program Unit IV
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Re: Draft Cleanup and Abatement Order No. R4-20XX-XXXX (Skypark Commercial Properties)– Response of Esterline Technologies Corporation in Response to Hi-Shear Corporation Request to Modify Section 3.b.i.3 of the Draft Cleanup and Abatement Order

Dear Mr. Lin:

This letter is submitted on behalf of Esterline Technologies Corporation ("Esterline"), in response to the request by Hi-Shear Corporation ("HSC") that the findings in Section 3.b.i.3 of the draft Cleanup and Abatement Order ("DCAO") be modified to state that operations on Property 1 included "electronics manufacturing (i.e., printed circuit boards)." HSC made this request in its January 11, 2021 comments on the DCAO ("HSC Comments").

This proposed "finding" is directed to the operations of Esterline's former subsidiary, originally incorporated as Excellon Industries and later known as Excellon Automation (the "Subsidiary"), on Property 1. The HSC Comments seek to first tie the Subsidiary to "electronics manufacturing," and then to suggest that somehow activities associated with such manufacturing would have been associated with purported widespread contamination. HSC Comments at 6.[1] HSC does not identify any evidence to support its assertion that the Subsidiary engaged in "electronics manufacturing." In fact, there is none.

G.1

[1] HSC states that these "processes" (presumably those related to electronics manufacturing) have "significantly contributed to the release of VOC concentrations," but does not ground that claim in evidence any more than its claim that the Subsidiary was engaged in electronics manufacturing.

The Subsidiary manufactured precision equipment for use by other companies; it did not itself engage in "circuit board fabrication" or "electronics manufacturing" at Property 1. The HSC Comments state that "[t]he Draft CAO also discusses circuit board fabrication by Excellon from 1979-2003 on Property 1" (HSC Comments at 6), when in fact the DCAO contains no such statement. What the DCAO does state is that the Subsidiary "was a manufacturer of printed circuit board fabrication equipment." DCAO at Section 3.b.i.3 (emphasis added). This statement is consistent with multiple references in records related to the Subsidiary's activities at Property 1, examples of which are noted below.

The Subsidiary's initial application to the City of Torrance seeking to sub-sub-lease a portion of Property 1, dated June 12, 1979, described its proposed activities as "[m]anufacturing of circiut [sic] board drilling machines and related activities and general offices." The Subsidiary also submitted a June 21, 1979 letter to the City, stating that it was:

G.2

> . . . engaged in manufacturing and selling computer controlled drilling machines for printed circuit boards as well as routing machines and optical programmers and inspection equipment for the printed circuit board industry. In addition, Excellon also manufactures production equipment for the semiconductor industry and expendable carbide tools for the printed circuit board and semiconductor industries.

Copies of the referenced documents are attached as Exhibits 30 and 31. These exhibits are numbered consecutively with the exhibits submitted with Esterline's October 9, 2020 letter and its November 17, 2020 letter ("November 17 Letter") to the Board, copies of which were submitted as part of Esterline's January 11, 2020 comments on the DCAO. When the Subsidiary's assets were sold in a 2003 transaction, the Subsidiary was described as being involved in the "design and manufacture of precision automated drilling, routing and material handling equipment for the printed circuit board market." *See* Excerpts from June 2003 Asset Purchase Agreement, attached as Exhibit 19 to November 17 Letter. A description of one type of equipment that the Subsidiary manufactured (called the Concept 129) is attached as Exhibit 33 to further illustrate the nature of the Subsidiary's business and to demonstrate why the assertion that the Subsidiary engaged in electronics manufacturing is not credible.

The United States Environmental Protection Agency's Envirofacts database identifies the Subsidiary's operations at Property 1 as falling within North American Industrial Classification System ("NAICS") code 333512, described as "Machine Tool (Metal Cutting Types) Manufacturing" and under Standard Industrial Classification ("SIC") code 3599, described as "Manufacturing Industries, Not Elsewhere Classified."See https://enviro.epa.gov/enviro/multisys2_v2.get_list?facility_uin=110009556319 . Had the operations involved "circuit board manufacturing" or "electronics manufacturing, completely different NAICS and SIC codes would have identified.

During the time the Subsidiary had operations at Property 1, Esterline made public securities filings that described the Subsidiary's business in a manner consistent with the above.

For example, a 1995 Esterline Form 10-k filing described the Subsidiary as ". . . a leading manufacturer of highly efficient automated drilling systems for the printed circuit board manufacturing industry."[2] A 1989 Esterline Annual Report stated that the Subsidiary "produces automated equipment for fabrication of printed circuit board for the electronics industry."[3]

G.3 HSC's unsubstantiated attempt to conflate the Subsidiary's production of equipment used to manufacture circuit boards with the manufacturing of circuit boards and electronics at Property 1 should be rejected.

G.4 Esterline is submitting this letter in accordance with its reservation of rights in its January 11, 2020 comments on the DCAO to submit additional comments, including with respect to comments by other parties named in the DCAO. In addressing HSC's proposed revision to Section 3.b.i.3 of the DCAO, Esterline reserves the right to make additional submissions on other aspects of the HSC Comments.

Sincerely,

Sonja A. Inglin

Enclosures

cc: Renee Purdy (Renee.Purdy@waterboards.ca.gov)
Hugh Marley (Hugh.Marley@waterboards.ca.gov)
Jillian Ly, P.E. (jillian.ly@waterboards.ca.gov)
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Joseph Liles, Water Replenishment District (jliles@wrd.org)
Carla Dillon, City of Lomita (c.dillon@lomitacity.com)
Ryan Smoot, City of Lomita (r.smoot@lomitacity.com)

[2] Exhibit 14 to November 17 Letter at pdf p. 4.
[3] Exhibit 15 to November 17 Letter at pdf p. 4

EXHIBIT 30

Lease Application Regarding Excellon dated June 12, 1979

IL 79-1

APPLICATION

(For a Lease, Operating Agreement, Transfer of Interest, or Subtenancy)

Date June 12, 1979

Applicant Excellon Industries, An Esterline Company (Name / DBA) 325-8000 (Telephone)

23915 Garnier Street, (Address) Torrance, California (City and State)

Application is hereby made for a Sub-Subtenancy

as follows:

Premises: 24751 South Crenshaw Boulevard, Torrance, California

Use: Manufacturing of circiut board drilling machines and related activities and general offices.

Term: remainder of RVI term (8½ years)

Rental: 19¢ net per square foot

Other or Special:

Remarks: As RVI is going out of business, they would like to gain approval at the earliest opportunity.

Attachments:
A RVI letter
B Excellon letter
C leases
D $50.00 check
E

Signed Excellon Industries
Applicant
By Edward H. Bartlett, Vice President
Date Jun 12 1979

For Airport Office Use Only

Fee Paid 6-12-79 (Date) 92785 (Rec. No.)

R4-2021-0079 - RTC - 0588

EXHIBIT 31

Letter from Excellon to City of Torrance dated June 21, 1979

Excellon Industries
An Esterline Company

EI9/0301
June 21, 1979

City of Torrance
Torrance, California

Gentlemen:

Excellon Industries is currently located at:

Excellon Industries
23915 Garnier Street
Torrance, California 90509

Excellon Industries is engaged in manufacturing and selling computer controlled drilling machines for printed circuit boards, as well as routing machines and optical programmers and inspection equipment for the printed circuit board industry. In addition, Excellon also manufactures production equipment for the semiconductor industry, and expendable carbide tools for the printed circuit board and semiconductor industries.

Excellon Industries is currently in their fourth consecutive year of growth in excess of 50%/year. The facility at 24751 Crenshaw Blvd., which we propose to lease, will be used as the principal manufacturing facility for the computer controlled drilling and routing machinery product lines. This additional space is urgently needed to provide the additional facilities essential to maintain our current growth rate.

Excellon Industries has been in business in the City of Torrance since 1965. We currently employ approximately 700 people in the Garnier Street, Skypark Blvd., and 228th Street facilities. With the addition of the space at 24751 Crenshaw Blvd. this number is expected to increase approximately 50% by the end of 1980.

The vast majority of our employees live in Torrance and the immediately adjacent communities. Of them, 91.5% reside within a 15 mile radius of our present Garnier Street facility.

The type of manufacturing involved is classified as "light manufacturing". We are involved in no processes which contribute to any type of atmospheric contamination. We produce no toxic by-products or wastes which pose disposal problems.

Very truly yours,

E. F. PHILLIPPI
President

EFP:lmc

23915 Garnier Street, Torrance, California 90509 Telephone: (213) 325-8000 Telex: 67.45.62 Cable: Excellon Torrance

R4-2021-0079 - RTC - 0590

EXHIBIT 33

Excellon Brochure Regarding Concept 129

Excellon

CONCEPT 129

- CCD VISION EQUIPPED
- DEPTH CONTROLLED BLIND VIA DRILLING
- FULL RANGE, HIGH SPEED SPINDLE
- PC CONTROLLER AND CNC7 SOFTWARE
- EXCELLON SERVICE AND SUPPORT

The single station machine for your most demanding projects

Concept 129

Concept 129 offers the technology and versatility to cover the full spectrum of your drilling needs from large diameters down to microvias and from prototyping to volume runs.

Vision for Enhanced Accuracy
Greatest via placement accuracy is achieved with CCD vision. Our adaptable vision system can be easily trained to pick up alignment marks or fiducials on the board. Drill data is then modified in order to compensate for image movement on each panel.

High Speed Spindles for Microvia Drilling
High Density Interconnect (HDI) technology demands the implementation of microvias and blind vias. Smaller holes require higher spindle speeds for improved hole wall quality and higher productivity. The Concept 129 is designed with a full range, high-speed spindle also providing increased torque for large hole diameters.

Improved Depth Control for Blind Via Drilling
Excellon has equipped the Concept 129 with Electric Field Sensor (EFS) for precision depth controlled drilling. EFS senses the surface of the panel as a reference point. From this reference, blind vias are drilled with a depth control accuracy of ±0.5 mil.

State-of-the-art drill-shaping technology guarantees a repeatable microvia profile, which is desired to insure reliable plating.

High Performance Drilling
A direct-drive Z-axis diminishes backlash error and provides high feed rates. High acceleration AC servos deliver improved speed. Proven linear rails ensure repeatable positioning and accuracy. Broken bit detection monitors the drill bit length prior to every stroke. In case of drill breakage the drilling process is stopped immediately and the drill bit checked and replaced as needed. The dependable Excellon CNC7 PC operator interface insures that all features of the Concept 129 can be easily accessed.

In addition to these innovations, we have integrated all drilling machine features you have come to expect from Excellon.

Excellon worldwide service and support
No one else in the industry – in the U.S.A. or in the world – staffs a more comprehensive service organization. All Excellon equipment, from drillers to routers to automation, is backed by our extensive service and support organization. Whether it be application process engineering or operator training, installation or trouble shooting, spare parts or machine maintenance, phone consultation or in-person field support, Excellon is the company you can count on.

Excellon

CONCEPT 129

MACHINE SPECIFICATIONS

Spindle Specifications	Air-bearing drill spindle: 20,000 - 150,000 rpm
Drill Bit Sizes	0.002"-0.259" (0.050 mm - 6.579 mm); common shank 0.125" (3.175 mm)
Maximum Panel Size	29" x 30" (736 mm x 762 mm)
Axis Positioning	Split axis system: table motion along Y-axis; spindle carriage along the X-axis
Table Guide and Support	Linear guides (recirculating pre-loaded precision ball bearing) with air bearing support for Y-axis
Leadscrews	Precision ground recirculating pre-loaded ball screws for X, Y and Z axes
Table Speed	1,800 ipm (50 m/min), 2.2g
Precision Z-axis Module	Self contained precision assembly incorporating a high-stiffness air-bearing linear guide, brushless drive, pre-loaded leadscrew flexure coupling and Excellon air-bearing spindle.
Z-axis Infeed/Retract Rate	up to 1,500 ipm (38 m/min)
Drilling Accuracy	±0.0007" (±0.018 mm) Excellon EDA Test
Position Accuracy	±0.0002" (±0.005 mm)
Position Repeatability	±0.0001" (±0.0025 mm)
Base	Fine-grain, black granite
Weight	5,500 lbs (2,500 kg)
Dimensions	Width x Depth x Height: 81" x 91" x 80.2" (2060 mm x 2320 mm x 2040 mm)
Certifications	Compliant with CE and City of Los Angeles

CONTROL SYSTEM SPECIFICATIONS

Controller	Excellon CNC-7 PC
Data Input/Output	3.5" Floppy, Ethernet, CD-ROM
Software	Excellon's modular software includes features such as a multilingual controller, Quickdrill, Pulse Drilling, Pocket Routing and Step Routing
Uninterupted Power Supply (UPS)	Configured for no loss of data upon power outage

STANDARD FEATURES

Air Preparation Unit	Aids in controlling quality of machine air
Tooling	Multi-Line configuration
Tool Management System (TMS)	240 tools (Excellon ringed)
Tool Metrology Gauge (TMG)	Laser sensor used to measure tool diameter, tip check, run-out
Bit Detection	Excellon Electric Field Sensor (EFS)
Depth Control	EFS equipped, accuracy ±.0005"
Microvias, Blind Vias	Minimum diameter 2 mil
Machine Vision	CCD vision with integrated lighting
Alignment	Automatic recognition of alignment marks/fiducials (adaptable)
Compensation	Drill data manipulation for compensation of offset, rotation and scaling

OPERATING REQUIREMENTS

Power Input	208 to 480 VAC, 3 phases, 6 KVA, 50-60 Hz, universal transformer
Ambient Temperature	72° ±2°F (21° ±1°C) to assure specified accuracies
Ambient Humidity	45-60%
Compressed Air	95-125 psig (6.5 - 8.5 bar) at 6 scfm (170 l/min) flow
Vacuum	25 inches of water

N. AMERICA HEADQUARTERS

Excellon Automation Co.

24751 Cronshaw Boulevard

Torrance, CA 90505

Phone: 310-534-6300

Fax: 310-534-6777

www.excellon.com

Specifications are subject to change without notice. More detailed specifications available from factory.

R4-2021-0079 - RTC - 0593

Cermak & Inglin, LLP on behalf of Esterline Technologies Corporation (C&I)

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Sonja A. Inglin
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January 11, 2021

BY E-MAIL

Kevin Lin, P.E.
Water Resource Control Engineer
Los Angeles Regional Water Quality Control Board
Site Cleanup Program Unit IV
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Re: Draft Cleanup and Abatement Order No. R4-20XX-XXXX (Skypark Commercial Properties) - Comments of Esterline Technologies Corporation on Draft Cleanup and Abatement Order

Dear Kevin:

Esterline Technologies Corporation ("Esterline") is submitting this letter to provide comments, as requested in Hugh Marley's November 30, 2020 letter ("November 30 Letter"), on the draft Cleanup and Abatement Order for the Skypark Commercial Properties ("DCAO"). Esterline's key objections to the DCAO are summarized below. Its objections are further set forth in its detailed comments on the DCAO ("Comments"), and in an accompanying document that details the basis for those objections ("Detailed Statement").

As an initial matter, and as Esterline has repeatedly asserted in prior correspondence with the Board and in response to the two Water Code section 13267 investigative orders that the Board has issued to it,[1] the Board has no legal basis to issue an order to Esterline because it never owned or occupied any of the properties at issue.

[1] The correspondence is dated October 9, 2020 and November 17, 2020. The referenced letters had attached to them 29 exhibits totaling several hundred pages. Those letters and the accompanying exhibits are being re-submitted to the Board as part of these comments on the DCAO. Esterline filed timely petitions for review that raised this (and other issues) with respect to the referenced Water Code section 13267 orders (Order No. R4-2020-031 and Order No. R4-2020-031).

H.1b

Esterline's only connection to the Site is as the former parent company of a now-dissolved corporation (the "Subsidiary") that occupied some or all of Property 1 from 1979 to June 2003.[2] Esterline's status as a parent company is not a basis on which the Board can hold Esterline liable as a "discharger." *See* Detailed Statement at Section I.[3] The Board has no legal basis to name Esterline as a "discharger" and it therefore must be removed from the DCAO.

Even if the Board could name Esterline in the DCAO based on its former Subsidiary's operations, the DCAO fails to establish the necessary factual predicate between discharges to the subsurface from the Subsidiary's operations and the contamination addressed by the DCAO.

H.1a
H.3
H.5a

The DCAO contains no evidence that the Subsidiary's operations used TCE or PCE, described in the November 30 Letter as the primary compounds that the November 30 Letter states "have been discharged" into the soils of various properties and into the underlying groundwater. *See* November 30 Letter at 2, ¶ 3. It also does not contain any credible evidence of any discharge by the Subsidiary to the subsurface of other chemicals associated with groundwater impacts beneath Property 1, as is required to satisfy the requirements imposed by SWRCB Order No. 92-49 for the Board to issue a CAO. *See* Detailed Statement at Section V. The Subsidiary's operations were permitted to use (and apparently used) small volumes of 1, 1, 1 TCA in small-scale degreasers (*see* Detailed Statement at Section III), usage that appears to have been insignificant compared to the period and volume of use of VOCs by Hi-Shear Corporation ("HSC") on its upgradient property. The investigation to date has neither established such a connection with respect to the Subsidiary's operations nor fully characterized what are clearly impacts on Property 1 from the upgradient HSC property or to the south from the former location of a Nike missile site. *See* Detailed Statement at Section IV.

H.7
H.13

In an August 28, 2018 letter, the Board notified HSC that it could not, based on the information presented, conclude that there were sources on Property 1 that had contributed to the soil and groundwater contamination. It then ordered HSC to gather additional data and submit an updated Site Conceptual Model ("SCM") as a basis for evaluating such contributions. Notwithstanding all of the additional work it had performed, HSC had not updated the SCM since 2010. A work plan to gather the necessary information was submitted by HSC and approved by the Board in January 2019. Two years later, the work required under that January

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[2] The Subsidiary, originally incorporated as Excellon Industries, was later known as Excellon Industries, Inc. and Excellon Automation and EA Technologies Corporation. *See* November 17, 2020 Letter at pages 2-3 and Exhibits 4, 11 and 12.

[3] The only finding in the DCAO that in any way seeks to tie Esterline to Property 1 relates to a 2003 asset purchase agreement in which the Subsidiary sold substantially all of its assets to a third party. Esterline was party to that agreement in its capacity as the Subsidiary's shareholder. That agreement provided that the third party was not assuming any pre-closing environmental liabilities of the business. But that contractual provision does not mean that Esterline, as the Subsidiary's parent company, ever had any such environmental liabilities. *See* Detailed Statement at Section I.

.

H.7
H.13

2019 work plan remains incomplete in key respects applicable to evaluating potential sources on Property 1, and the work that HSC has completed has not addressed the data gaps identified by the Board in August 2018. *See* Detailed Statement at Section V.B. Under the January 2019 work plan, HSC was to submit the updated SCM by April 1, 2019. The Board subsequently granted three separate requests by HSC to extend that deadline, most recently to November 20, 2020. In a November 13, 2020 letter, HSC requested a fourth extension of the deadline (to March 12, 2021), noting that the SCM was at that point still "in the initial stages." Without an updated SCM that integrates all of the data collected to date, the Board lacks the basis to determine whether contamination detected beneath Property 1 originated from the HSC property or potentially from the Torrance airport, rather than from Property 1, and to the extent there are contributions from Property 1, whether they can be tied to operations of the Subsidiary.

H.7
H.11

As opposed to HSC, the only unquestioned and acknowledged "discharger" at the Site, the Board has no credible basis for imposing on Esterline on account of the Subsidiary's activities either (1) responsibility to complete the investigation of the Site (estimated by the Board to cost between $2 and $5 million) and in doing so, shift responsibility for completing that investigation that already rests with HSC to Esterline and others named in the DCAO,[4] or (2) to engage in a years-long cleanup that could cost tens of millions of dollars more.[5]

H.7

If the Board proceeds against Esterline, any liability that Esterline might have is reasonably divisible from that associated with harm caused by other parties and therefore must be apportioned accordingly.

Consistent with Water Code section 13304's grounding in common law principles and under applicable case law (discussed in the Detailed Statement), the Board should determine whether there is reasonable basis for apportionment of the environmental harm addressed by the DCAO. As to Esterline, one – but not the only - basis for apportionment would be that it is not tied to responsibility for TCE or PCE, which represent the primary contaminants at the Site. *See* Detailed Statement at Section VII.

Absent apportionment, the DCAO would unfairly and unjustly impose responsibility for "required actions" on Esterline that would make it responsible for investigating and remediating contamination unrelated in any fashion to its Subsidiary's operations and activities at Property 1. The failure of the Board to take such considerations into account may be the basis for seting

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[4] This includes making the necessary showing under Water Code section 13225(c) that the benefit of the investigative work outweighs the cost and burden to Esterline, a party that cannot properly be named in the first instance and whose Subsidiary's operations have not been tied to the contamination.

[5] The City of Torrance has submitted to the Board a technical memorandum prepared by its environmental consultant, GSI Consultants, dated June 9, 2020, which concludes that HSC is the "primary, if not the sole" contributor to the groundwater contamination, which further underscores the lack of credible showing of any discharges associated with the SUBSIDIARY's operations on Property 1.

H.7 aside a CAO. *See Sunoco, Inc., v. Central Valley Regional Water Quality Control Board*, Case No. 34-2016-80002282 (Cal. Sup. Ct. 2016) (attached as Exhibit A to the Detailed Statement).

If the Board does not remove Esterline from the DCAO, any determination regarding Esterline's liability (and also that of others named in the DCAO with respect to the EA Properties) is premature and should await the results of the ongoing investigative work that has already been ordered by the Board and the development of a comprehensive SCM.

Assuming Esterline remains a party to the DCAO, any further consideration by the Board of a CAO naming Esterline should, at a minimum, await the results of certain additional investigative work contemplated by the September 2018 letter and its integration into an updated SCM. That additional work includes:

- long-deferred sampling on the Torrance airport property to the south of Property 1, which is scheduled to take place this month and will provide data regarding the impact of the former Nike missile site, and other operations on the airport property on conditions at Property 1; and

H.1b H.5b
- other data collection is expected to occur over the next several months (notably the collection of soil data on Property 1, the deadline for which is March 19, 2021).[6]

In addition, prematurely issuing the DCAO against Esterline and others, that unlike HSC are not acknowledged "dischargers," will result in legal challenges to the DCAO and create complexities related to ongoing investigative activities that are likely to impede rather than advance the ultimate remediation of groundwater contamination associated with the Site, particularly if the Board imposes those obligations on a joint and several basis.[7]

The Board should only proceed once it has record before it that allows it, consistent with the requirements of Order No. 92-49, to make the appropriate determination regarding the liability of Esterline and others.

H.5a If the Board proceeds, it will be issuing an order with its threat of penalties for failing to comply as a means to compel other parties to reach a funding agreement with HSC . It will be doing so in circumstances in which the underlying evidence of responsibility has not been appropriately developed or considered by the Board. That is not an appropriate or proper use of

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[6] The deadline for the additional Property 1 work was set in the Board's letter dated December 21, 2020, after the DCAO was issued for comment.

[7] As noted in the Comments, the DCAO seeks unachievable and unrealistic deadlines and fails to address how parties that are strangers to the access agreements and other agreements required to carry out that work would be expected to carry it out.

H.5a the Board's authority under the Water Code. That is particularly the case given that HSC, in the pending federal court litigation to which all of the parties to the DCAO are parties (*City of Torrance v. Hi-Shear Corporation, et al*, United States District Court for the Central District of California Case No. 2:17-cv-07732-DSFJSR), has a mechanism for pursuing recovery of the costs it may incur related to the Site.

H.16 Thank for your consideration of Esterline's comments on the DCAO. Esterline has made a good faith effort to develop and submit its comments on the DCAO by today's date. Even with the one-week extension of the original deadline, these comments have been prepared in circumstances in which data key to understanding conditions at Property 1 is yet not available and no updated SCM within which evidence regarding the potential contributions from Property 1 can be evaluated by the Board. Esterline reserves its right to supplement its comments, including to address additional data and submit technical comments, to respond to comments that are submitted by other parties named in the DCAO. Esterline also reserves the right to rely on arguments and objections raised by other parties. If the Board declines to remove it from the DCAO, Esterline reserves the right to further address apportionment with respect to the obligations imposed by the DCAO.

Esterline requests the opportunity to meet with Board staff and counsel to discuss in detail in the issues raised by its comments on the DCAO (including any supplemental comments it might submit). The November 30 Letter notes that the Board does not intend to hold an oral hearing on the DCAO. Should the Board decline to remove it from the DCAO, Esterline requests that the Board hold a hearing and provide it with an opportunity to be heard before a final CAO is issued.

Sincerely,

Sonja A. Inglin

Enclosures

cc: Renee Purdy (Renee.Purdy@waterboards.ca.gov)
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Dmitriy Ginzburg, State Water Board Division of Drinking Water
Joseph Liles, Water Replenishment District
Carla Dillon, City of Lomita
Ryan Smoot, City of Lomita

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

CLEANUP AND ABATEMENT ORDER NO. R4-20XX-XXXX
REQUIRING

THE CITY OF TORRANCE
MAGELLAN AEROSPACE, MIDDLETOWN, INC. (FORMERLY KNOWN AS AERONCA, INC., FORMERLY KNOWN AS AERONCA MANUFACTURING CORPORATION)
EXCELLON INDUSTRIES, AN ESTERLINE COMPANY (ALSO KNOWN AS EXCELLON INDUSTRIES, INC., EXCELLON AUTOMATION COMPANY, AND EA TECHNOLOGIES CORPORATION)
EXCELLON ACQUISITION LLC
EXCELLON TECHNOLOGIES, LLC
ESTERLINE TECHNOLOGIES CORPORATION
ROBINSON HELICOPTER COMPANY
DASCO ENGINEERING CORPORATION
HI-SHEAR CORPORATION (ALSO KNOWN AS LISI AEROSPACE)

TO ASSESS, CLEANUP, AND ABATE
WASTE DISCHARGED TO WATERS OF THE STATE PURSUANT TO CALIFORNIA WATER CODE SECTIONS 13304 AND 13267

AT

SKYPARK COMMERCIAL PROPERTIES

NORTHEAST PORTION OF CITY OF TORRANCE PARCEL
ASSESSOR PARCEL NO. 7377-006-906
24751 CRENSHAW BOULEVARD, TORRANCE, CALIFORNIA
24777 CRENSHAW BOULEVARD, TORRANCE, CALIFORNIA
24707 CRENSHAW BOULEVARD, TORRANCE, CALIFORNIA
24747 CRENSHAW BOULEVARD, TORRANCE, CALIFORNIA
24701 CRENSHAW BOULEVARD, TORRANCE, CALIFORNIA
2530 SKYPARK DRIVE, TORRANCE, CALIFORNIA
2540 SKYPARK DRIVE, TORRANCE, CALIFORNIA
2600 SKYPARK DRIVE, TORRANCE, CALIFORNIA

(SITE CLEANUP PROGRAM NO. 1499)

This Cleanup and Abatement Order No. **R4-20XX-XXXX** (Order) is issued to City of Torrance; Magellan Aerospace, Middletown, Inc. (formerly known as Aeronca, Inc. formerly known as Aeronca Manufacturing Corporation); Excellon Industries~~, an Esterline Company~~ (later also known as Excellon Industries, Inc., Excellon Automation Company, and EA Technologies Corporation); Excellon Acquisitions, LLC; Excellon Technologies,

Commented [A1]: This document contains comments of Esterline Technologies Corporation (ESTERLINE), focusing on the provisions of the Draft Cleanup and Abatement Order (DCAO) directed to ESTERLINE. ESTERLINE reserves the right to submit additional comments on the DCAO, including in response to comments submitted by others.

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Commented [A2]: Revision made to reflect legal name of entity, as reflected in California Secretary of State records. The phrase "an Esterline Company" was never part of the legal name of the entity. *See* November 17, 2020 Letter, Exhibit 26 (California Secretary of State records).

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This entity was a subsidiary of ESTERLINE. It was dissolved by the California Secretary of State in 2010 and legal actions against its shareholders are now time-barred pursuant to Cal. Corp. Code § 2011. *See* Detailed Statement in Support of Comments on Draft CAO (Detailed Statement) at Section II.

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LLC; Esterline Technologies Corporation; Robinson Helicopter Company; Dasco Engineering Corporation; and Hi-Shear Corporation (also known as Lisi Aerospace) (hereinafter collectively referred to as Dischargers) based on provisions of Water Code sections 13304 and 13267, which authorize the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) to issue this Cleanup and Abatement Order and require the submittal of technical and monitoring reports.

The Regional Board finds that:

BACKGROUND

1. **Discharger(s):** Dischargers are responsible for the cleanup and abatement of discharges due to their:

   a. Current or prior ownership of properties located at 24751, 24777, 24707, 24747, and 24701 Crenshaw Boulevard and 2530, 2540, and 2600 Skypark Drive in the City of Torrance (hereinafter collectively referred to as the "Site"), and/or

   b. Current or prior operations at the Site that resulted in the discharge of wastes, including volatile organic compounds (VOCs), primarily trichloroethene (TCE) and tetrachloroethene (PCE), perchlorate, 1.4-dioxane, metals, and total petroleum hydrocarbons, which are constituents of concern (COCs) to the environment and human health.

   As detailed in this Order, the Dischargers have caused or permitted waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the State, which creates, or threatens to create, a condition of pollution or nuisance.

2. **Location:** The Site is located at 24751, 24777, 24707, 24747, and 24701 Crenshaw Boulevard and 2530, 2540, and 2600 Skypark Drive in the City of Torrance, California. The Site is approximately 27 acres in size and is located on the northeast portion of assessor parcel number (APN) 7377-006-906 in Torrance, California shown in Attachment A, Figure 1 and Figure 2. The Site includes existing Regional Board cases Hi-Shear Corporation (Hi-Shear; Global ID No. SL204231523; File SCP No. 0218) and East Adjacent Properties of Hi-Shear Corporation (EA Properties; Global ID No. T10000013835; File SCP No. 1481). The entire parcel APN 7377-006-906, including the Site, is owned by the City of Torrance and has been primarily leased to aviation or aerospace-related companies since 1954. Attachment A, Figure 1, Site Location Map, attached hereto and incorporated herein by reference, depicts the location of the Site. Additionally, Figure 2, Site Map, of Attachment A, also attached hereto and incorporated herein, depicts the buildings occupying the Site and the surrounding area. Land use setting in the vicinity of the Site is commercial/industrial, but the discharge extends offsite beneath residential properties.

SITE HISTORY

3. **Site Description and Activities Involving Constituents of Concern:**

COMMENTS OF ESTERLINE TECHNOLOGIES CORPORATION ON DRAFT CLEANUP AND ABATEMENT ORDER (JANUARY 11, 2021)

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Commented [A3]: ESTERLINE's only connection to the Site is that its long-dissolved subsidiary, identified in the DCAO as "Excellon Industries" and referred to below in these Comments as SUBSIDIARY, occupied properties with an address of 24751 and 24777 Crenshaw Boulevard between about 1979 and 2003. ESTERLINE therefore does not have any "current or prior ownership" or "current or prior operations" at any of the properties that comprise the Site that would support the issuance of a CAO to it. *See* Detailed Statement at Section I.

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Even if there were some basis for pursuing ESTERLINE, the Board has not identified sufficient evidence to conclude that the SUBSIDARY's former operations "resulted in the discharge of wastes," as there is no evidence that any wastes were discharged as a result of the SUBSIDIARY's operations, and further still, no basis to conclude that the SUBSIDIARY even used the primary COCs in its operations. *See* Detailed Statement at Section IV.

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Commented [A4]: The SUBSIDIARY's operations were not related to aviation or aerospace, so this statement is not accurate with respect to the SUBSIDIARY's operations and any assumptions that the Board may apply regarding the nature of chemical use in such operations would have no application to the SUBSIDIARY. The SUBSIDIARY engaged in the production of precision micro-machining equipment. *See* Detailed Statement at Section V.B.

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Commented [A5]: ESTERLINE disputes any finding that there was any "discharge" associated with the operations of its former SUBSIDIARY and that any "off-site" conditions, including those "beneath residential properties" relate to any operations of its former SUBSIDIARY. *See* Detailed Statement at Section IV.

The following is a summary of the current and former occupants and the historical property use for the Hi-Shear Corporation property and the EA Properties.

a. Hi-Shear Corporation (Hi-Shear) is located at 2600 Skypark Drive and occupies the western half of the Site. Hi-Shear has been an occupant as early as 1954. Activities performed on the property include the manufacture, production, assembly, and cleaning of fasteners for the aerospace industry. Wastes generated as part of the activities contained COCs, including TCE and PCE, perchlorate, 1.4-dioxane, metals, and total petroleum hydrocarbons.

b. EA Properties are located at 24751, 24777, 24707, 24747, and 24701 Crenshaw Boulevard, and at 2530 and 2540 Skypark Drive and occupy the eastern half of the Site. EA Properties consist of Property 1 (24751 and 24777 Crenshaw Boulevard), Property 2 (24707, 24747 and 24701 Crenshaw Boulevard), and Property 3 (2530 and 2540 Skypark Drive). The EA Properties Dischargers are as follows:

i. Property 1 occupants include:

1. Aeronca, Inc. (Aeronca), a manufacturer of aircraft, missiles and their components, occupied Property 1 from 1954 to 1987. Aeronca operated degreasers with PCE and 1,1,1-trichloroethane (1,1,1-TCA), and operated a spray booth for paint and solvent usage on the property. Aeronca also has stored and/or used 1,1,1-TCA and toluene.

2. Prior to 1966, Aeronca was formerly known as Aeronca Manufacturing Company. In 2012, Aeronca changed its name to Magellan Aerospace, Middletown, Inc.

3. Excellon Industries, a California corporation that was later ~~an Esterline Company, also~~ known as Excellon Industries, Inc., Excellon Automation Company, and EA Technologies Corporation (Excellon) and was dissolved in 2010, was a manufacturer of printed circuit board fabrication equipment and occupied Property 1 from 1979 to 2003. Excellon operated small-scale "table-top" size degreasers, and used 1,1,1-TCA and trichlorotrifluoroethane on the property. Excellon also ~~has~~ generated alkaline and solvent mixtures, waste oil mixtures, polychlorinated biphenyl waste, and other organic waste mixtures. Excellon Acquisitions, LLC, and Excellon Technologies, LLC, each continued the

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Commented [A6]: These changes are necessary to accurately describe the SUBSIDIARY's corporate history and to reflect that it has been dissolved. *See* Detailed Statement at Section I. ESTERLINE proposes these changes without waiver of its position that there is no basis, either legally or technically, to name it in the DCAO.

Commented [A7]: The permits and records related to the degreasers show they were very small, would likely have been used only periodically and that the volume of the chemicals that may have been used was minimal. *See* Detailed Statement at Section I. While permitted for the use of these chemicals, available information indicates that only 1,1,1 TCA was used by the SUBSIDIARY. *See* Detailed Statement at Section III.

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Excellon business, creating and servicing the same products using the same manufacturing techniques, and employing many of the same employees.

Esterline Corporation changed its name to Esterline Technologies Corporation in 19~~9187 (subsequent to a merger with Criton Technologies)~~. A June 2003 asset purchase agreement (APA) was entered into between and among Excellon Acquisition, LLC (identified as the "Buyer"), ESTERLINE and the SUBSIDIARY, then known as Excellon Automation Co. (identified as the "Seller") provided that the Buyer was not assuming "Excluded Liabilities," which included (d) all liabilities or other obligations that relate to injuries, actions, omissions, conditions or events that existed on or prior to the Closing Date in connection with the operation of the Business, including, without limitation, (i) Environmental, Health and Safety Liabilities." The APA does not establish that ESTERLINE, as the parent company of the Buyer, in fact had any such liabilities.

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~~indicates that Excellon Acquisitions, LLC and Esterline retained liabilities related to actions or conditions in connection with the operation of the business including environmental health and safety liabilities~~.

Commented [A8]: The name change occurred in 1991. *See* October 9, 2020 Letter, Exhibit 1 - Delaware Secretary of State Statement of Good Standing for ESTERLINE and Exhibit 2 - Washington Secretary of State Records for ESTERLINE at pdf pages 2 and 3.

Commented [A9]: The revisions are required to make the description track with the wording of the APA. *See* November 17, 2020 Letter at page 5 and Exhibit 19.

The reference to the APA is irrelevant, in that it does not establish that ESTERLINE had any such liabilities, and it therefore should be deleted. Any retention of liabilities by ESTERLINE does not mean that ESTERLINE has or ever had any such liabilities. *See* Detailed Statement at Section I.

4. South Bay Lexus (SBL), a vehicle dealership, has occupied Property 1 since 2006. On April 18, 2016, the Regional Board issued Investigative Order No. R4-2016-0075 to SBL and the City of Torrance requiring the completion of a chemical storage and use questionnaire and the submittal of a site assessment work plan to investigate the vertical and lateral extent of discharges. This Investigative Order No. R4-2016-0075 was amended on October 5, 2016 to remove SBL but continues to require the City of Torrance to submit a site assessment work plan. To date, the City of Torrance has not submitted the required site assessment work plan.

ii. Property 2 includes: 24707, 24747, and 24701 Crenshaw Boulevard, Torrance, California. Site documents and available case files have identified the following occupants at the property:

1. Aeronca occupied Property 2 from 1966 to 1973. Aeronca operated a spray booth on the property during this period.

2. Robinson Helicopter Company (RHC), a manufacturer of rotorcraft and related components, occupied Property 2 from 1978 to 1996. RHC has used halogenated solvents, liquid with

cadmium, 1,1,1-TCA, methyl ethyl ketone (MEK), and methyl chloride on the property. RHC has had violations for MEK and "excess solvent usage" on the property. RHC has also indicated that there has been soil, wastewater, and/or groundwater investigations conducted on the property for internal use. RHC included the "Evaluation of Subsurface VOCs – 24701-24747 Crenshaw Boulevard & 2530-22540 Skypark Drive," prepared by Frey Environmental, Inc. (Frey), dated February 23, 2018, as Exhibit B in their June 11, 2020 petition of Investigation Order No. R4-2020-0035; the report is discussed in Section 4 of the Order.

3. Dasco Engineering Corporation (Dasco), a manufacturer of precision mechanical aircraft and space components, has occupied Property 2 since 1995. Pooled hydrocarbon liquids and metal cuttings were observed throughout the machine shop during a 2004 site reconnaissance performed as part of an environmental site assessment. A 2018 report titled *Environmental Evaluation of Subsurface VOCs* prepared by Frey noted elevated PCE and TCE soil vapor and soil concentrations were detected near areas identified as *Approximate Machining Gantry Location with Subsurface Pit and Tank* on Property 2.

iii. Property 3 includes: 2530 and 2540 Skypark Drive, Torrance, California. Site documents and available case files have identified the following occupant at the property:

1. RHC has occupied Property 3 since 1978. RHC has operated spray booths for paint and solvent usage on the property.

Documents supporting each of the above descriptions of the Dischargers' chemical use and storage are available in public files maintained by the Regional Board.

EVIDENCE OF WASTE DISCHARGE AND BASIS FOR SECTION 13304 ORDER

4. History of Environmental Investigations, Remediation and Board Orders:

a. Under the oversight of this Regional Board, Hi-Shear has performed remediation and been implementing onsite and offsite investigations and interim mitigation measures under a Water Code section 13267 Order dated October 29, 2009. These activities are documented in following technical reports:

i. *Interim Offsite Assessment Report* (IOAR), prepared by Alta Environmental LP (Alta) dated September 9, 2016. The IOAR documented the offsite, with respect to the Hi-Shear property, VOC soil vapor and groundwater plume

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Commented [A10]:
In order for ESTERLINE to be able to fully respond to and comment on the DCAO, the specific files and documents referenced must be identified. ESTERLINE requests that the Board specifically identify the files and documents with respect to the SUBSIDIARY's asserted chemical use and storage so that it can fully respond to the proposed findings based on such files and documents. *See* Detailed Statement at Section III.

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Commented [A11]: In identifying work performed by Hi-Shear Corporation (HSC), the Regional Board should state and acknowledge that HSC has not completed investigative work it was ordered to perform and that same work duplicates the investigative work that the Board intends to order the parties to the DCAO to perform, in effect relieving HSC of those obligations. The DCAO should also acknowledge that HSC has not completed work that the Board determined was necessary in order to determine whether there are sources associated with Property 1, including the submission of an updated Site Conceptual Model (SCM). As addressed in the Detailed Statement, that work is necessary before the Board can determine that it has any credible or sufficient basis for identifying any discharges associated with the SUBSIDIARY's operations. *See* Detailed Statement at Section V.B.

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The referenced reports and the additional reports referenced in subpart (b) do not contain evidence that establishes that there were "discharges" associated with the SUBSIDIARY's operations. *See* Detailed Statement at Section IV.

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evaluation efforts with the installation of groundwater monitoring wells and nested soil vapor probes on the EA Properties and eastward to approximately Pennsylvania Avenue in the City of Lomita.

ii. *Groundwater Remedial Implementation Report* (GWRIR), prepared by Alta dated September 7, 2017. The GWRIR documented the implementation of enhanced in-situ bioremediation (EISB) technology to treat chlorinated VOCs in the regional water table aquifer at the Hi-Shear property.

iii. *Catalytic Oxidizer Soil Vapor Extraction System Remedial Progress Report (January 2018 – March 2018)* (SVE Progress Report), prepared by Geosyntec Consultants (Geosyntec) dated April 30, 2018. The SVE Progress Report documented the remedial activities associated with operating the remediation technology from January 1, 2018 through March 31, 2018.

iv. *Soil, Soil Vapor, and Groundwater Delineation – Module I* (Module I), prepared by Genesis Engineering & Redevelopment (Genesis) dated March 13, 2020. The Module I report documented the soil vapor assessment conducted east of Crenshaw Boulevard in the City of Torrance and City of Lomita.

v. *Soil, Soil Vapor, and Groundwater Delineation Report – Module II* (Module II), prepared by Genesis dated March 16, 2020. The Module II report documented the additional onsite soil and soil vapor conditions at the Hi-Shear property.

vi. *Vapor Intrusion Response Plan* (VIRP), prepared by Genesis dated March 20, 2020. The VIRP presented response actions to further investigate and assess vapor intrusion potential in residential and commercial properties east of Crenshaw Boulevard.

vii. *Soil, Soil Vapor, and Groundwater Delineation Report – Module III – Interim Report* (Interim Module III), prepared by Genesis dated July 3, 2020. The Interim Module III presented soil and soil vapor data collected on the EA Properties and the Home Depot property located north of the Site.

viii. *Soil, Soil Vapor, and Groundwater Delineation Report* – Module V (Module V), prepared by Genesis dated April 3, 2020 and *Hi-Shear Module V Addendum -MW-39 Installation and Sampling* dated June 15, 2020 (Module V Addendum). The Module V report and Module V Addendum documented the groundwater assessment of VOCs, metals, 1,4-dioxane, hexavalent chromium and perchlorate impacts downgradient (east) of the Hi-Shear site.

b. In addition, we have reviewed the following report and data, which provide additional evidence of discharges at or near the Site:

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i. *Evaluation of Subsurface VOCs – 24701-24747 Crenshaw Boulevard & 2530-22540 Skypark Drive* (Evaluation Report) dated February 23, 2018 prepared by Frey. The Evaluation Report summarized soil and soil vapor data at Property 2 and Property 3 of the EA Properties.

c. A summary of the IOAR, GWRIR, SVE Progress Report, Module I, Module II, VIRP, Interim Module III, Module V, and Evaluation Report, is provided below.

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Commented [A12]: Nothing referenced below establishes the existence of a source or discharge on Property 1, and in fact documents the magnitude of discharges associated with the HSC operations. *See* Detailed Statement at Section IV.

i. The IOAR documented the activities associated with evaluating the offsite, with respect to the Hi-Shear property, extent of the VOC soil vapor and groundwater plume between April 2016 and June 2016. The IOAR identified elevated VOC soil vapor concentrations on the Site with concentrations up to five orders of magnitude greater than the applicable regulatory screening levels on Property 1 of the EA Properties. The IOAR identified VOC groundwater concentrations greater than their respective maximum contaminant levels (MCLs) in some of the installed groundwater monitoring wells. The findings from IOAR warranted additional investigation of potential sources on the EA Properties and further delineation of the soil, soil vapor, and groundwater plume offsite, with respect to the Hi-Shear property.

ii. The GWRIR documented the activities associated with application of EISB through 75 dual-nested injection wells from January 2017 to April 2017. Groundwater monitoring wells on the Hi-Shear property observed decreases in VOC concentrations following the application. The GWRIR recommended ongoing monitoring and assessment of results of the EISB injections. Most recently, VOC concentrations remain above their respective MCLs in groundwater.

iii. The SVE Progress Report documented extraction of approximately 1,721 pounds of VOCs during the first quarter of 2018. Since operation in March 1999, the SVE system has removed approximately 100,155 pounds of total VOCs. Due to operational issues, the SVE system has been off. Modifications and upgrades to the SVE system are in progress with a restart of the remediation technology targeted for the fourth quarter of 2020.

iv. The Module I report documented the results of the soil vapor assessment east of Crenshaw Boulevard (i.e., off-Site into the City of Torrance and City of Lomita neighborhoods) conducted between September 2019 and January 2020. Soil vapor sample results indicated elevated concentrations of VOCs in the area between Crenshaw Boulevard and Pennsylvania Avenue, and the area between Amsler Avenue and in the vicinity of 247th Street. Additional delineation and the implementation of the VIRP are warranted to fully assess and address potential threats to human health and the environment.

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v. The Module II report documented the results of the soil and soil vapor assessment on the Hi-Shear property between September 2019 and December 2019. Soil vapor sample results indicated elevated concentrations of VOCs on the eastern and western portions of the Hi-Shear property, converging towards the center of the property. The restart of the soil vapor extraction system and an indoor air assessment are necessary to protect human health and prevent additional migration of the chemicals of concern.

vi. The VIRP provides the criteria and sequence for vapor intrusion response actions and proposed further soil vapor, sub-slab vapor, crawl space air, and indoor air sampling for VOCs at residential and commercial properties east of Crenshaw Boulevard. The Regional Board conditionally approved the VIRP on June 1, 2020. The activities of the VIRP commenced on September 14, 2020 and are ongoing. The Regional Board conditionally approved maps that identified properties for testing and decision flow charts that provided soil vapor and indoor air response actions on November 20, 2020.

vii. The Interim Module III report documented the results of soil and soil vapor assessment conducted between November 2019 and April 2020 on the EA Properties and the offsite Home Depot property that refined the distribution of VOCs in soil and soil vapor at the Site. The refined dataset confirmed elevated VOC soil vapor concentrations across the Site with distinct areas of high concentrations along the western portion of the Hi-Shear property and Property 1. The PCE concentrations detected during the assessment were up to six orders of magnitudes greater than applicable screening levels; the TCE concentrations detected during the assessment were up to five orders of magnitude greater than applicable screening levels. The results of the Interim Module III report warranted assessing the vapor intrusion risk to indoor air at the EA Properties and remediating the soil and soil vapor beneath the Site. The Interim Module III report is an interim report, and the remaining scope of work for Module III includes delineation of perched groundwater south of the EA Properties and delineation of VOC in soil vapor east, west, and south of the Site.

viii. The Module V and Module V Addendum report documented the installation of groundwater monitoring wells and results of the delineation of the extent of numerous COCs, including VOCs, metals, 1,4-dioxane, hexavalent chromium, and perchlorate in groundwater downgradient of the Hi-Shear property in the shallow (approximately 100 ft-below ground surface [bgs]), intermediate (approximately 150 ft-bgs), and deep (approximately 250 ft-bgs groundwater zones. This assessment work was completed between November 2019 and May 2020. The network of wells extends east of the

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Site to Cypress Street. The lateral downgradient extent of VOCs in groundwater has been delineated southeast of the Site between Pennsylvania Avenue and Cypress Street. The vertical extent of VOCs in groundwater has been delineated to approximately 250 ft-bgs. The results of the Module V and Module V Addendum report indicated that lateral and vertical delineation of the regional water table aquifer upgradient and south of the Site are incomplete.

ix. The Evaluation Report summarized environmental investigations conducted on Property 2 and Property 3 in 2015 and 2016 to address recognized environmental conditions. The investigations conducted did not extend to depths greater than approximately 25 ft-bgs. PCE was detected in all soil vapor samples and in the majority of soil samples analyzed; TCE was detected in a majority of the soil vapor samples and in some of the soil samples analyzed. Elevated PCE and TCE soil vapor and soil concentrations detected near areas identified as *Approximate Machining Gantry Location with Subsurface Pit and Tank* on Property 2 and *"Covered Hazardous Materials Storage* on Property 3 indicate potential sources that warrant further evaluation.

d. On January 13, 2020, the Regional Board issued a Water Code section 13267 Order to the EA Properties Dischargers to submit a technical work plan for the complete delineation of the vertical and lateral extent of VOCs impacts to soil, soil vapor, and groundwater onsite and offsite. On August 21, 2020, two technical work plans were submitted for Property 1, one on behalf of Magellan Aerospace, Middletown, Inc. and the other on behalf of Esterline Technologies Corporation. Both work plans for Property 1 were accompanied by cover letters stating that Magellan and Esterline are not agreeing or undertaking to implement the work. The Regional Board issued a letter dated December 22, 2020 which, as to Property 1, identified additional data to be collected and set a deadline of March 19, 2021 for the submission of a report. ~~is in the process of reviewing the work plans~~

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e. On March 6, 2020, the Regional Board issued an amendment to a Water Code section 13267 Order, requiring Hi-Shear to submit an indoor air sampling and analysis plan to assess the vapor intrusion risk for occupants on the Hi-Shear property. On April 28, 2020, the Regional Board received the *Onsite Indoor Assessment Workplan*. The Regional Board conditionally approved the work plan on June 24, 2020; the technical report was submitted by Genesis, on behalf of Hi-Shear, on November 15, 2020.

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f. On May 12, 2020, the Regional Board issued a Water Code section 13267 Order to the Dischargers to submit a technical work plan to assess the vapor intrusion risk to indoor air at the EA Properties. On August 25, 2020, work plans were submitted for Property 1, Property 2, and Property 3; however, each work plan was accompanied by a cover letter stating that in submitting the work plans, the Dischargers are not agreeing or undertaking to implement the work. The Regional

Commented [A13]: The CAO should reflect that (1) a letter commenting on the Property 1 work plans and setting a March 19, 2021 deadline for implementing them was issued on December 21, 2020, and (2) the letter identified additional data it was requiring to be collected, data that the Board described as being necessary to understand conditions on Property 1. Absent that and other data to be collected, acknowledged in the letter to be necessary to assess conditions on Property 1, the issuance of a CAO is entirely premature and without any credible technical support. *See* Detailed Statement at Section V.B.

The CAO also should be modified to reflect that both ESTERLINE and other parties named in this order have pending petitions for review before the State Water Resources Control Board with respect to the January 13, 2020 order. ESTERLINE disputes that the Board had a sufficient legal or technical basis to issue the referenced order to it.

Commented [A14]:
The CAO should be modified to reflect that both ESTERLINE and others have pending petitions for review before the State Water Resources Control Board with respect to the May 12, 2020 order. ESTERLINE disputes that the Board had a sufficient legal or technical basis to issue the referenced order to it.

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Board conditionally approved the work plans on October 6, 2020 and a technical report for the indoor air assessment is due on January 20, 2021.

g. The site assessments and remediation activities indicate that the soil, soil vapor, and groundwater are impacted with COCs, including VOCs (primarily TCE and PCE), perchlorate, 1.4-dioxane, metals, and total petroleum hydrocarbons. The detection of these constituents are consistent with contamination known to occur from the types of operations describe in the above Site History.

5. Summary of Findings from Investigations:

The Regional Board has reviewed and evaluated the technical reports and records pertaining to the discharge, detection, and distribution of wastes at the Site and the Site vicinity. Elevated levels of VOCs, including PCE and TCE have been detected in soil vapor, soil matrix, and groundwater beneath the Site and downgradient of the Site. Attachment A, Figure 3, attached hereto and incorporated herein by reference, depicts the levels of PCE and TCE in the soil matrix detected beneath the Site and downgradient of the Site. Attachment A, Figure 4 through Figure 9, attached hereto and incorporated herein by reference, depicts the levels of VOCs, primarily PCE and TCE, in soil vapor detected at multiple depths beneath the Site and downgradient of the Site. Attachment A, Figure 10 and Figure 11, attached hereto and incorporated herein by reference, depicts the levels of PCE and TCE in groundwater detected in the shallow groundwater zone, approximately 100 ft-bgs.

The sections below summarize the maximum concentrations of the COCs of concern detected in soil, soil vapor, and groundwater.

a. Soil

i. The maximum PCE and TCE soil concentrations detected beneath the Hi-Shear property are 7,200,000 micrograms per kilogram (µg/kg) [detected in sample BH-4 at 50 ft-bgs] and 5,500,000 µg/kg (detected in sample HS3 at 50 ft-bgs), respectively.

ii. The maximum PCE and TCE soil concentrations detected beneath Property 1 of the EA Properties are 3,390 µg/kg (detected in sample VP-50 at 55 ft-bgs) and 223 µg/kg (detected at VP-25 at 40 ft-bgs), respectively.

iii. The maximum PCE and TCE soil concentrations detected at Property 2 of the EA Properties are 280 µg/kg (detected in sample A17 at 5 ft-bgs) and 37 µg/kg (detected in sample A16 at 5 ft-bgs), respectively. Samples A16 and A17 are both located near features described as *Approximate Machining Gantry Location with Subsurface Pit and Tank* on Property 2.

Commented [A15]: The presence of these chemicals in soil, soil vapor and groundwater at Property 1 is not evidence of discharges by the SUBSIDIARY, given that the SUBSIDIARY never used the two "primary" VOCs detected – PCE and TCE – or other noted chemicals, such as perchlorate. *See* Detailed Statement at Section III.

In contrast, the Board stated in an April 12, 2012 letter that "[t]he Regional Board staffs … reiterate that active remediation on both the onsite and offsite portions of the groundwater plumes for all the contaminants (VOCs, TPH, perchlorate, and 1,4 dioxane originating from the Hi-Shear property is required until the relevant groundwater cleanup goals (MCLs and Nis) are achieved." (emphasis added). (https://documents.geotracker.waterboards.ca.gov/regulators/deliverable_documents/3470518350/RB%20ltr%20Commenting%20on%20Conceptual%20Groundwater%20RAP.%20Hi-Shear,%204-12-12.pdf)

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Commented [A16]: These findings do not support the issuance of the DCAO to ESTERLINE, given that it never owned or occupied any portion of the Site and therefore never even used any of the chemicals at issue. These findings also are not sufficient to establish that there were discharges associated with the SUBSIDIARY's operations, particularly in view of the fact that the SUBSIDIARY has not been shown to have ever used either PCE or TCE (the focus of these findings). *See* Detailed Statement at Section III.

In addition (and without waiver of any of its objections to the DCAO), before the Board issues a DCAO, it is obligated to consider ESTERLINE's arguments as to whether any environmental harm at issue is subject to apportionment and make specific findings in that regard. *See* Detailed Statement at Section VII.

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Commented [A17]: The only COCs discussed are TCE and PCE and the Board has presented no evidence that the SUBSIDIARY used either of these chemicals. *See* Detailed Statement at Section III.

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iv. The maximum PCE and TCE soil concentrations detected at Property 3 of the EA Properties are 120 µg/kg (detected in sample D11 at 5 ft-bgs) and 24 µg/kg (detected in sample A3 at 5 ft-bgs), respectively. Sample D11 is located on the southeast-central portion of *Building D (2540 Skypark Drive)* of Property 3.

v. The maximum PCE and TCE soil concentrations on each property are at least one order of magnitude greater than the May 2020 United States Environmental Protection Agency (USEPA) Region IX MCL-based soil screening levels for the protection of groundwater, thereby posing a threat to groundwater quality. Some concentrations of PCE and TCE in the soil matrix also exceed the USEPA Region IX's direct contact exposure pathways Regional Screening Levels (RSLs) for residential and commercial/industrial land uses.

b. Soil Vapor

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Commented [A18]: See comment to Subsection (a) (Soil).

i. The maximum PCE and TCE soil vapor concentrations at the Hi-Shear property are 12,000,000 micrograms per cubic meter (µg/m^3) [detected in sample VP-1 at 45 ft-bgs in 2019] and 16,000,000 µg/m^3 (detected in sample VP-3 at 25 ft-bgs in 2019), respectively.

ii. The maximum PCE and TCE soil vapor concentrations at Property 1 of the EA Properties are 71,500,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020) and 4,100,000 µg/m^3 (detected in sample VP-50 at 53 ft-bgs in 2020), respectively.

iii. The maximum PCE and TCE soil vapor concentrations at Property 2 of the EA properties are 250,000 µg/m3 (detected in sample VP-133 at 65 ft-bgs in 2019) and 280,000 µg/m3 (detected in sample VP-133 at 85 ft-bgs in 2019), respectively.

iv. The maximum PCE and TCE soil vapor concentrations at Property 3 of the EA properties are 881,000 µg/m3 (detected in sample VP-132 at 80 ft-bgs in 2020) and 450,000 µg/m3 (detected in sample VP-26 at 85 ft-bgs in 2020), respectively.

v. The soil vapor concentrations reported in the Module I report indicated elevated PCE and TCE concentrations along Crenshaw Boulevard, and eastward to between Pennsylvania Avenue and Cypress Street in the City of Lomita. The elevated concentrations observed off-Site and east of Crenshaw Boulevard warranted the implementation of a vapor intrusion response plan.

vi. The maximum concentrations of PCE and TCE detected in soil vapor exceed the June 2020 Human Health Risk Assessment (HHRA) Note Number 3, Department of Toxic Substances Control (DTSC) modified soil vapor screening

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levels (DTSC-SLs)1 of 15 µg/m^3 and 16 µg/m^3 for cancer endpoint for residential land use, respectively. The maximum concentrations of PCE and TCE in soil vapor exceed the DTSC-SLs of 67 µg/m^3 and 100 µg/m^3 for cancer endpoint for commercial/industrial land use, respectively. Additionally, the maximum concentrations of TCE in soil vapor exceed the short-term exposure soil vapor screening level of 67 µg/m^3 and 267 µg/m^3 for residential land use and commercial/industrial land use, respectively.

vii. Additional measures, including vapor mitigation systems and an interim remedial action plan may be necessary to address potential threats to human health, based on additional data that will be gathered in response to this and other orders.

c. Groundwater

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Commented [A19]: See comment to Subsection (a) (Soil).

i. The onsite PCE concentrations in the shallow groundwater zone (estimated to be approximately 100 ft-bgs) were detected up to 40 times greater than its MCL; onsite TCE concentrations in the shallow groundwater zone were detected up to three order of magnitudes greater than its MCL. Onsite PCE concentrations in the intermediate groundwater zone (estimated to be approximately 150 ft-bgs) were detected up to 20 times greater than its MCL; onsite TCE concentrations in the intermediate groundwater zone were detected up to three order of magnitudes greater than its MCL. These concentrations of PCE and TCE in the groundwater exceed the USEPA's and the State Water Resource Control Board (SWRCB) Division of Drinking Water's (DDW) MCL of 5 µg/L, respectively.

ii. The offsite PCE concentrations in the shallow groundwater zone were detected up to 40 times greater than its MCL (220 µg/L at MW-20); maximum offsite TCE concentrations in the shallow groundwater zone were detected more than two orders of magnitudes greater than its MCL (1,600 µg/L at MW-20, 990 µg/L at MW-28, 840 µg/L at MW-9) in the commercial and residential areas of City of Torrance and City of Lomita. These concentrations of PCE and TCE in the groundwater exceed the USEPA's and SWRCB DDW's MCL of 5 µg/L, respectively.

iii. The depth to groundwater ranges approximately from 80 to 90 ft-bgs and groundwater data and soil vapor data indicates the groundwater plume is off gassing into the soil vapor and the presence of the TCE and PCE beneath the Site threatens to cause vapor intrusion into buildings, including nearby residences.

[1] Per HHRA Note 3 Guidance and OSWER *Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway From Subsurface Vapor Sources to Indoor Air* (EPA, 2015); α (attenuation factor) = 0.03

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Detections of concentrations of VOCs in the soil column all the way to groundwater indicate that the Hi-Shear property and Property 1 of the EA Properties on the Site has contributed to a commingled plume of groundwater contamination that begins at the Hi-Shear property, spans the EA Properties, and extends downgradient beneath nearby residential areas. Detections of concentrations of VOCs in shallow soil (upper 25 feet) above the May 2020 USEPA Region IX MCL-based soil screening levels for the protection of groundwater indicate that Property 2 and Property 3 of EA Properties on the Site threatens groundwater and has likely contributed to the commingled groundwater plume.

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Detections of concentrations of VOCs in soil vapor collected at depth to 85 ft-bgs indicate the Site lies above a commingled plume of soil vapor contamination that begins at the Hi-Shear property, spans the EA Properties, and extends downgradient beneath nearby residential areas. Investigations performed to date confirm that soil vapor and groundwater have not been fully delineated.

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6. **Sources of Information:** The sources for the evidence summarized above include but are not limited to: reports and other documentation in Regional Board files, including meeting and telephone calls documentation, and e-mail communication with Dischargers, their attorneys, and/or consultants, and site visits.

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AUTHORITY – LEGAL REQUIREMENTS

7. **Water Code section 13304, subdivision (a) provides that:**

"(a) Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts. A cleanup and abatement order issued by the state board or a regional board may require the provision of, or payment for, uninterrupted replacement water service, which may include wellhead treatment, to each affected public water supplier or private well owner. Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant."

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8. **Water Code section 13304, subdivision (c)(1) provides that:**

". . . the person or persons who discharged the waste, discharges the waste, or threatened to cause or permit the discharge of the waste within the meaning of

Commented [A20]: ESTERLINE disputes these conclusions with respect to alleged discharges from the SUBSIDIARY's operations on Property 1, particularly to the extent that the "detections of concentration of VOCs" referenced are of TCE and PCE and the SUBSIDIARY did not use either COC. *See* Detailed Statement at Sections III and IV.

Commented [A21]: ESTERLINE disputes these conclusions with respect to alleged discharges from the SUBSIDIARY's operations on Property 1, particularly to the extent that the concentrations in soil vapor of VOCs are of TCE and PCE. *See* Detailed Statement at Sections III and IV.

Commented [A22]: The issuance of the DCAO is not necessary for these investigations to be completed, in that HSC has already been required to perform the additional investigative work and the issuance of a DCAO would serve to excuse its failure to complete that work. *See* Detailed Statement at Section V.B.

Commented [A23]: In order for ESTERLINE to be able to fully respond to the DCAO, the specific "reports and other documentation", as well as statements and conclusions about the SUBSIDIARY, that the Board is relying on in naming ESTERLINE must be identified. That is particularly the case given the absence of findings in the DCAO linking the SUBSIDIARY to any discharges of the COCs, particularly given that the SUBSIDARY did not use either PCE or TCE and did not operate an aerospace-related business as to which the Board might claim to have some generalized knowledge that it is relying upon to reach conclusions regarding its operations. *See* Detailed Statement at Sections III and IV.

subdivision (a), are liable to that government agency to the extent of the reasonable costs actually incurred in cleaning up the waste, abating the effects of the waste, supervising cleanup or abatement activities, or taking other remedial actions. . .”

9. **Water Code section 13267, subdivision (b)(1) provides that:**

“In conducting an investigation . . ., the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or, discharging, or who proposes to discharge waste within its region . . .shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports.”

10. **Public Participation:** The Regional Board may require the Dischargers to submit a Public Participation Plan or engage in other activities to disseminate information and gather community input regarding the Site, as authorized or required by Water Code sections 13307.1, 13307.5 and 13307.6.

11. The State Water Resources Control Board (hereafter State Water Board) has adopted Resolution No. 92-49, the Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304 (Resolution 92-49). This Policy sets forth the policies and procedures to be used during an investigation or cleanup of a polluted site and requires that cleanup levels be consistent with State Water Board Resolution 68-16, the Statement of Policy With Respect to Maintaining High Quality of Waters in California (Resolution 68-16). Resolution 92-49 and the Basin Plan establish the cleanup levels to be achieved. Resolution 92-49 requires the waste to be cleaned up to background, or if that is not reasonable, to an alternative level that is the most stringent level that is economically and technologically feasible in accordance with California Code of Regulations, title 23, section 2550.4. Any alternative cleanup level to background must (1) be consistent with the maximum benefit to the people of the state; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Water Resources Control Board (State Water Board).

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Commented [A24]: The Board has not complied with the requirements of Resolution No. 92-49 in making its determinations as to ESTERLINE. *See* Detailed Statement at Section V.A.

12. The Regional Board’s *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan), which was initially adopted on June 13, 1994, and amended from time-to-time, identifies beneficial uses and establishes water quality objectives to protect those uses. The Site overlies groundwater within the Coastal Plain of Los Angeles (West Coast - Dominguez Channel Watershed). The designated beneficial uses of the groundwater beneath the Site are: municipal and domestic supply (MUN), industrial service supply (IND), industrial process supply (PROC), and agricultural supply (AGR). Water quality objectives to protect the

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beneficial use of MUN that apply to the groundwater at the Site include the "Chemical Constituents and Radioactivity", which incorporates by reference state maximum contaminant levels set forth in Title 22 of the California Code of Regulations. The MCLs for the primary COCs, TCE and PCE, are 5 µg/L. As set forth in the above Findings, the concentrations of COCs in groundwater at and downgradient of the Site exceed the water quality objectives applicable to the wastes.

13. The exceedance of applicable narrative or numeric water quality objectives in the Basin Plan constitutes "pollution," as defined in Water Code section 13050, subdivision (l)(1).

14. The threat of vapor intrusion into buildings at and near the Site has caused or threatens to cause nuisance as defined in Water Code section 13050, subdivision (m). The presence of COCs, including VOCs (primarily TCE and PCE), at the known levels is potentially injurious to health, indecent or offensive to the senses, and/or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property and affects at the same time an entire community and occurs during or as a result of the treatment or disposal of waste. The wastes detected in groundwater, soil matrix, and vapor at the Site continue to migrate and have caused and threaten to continue to cause pollution, including contamination, and nuisance.

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DISCHARGER LIABILITY

15. COCs, including TCE and PCE and other waste constituents discharged at the Site constituted "waste" as defined in Water Code section 13050, subdivision (d).

16. As described in Findings of this Order, Dischargers identified in this Order are the current owner of the property and/or occupants, and each of them has caused or permitted waste to be discharged or deposited where it has discharged to waters of the state and has created, and continues to threaten to create, a condition of pollution or nuisance.[2]

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[2] Under precedential Orders issued by the State Water Resources Control Board (State Water Board), the City of Torrance is liable for the cleanup of wastes at the Site regardless of its involvement in the activities that initially caused the pollution. The discharge of chemicals continues today, as the plume of groundwater contamination continues to migrate, unabated. This is the subject of a recent Court of Appeals case, *Tesoro Refining & Marketing Company LLC v. Los Angeles Regional Water Quality Control Board*, 42 Cal.App.5th 453, 457 (2019), which held "the term 'discharge' must be read to include not only the initial occurrence [of a discharge], but also the passive migration of the contamination into the soil." The Court affirmatively cited State Board precedent: "State Board held that a continuous and ongoing movement of contamination from a source through the soil and into the groundwater is a discharge to waters of the state and subject to regulation." (*Ibid.*, citing State Water Board Order WQ 86-2 (*Zoecon Corp*), WQ74-13 (*Atchison, Topeka, et al*), and WQ 89-8 (*Spitzer*) ("[D]ischarge continues as long as pollutants are being emitted at the site"]. See also State Water Board Order WQ 89-1 (*Schmidl*).) Under California law, courts have historically held, and modern courts maintain, that possessors of land may be liable for a nuisance on that land even if the possessor did not create the nuisance. (See *Leslie Salt Co. v. San Francisco Bay Conservation and Dev. Comm'n* (1984) 153 Cal.App.3d 605, 619–620).

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Commented [A25]: There is no basis for this conclusion as to Property 1 or as to ESTERLINE, particularly given that the SUBSIDIARY did not use PCE or TCE and the Board has presented no evidence that the SUBSIDIARY used these chemicals. *See* Detailed Statement at Section III. At a minimum, there is no basis for imposing such a requirement absent the completion of a soil vapor investigation that the Board has already ordered at Property 1. *See* Detailed Statement at Section V.B.

Commented [A26]: There is no basis for this conclusion as to ESTERLINE or with respect to the operations of the SUBSIDIARY as they are not associated with any "wastes" referenced. *See* Detailed Statement at Section IV.

Commented [A27]: There is no basis for these findings as to ESTERLINE or with respect to operations of the SUBSIDIARY. *See* Detailed Statement at Section IV.

In addition (and without waiver of any of its objections to the DCAO), before the Board issues a DCAO, it is obligated to consider ESTERLINE's arguments as to whether any environmental harm at issue is subject to apportionment and make specific findings in that regard. *See* Detailed Statement at Section VII.

17. The City of Torrance is a Discharger because, as the current owner of all of the Site, the City of Torrance was aware of the activities that resulted in the discharges of waste and had the ability to control those discharges through contractual relationships with entities who discharged as a result of their operations. Despite being aware of the contamination present on and under its property, the City of Torrance has not performed any investigation or remediation to stop the migration of contamination.

18. Hi-Shear and the remaining EA Properties Dischargers (other than the City of Torrance) are Dischargers because, as a current or former operator of properties making up the Site, each entity caused or permitted waste to be discharged or deposited where it has discharged to waters of the state and has created, and continues to threaten to create, a condition of pollution or nuisance. Findings 3 describe each entities use of COCs on the Site and Findings 4.c, and 5 describe the investigations that provide data demonstrating discharges of wastes at each respective property that make up the Site. Decades of Regional Board staff experience with industries that use, store and transfer chemicals such as petroleum products and solvents (e.g., total petroleum hydrocarbons, VOCs, etc.), provide evidence that small amounts of spilled chemicals discharge during routine operations, seep through concrete and other intended containment, leading to the type of contamination found at the Site. The Regional Board is currently overseeing numerous cleanup operations resulting from improper and inadequate handling of hazardous materials. Standard chemical handling practices often unknowingly allow adverse environmental impacts, like the ones observed at the Site, to occur. These factors, taken as a whole, lead to the conclusion that the Dischargers have discharged high concentrations of COCs which must be cleaned up and abated to protect the environment and human health.[3]

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Commented [A28]: There is no basis for these findings as to ESTERLINE or with respect to operations of the SUBSIDIARY. ESTERLINE is not a current or former operator at Property 1, nor did it cause or permit waste to be discharged or deposited. The referenced findings contain no findings specific to the SUBSIDIARY. *See* Detailed Statement at Sections I and IV.

In addition (and without waiver of any of its objections to the DCAO), before the Board issues a DCAO, it is obligated to consider ESTERLINE's arguments as to whether any environmental harm at issue is subject to apportionment and make specific findings in that regard. The only obligations which can then be lawfully imposed on ESTERLINE are those which are necessary to address that divisible portion of that environmental harm.
See Detailed Statement at Section VII.

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Commented [A29]: This "experience" is irrelevant to ESTERLINE, as it never had any operations at Property 1 or any other portion of the Site. To the extent it is being relied upon with respect to operations of the SUBSIDIARY, the Board needs to explain how such "experience" would have any potential application to the SUBSIDIARY's operations. The Board needs to provide that information before ESTERLINE can fully respond to and comment on the DCAO. *See* Detailed Statement at Section VI.

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Commented [A30]: As detailed above, there is no basis for these findings as to ESTERLINE or with respect to operations of the SUBSIDIARY or any basis to connect ESTERLINE to the purported "high concentrations." The Board is obligated to make findings which show a causal connection between chemical use and its release to the environment. In this situation, in which any number of the "Dischargers" are alleged by the Board to have used and discharged the same chemical, simply pointing to use of the chemical and its detection in the environment is not sufficient to meet that burden. *See* Detailed Statement at Section IV.

Commented [A31]: This citation ignores the fact that the Board remains subject to the obligation to tie use of chemicals to a party's discharge. *See* Detailed Statement at Section IV.

[3] State Board Order WQ 86-16 (*Stinnes-Western*) supports the use of evidence of chemical use, standard chemical handling practices, and detections of that chemicals in the environment as reasonable bases supporting a cleanup and abatement order. "As we noted earlier, given the very low action levels for these chemicals, today we are concerned with any discharge." (*Ibid.* at n. 4.)

19. Due to the activities described in this Order, the Dischargers have caused or permitted or threatened to cause or permit wastes to be discharged or deposited where the wastes are, or probably will be discharged into the waters of the State which creates a condition of pollution or nuisance. The Dischargers have caused or permitted or threatened to cause or permit wastes to be discharged or deposited where the wastes are or probably will pose a potential human health threat to occupants of the building onsite through direct contact exposure to contaminated soil and/or groundwater or through vapor intrusion into indoor air. The Dischargers knew or should have known of the discharge of waste and had the legal ability to control it. The relevant facts and weight of the evidence indicates that the Dischargers are appropriately identified in this Order.

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Commented [A32]: As detailed above, there is no basis for these findings as to ESTERLINE or with respect to operations of the SUBSIDIARY or any basis to connect ESTERLINE to any knowledge of discharge and any purported "legal ability to control it."

In addition (and without waiver of any of its objections to the DCAO), before the Board issues a DCAO, it is obligated to consider ESTERLINE's arguments as to whether any environmental harm at issue is subject to apportionment and make specific findings in that regard. *See* Detailed Statement at Section VII.

20. This Order requires investigation and cleanup of the Site in compliance with the Water Code, the applicable Basin Plan, State Water Board Resolutions 92-49 and 68-16, and other applicable plans, policies, and regulations.

As described in the Findings in this Order, the Dischargers are subject to orders pursuant to Water Code section 13267 to submit technical reports because existing data and information about the Site indicate that waste has been discharged, is discharging, or is suspected of discharging, at the property, which is or was owned and/or operated by the Dischargers named in this Order. The technical reports required by this Order are necessary to assure compliance with Water Code section 13304 and State Water Board Resolution 92-49, including to adequately investigate and cleanup the Site to protect the beneficial uses of waters of the state, to protect against nuisance, and to protect human health and the environment. As required by Water Code section 13267, the Regional Board has considered the burden and benefits of requiring these reports and has determine that the benefit to water quality and public health outweighs the costs of generating the required reports. Soil, soil vapor, and groundwater concentrations on- and off-Site are detected above their applicable screening levels that are protective of water quality and public health and have not been fully delineated. Regional Board staff, in reliance on best professional judgement and State Water Board data, estimates that compliance with Water Code section 13267 in this Order will cost approximately $2,000,000 to $5,000,000, depending upon the extent of the investigation needed. The benefits to be obtained of the required reports include protection of human health, drinking water, and elimination of soil, soil vapor, and groundwater contamination which currently impacts an entire community.

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Commented [A33]:

There is no justification for requiring ESTERLINE to provide these reports because (1) the Board has not demonstrated that it is liable as a "discharger," and (2) the requirement to provide these reports is duplicative of obligations that the Board has separately required of HSC and others, so there is no justification for requiring ESTERLINE to also provide them.

In addition, before it can impose any obligation on ESTERLINE to prepare such reports, the Board must first consider ESTERLINE's arguments as to whether any environmental harm at issue is subject to apportionment and make specific findings in that regard. The scope of reports required must therefore be limited in accordance with those findings. *See* Detailed Statement at Section VII.

OTHER CONSIDERATIONS

21. Issuance of this Order is being taken for the protection of the environment and as such is exempt from provisions of the California Environmental Quality Act (CEQA) (Pubic Resources Code §§ 21000 et seq.) in accordance with title 14, California Code of Regulations, sections 15061, subdivision (b)(3), 15306, 15307, 15308, and 15321. This Order generally requires the Dischargers to submit plans for approval prior to implementation of cleanup activities at the Site. Mere submittal of plans is exempt from

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CEQA as submittal will not cause a direct or indirect physical change in the environment and/or is an activity that cannot possibly have a significant effect on the environment. CEQA review at this time would be premature and speculative, as there is not enough information concerning the Dischargers' proposed remedial activities and possible associated environmental impacts. If the Regional Board determines that implementation of any plan required by this Order will have a significant effect on the environment, the Regional Board will conduct the necessary and appropriate environmental review prior to Executive Officer's approval of the applicable plan.

22. Pursuant to Water Code section 13304, the Regional Board may seek reimbursement for all reasonable costs to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action.

23. It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring the Dischargers to clean up the groundwater to meet drinking water standards.

24. Any person aggrieved by this action of the Regional Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and title 23, California Code of Regulations, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions will be provided upon request or may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

REQUIRED ACTIONS

THEREFORE, IT IS HEREBY ORDERED, pursuant to Water Code sections 13304 and 13267 that the Dischargers shall investigate, cleanup the waste and abate the effects of waste forthwith discharging at and from the Site. "Forthwith" means as soon as reasonably possible, but in any event no later than the compliance dates below. More specifically, the Dischargers shall:

1. **Develop and Submit a Site Conceptual Model:** The Site Conceptual Model (SCM) should include a written presentation with graphic illustrations of discharge scenario, geology and hydrogeology, waste fate and transport in soil matrix, soil vapor and groundwater, distribution of wastes, exposure pathways, sensitive receptors and other relevant information. The SCM shall be based upon the actual data already collected from the Site and shall identify data gaps, i.e., areas where further investigation is necessary.

   If information presented in the SCM suggests that assessment, characterization and delineation of waste constituents is incomplete, you shall prepare and submit a work

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Commented [A34]: There is no legal basis for naming ESTERLINE as a "Discharger" for the reasons cited above and in the Detailed Statement. There is therefore no basis for imposing the requirements listed below on it.

In addition, the blanket imposition of these obligations jointly and severally on "Dischargers" is contrary to law. The requirements under Item 2 below to conduct further site assessment activities are directed to the Dischargers identified with respect to a given property, but the remaining obligations are not and are imposed on the Dischargers collectively.

Any responsibility on the part of ESTERLINE – given the fact, among others, that the focus of these requirements are on conditions related to TCE and PCE and that the SUBSIDIARY has not been shown to have ever used either of those chemicals, let alone to have discharged *any* COCs – is subject to apportionment. *See* Detailed Statement at Section VII. Before the Board issues a DCAO, it is obligated to consider ESTERLINE's arguments as to whether any environmental harm at issue is subject to apportionment and make specific findings in that regard. It must then make determinations as to the scope of the "required actions" to which ESTERLINE is subject. *Id.*

In addition, these obligations are duplicative of requirements that the Board has already imposed on HSC (and in part on others) under existing Board orders, and the separate issuance of this DCAO is unnecessary and will serve to further complicate and likely delay the completion of additional investigative and remedial activities at the Site. *See* Detailed Statement at Section VIII.

Also, the time schedule for these requirements are on their face unrealistic and unachievable. The comments on Attachment B address specific deadlines referenced in that attachment.

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plan to complete assessment and characterization of COCs and other potential waste constituents in soil vapor, soil matrix and groundwater and to fully delineate the vertical and lateral extent of wastes in the soil and groundwater onsite and offsite as setforth in Order Number 2 below.

The SCM shall also be updated as new information becomes available. New information may include, but not be limited to, technical reports required by CWC section 13267 investigative orders issued on October 29, 2009 to Hi-Shear, January 13, 2020 to EA Properties, and May 12, 2020 to Skypark Commercial Properties. The SCM shall be updated and submitted upon request by the Regional Board.

2. Develop, Submit, and Implement a Site Assessment Work Plan(s) to Assess, Characterize and Delineate the Extent of Wastes in Soil, Soil Vapor and Groundwater:

a. For each Property, the dischargers identified with the Property in the above Site History shall fully assess, characterize, and delineate the vertical and lateral extent of wastes onsite and offsite in the soil matrix, soil vapor, and groundwater.

b. For each Property, the dischargers identified with the Property in the above Site History shall identify the locations of all waste sources at the Site such as USTs, clarifiers, sumps, and other sources to allow for full assessment of the extent of waste discharged at the Site.

c. Update the current concentrations of waste constituents in the soil vapor by conducting a site-wide soil vapor survey.

d. Include a schedule for implementation of the Site Assessment Work Plan within the Plan.

e. Upon Executive Officer approval of the Site Assessment Work Plan(s), you shall implement the Site Assessment Work Plan in accordance with the approved schedule.

f. Completion of the Site Assessment may require multiple approved work plans.

Work plan(s) submitted to the Regional Board shall consider new information provided by, but not be limited to, technical reports required by CWC section 13267 investigative orders issued October 29, 2009, January 13, 2020, and May 12, 2020. Outstanding technical reports required in these investigative orders, and their amendments thereto, include:

a. Soil, Soil Vapor and Groundwater Delineation Report – Module III, (as required by October 29, 2009 Investigative Order)

b. Soil, Soil Vapor, and Groundwater Delineation Report – Module IV, (as required by October 29, 2009 Investigative Order)

c. Onsite Vertical Groundwater Investigation Report, Hi-Shear property (as required by October 29, 2009 Investigative Order)

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d. Installation of MW-9 Replacement Well Work Plan, (as required by October 29, 2009 Investigative Order)

e. Flow and transport groundwater modeling for onsite and offsite groundwater contaminant plumes (as required by October 29, 2009 Investigative Order)

f. Complete assessment of remaining onsite source areas, Hi-Shear property (as required by October 29, 2009 Investigative Order)

g. Complete Data Gap Work Plan, EA Properties (as required by January 13, 2020 Investigative Order)

3. **Prepare and submit a Human Health Risk Assessment:** Prepare and submit a HHRA, and if applicable an ecological risk assessment, considering all waste constituents in the soil matrix, soil vapor and groundwater, all exposure pathways and sensitive receptors and applying existing regulatory human health and ecological screening levels and/or acceptable risk assessment models to the Regional Board for review and approval. The preparation of the HHRA shall consider new information provided by, but not be limited to, technical reports required by CWC section 13267 investigative orders issued October 29, 2009, January 13, 2020, and May 12, 2020. Outstanding technical reports required in these investigative orders, and their amendments thereto, include:

   a. Additional Onsite Indoor Air Sampling Work Plan, Hi-Shear property (as required by October 29, 2009 Investigative Order)

   b. Vapor Intrusion Investigation, Property 1 of EA Properties (as required by May 12, 2020 Investigative Order)

   c. Vapor Intrusion Investigation, Property 2 of EA Properties (as required by May 12, 2020 Investigative Order)

   d. Vapor Intrusion Investigation, Property 3 of EA Properties (as required by May 12, 2020 Investigative Order)

   e. Vapor Intrusion Response Plan implementation report, (as required by October 29, 2009 Investigative Order)

4. **Conduct Remedial Action:** Implement a cleanup and abatement program for the cleanup of wastes in the soil matrix, soil vapor, and groundwater and the abatement of the effects of the discharges of waste on beneficial uses of water. Specifically, you shall:

   a. Develop an Interim Remedial Action Plan (IRAP) for cleanup of wastes in soil, soil vapor, and groundwater originating from the Site based on current available environmental data. The IRAP shall include and/or expand existing system(s) and activities as required by CWC section 13267 investigative order issued October 29, 2009. The preparation of the IRAP shall consider new information provided by, but not be limited to, technical reports required by CWC section 13267 investigative

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orders issued October 29, 2009, January 13, 2020, and May 12, 2020. Outstanding technical reports required in these investigative orders, and their amendments thereto, include:

i. SVE System Restart Report, Hi-Shear property (as required by the October 29, 2009 Investigative Order)

ii. Sub-Slab Depressurization System Restart Work Plan, (as required by the October 29, 2009 Investigative Order)

iii. Additional Onsite SVE Well Installation Work Plan, Hi-Shear Property (as required by the October 29, 2009 Investigative Order)

The IRAP shall also include vapor mitigation systems for on- and off-Site properties that have confirmed vapor intrusion risks through indoor air and vapor intrusion assessments as required by the existing investigative orders.

b. Develop a comprehensive Remedial Action Plan(s) (RAP) for cleanup of wastes in the soil matrix, soil vapor, and groundwater originating from the Site and submit it to the Regional Board for review and approval. The RAP shall include, at a minimum:

i. Evaluation of the technology(ies) proposed for remediation of soil matrix, soil vapor, and groundwater

ii. Description of the selection criteria for choosing the proposed method over other potential remedial options. Discuss the technical merit, suitability of the selected method under the given Site conditions and waste constituents present, economic and temporal feasibility, and immediate and/or future beneficial results

iii. Description of any pilot projects intended to be implemented

iv. Estimation of cumulative mass of wastes to be removed with the selected method. Include all calculations and methodology used to obtain this estimate

v. A proposed schedule for completion of the RAP

The following information shall be considered when establishing preliminary cleanup goals:

i. Groundwater cleanup goals that do not exceed applicable water quality objectives or criteria necessary to protect the beneficial uses, including the Regional Board's Basin Plan water quality objectives (e.g., California's MCLs) and Notification Levels for drinking water as established by the SWRCB DDW,

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State Water Board Ocean Plan water quality objectives, and the California Toxic Rule water quality criteria, at a point of compliance approved by the Regional Board.

ii. Human health protection levels set forth in the current USEPA Region IX's RSLs.

iii. Protection from vapor intrusion and protection of indoor air quality based on the DTSC's September 2018 (or later version) *Toxic Criteria for Human Health Risk Assessments, Screening Levels, and Remediation Goals* and DTSC and California Water Resources Control Boards' February 2020 (or later version) *Public Draft – Supplemental Guidance: Screening and Evaluating Vapor Intrusion.* Soil vapor sampling requirements are stated in USEPA's 2015 *OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air*, the DTSC and Los Angeles Water Board's July 2015 *Advisory – Active Soil Gas Investigations*, the DTSC October 2011 (or latest version) *Guidance for Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*, and the October 2014 San Francisco Bay Regional Water Quality Control Board's *Interim Framework for Assessment of Vapor Intrusion at TCE Contaminated Sites in the San Francisco Bay Region*.

Revisions to or additional RAPs may be needed to comply with State Board Resolution 92-49.

b. Upon Regional Board approval of the Remedial Action Plan(s), you shall implement the RAP in accordance with the approved schedule.

c. You shall submit quarterly remediation progress reports to this Regional Board. The quarterly remediation progress reports shall document all performance data associated with the operating systems.

5. **Conduct Groundwater Monitoring:** Implement a tri-annual groundwater monitoring program as set forth in **Attachment C.** The tri-annually groundwater monitoring reports shall be submitted according to the following schedule, with the next report due by **January 15, 2021**:

Monitoring Trimester	Monitoring Period	Report Due Date
First Trimester	January – April	May 15
Second Trimester	May – August	September 15
Third Trimester	September – December	January 15

6. **Time Schedule:** The Dischargers shall submit all required work plans and reports and complete work within the schedule in any approved work plan or RAP and the time

schedule set forth in Attachment B attached hereto and incorporated herein by reference, which may be revised by the Executive Officer at his/her discretion.

7. **The Regional Board's authorized representative(s) shall be allowed:**

   a. Entry upon premises where a regulated facility or activity is located, conducted, or where records are stored, under the conditions of this Order;

   b. Access to copy any records that are stored under the conditions of this Order;

   c. Access to inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

   d. The right to photograph, sample, and monitor the Site for the purpose of ensuring compliance with this Order, or as otherwise authorized by the California Water Code.

8. **Contractor/Consultant Qualification:** As required by the Business and Professions Code sections 6735, 7835, and 7835.1, all reports shall be prepared by, or under the supervision of, a California registered professional engineer or geologist and signed by the registered professional. All technical reports submitted by the Dischargers shall include a statement signed by the authorized representative certifying under penalty of law that the representative has examined and is familiar with the report and that to his/her knowledge, the report is true, complete, and accurate. All technical documents shall be signed by and stamped with the seal of the above-mentioned qualified professionals that reflects a license expiration date.

9. This Order is not intended to permit or allow the Dischargers to cease any work required by any other Order issued by the Regional Board, nor shall it be used as a reason to stop or redirect any investigation or cleanup or remediation programs ordered by the Regional Board or any other agency. Furthermore, this Order does not exempt the Dischargers from compliance with any other laws, regulations, or ordinances which may be applicable, nor does it legalize these waste treatment and disposal facilities, and it leaves unaffected any further restrictions on those facilities which may be contained in other statutes or required by other agencies.

10. ~~The~~ Each Discharger~~s~~ shall submit a notice to the Regional Board 30-days in advance of any planned changes in name, ownership, or control of the Site and shall submit a notice to the Regional Board 30-days in advance of any planned physical changes to the Site that may affect compliance with this Order. In the event of a Discharger's change in ownership or operator, that ~~e~~ Dischargers ~~s~~ also shall provide a notice 30-days in advance, by letter, to the succeeding owner/operator of the existence of this Order, and shall submit a copy of this advance notice to the Regional Board.

11. Abandonment of any groundwater well(s) at the Site must be approved by and reported to the Regional Board at least 30 days in advance. Any groundwater wells removed must be replaced within a reasonable time, at a location approved by the

H.11

Commented [A35]: The obligations imposed by the DCAO are duplicative of requirements that the Board has already imposed on HSC (and in part on others) under existing Board orders, and the separate issuance of this DCAO is unnecessary and will serve to further complicate and likely delay the completion of additional investigative and remedial activities at the Site. *See* Detailed Statement at Section VIII.

H.17

Commented [A36]: It is inappropriate to impose such obligations on "Dischargers" collectively, as any such change would apply to an individual Discharger.

Regional Board. With written justification, the Regional Board may approve the abandonment of groundwater wells without replacement. When a well is removed, all work shall be completed in accordance with California Department of Water Resources Bulletin 74-90, *California Well Standards*, Monitoring Well Standards Chapter, Part III, Sections 16-19.

12. In the event compliance cannot be achieved within the terms of this Order, the Dischargers has the opportunity to request, in writing, an extension of the time specified. The extension request shall include an explanation why the specified date could not or will not be met and justification for the requested period of extension. Any extension request shall be submitted as soon as the situation is recognized and no later than the compliance date. Extension requests not approved in writing with reference to this Order are denied.

13. Reference herein to determinations and considerations to be made by the Regional Board regarding the terms of the Order shall be made by the Executive Officer or his/her designee. Decisions and directives made by the Executive Officer in regard to this Order shall be as if made by the Regional Board.

14. The Regional Board, through its Executive Officer, may revise this Order as additional information becomes available. Upon request by the Dischargers, and for good cause shown, the Executive Officer may defer, delete, or extend the date of compliance for any action required of the Dischargers under this Order. The authority of the Regional Board, as contained in the California Water Code, to order investigation and cleanup, in addition to that described herein, is in no way limited by this Order.

15. Continue any remediation or monitoring activities until such time as the Executive Officer determines that sufficient cleanup has been accomplished and this Order has been rescinded.

H.14

Commented [A37]: ESTERLINE objects to this requirement as conferring unfettered discretion on the Executive Officer to decide "sufficient cleanup has been accomplished" can be challenged.

16. Reimburse the Regional Board for reasonable costs associated with oversight of the investigation and cleanup of the waste at or emanating from the Site. Provide the Regional Board with the name or names and contact information for the person to be provided billing statements from the State Water Resources Control Board.

H.7

Commented [A38]: Without waiver of any of its objections to the DCAO, the Board is obligated to consider ESTERLINE's arguments as to whether any environmental harm at issue is subject to apportionment and make specific findings in that regard. Any oversight costs imposed upon "Dischargers" must be apportioned accordingly. *See* Detailed Statement at Section VII.

17. The Dischargers shall submit information and take actions addressing public participation requirements of Water Code sections 13307.5 and 13307.6 when directed by the Executive Officer.

18. As necessary to assure compliance with the California Environmental Quality Act, provide information to the Regional Board as directed by the Executive Officer.

19. The Regional Board, under the authority given by Water Code section 13267, subdivision (b)(1), requires you to include a perjury statement in all reports submitted under this Order. The perjury statement shall be signed by a senior authorized representative (not by a consultant). The perjury statement shall be in the following format:

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"I, [NAME], certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

20. The State Water Board adopted regulations requiring the electronic submittals of information over the internet using the State Water Board GeoTracker data management system. You are required to comply by uploading all reports and correspondence prepared to date on to the GeoTracker data management system. The text of the regulations can be found at the URL:

https://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/

21. Failure to comply with the terms or conditions of this Order may result in imposition of civil liabilities, imposed either administratively by the Regional Board or judicially by the Superior Court in accordance with Water Code sections 13268, 13304, 13308, and/or 13350, and/or referral to the Attorney General of the State of California.

22. None of the obligations imposed by this Order on the Dischargers are intended to constitute a debt, damage claim, penalty or other civil action which should be limited or discharged in a bankruptcy proceeding. All obligations are imposed pursuant to the police powers of the State of California intended to protect the public health, safety, welfare, and environment.

Ordered by:_____Date:_____

Renee Purdy

Executive Officer

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[Attachment A (pages 26 – 37) omitted from ESTERLINE Comments]

COMMENTS OF ESTERLINE TECHNOLOGIES CORPORATION ON DRAFT CLEANUP AND ABATEMENT ORDER (JANUARY 11, 2021)

ATTACHMENT B: TIME SCHEDULE

DIRECTIVE	DUE DATE
1. Site Conceptual Model:	
a. Prepare and submit to the Regional Board a Site Conceptual Model which provides details on and illustrates waste discharge scenario, geology and hydrogeology, waste constituent fate and transport in soil, soil vapor and groundwater, distribution of waste constituents, exposure pathways, sensitive receptors and other relevant information.	Site Conceptual Model due **March 12, 2021.**
[Note that the Regional Board may require revisions to the Site Conceptual Model as necessary to complete the Model.]	Revisions due within 60 days of receiving directive from the Regional Board.
b. **Risk Assessment:** Prepare and submit to the Regional Board a comprehensive HHRA, and if applicable ecological risk assessment considering all waste constituents in the soil matrix, soil vapor and groundwater, all exposure pathways and sensitive receptors and applying existing regulatory human health and ecological screening levels and/or acceptable risk assessment models.	**February 15, 2021**
Submit revised "Mobile Home Decision Flow Chart," "Residential (Slab-on-Grade Foundation), Commercial Soil Vapor Decision Flow Chart," and "Accelerated and Urgent Response for TCE in Indoor Air Residential and Commercial Decision Flow Chart" (as required by the October 29, 2009 and May 12, 2020 Investigative Orders)	**December 7, 2020**
Submit a plan, sequence, and schedule for access request for the current Evaluate Need for Action zone (as required by the October 29, 2009 and May 12, 2020 Investigative Orders)	**December 21, 2020**
Prepare and submit Evaluate Need for Action zone status reports for the investigation implementation (as required by the October 29, 2009 and May 12, 2020 Investigative Orders)	Tri-annually beginning January 15 of the year of implementation of the Evaluate Need for Action zone investigation

H.7

Commented [A39]: All of the requirements in this Attachment B are subject to the objections raised to the collective imposition of these obligations, many of which cannot be performed on a collective basis because of conflicting interests of the parties named.

ESTERLINE objects to any requirement that duplicates obligations under any existing directive to HSC or under the Section 13267 orders (Existing Orders).

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H.13

Commented [A40]: This obligation should be imposed only on HSC, given that it is already subject to a separate obligation to update its 2010 SCM. *See* Detailed Statement at VB.

This deadline is unreasonable, unless it is only applied to HSC (which was ordered in September 2018 to update the SCM and has sought multiple extensions of deadlines set to do so) and is the only Respondent with the understanding of the work performed at the Site and the data.

H.13

Commented [A41]: This deadline is on its face unreasonable because all waste constituents in soil vapor and groundwater and other data needed to conduct the HHRA has not yet been collected.

H.13

Commented [A42]: This deadline pre-dates any issuance date of the DCAO and duplicates requirements under existing orders.

The same comment applies to each other deadline in this section.

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DIRECTIVE	DUE DATE
Submit the vapor intrusion response plan implementation report for the Urgent Response/Accelerated Response Zone (as required by the October 29, 2009 and May 12, 2020 Investigative Orders)	**December 18, 2020**
Submit Additional Onsite Indoor Air Sampling Work Plan (as required by the October 29, 2009 Investigative Order)	**December 21, 2020**
Submit Vapor Intrusion Investigation report (Property 1 of EA Properties, as required by the May 12, 2020 Investigative Order)	**January 20, 2021**
Submit Vapor Intrusion Investigation report (Property 2 of EA Properties, as required by the May 12, 2020 Investigative Order)	**January 20, 2021**
Submit Vapor Intrusion Investigation report (Property 3 of EA Properties, as required by the May 12, 2020 Investigative Order)	**January 20, 2021**
2. Site Assessment Work Plan: Prepare and submit to the Regional Board a Site Assessment Work Plan including a schedule for completing delineation of the lateral and vertical extent of wastes (including VOCs, perchlorate, 1.4-dioxane, hexavalent chromium, total petroleum hydrocarbons, and metals) and other waste constituents in the soil matrix, soil vapor, and groundwater onsite and offsite.	**January 29, 2021**
Implement the Site Assessment Work Plan according to the approved schedule.	According to the schedule approved by the Executive Officer. Vertical and lateral delineation must be complete no later than **June 30, 2021**
Upon completion of implementation of the Site Assessment Work Plan, submit a Site Assessment Completion Report.	According to the schedule approved by Executive Officer.

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DIRECTIVE	DUE DATE
Submit the Installation of MW-9 Replacement Well Work Plan (as required by the October 29, 2009 Investigative Order)	**December 1, 2020**
Submit the Onsite Source Areas Work Plan for the Hi-Shear property (as required by the October 29, 2009 Investigative Order)	**December 18, 2020**
Submit the Onsite Vertical Groundwater Investigation report for the Hi-Shear property (as required by the October 29, 2009 Investigative Order)	**January 4, 2021**
Submit Data Gap Report (Property 1 of EA Properties, as required by the January 13, 2020 Investigative Order)	**March 5, 2021**
Submit the Soil, Soil Vapor, and Groundwater Delineation Report – Module III report (as required by the October 29, 2009 Investigative Order)	**April 2, 2021**
Submit the Soil, Soil Vapor, and Groundwater Delineation Report – Module IV report (as required by the October 29, 2009 Investigative Order)	**August 2, 2021**
Submit a work plan for flow and transport groundwater modeling for onsite and offsite groundwater contaminant plumes (as required by the October 29, 2009 Investigative Order)	According to the schedule approved by the Executive Officer
3. Conduct Remedial Action: a. Submit an Interim Remedial Action Plan (IRAP) for cleanup of wastes in soil, soil vapor, and groundwater. The IRAP shall include mitigation measures to address onsite and offsite vapor intrusion risks.	**January 29, 2021**
Implement the IRAP	According to the schedule approved by the Executive Officer
Prepare and submit Remediation Progress Reports for the interim remediation system (s) implemented	Quarterly beginning July 15 of the year implementation of the IRAP begins.

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Commented [A43]: This requirement, the April 2, 2021 and August 2, 2021 deadlines and the requirement for a work plan for "flow and transport groundwater modeling" below are ones that are applicable only to HSC under the referenced order.

Commented [A44]: The Board's December 21, 2020 letter sets this deadline at March 19, 2021.

Commented [A45]: This deadline on its face is unreasonable and cannot be justified given the current status of the investigation.

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DIRECTIVE	DUE DATE
Submit the Additional Onsite SVE Wells Installation work plan for the Hi-Shear property (as required by the October 29, 2009 Investigative Order)	**December 18, 2020** With additional onsite SVE wells to begin operation no later than **March 1, 2021.** H.15
Submit the Sub-Slab Depressurization System Restart work plan (as required by the October 29, 2009 Investigative Order)	**January 25, 2021**
Submit the SVE System Restart report (as required by the October 29, 2009 Investigative Order)	**January 29, 2021**
b. Prepare and submit a comprehensive Remedial Action Plan(s) (RAP) for cleanup of remaining wastes in soil, soil vapor and groundwater that includes a schedule for implementation.	**February 26, 2021**
Implement the RAP	According to the schedule in the RAP approved by the Regional Board. RAP implementation must be complete and cleanup achieved by **February 27, 2026.** H.13
Prepare and submit Remediation Progress Reports for the remediation system(s) implemented	Quarterly beginning July 15 of the year implementation of the RAP begins.
Upon completion of implementation of the RAP, submit a Remedial Action Completion Report.	60 days after implementation of the RAP.
4. Groundwater Monitoring: Conduct tri-annual groundwater monitoring according to Attachment C (Monitoring and Reporting Program) and the following schedule.	The next groundwater monitoring report is due on **January 15, 2021.** H.7
Monitoring Period January – April May – August September – December	**Report Due Date** H.18 May 15th September 15th January 15th

Commented [A46]: This requirement and the January 25, 2021 and January 29, 2021 deadline below are ones that are applicable only to HSC under the referenced order.

Commented [A47]: This deadline is on its face unreasonable and cannot be justified given the lack of an updated SCM and of data necessary to understand the source of the contamination to be addressed by the RAP.

Commented [A48]: This deadline for "completing" a yet to be identified cleanup is unreasonable, as the data needed to even develop a RAP has not been collected.

Commented [A49]: This deadline will precede the effective date of the DCAO, and can only be met by HSC, which has performed the groundwater monitoring under the existing order issued to it. Others such as ESTERLINE have no access to the wells or other means available to them to perform the groundwater monitoring.

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DIRECTIVE	DUE DATE
5. Public Participation: The Dischargers shall submit information and take actions addressing public participation requirements of CWC sections 13307.5 and 13307.6, including, but not limited to:	
a. Submit a baseline community assessment	According to the schedule approved by Executive Officer.
b. Submit an interested persons contact list	According to the schedule approved by Executive Officer.
c. Submit a draft fact sheet	According to the schedule approved by Executive Officer.

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ATTACHMENT C:

MONITORING AND REPORTING PROGRAM FOR CLEANUP AND ABATEMENT ORDER NO. R4-20XX-XXXX

This Monitoring and Reporting Program is part of Cleanup and Abatement Order No. R4-20XX-XXXX (CAO). Failure to comply with this program constitutes noncompliance with the CAO and California Water Code, which can result in the imposition of civil monetary liability. All sampling and analyses shall be by USEPA approved methods. The test methods chosen for detection of the constituents of concern shall be subject to review and concurrence by the Regional Board.

Laboratory analytical reports to be included in technical reports shall contain a complete list of chemical constituents, which are tested for and reported on by the testing laboratory. In addition, the reports shall include both the method detection limit and the practical quantification limit for the testing methods. All samples shall be analyzed within the allowable holding time. All quality assurance/quality control (QA/QC) samples must be run on the same dates when samples were actually analyzed. Proper chain of custody procedures must be followed and a copy of the completed chain of custody form shall be submitted with the report. All analyses must be performed by a State Water Resources Control Board Division of Drinking Water accredited laboratory.

The Regional Board's *Quality Assurance Project Plan, Updated February 15, 2015*, can be used as a reference and guidance for project activities involving sample collection, handling, analysis, and data reporting. The guidance is available on the Regional Board's website at:

https://www.waterboards.ca.gov/rwqcb4/water_issues/programs/remediation/DocAndInfo/RWQCB_QAPP_2015_FINAL_03-05-15.pdf

GROUNDWATER MONITORING

The Dischargers shall collect groundwater samples from groundwater monitoring wells installed for the purpose of site investigation and monitoring. Any monitoring wells installed in the future shall be added to the groundwater monitoring program and sampled tri-annually. The groundwater surface elevation (in feet above mean sea level [MSL]) in all monitoring wells shall be measured and used to determine the gradient and direction of groundwater flow.

The following shall constitute the monitoring program for groundwater.

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Constituent	EPA Method
Volatile Organic Compounds (full scan)	EPA 8260B
Total petroleum hydrocarbons as gasoline	EPA 8015 modified
Metals	EPA 6010B
Hexavalent Chromium	EPA 7199
Ammonium Perchlorate	EPA 314.0
1,4-dioxane	EPA 8270C
N-Nitrosodimethylamine	EPA 1625C
Temperature	Field*
pH	Field*
Electrical Conductivity	Field*
Dissolved oxygen	Field*
Oxidation-Reduction Potential (ORP)	Field*
Turbidity	Field*

* Field – To be measured in the field.

REMEDIATION SYSTEMS

Reports on remediation systems shall contain the following information regarding the site remediation systems:

1. Maps showing location of all remediation wells and groundwater monitoring wells, if applicable;

2. Status of each remediation system including amount of time operating and down time for maintenance and/or repair;

3. Air sparge well operating records including status of each well and volume and pressure of air being injected;

4. Soil vapor extraction well records including status of each well and photo ionization detector (PID) readings of other acceptable methods of determining relative volatile concentrations taken at a minimum quarterly. Readings of volatile concentrations drawn from SVE wells need to be taken at a frequency that allows the efficient operation and evaluation of the SVE system;

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5. The report shall include tables summarizing the operating and performance parameters for the remediation systems; and

6. System inspection sheets shall document field activities conducted during each Site visit and shall be included in quarterly monitoring reports.

MONITORING FREQUENCIES

Specifications in this monitoring program are subject to periodic revisions. Monitoring requirements may be modified or revised by the Executive Officer based on review of monitoring data submitted pursuant to this Order. Monitoring frequencies may be adjusted, or parameters and locations removed or added by the Executive Officer if Site conditions indicate that the changes are necessary.

REPORTING REQUIREMENTS

1. The Dischargers shall report all monitoring data and information as specified herein. Reports that do not comply with the required format will be REJECTED and the Dischargers shall be deemed to be in noncompliance with the Monitoring and Reporting Program.

2. Tri-annual groundwater monitoring reports shall be submitted to the Regional Board according to the schedule below.

Monitoring Period	Report Due
January – April	May 15
May – August	September 15
September – December	January 15

Groundwater monitoring reports shall include a contour map showing groundwater elevations at the Site and the groundwater flow direction and figures showing iso-concentration curves for the constituents of concern such as PCE, and TCE. The tri-annual groundwater monitoring reports shall include a table with monitoring well construction specifications such as well identification date constructed, total depth of borehole, total depth of casing, screen interval, gravel pack interval, land surface elevation, and elevation of PVC casing and tables summarizing the historical depth-to-water, groundwater elevations, and historical analytical results for each monitoring well. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Regional Board. Field monitoring well sampling sheets shall be completed for each monitoring well sampled and included in the report.

Quarterly remediation progress reports shall be submitted to the Regional Board according to the schedule below.

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Monitoring Period	Report Due
January – March	April 15
April – June	July 15
July – September	October 15
October – December	January 15

3. Remediation progress reports shall include an estimate of the cumulative mass of contaminant removed from the subsurface, system operating time, the effectiveness of the remediation system, any field notes pertaining to the operation and maintenance of the system, and, if applicable, the reasons for and duration of all interruptions in the operation of any remediation system and actions planned or taken to correct and prevent interruptions.

4. In reporting the monitoring data, the Dischargers shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized to demonstrate compliance with the requirements. All data shall be submitted in electronic form in a form acceptable to the Regional Board.

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ESTERLINE TECHNOLOGY CORPORATION'S

DETAILED STATEMENT IN SUPPORT OF ITS COMMENTS ON

THE DRAFT CLEANUP AND ABATEMENT ORDER ("DCAO")

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H.5 V. EVEN IF IT COULD NAME ESTERLINE IN THE DCAO, ISSUING THE DCAO TO ESTERLINE NOW WOULD BE PREMATURE AND CONTRARY TO THE REQUIREMENTS OF STATE BOARD ORDER NO. 92-49. 6

A. The Board should follow the process and approach mandated by State Board Order No. 92-49 in identifying dischargers in addition to HSC. 6

B. The Board should wait for additional data to be collected with regard to Property 1 and require HSC to provide the Board with an updated Site Conceptual Model ("SCM") before deciding whether to issue a CAO to ESTERLINE 6

H.6 VI. THE BOARD LACKS THE AUTHORITY TO NAME ESTERLINE IN A CAO MERELY BECAUSE ITS SUBSIDIARY MAY HAVE OPERATED AT A SITE UNDER WHICH A GROUNDWATER PLUME HAS MIGRATED. 8

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Table of Authorities

CASES

Armenta ex rel. City of Burbank v. Mueller Co., 142 Cal.App.4th 636, 652-653 (2006), *as mod.* 2
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OTHER AUTHORITIES

State Board Order No. 92-49 (California Water Boards Site Cleanup Program Resolution No. 92-49 – Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304 5, 6, 8
Restatement (Second) of Torts §§ 433A, 481 9
US EPA Memorandum dated January 13, 2004 regarding "*Interim Enforcement Direction Guidance Regarding Contiguous Property Owners,*" 10
US EPA Memorandum dated May 24, 1995 regarding "*Final Policy Toward Owners of Property Containing Contaminated Aquifers,*" 10

I. ESTERLINE HAS NO CONNECTION TO THE SITE THAT COULD SERVE AS A BASIS FOR THE BOARD TO NAME IT IN THE DCAO.

H.1a

The DCAO describes Esterline Technologies Corporation ("ESTERLINE") (together with the others named in the DCAO) as being "Dischargers" under Cal. Water Code § 13304 as the "current or former operator [or current owner] of properties making up the Site" (DCAO at Required Actions, paragraph 18), but fails to make any findings as to ESTERLINE that would support such a conclusion. In fact, ESTERLINE's only connection to the Site is that it was the parent company of a long-dissolved subsidiary (the "SUBSIDIARY") that occupied the property located at 24751 and 24777 Crenshaw Boulevard in the City of Torrance, referred to by the Board as "Property 1." That is not a sufficient basis under California law to name ESTERLINE in the DCAO.

The only specific references in the DCAO to ESTERLINE are (1) to set forth its name and information about its incorporation and the change of its name,[1] and (2) to identify it as being a party to a June 2003 asset purchase agreement ("APA") in which the SUBSIDIARY sold the assets of its business operations located on Property 1 to a third party. The DCAO characterizes the APA as establishing that ESTERLINE "retained liabilities" for the SUBSIDIARY's environmental obligations. DCAO at Site History, paragraph 3.b.i.3. There is no finding in the DCAO that ESTERLINE ever owned, leased or occupied any portion of the Site.

H.1b

The DCAO separately identifies the SUBSIDIARY, a California corporation incorporated in 1962,[2] and makes reference to the SUBSIDIARY's occupancy of Property 1 between 1979 and 2003. The DCAO makes no reference, however, to the 2010 dissolution of the SUBSIDIARY by the California Secretary of State. *See* October 9, 2020 Letter, Exhibit 4 at pdf page 2 (Certificate of Dissolution for Corporation No. C0443496 (the SUBSIDIARY)).[3]

ESTERLINE's status as the former parent company of the now-dissolved SUBSIDIARY is not a sufficient basis on which the Board can name it in the DCAO. Under well-established precedent in California, a parent company is not by virtue of its ownership of shares in a

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[1] *See* Comments at page 4 (correcting date of name change); *see also* October 9, 2020 Letter, Exhibit 1 (Delaware Secretary of State Statement of Good Standing for Esterline) and Exhibit 2 (Washington State Secretary of State records). ESTERLINE was publicly traded until March 2019, when it became a wholly-owned subsidiary of TransDigm Group Incorporated. *See* October 9, 2020 Letter, Exhibit 3 (TransDigm Group Incorporated Form 10-K 2019 Annual Report) at page 2.

[2] The Comments contain revisions necessary to correctly identify the SUBSIDIARY's name and corporate history. As reflected in those revisions, the name of the SUBSIDIARY never included "an Esterline Company" and it changed the corporation changed its name several times (in October 1983 from "Excellon Industries" to "Excellon Industries, Inc.," again in April 1991, to "Excellon Automation Co." and then for a final time, in August 2003, to "EA Technologies Corporation"). *See* November 17, 2020 Letter, Table at page 2 and Exhibit 26.

[3] The Certificate of Dissolution is also included in the complete set of California Secretary of State records for the SUBSIDIARY, attached to the November 17, 2020 Letter as Exhibit 26.

H.1b

subsidiary responsible for the subsidiary's actions. *See e.g.*, *Potlatch Corp. v. Superior Court*, 154 Cal. App. 3d 1144, 1151 (1984) (citations omitted) ("When a corporation has been duly and lawfully dissolved, its shareholders are not liable for debts of the corporation…, nor is the rule changed on account of the fact that the shareholder happens to be another corporation, that is, that the dissolved corporation was a wholly owned subsidiary of another corporation."); *Sonora Diamond Corp. v. Superior Court*, 83 Cal.App.4th 523, 539 (2000) (parent company not liable for subsidiary's obligations because it funded subsidiary's operations in the absence of a showing that the parent acted fraudulently); *Armenta ex rel. City of Burbank v. Mueller Co.*, 142 Cal.App.4th 636, 652-653 (2006), *as mod*. (noting that liability of parent and grandparent entities cannot be based on the mere fact of the parent-subsidiary relationship, citing *United States v. Bestfoods* 524 U.S. 51, 61–62 (1998).[4] The State Water Resources Control Board itself has recognized that a regional board needs "more than solely a parent-subsidiary corporate relationship" to create "discharger" liability on the part of a parent company. *In the Matter of the Petitions of Aluminum Company of America* (Order No. WQ 93-09, July 22, 1993).

H.1c

The DCAO's conclusion that the "2003 asset purchase indicates that Excellon Acquisitions, LLC [sic][5] and Esterline retained liabilities related to actions or conditions in connection with the operation of the business including environmental health and safety liabilities" is based on a misreading of the APA's provisions.

The APA involved the sale of substantially all of the SUBSIDIARY's assets and the assumption by the buyer of specific liabilities related to the SUBSIDIARY's business. The SUBSIDIARY – not ESTERLINE– was the "Seller" under APA. There were three parties to that agreement: Excellon Acquisition, LLC (identified as the "Buyer," a third-party entity unrelated to either ESTERLINE or the SUBSIDIARY), ESTERLINE and the SUBSIDIARY, then known as Excellon Automation Co. (identified as the "Seller"). *See* November 17, 2020 Letter, Exhibit 19 (redacted portions of the APA).

ESTERLINE was a party to the APA because, as the SUBSIDARY's sole shareholder, its consent to the sale of substantially all of the SUBSIDIARY's assets was necessary. Cal. Corp. Code § 1001 (a transaction outside the usual and regular course of business of a corporation that disposes of all or substantially all of the corporation's assets must be approved by the outstanding shares). The first page of the APA also defines the "Business" being acquired by the Buyer as the SUBSIDIARY's business; another redacted page from the APA refers to the Buyer's acquisition of the rights to the name of the SUBSIDIARY.

Pursuant to the terms of the APA, the Buyer did not assume pre-closing liabilities of the SUBSIDIARY's business. To that end, the APA contained a provision titled "Excluded

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[4] The above California case law is applicable to liability determinations under environmental statutes, including water quality statutes. *See Atlantic Richfield Co. v. Central Valley Regional Water Quality Control Board*, 41 Cal.App.5th 91, 99 (2019), *as mod*.

[5] The DCAO refers to "Excellon Acquisitions, LLC", apparently in error, as Excellon Acquisitions, LLC was the "Buyer" in the 2003 Transaction. The Board may have intended to refer to "Excellon Automation Co." (the SUBSIDIARY).

Liabilities," quoted below, which simply provided that the Buyer was not assuming any such pre-closing liabilities:

> Buyer shall not assume and shall not be liable or responsible for …all liabilities or other obligations that relate to injuries, actions, omissions, conditions or events that exists on or prior to the Closing Date in connection with the Business, including, without limitation, (i) Environmental, Health and Safety Liabilities

H.1c

See November 17, 2020 Letter, Exhibit 19 at pdf pages 5-6. The quoted provision simply confirms that the Buyer is not assuming any pre-closing liabilities; it is not premised on any determination that any such "excluded" liabilities in fact existed or if they did, whether they rested with the SUBSIDIARY or with ESTERLINE.

In short, the fact that environmental liabilities were not expressly assumed by the "Buyer" does not mean that any of those excluded liabilities of the SUBSIDIARY were ever assumed by or would now rest with ESTERLINE. This provision of the 2003 APA does not change the result that under settled law, ESTERLINE is not responsible for the SUBSIDIARY's liabilities. *See Sunoco, Inc., v. Central Valley Regional Water Quality Control Board*, Case No. 34-2016-80002282 (Cal. Sup. Ct. 2016) (ordering regional board to set aside its finding that parent corporation was properly named as a "Discharger" in a cleanup and abatement order ("CAO"), where the weight of the evidence in the record was "insufficient to sustain the Board's finding" of express or implied assumption of liabilities) (attached as Exhibit A).

II. ESTERLINE CANNOT BE NAMED IN THE DCAO IN ITS CAPACITY AS A FORMER SHAREDHOLDER OF THE SUBSIDIARY.

The DCAO does not identify ESTERLINE as being liable as the shareholder of the now-dissolved SUBSIDIARY, nor could it seek to hold ESTERLINE liable on that basis.

The SUBSIDIARY was dissolved in 2010. Under California law, a shareholder of a dissolved corporation can be pursued for a period of four years following the corporation's dissolution. Cal. Corp. Code § 2011(a)(2)(B) ("all causes of action against a shareholder of a dissolved corporation…are extinguished unless the claimant commences a proceeding to enforce the cause of action against that shareholder of a dissolved corporation prior to…[f]our years after the effective date of the dissolution of the corporation."). Therefore, the Board's ability to pursue ESTERLINE as a shareholder of the SUBSIDIARY expired as a matter of law in 2014.

H.2

Notwithstanding and in addition to the foregoing, even if the Board's claims against ESTERLINE as a shareholder of the SUBSIDIARY were not time-barred, ESTERLINE's liability as a shareholder of the SUBSIDIARY would be limited to the "total amount of assets of the dissolved corporation distributed to the shareholder upon dissolution of the corporation." Cal. Corp. Code Section 2011(a)(1).

III. THE FINDINGS IN THE DCAO DO NOT TIE THE SUBSIDARY TO ANY USE OF PCE OR TCE.

The findings in the DCAO do not even attempt to tie the SUBSIDIARY to use or discharge of the "primary" COCs at the Site – PCE and TCE. The only finding in the DCAO related to the SUSIDIARY's use of volatile organic compounds ("VOCs") is that the SUBSIDIARY had degreasers that used 1,1,1 TCA and trifluorotrifluoroethane. DCAO at Site History, paragraph 3.b.i.3.[6]

H.3

The DCAO's finding is consistent with South Coast Air Quality Management District ("SCAQMD") records related to the SUBSIDIARY's operations at Property 1. *See* October 9, 2020 Letter, Exhibit 9 (SCAQMD Permit M20352 dated January 18, 1982, Permit M58630 dated September 3, 1987 and Application, Permit D12210 dated November 28, 1989).[7] As described in the SCAQMD records, these degreasers were small in size – no more than 15 inches wide and 23 inches deep.[8] Evidence of the SUBSIDIARY's use of 1,1,1 TCA only (and no reference to PCE or TCE) is indicated by other SCAQMD records and the U.S. Environmental Protection Agency Envirofacts, Toxic Release Inventory Report.[9]

The DCAO's only additional finding about the SUBSIDIARY's chemical use is that "Excellon also generated alkaline and solvent mixtures, waste oil mixtures, polychlorinated biphenyl waste, and other organic waste mixtures." DCAO at Site History, paragraph 3.b.i.3. No explanation is provided as to how these identified chemicals relate to the contamination associated with the Site.

IV. THE DCAO MAKES NO FINDINGS SPECIFIC TO ANY DISCHARGE BY THE SUBSIDIARY.

H.1a

Even if ESTERLINE could be named in the DCAO, the DCAO does not contain any findings sufficient to establish "discharges" associated with the SUBSIDIARY's operations. That causal link is a necessary one: "Prior to issuing a cleanup or abatement order, a regional board must establish a causal link or connection between a named responsible person and an

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[6] No reference is made to the time period of such use or to the volume of the referenced chemicals that were purportedly used by the SUBSIDIARY.

[7] As noted in the October 9, 2020 Letter, these records were among those obtained via a public records request to the SQAQMD.

[8] The specific dimensions, as stated in the permits, were:

- one foot, three inches in width, one foot, five inches in length and two feet, three inches in height (Permit M20352),
- one foot, two inches in width, one foot, eleven inches in length and three feet, four inches in height (Permit M58630), and
- one foot in width, one foot, four inches in length and three feet, nine inches in height (Permit D12210).

[9] https://enviro.epa.gov/enviro/tris_control_v2.tris_print?pPrev=1&tris_id=90509XCLLN24751

actual or threatened *discharge of waste*." (*emphasis in original*). *San Diego Gas & Electric v. San Diego Regional Water Quality Control Board,* 36 Cal.App.5th 427, 440 (2019).

H.1a

The DCAO's only specific findings as to discharges on Property 1 relate to detections of TCE and PCE. DCAO at Summary of Findings from Investigations, paragraph 5. Since the SUBSIDARY has no connection to or potential responsibility for TCE and PCE (*see* Section III, above), those findings do not support the issuance of the DCAO to ESTERLINE.

Finally, the DCAO seeks to support its findings by relying on general statements about experience with unspecified industries that use, store and transfer chemicals:

> "[d]ecades of Regional Board staff experience with industries that use, store and transfer chemicals such as petroleum products and solvents (e.g., total petroleum hydrocarbons, VOCs, etc.), provide evidence that small amounts of spilled chemicals discharge during routine operations, seep through concrete and other intended containment, leading to the type of contamination found at the Site."

DCAO at Discharger Liability, paragraph 18. It then goes on to note that the Board "is currently overseeing numerous cleanup operations resulting from improper and inadequate handling of hazardous materials" and that "[s]tandard chemical handling practices often unknowingly allow adverse environmental impacts, like the ones observed at the Site, to occur." *Id*.

H.4

Such broad, general and unsubstantiated conclusions do not represent evidence of the kind Order No. 92-49 requires support the Board's determinations. If the Board intends to rely on such "evidence" to support the issuance of the DCAO to ESTERLINE, it must explain what specific "experience" it is relying upon and how that experience supports the issuance of the DCAO to ESTERLINE. Many industries in widely differing businesses "use, store and transfer" chemicals and the nature of those operations have changed over time. In light of that, the Board needs to identify:

- What time period is being referenced (as obviously operations in the 1950s were far different from those during later periods, during which chemical use and disposal activities were regulated and subject to significant oversight)?
- Whether this "experience" relates to an industry with operations comparable to those of the SUBSIDIARY, which, unlike those of others, were not aerospace-related?
- What specific aspects of the operations are comparable to those of the SUBSIDIARY, to evaluate the applicability of the Board's conclusions about spills and the nature of "routine operations"?
- What evidence has the Board identified for concluding that the referenced practices occurred as part of the SUBSIDIARY's operations?

In short, without demonstrating through specific and detailed findings how this "experience" applies to the SUBSIDIARY's operations, these statements cannot be relied upon as a basis for naming ESTERLINE in the DCAO.

V. EVEN IF IT COULD NAME ESTERLINE IN THE DCAO, ISSUING THE DCAO TO ESTERLINE NOW WOULD BE PREMATURE AND CONTRARY TO THE REQUIREMENTS OF STATE BOARD ORDER NO. 92-49.

A. The Board should follow the process and approach mandated by State Board Order No. 92-49 in identifying dischargers in addition to HSC.

The DCAO acknowledges the requirements for adoption of a CAO contained in State Board Order No. 92-49 (California Water Boards Site Cleanup Program Resolution No. 92-49 – Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304) ("Order No. 92-49"). DCAO at Authority – Legal Requirements, paragraph 11. The DCAO, however, does not reflect application of the underlying principles of Order No. 92-49, as it relates to ESTERLINE.

H.5a

The principles underlying Order No. 92-49 include (1) the need for a phased approach to facilitate adequate delineation and the nature of pollution, on a "step by step" and cost-effective basis and on a reasonable schedule ; and (2) consideration of site-specific characteristics. Order No. 92-49, Items 5.b to d, 15 and 20. The underlying premise of Order No. 92-49 is that conducting a phased and well-planned investigation, based on data and scientific processes, will be more effective in delineating the nature and extent of the contamination. As a corollary, the failure to engage in a properly planned investigation will increase overall costs and could ultimately impede the process of addressing the contamination. *Id.* at Item 14.

Order No. 92-49 also provides that the Board should make a "reasonable effort to identify dischargers," but that it is not necessary to identify all dischargers before proceeding to issue an initial CAO. *Id.* at Item II.B. It also contemplates the later addition of additional dischargers once the necessary investigation to make such a determination has been completed. *Id.* at Item II.A.4. There is no compelling reason to rush the process of identifying dischargers in addition to HSC, since HSC is a party to pending federal court litigation[10] in which it is pursing claims against Esterline and others for the recovery of its costs.

B. The Board should wait for additional data to be collected with regard to Property 1 and require HSC to provide the Board with an updated Site Conceptual Model ("SCM") before deciding whether to issue a CAO to ESTERLINE.

H.5b

There is no basis or need to issue a CAO to ESTERLINE now, and any decision in that regard should wait until the investigative process is complete. As to Property 1, that means that

[10] *City of Torrance v. Hi-Shear Corporation, etc., et al*, United States District Court for the Central District of California Case No. 2:17-cv-07732-DSF-JSR). In this litigation, HSC is pursuing claims against ESTERLINE and 60 other parties to recover its costs related to the Site. Its ability to pursue such claims in the litigation undercuts any need for the Board to prematurely proceed now to issue a CAO to ESTERLINE or to others.

the Board should wait until pending data collection activities are completed and HSC has updated the 2010 SCM to provide a framework for the Board to evaluate all of the data.

As an initial matter, the Board has an ample record to use as the basis for requiring HSC to conduct the additional investigative work and remedial activities described in the DCAO. In fact, HSC is already separately obligated to perform much of that work (*e.g.,* to update the SCM, perform site assessment activities and conduct groundwater monitoring). In addition, there is significant record before the Board – not all of it described in the DCAO - of HSC's long period of operations (since the 1950s), the scope of its use and discharge of TCE, PCE and other constituent of concern, and the migration of discharges from its property to downgradient properties, such as Property 1. With respect to the magnitude of HSC historical releases, the DCAO acknowledges that HSC, via a vapor extraction system on its property, has to-date removed more than 100,000 pounds of TCE and PCE. DCAO at Evidence of Waste Discharge and Basis for Section 13304 Order, paragraph 4.c.iii. It also provides that "[w]astes generated as part of [HSC's] activities contained COCs, including TCE and PCE, perchlorate, 1.[sic]4-dioxane, metals, and total petroleum hydrocarbons." DCAO at Site History, paragraph 3.a.

In contrast, the SUBSIDIARY's operations were much smaller in scale (it designed and fabricated precision micro-machining equipment) and were only from 1979 to mid-2003, and while it used small degreasers (approximately one foot by one foot by three feet high) that were permitted by the SCAQMD, did not use TCE or PCE.

H.5b

HSC has repeatedly raised with the Board the issue of whether there are other potential contributors to the contamination at the Site. At least before it decided to issue the Section 13267 orders, the Board was consistently skeptical of the evidence presented by HSC (in 2012 and again in 2016), and raised the need for an updated version of the SCM in order to be able to evaluate such claims, given that the last version of the SCM was prepared in 2010.

In an August 28, 2018 letter, the Board notified HSC that it could not, based on the information presented, conclude that there were sources on Property 1 that had contributed to the soil and groundwater contamination. It then ordered HSC to gather additional data and submit an updated SCM as a basis for evaluating such contributions, which was the basis of the work plan that the Board approved by the Board in January 2019.

As to Property 1, the issue was whether the presence of PCE and TCE in soil, soil vapor and groundwater beneath Property 1 was associated with on-site sources (surface discharges associated with activities on Property 1) or were attributable to contamination migrating beneath Property 1 from the upgradient HSC property to the west or from the property to the south, which had been the location of a Nike Missile base, whose operations have been identified by HSC as having likely used VOCs and may be a sources of perchlorate, a component of rocket fuel that has been detected in groundwater monitoring at Property 1 and elsewhere.[11]

Two years later, the work required under that January 2019 work plan remains incomplete in key respects applicable to evaluating potential sources on Property 1. There have been repeated requests by HSC for extensions that have been granted by the Board, and

[11] HSC has sued the United States with respect to the Nike Missile operations in the pending federal court lawsuit.

significant elements of the work remains pending. A table identifying the status of relevant submissions (and the associated extensions) is attached as Exhibit B.

Whatever the reason or justification for the delay, the necessary work has still not been completed and the slow pace of completing the work should not serve as justification to prematurely move from an investigation to issuing a CAO. In addition, some key work is scheduled to take place this month – the sampling on City of Torrance property related to the former Nike Missile base. Additional data collection is also expected to take place over the next several months on Property 1 to address "data gaps" identified in work plans submitted by ESTERLINE and Magellan in August 2020 under one of the Section 13267 orders to determine if there are shallow soil impacts associated with discharges from operations on Property 1. Since the DCAO was issued, the Board has provided comments on those work plans (including identifying data that is to be collected) and has set a deadline of March 19, 2021 for submission of a report detailing the results of the additional sampling.

H.5b

The key need, once this additional data is collected, is that it and other data collected be evaluated in the context of an updated SCM. Under the January 2019 work plan, HSC was to submit an updated SCM by April 1, 2019. The Board subsequently granted three separate requests by HSC to extend that deadline, most recently to November 20, 2020. In a November 13, 2020 letter, HSC requested a fourth extension of the deadline (to March 12, 2021), noting that the SCM was at that point still "in the initial stages." An updated SCM prepared by HSC that the other parties have an opportunity to review and comment would be a critical next step in the process.

It would be premature and inconsistent with the process set forth in Order No. 92-49 for the Board to proceed with the issuance of the DCAO until the steps above are completed.

VI. THE BOARD LACKS THE AUTHORITY TO NAME ESTERLINE IN A CAO MERELY BECAUSE ITS SUBSIDIARY MAY HAVE OPERATED AT A SITE UNDER WHICH A GROUNDWATER PLUME HAS MIGRATED.

The DCAO cites *Tesoro Refining & Marketing Company v. Los Angeles Regional Water Quality Control Board* 42 Cal.App.5th 453 (2019) (DCAO at Discharger Liability, footnote to paragraph 16), in a manner that suggests that the Board may view it as standing for the proposition that a former operator is responsible for cleanup of contamination present in groundwater beneath the site of its former operations. ESTERLINE disputes any such interpretation of the scope of the Board's authority under Water Code § 13304 or of applicable law.

Tesoro Refining construed a party's responsibility for a "discharge" to encompass not only the initial release but the subsequent migration of that release. *Id.* at 473-475. It does not stand for the proposition that a party occupying a property beneath which that subsequent migration occurs is liable to remediate the release. In short, nothing in *Tesoro Refining* changes the requirement that any CAO must rest on substantial evidence that establishes a nexus between a named party and the discharge. Another recent Court of Appeal opinion, *United Artists Theater Circuit v. San Francisco Regional Water Quality Control Board*, 42 Cal.App.5th 851 (2019), rejected the San Francisco Regional Water Quality Control Board's argument that a prior

H.6

H.6 owner should be strictly liable under the statute for contamination which is later found beneath a property. *Id.* at p. 871-872. The court rejected this argument and held "[s]uch a construction of section 13304 would impose liability almost as broad as that imposed in section 13305 on a current property owner..." *Id*. at p. 887.

VII. EVEN IF ESTERLINE COULD BE NAMED IN THE DCAO, ITS LIABILITY MUST BE APPORTIONED AND LIMITED TO ADDRESSING ANY ENVIRONMENTAL HARM ASSOCIATED WITH THE SUBSIDIARY'S ACTIVITIES.

The DCAO is apparently intended to impose joint and several liability on those named in it.[12] It would do in the face of clear disparities in the nature and scope of individual party's contribution to the conditions addressed by the DCAO, particularly relative to that of HSC. It also would mean that ESTERLINE, which the DCAO does not identify as responsible for discharges of TCE or PCE, would be required to take on responsibility for investigating and remediating contamination that is primarily, if not entirely, the result of discharges by others of those chemicals.

These circumstances require that the Board, before it issues the DCAO, adopt findings to appropriately apportion responsibility for the harm addressed by the DCAO. The Board has the authority to do so. Water Code § 13304(a)'s language reflects that discharger liability is based on common law nuisance principles:

> Any person . . . who has caused or permitted . . .any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, **a condition of pollution or nuisance**, shall upon order of the regional board, cleanup **of the waste or abate the effects of the waste**. . . . (emphasis added).

H.7

By its terms, this requires that individual discharger liability be established in a manner that applies common law tort principles (which include apportionment, as provided in Restatement (Second) of Torts §§ 433A, 481). The application of such common law principles to a CAO has been recognized in cases interpreting the scope of Water Code § 13304. *See United Artists Theatre Circuit, Inc. v. California Reg'l Water Quality Control Bd.,* 42 Cal.App.5th 851, 877-878 (2019*), as modified; City of Modesto Redevelop. Agency v. The Sup. Ct. of San Francisco County,* 119 Cal.App.4th 28, 38 (2004). It has also been applied under CERCLA, where the United States Supreme Court decided that "apportionment is proper when 'there is a reasonable basis for determining the contribution of each cause to a single harm'") (citing Restatement (Second) of Torts § 433A(1)(b)) in *Burlington No. & Santa Fe Ry. Co. et al., v. United States,* 556 U.S. 599 (2009). The reasonable basis for apportionment in that case was based on "percentages of land area, time of ownership, and types of hazardous products."

[12] Certain of the investigative activities are property-specific (but impose joint and several liability between and among those parties tied the property), but the remaining obligations aare imposed on the parties as whole.

The failure of a regional board to consider whether there is a reasonable basis for the division of liability between the alleged "dischargers" is grounds to set aside a CAO. *See Sunoco* (holding that the "Board erred by refusing to consider whether the environmental harm at issue in this case is subject to apportionment"), *citing City of Modesto* at 36-38 and *City of Lodi v. Randtron,* 118 Cal.App.4th 337, 357 (2004).

H.7

Here, before issuing the DCAO, the Board should make an initial determination as to whether there is a basis for apportionment and permit the parties to brief and make submission on the appropriate basis on which to apportion responsibility associated with the DCAO. The fact that the Board has not identified ESTERLINE as having used TCE and PCE provides perhaps the most simple, straightforward and fair basis for apportionment, using one of the factors identified in *Burlington Northern*.

Applying apportionment here would also be consistent with other well-established policies and principles that the United States Environmental Protection Agency follows to insulate owners/operators of contaminated properties from liability for contamination caused by others.[13]

VIII. THE COSTS ASSOCIATED WITH THE INVESTIGATIVE REPORTS REQUIRED BY THE DCAO DO NOT BEAR ANY REASONABLE RELATIONSHIP TO THE NEED FOR THEM AND THE BENEFITS TO BE OBTAINED FROM THEM.

H.8

The DCAO seeks to impose significant investigative obligations on the named parties that the Board estimates will cost $2 to $5 million to complete. DCAO at Discharger Liability, paragraph 20. Absent revisions to the DCAO to apportion liability, ESTERLINE would have joint and several liability for those costs, and the Board has not provided sufficient detail to determine how it reached that estimate or the estimated costs of specific reports (*e.g.* reports related to investigation of property-specific conditions or other activities).

[13] *See* 42 U.S.C. §9607(q) ("A person that owns real property that is contiguous to or otherwise similarly situated with respect to, and that is or may be contaminated by a release or threatened release of a hazardous substance from, real property that is not owned by that person shall not be considered to be an owner or operator of a vessel or facility…by reason of the contamination if….(i) the person did not cause, contribute, or consent to the release or threatened release…"); US EPA Memorandum dated May 24, 1995 regarding "*Final Policy Toward Owners of Property Containing Contaminated Aquifers,*" Section I., Statement of Policy, attached as Exhibit 2 ("where hazardous substances have come to be located on or in a property solely as the result of subsurface migration in an aquifer from a source or sources outside the property, EPA will not take enforcement action against the owner of such property…"); US EPA Memorandum dated January 13, 2004 regarding "*Interim Enforcement Direction Guidance Regarding Contiguous Property Owners,*" Section II.A., Contiguous Property Owner Criteria, attached as Exhibit 3 ("exclud[ing] from the definition of 'owner' or 'operator' under CERCLA § 107(a)(1) and (2) a person who owns property that is 'contiguous to or otherwise similarly situated with respect to, and that is or may be contaminated by a release or threat of release of hazardous substances from' property owned by someone else.").

H.8

Water Code §§13267(b) and 13225 (c) require a showing that such costs "bear a reasonable relationship to the **need for the report** and the **benefits to be obtained therefrom**." (emphasis added). Neither of these elements is satisfied as to ESTERLINE.

First, any liability on the part of ESTERLINE (if the Board names it in the DCAO despite the legal impediment to its doing so), must be limited to its apportioned share, for the reasons addressed above. Therefore, as to ESTERLINE, there is no "need" for such reports, except as they relate to its apportioned share.

Second, substantial portions of the investigative work required by the DCAO is already the subject of separate Board orders or is otherwise being performed by HSC. As to that work, there is no current "need" for these reports. Nor would there be a benefit in requiring ESTERLINE and others to fund such duplicative work.

EXHIBIT A

FILED
ENDORSED
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GDSSC COURTHOUSE
SUPERIOR COURT
OF CALIFORNIA
SACRAMENTO COUNTY

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BY FAX

SUPERIOR COURT OF CALIFORNIA

IN AND FOR THE COUNTY OF SACRAMENTO

SUNOCO, INC., a Delaware corporation,

Petitioner

v.

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD, a California State Agency,

Respondent;

JACK AND CAROLYN WESSMAN, as individuals; THE BRADLEY MINING CO., a defunct company; THE U.S. DEPARTMENT OF INTERIOR, a United States Federal Agency; MT. DIABLO QUICKSILVER CO., LTD., a defunct company, and the CALIFORNIA DEPARTMENT OF PARKS AND RECREATION, a California State Agency.

Real Parties In Interest.

Case No.: 34-2016-80002282

NOTICE OF ENTRY OF FINAL JUDGMENT AND ORDER DIRECTING ISSUANCE OF PEREMPTORY WRIT OF ADMINISTRATIVE MANDAMUS AND PEREMPTORY WRIT OF ADMINISTRATIVE MANDAMUS

Hearing: Sept. 9, 2016
Time: 9:00 a.m.
Dep't: 29
Hearing judge: Hon. Timothy M. Frawley
Action filed: Jan. 29, 2016

TO ALL PARTIES AND THEIR ATTORNEYS OF RECORD:

PLEASE TAKE NOTICE that the Court entered a Final Judgment and Order Directing Issuance of Peremptory Writ of Administrative Mandamus ("Final Judgment") on October 25, 2016. A true and correct filed-endorsed copy of the Final Judgment is attached hereto as Exhibit 1.

PLEASE TAKE FURTHER NOTICE that Deputy Clerk, Frank Temmerman, signed the Peremptory Writ of Administrative Mandamus ("Writ") ordered by the Final Judgment on October 25, 2016. A true and correct copy of the Writ is attached as Exhibit 2.

This notice of entry is being served on November 2, 2016.

DATED: November 2, 2016

EDGCOMB LAW GROUP, LLP

By: _____

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FILED
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OCT 25 2016
By FRANK TEMMERMAN
Deputy Clerk

SUPERIOR COURT OF CALIFORNIA

IN AND FOR THE COUNTY OF SACRAMENTO

SUNOCO, INC., a Delaware corporation,

Petitioner

v.

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD, a California State Agency,

Respondent;

JACK AND CAROLYN WESSMAN, as individuals; THE BRADLEY MINING CO., a defunct company; THE U.S. DEPARTMENT OF INTERIOR, a United States Federal Agency; MT. DIABLO QUICKSILVER CO., LTD., a defunct company, and the CALIFORNIA DEPARTMENT OF PARKS AND RECREATION, a California State Agency.

Real Parties In Interest.

Case No.: 34-2016-80002282

[PROPOSED] FINAL JUDGMENT AND ORDER DIRECTING ISSUANCE OF PEREMPTORY WRIT OF ADMINISTRATIVE MANDAMUS

Hearing: Sept. 9, 2016
Time: 9:00 a.m.
Dep't: 29
Hearing judge: Hon. Timothy M. Frawley
Action filed: Jan. 29, 2016

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This Petition for Administrative Mandamus was heard on September 9, 2016, before the Honorable Timothy M. Frawley, California Superior Court Judge, upon the Verified Petition of Petitioner Sunoco, Inc. ("Sunoco"), seeking a peremptory writ of administrative mandate directing Respondent Central Valley Regional Water Quality Control Board ("Board") to set aside its Cleanup and Abatement Order No. R5-2014-0124 ("CAO") as it pertains to Sunoco. The CAO orders six "Dischargers", including Sunoco, to clean up and abate the hazardous waste discharges from the inactive Mount Diablo Mercury Mine site ("Mt. Diablo site") in Contra Costa County.

Adam Baas, from the Edgcomb Law Group, LLP, appeared for Sunoco. Colleen Flannery and Gwynne Hunter, from the California Department of Justice, appeared for the Board. The Court having heard oral argument, and having reviewed the pleadings, administrative record ("Record") and briefing by the parties, entered its final Ruling on Submitted Matter on September 22, 2016 ("Ruling"). A copy of the Court's Ruling is attached hereto and incorporated by reference as **Exhibit A**.

Pursuant to the Court's Ruling, IT IS ORDERED that:

1. Without considering the argument to be determined on remand set forth below, the weight of the evidence in the Record is insufficient to sustain the Board's finding that Sunoco expressly or impliedly assumed all liabilities of Cordero Mining Company of Nevada ("Cordero").
2. A peremptory writ of mandate shall be issued by this Court commanding the Board to set aside its finding that Sunoco is properly named as a "Discharger" in the CAO based on the *Myers Industries* case documents, and Sunoco's cleanup efforts at the Mount Diablo site or the site involved in the *Myers Industries* case.
3. The Board's findings are not adequate to ascertain whether the Board's decision to name Sunoco as a Discharger in the CAO was based on the recital language in the 1973 Unanimous Written Consent of Cordero's Directors ("Consent"). The Court cannot

uphold a decision based on a theory that was not submitted to the trier of fact. In this case, the recital language in the Consent was not argued by the Prosecution Team at the administrative hearing and there is no evidence that the Board relied on this argument to support its finding that Sunoco was properly named as a "Discharger" in the CAO. An interlocutory remand shall be issued by this Court, remanding this matter to the Board for further determination on the argument, based on the recital language in the Consent, that Sunoco voluntarily assumed all known debts and liabilities of Cordero to facilitate Cordero's dissolution in 1975, and that such known debts and liabilities included the contamination at issue in the CAO. On remand, the Board may reopen the hearing to consider additional evidence related to the meaning of the recital language in the Consent.

4. The Board erred by refusing to consider whether the environmental harm at issue in this case is subject to apportionment.
5. A peremptory writ of mandate shall be issued by this Court commanding the Board on remand, if the Board finds that Sunoco is properly named as a "Discharger" in the CAO based on the recital language in the Consent, to consider and make findings on Sunoco's argument that there is a reasonable basis for apportionment.
6. The writ shall require the Board to make and file a Return with this Court within six months setting forth what the Board has done to comply with the writ.
7. Sunoco shall be entitled to recover its costs upon appropriate application to the Court.
8. This Court shall retain jurisdiction over this matter on remand.

DATE: 10/25/16

Timothy M. Frawley

HON. TIMOTHY M. FRAWLEY
California Superior Court Judge
County of Sacramento

EXHIBIT A

SUPERIOR COURT OF CALIFORNIA

COUNTY OF SACRAMENTO

SUNOCO, INC. **v.** **CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD**	Case Number: 34-2016-80002282 **RULING ON SUBMITTED MATTER** Date: September 9, 2016 Time: 9:00 a.m. Dept.: 29 Judge: Timothy M. Frawley

Proceeding: Petition for Writ of Mandate

Tentative Ruling: Granted in Part

Petitioner Sunoco, Inc. seeks a peremptory writ of administrative mandate directing Respondent Central Valley Regional Water Quality Control Board to set aside its Cleanup and Abatement Order No. R5-2014-0124 ("CAO") as it pertains to Sunoco. The court shall grant the petition in part, and remand this matter to the Board for further hearing.

Background Facts and Procedure

History of the Mine

The CAO relates to the Mount Diablo Mercury Mine, an inactive mercury mine located on the northeast slope of Mount Diablo in Contra Costa County. Mercury mining began at the site in 1863 and the mine operated intermittently until 1877. The mine then closed for over fifty years. In 1930, Mt. Diablo Quicksilver, Ltd. reopened the mine and operated it for six years, until 1936, producing an estimated 799 flasks (or 56,000 lbs.) of mercury.

R4-2021-00799 RTC 0656

From 1936 to 1947, Bradley Mining Company leased the site from Quicksilver and operated the mine, producing around 10,000 flasks (760,000 lbs.) of mercury, and generating about 91,000 tons of mine tailings.

From 1951 through 1954, Ronnie B. Smith and partners (the "Smith Partnership") leased the mine from Quicksilver and produced approximately 125 flasks of mercury by surface (open pit) mining methods.

During the Korean War, the Defense Minerals Exploration Administration (DMEA), a federal government agency in the U.S. Department of the Interior, contracted with private parties to operate the mine site under cost-sharing agreements. In 1953, the DMEA contracted with the Smith Partnership to explore for deep mercury ore. In 1954, John L. Jonas and John E. Johnson assumed the DMEA contract, producing 21 flasks of mercury.

From 1954 to 1956, the Cordero Mining Company of Nevada ("Cordero") leased the site from Quicksilver and conducted underground exploration activities at the mine site. Cordero's work included sinking a mine shaft, driving underground tunnels that connected new areas to pre-existing mine workings, and discharging mine waste. There is no record of any processing of mercury ore, or production of mercury flasks, during this time period.

In December of 1955, Cordero indefinitely suspended its exploration activities. The site remained idle until March of 1956, when Cordero's lease with Quicksilver was transferred to Nevada Scheelite, Inc., which began dewatering the site and conducted some prospecting activities. The amount of production for this period is uncertain.

Victoria Resources Corp. purchased the mine site in 1960 and owned it until 1969. The Guadalupe Mining Company owned the mine site from 1969 to 1974. The extent of operations and the amount of mercury produced during this period is unknown.

Jack and Carolyn Wessman purchased the site in 1974. The Wessmans have not conducted any mining operations at the site. The mine is currently inactive.

Based on available records, the most productive period for the mine is believed to have been the period from 1936 and 1950. Recorded mercury production for the mine exceeds 836,000 pounds. Mining activities have generated over 124,000 cubic yards of waste.

The site currently consists of an exposed open cut and various inaccessible underground shafts, adits, and drifts. Extensive mine waste rock (from extractive operations) and mine tailings (from processing mineral resources) cover the hill slope below the open cut. A portion of the mine tailings is located on land that is part of the Mount Diablo State Park.

Several springs and seeps discharge from the mine waste rock piles. The water discharged from the mine waste contains elevated levels of mercury and other metals. Three surface impoundments (ponds) at the base of the mine waste rock piles capture spring flow and surface runoff. However, the impoundments periodically overflow, discharging contaminants into Horse and Dunn Creeks, tributaries to March Creek, which drains to the San Joaquin River.

Both Dunn Creek and March Creek have been identified by the Board as "impaired water bodies" due to their high concentrations of mercury and other metals.

Clean Up Efforts

The Board may order a person who has caused or permitted waste to be discharged into waters of the state, or who has created a condition of pollution or nuisance, to clean up the waste or abate the effects of the waste. California Water Code section 13304 provides, in relevant part:

> A person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall, upon order of the regional board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts. (Wat. Code § 13304(a).)

On April 16, 2013, the Board issued Cleanup and Abatement Order No. RE-2013-0701, ordering seven "dischargers" to clean up and abate the hazardous waste discharges from the mine site. The seven dischargers named in the Order included the Wessmans, Bradley Mining, the U.S. Department of the Interior, Quicksilver, Kennametal, the California Department of Parks and Recreation, and Petitioner Sunoco. The Order did

not name the Smith Partnership, Jonas and Johnson, Victoria Resources, Guadalupe Mining, Cordero, or Nevada Scheelite.

Although Sunoco never leased, owned, or operated the mine site, the Board named Sunoco as a "discharger" based on its "corporate relationship" to Cordero. Likewise, the Board named Kennametal as a discharger based on its relationship to Nevada Scheelite.

Sunoco filed a Petition for Review and Rescission of the Order with the State Board, contending that Sunoco, as the former shareholder of a dissolved corporation, cannot be held responsible for Cordero's alleged discharges. Sunoco also argued that because Cordero is, at most, responsible for less than 5% of the mine waste, Cordero should not be held "jointly and severally" liable for the remediation costs.

On August 8, 2013, the Regional Board notified Sunoco that it would schedule a hearing to reconsider the Order. After a series of postponements, the Board held a hearing on August 7, 2014, to reconsider the Order. In advance of the hearing, the Prosecution Team argued that Sunoco and Kennametal should be held jointly and severally liable for remediation costs at the mine site because Sunoco's acquisition of Cordero resulted in a "de facto merger." The Prosecution Team also argued that Sunoco may be held liable based on an alter ego theory of shareholder liability.

At the hearing, the Prosecution Team recommended dropping the action against Kennametal and withdrawing the alter ego argument against Sunoco. (See AR, Item No. 21.) However, the Prosecution Team indicated it was prepared to move forward against Sunoco based on arguments that (1) there was a "*de facto* merger" between Sunoco and Cordero, and that (2) Sunoco expressly or impliedly assumed all of Cordero's (known and unknown) liabilities. The hearing was continued in order to allow supplemental evidence and/or briefing on the issue of whether Sunoco expressly or impliedly assumed liability for Cordero, and to allow the parties an opportunity to comment on the Prosecution Team's proposed removal of Kennametal from the CAO. (See AR, Item No. 6.)

At the October 10, 2014, hearing, the Prosecution Team presented evidence on whether Sunoco expressly or impliedly assumed Cordero's liabilities. The Prosecution Team's evidence included a verified answer, responses to interrogatories, correspondence, and a settlement agreement from a 1994 federal court action relating to the cleanup of the New Almaden Mine in Santa Clara County (the "Myers Industries Case"). The Prosecution Team argued that the documents – particularly the interrogatory responses -- show Sunoco "expressly assumed" liability for Cordero's

mining activities. The Prosecution Team also argued that Sunoco's conduct since the time of its admissions in the Myers Industries Case demonstrates an express or implied agreement to assume responsibility for Cordero's liabilities.

Ultimately, the Board found "insufficient" evidence of a *de facto* merger, but the Board found the evidence established that Sunoco "expressly or impliedly assumed" Cordero's liabilities.[1] The Board rejected Sunoco's request to apportion liability, concluding that Sunoco could be held "jointly and severally liable" for the remediation costs. The Board issued its CAO directing the named dischargers, including Sunoco, to investigate and cleanup the mine site by December 31, 2016. This petition followed.

Sunoco argues that the Board abused its discretion by finding that Sunoco is Cordero's "corporate successor" because it "expressly or impliedly assumed" Cordero's liabilities. Sunoco contends the evidence in the record shows that what transpired in 1972 (through 1975) was a routine dissolution and liquidation of a subsidiary corporation. Sunoco contends there is no evidence that Sunoco expressly or impliedly assumed all of Cordero's liabilities as part of that transaction. Rather, it contends, Sunoco assumed only those liabilities that had to be assumed under Nevada law to effectuate the dissolution, namely, responsibility for the Cordero Retirement and Stock Purchase Plans.

Sunoco argues the "admissions" made by it in relation to the Myers Industries Case were made in error, due to confusion because of another "Cordero Mining Company" incorporated in Delaware for the purpose of mining coal. Sunoco argues the statements also are irrelevant because they were made in unrelated litigation, nearly twenty years after Cordero was dissolved and liquidated.

Sunoco contends its mistaken "admission" of liability in unrelated litigation does not explain or excuse the absence of evidence of an agreement for Sunoco to assume Cordero's liabilities. Sunoco contends that to comply with the Statute of Frauds, any agreement to assume Cordero's liabilities was required to be in writing. Sunoco contends it is undisputed that no written agreement exists. Thus, the Board's finding of an implied agreement must fail.

Finally, even if Sunoco could be held responsible for Cordero's mining activities, Sunoco contends that common law principles of joint and several liability require the Board to apportion liability where, as here, there is a reasonable basis to allocate

[1] It is assumed that the Board applied a "preponderance of the evidence" standard, but the court notes that the Prosecution Team's initial brief suggested – erroneously – that a deferential "substantial evidence" standard governs the Regional Board's "review" of the CAO.

responsibility for the harm. Whether the Board applies a chronologic, geographic, or volumetric analysis, Sunoco contends that Cordero caused, at most, no more than 5% of the environmental harm, and therefore Sunoco should be responsible for no more than 5% of the cleanup.

The Board concedes that Cordero dissolved under Nevada law in 1975 via a "liquidation agreement." However, the Board contends that Sunoco expressly agreed, as part of that liquidation agreement, to assume "all existing liabilities" of Cordero.

The Board argues that the verified interrogatories and other documents from the Myers Industries Case further demonstrate that Sunoco expressly assumed Cordero's liabilities, including Cordero's liabilities for environmental harm. The Board contends that it reasonably rejected Sunoco's "self-serving argument" that the admissions in the Myers Industries Case were "mistakes" made by confused outside counsel. The Board argues that because there are "multiple writings" evidencing Sunoco's agreement to assume Cordero's liabilities, the agreement survives the Statute of Frauds.

Even if the court finds no express assumption of liability, the Board contends that "substantial evidence" shows that Sunoco impliedly assumed liability by cooperating with authorities in the Myers Industries case and at the Mount Diablo site.

The Board also argues that the law governing environmental cleanups supports the Board's decision to impose joint and several liability. The complicated nature of the operations at the site, and the commingled pollution, make it extremely difficult, if not impossible, to determine the relative contribution of each discharger. Thus, the Board acted within its discretion in refusing to divide responsibility based on the individual dischargers' respective contributions to the harm.

Standard of Review

Review of this case is governed by Code of Civil Procedure section 1094.5. (See Wat. Code § 13330.) The inquiry in a case under Civil Procedure Code section 1094.5 shall extend to questions whether the respondent has proceeded without, or in excess of jurisdiction; whether there was a fair trial; and whether there was any prejudicial abuse of discretion. Abuse of discretion is established if the agency has not proceeded in the manner required by law, the order or decision is not supported by the findings, or the findings are not supported by the evidence. (Civ. Proc. Code § 1094.5(b).)

California Water Code section 13330(d) specifies that this court must exercise its independent judgment on the evidence to determine if the Board abused its discretion

under section 1094.5(c). (Wat. Code § 13330(d).) Thus, in reviewing the sufficiency of the evidence, abuse of discretion is established if the findings of the Board are not supported by the weight of the evidence.

Discussion

As described above, Water Code section 13304 authorizes the Board to issue a cleanup order to any person who has caused or permitted waste to be discharged into waters of the state, or who has created a condition of pollution or nuisance. (Wat. Code § 13304.) A person subject to liability under this provision is commonly referred to as a "discharger."

In general, the scope of liability imposed by Water Code section 13304 has been interpreted broadly. Liability under section 13304 does not hinge on whether the defendant directly discharged the waste, or on whether the defendant owned or controlled the site of the discharge. Not only is the party who maintains a nuisance liable, but also the party or parties who created or assisted in its creation. (*City of Modesto Redevelopment Agency v. Superior Court* (2004) 119 Cal.App.4th 28, 37-38.)

In this case, it is undisputed that Sunoco never leased, owned, or operated the mine site, and never discharged waste at the site. For this reason, the Board does not seek to hold Sunoco liable as a direct discharger under the Water Code. The Board also does not seek to hold Sunoco liable as an indirect discharger based on its status as Cordero's parent corporation (sole shareholder),[2] or as Cordero's *alter ego*.[3] Rather, the Board seeks to hold Sunoco liable for Cordero's mining activities based on rules of corporate successor liability.

The rules of corporate successor liability generally apply to mergers, asset purchases, and stock acquisitions. For background purposes, the court shall briefly discuss these three types of transactions.

A merger occurs when two or more corporations combine into one.[4] The corporation into which another corporation or corporations are absorbed and which continues to exist is defined as the "surviving corporation." Merger is a statutory procedure, prescribed in detail by the Corporation Law. (See Corp. Code § 1100.) The procedure

[2] The Board makes no attempt to trace and claw-back the assets distributed to Sunoco as Cordero's sole shareholder as part of the dissolution.
[3] Parent corporations or shareholders generally are not liable for a subsidiary corporation's acts, but they may be held liable if circumstances justify "piercing the corporate veil."
[4] A consolidation is a form of merger that occurs when two or more corporations merge to form a new corporation.

for a merger requires the board of directors of each corporation that desires to merge to approve an agreement of merger. In general, the shareholders also must approve the merger by a required percentage of votes. (See 2-12 Ballantine and Sterling California Corporation Laws §§ 252 & 258 (2015).)

A merger terminates the separate existence of the disappearing corporation(s). The surviving corporation succeeds to all the assets, rights, and property of the constituent corporation(s). The surviving corporation also is subject, without the requirement of an assumption agreement, to all of the debts and liabilities of the constituent corporations, including the known and unknown liabilities of the disappearing corporations, in the same manner as if the surviving corporation itself had incurred them. (*Ibid*; see also Corp. Code § 1107.)

In a stock acquisition, all or part of the stock of a corporation is acquired by another corporation, usually in exchange for cash or equity securities of the acquiring entity. In some cases, the acquiring entity will purchase all of the outstanding equity securities of the other corporation, making it a wholly-owned subsidiary. Sometimes, the acquiring entity will purchase only enough equity securities to produce control.[5] (See 2-12 Ballantine and Sterling California Corporation Laws §§ 252, 262; see also Corp. Code § 181.)

The "buyer" in a stock acquisition acquires the stock of the "seller" corporation, but the seller corporation remains a separate legal entity. Thus, the buyer corporation does not assume or become liable for the liabilities of the seller. The seller remains subject to all of its liabilities, both known and unknown.

In an asset acquisition, the buyer purchases all or part of the seller's assets pursuant to a contract between the buyer and seller. If a corporation proposes to sell all or substantially all of its assets, the terms of the sale must be approved by its board of directors and (usually) the shareholders. (Corp. Code § 1001.) If the buyer is in control of, or under common control with, the seller corporation, the principal terms of the sale generally must be approved by at least 90% of the voting power of the seller. (*Ibid*; see also 2-12 Ballantine and Sterling California Corporation Laws §§ 252, 257.)

In a typical sale of assets, the seller remains in existence, at least for a time, after the transaction. The shareholders of the selling corporation continue to own its stock. The seller may continue in existence as a going concern by holding or reinvesting the proceeds of the disposition of its assets. Alternatively, and more commonly, the seller

[5] If the acquiring entity does not purchase enough equity securities to obtain control, the transaction is not a corporate "acquisition."

will wind up its affairs and distribute its remaining property to its shareholders. (See 2-12 Ballantine and Sterling California Corporation Laws § 252.)

Under traditional common law, the buyer in an asset acquisition acquires only the seller's assets, not its liabilities. However, there are exceptions to this common law rule. A purchasing corporation may be held liable, as a successor, for the liabilities of the selling corporation where:

- The purchasing corporation expressly or impliedly agrees to assume the obligations of the seller.
- The transaction amounts to a *de facto* merger (or consolidation).
- The purchasing corporation is a "mere continuation" of the seller corporation.
- The transaction is fraudulently entered into to escape liability for debts. (*Ray v. Alad Corp.* (1977) 19 Cal.3d 22, 28; *Marks v. Minnesota Mining & Mfg. Co.* (1986) 187 Cal.App.3d 1429, 1436; *Maloney v. American Pharmaceutical Co.* (1988) 207 Cal.App.3d 282, 287; see also 1-3 Ballantine and Sterling California Corporation Laws § 54.)

In addition to these four traditional exceptions, some courts have recognized a public policy exception in strict product liability cases. (*Ibid*; see also Rocky Mt. Min. L. Inst. 9-1 1994 (2015).)

Sunoco argues that it cannot be held liable under a theory of "corporate successor liability" because there is no evidence in the record of a merger or asset transfer agreement between Sunoco and Cordero. According to Sunoco, there is no evidence that what transpired was anything other than a routine liquidation of Cordero. Sunoco is correct.

The weight of the evidence in the record shows that in 1972, pursuant to an Agreement and Plan of Liquidation, Cordero agreed to liquidate by selling or otherwise liquidating the company's assets, paying (or making provisions for) the company's debts, and distributing any remaining property to its sole shareholder, Sunoco.

A voluntary dissolution of a corporation may only be accomplished under the conditions described in the relevant state law, which, in this case, is Nevada law. (See *Greb v. Diamond International Corporation* (2013) 56 Cal.4th 243, 272.) Under Nevada law, when a voluntary dissolution is commenced, the corporation must cease to carry on its

business, except for the purpose of winding up and settling the corporation's affairs. (Nev. Rev. Stat. Ann. §§ 78.580, 78.585, 78.590.) The directors of the dissolving corporation become trustees with the responsibility to pay (or provide for) all known debts and liabilities of the corporation. If there is any balance remaining after all known debts and liabilities have been paid or adequately provided for, the remaining corporate assets are distributed to the shareholders.[6] (Nev. Rev. Stat. Ann. § 78.610; cf. Cal. Corp. § 1905.)

When a corporation has been duly and lawfully dissolved, its shareholders are not "successors" liable for the dissolved corporation's debts. (See *Potlatch Corp. v. Superior Court* (1984) 154 Cal.App.3d 1144, 1151.) That rule does not change merely because the shareholder happens to be another corporation. (*Ibid.*)

Here, Sunoco received Cordero's remaining net assets, but it did so as a matter of law by virtue of its status as the sole shareholder of Cordero. There is no evidence that Sunoco "purchased" Cordero's assets to continue the business of mining mercury as Cordero's "successor." Sunoco did not continue Cordero's mercury mining operations after dissolution. Thus, the evidence in the record is insufficient to hold Sunoco liable based on a theory of corporate successor liability.

However, this is not the end of the analysis because Sunoco nevertheless could have agreed, as a shareholder, to assume Cordero's liabilities. When a corporation is being dissolved, before any distributions can be made to the shareholders, the directors must determine that all known debts and liabilities of the corporation have been paid or adequately provided for. Most debts and liabilities are paid as part of the dissolution process, but some (usually long-term) debts and liabilities are not paid and are instead "provided for" either by assumption or guaranty, or by setting aside sufficient assets to pay the obligations when they come due. (See, e.g., Cal. Corp. Code § 2005.)

The payment of a debt or liability is deemed to be adequately "provided for" if payment has been assumed by a financially responsible person, including a shareholder. (*Ibid.*) Thus, while the parent of a dissolved corporation generally is not responsible for its liabilities, nothing prevents a parent from voluntarily assuming the subsidiary's liabilities as part of the dissolution process. The factual question presented in this case is whether Sunoco, as Cordero's parent and sole shareholder, voluntarily assumed Cordero's liabilities to facilitate the dissolution.

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[6] Once the corporation's assets have been properly distributed to its shareholders, the law severely restricts claims against those assets. (Nev. Rev. Stat. Ann. § 78.585.) A stockholder of a dissolved corporation is not liable for claims against the corporation in excess of the amount distributed to such stockholder. (Nev. Rev. Stat. Ann. § 78.597.)

The Board argues that Sunoco expressly or impliedly assumed all liabilities, including any contingent environmental liability, arising from Cordero's mining activities. In support of its argument, the Board relies on the following evidence:

- Cordero's Liquidation Agreement, in which (the Board contends) Sunoco "expressly agreed" to assume "all existing liabilities" of Cordero.

- The verified interrogatories[7] and other documents from the Myers Industries Case, in which Sunoco admitted that it is responsible for the liabilities of "Cordero Mining Company."

- Sunoco's cooperation with prior governmental efforts related to the Mount Diablo mine site.

Sunoco objects to the Board's reliance on the Liquidation Agreement, contending that this argument was not raised by the Prosecution Team at the administrative hearing and is contrary to the Prosecution Team's admissions that Sunoco only accepted "some liabilities" in the form of responsibility for the Retirement and Stock Purchase Plans and that Sunoco would not have agreed to assume unnecessary liability. (See AR, Item. No. 21 (at pp.4, 5, 8); Transcript of Oct. 10, 2014 Hearing, at p.127 [MTD 2854].) For these reasons, Sunoco contends the Board's "new argument" should be disregarded.

Even if the Liquidation Agreement is considered, Sunoco contends the Board is misrepresenting what it says. The language on which the Board relies is contained in a recital to the Unanimous Written Consent of Cordero's directors relating to Sunoco's assumption of liability for the Retirement and Stock Purchase Plans. The Consent states, in relevant part:

> WHEREAS, This Company was liquidated into Sun Oil Company (Delaware) effective December 31, 1972, pursuant to an Agreement and Plan of Liquidation between the Companies, dated December 31, 1972, and
>
> WHEREAS, Sun Oil Company (Delaware) pursuant to [the Agreement and Plan of Liquidation dated December 31, 1972] assumed all existing liabilities of this Company, now therefore be it

[7] The interrogatories are not in the administrative record, but excerpts of the interrogatories are included in the record and were considered by the court.

RESOLVED, That all responsibility for the administration of this Company's qualified Retirement and Stock Purchase Plans are transferred to Sun Oil Company (Delaware) together with all assets and liabilities relating to such Plans.

Based on the plain language of the Liquidation Agreement, Sunoco argues, it is clear that Sunoco did not accept all of Cordero's existing liabilities.[8] (See AR, Item. No. 78 [MTD2204-05].) The Agreement provides only for the payment of the "Corporation's debts and taxes," and does not state that Sunoco assumed "all existing liabilities" of Cordero. The recital language is not part of the Liquidation Agreement and cannot change its terms. According to Sunoco, the recital language merely reflects Sunoco's agreement to assume the liabilities associated with the qualified Retirement and Stock Purchase Plans.

The court agrees with Sunoco that, for purposes of this proceeding, the recital language should not be considered because it is unclear whether the Board relied on the recital language in finding that Sunoco expressly or impliedly assumed the liabilities of Cordero. The only evidence explicitly relied upon by the Board in its Order is the interrogatories. As a result, the Board's findings are not adequate to ascertain whether the Board's finding was based, in part, on the recital language. (See *Topanga Assoc. for Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515-17.) Where, as here, an agency's findings are not adequate, the appropriate remedy is to remand the matter so that proper findings can be made. (*See, e.g., Glendale Mem'l Hosp. & Health Ctr. v. State Dep't of Mental Health* (2001) 91 Cal.App.4th 129, 139-40.)

The case for remand is especially strong here because, as Sunoco has shown, the argument based on the recital language was (i) not raised by the Prosecution Team at the administrative hearing, and (ii) is inconsistent with the factual allegations made by the Prosecution Team at the administrative hearing. (See AR, Item. No. 21 (at pp.4, 5, 8); Transcript of Oct. 10, 2014 Hearing, at p.127 [MTD 2854].) The Prosecution Team did not take discovery or brief the meaning of the language suggesting that Sunoco

[8] Sunoco also argues that the phrase "existing liabilities" clearly does not include "unknown" environmental liabilities. However, under California law, environmental liability generally "exists" when the act occurs. (See *City of Colton v. Am. Promotional Events, Inc.* (C.D.Cal. 2010) 2010 U.S. Dist. LEXIS 138831, at p.37; *Hunt v. Ward* (1893) 99 Cal. 612, 615 [34 P. 335].) In any event, there is an abundance of evidence in the record suggesting that the possibility of environmental liability was known or should have been known during the time that Cordero conducted its mining activities. (See AR, Item No. 14 [Exhs. 7, 8, 10], Item No. 15 [Exh. 16], and Item Nos. 117, 119, 122, 125, 126, 127.) For example, according to a 1990 staff report, a public hearing was held in 1953 at which it was determined that wastes discharged from the mine constituted a "nuisance," requiring corrective action. (AR, Item No. 15 [Exh. 16].)

assumed "all existing liabilities" of Cordero. It is unsurprising therefore that Sunoco failed to address that issue at the hearing.

The court cannot uphold a decision based on a theory that was not submitted to the trier of fact. In this case, the recital language was not argued to the Board and there is no evidence in the record that the Board relied on it. Thus, the court agrees with Sunoco that, for purposes of this proceeding, the recital language should not be considered. The Board's finding of an express or implied assumption of liability must stand or fall based on the other evidence in the record, namely the Myers Industries Case documents and Sunoco's cleanup efforts at the Mount Diablo site.

In regard to the Myers Industries Case documents, the court agrees with Sunoco that the documents are not sufficient to establish Sunoco agreed to assume Cordero's liabilities. First, it should be obvious that the documents do not, in and of themselves, constitute an enforceable "agreement" between Sunoco and Cordero. There could be no agreement between Sunoco and Cordero because, by 1994, Cordero did not exist, having been dissolved nearly twenty years earlier.

The "admissions" made by Sunoco in the Myers Industries Case documents are, as they appear to be, unilateral statements by Sunoco in the course of unrelated litigation. The question is not whether the admissions constitute an "agreement" – as the Prosecution Team seemed to insinuate at the hearing – but whether the admissions prove (alone or in conjunction with the other evidence) that there was a prior oral agreement between Sunoco and Cordero for Sunoco to assume Cordero's contingent environmental liabilities.[9]

The Board may argue that the admissions are evidence of an understanding by Sunoco that it would be liable for Cordero's environmental liabilities. However, Sunoco presented evidence explaining that the "admissions" in the Myers Industries Case were a mistake, based on confusion regarding two similarly named companies, namely Cordero Mining Company of Nevada, which mined mercury, and Cordero Mining Company of Delaware, which mined coal.

The evidence in the record supports Sunoco's explanation. The evidence shows that in the same year that Cordero of Nevada dissolved, in 1975, Sunoco formed a separate "Cordero Mining Company" in Delaware for the purpose of mining coal ("Delaware Cordero I"). In 1983, Delaware Cordero I merged with another Sunoco subsidiary, Sunedco Coal Company, and Delaware Cordero I dissolved as a corporate entity.

[9] There is no evidence of a written agreement by Sunoco to assume Cordero's liabilities.

Years later, Sunedco took the name Cordero Mining Co. ("Delaware Cordero II") and continued operating in the coal mining business.[10]

In 1993, Sunoco sold the "Cordero Mining Co." (aka Delaware Cordero II) to Kennecott Corp, which was owned by Rio Tinto Limited. (AR, Item Nos. 86, 87, 88, 92B.)

The evidence also shows that in 1988, as part of a corporate restructuring, Sunoco's Board decided to distribute ("spin-off") to its shareholders all of the outstanding shares of Sun Exploration and Production Company. (Shortly after the spin-off, Sun Exploration and Production Company changed its name to Oryx Energy Company. [AR, Item No. 77, Exh. 14.]) The spin-off transaction was memorialized in a 1988 Distribution Agreement. (AR, Item No. 89.) As part of the spin-off, Sunoco's predecessor agreed to remain responsible for the "Sun Business Liabilities," which are defined to include the then-active "Cordero Mining Co." which was a subsidiary to Sunedco Coal Co. (aka, Delaware Cordero II) and the defunct "Cordero Mining Co. (DE)" (aka, Delaware Cordero I).

In connection with the Myers Industries Case, it appears that counsel looked to the Distribution Agreement and concluded that Sunoco had assumed liabilities related to the "Cordero Mining Co.," overlooking the fact that the Distribution Agreement actually refers only to the two Cordero Mining Companies that were incorporated in Delaware, and does not refer to the Cordero Mining Company that was incorporated (and dissolved) in Nevada. The obvious conclusion is that counsel confused the Distribution Agreement's reference to "Cordero Mining Co. (DE)" as a reference to (Nevada) Cordero, rather than Delaware Cordero I.

This is reflected in Sunoco's response to Interrogatory No. 2, which states that "[Cordero Mining Company] was subsequently spun-off to the shareholders of [Sunoco] on November 1, 1988." Cordero of Nevada was not involved in any spin-off; Delaware Cordero I, the coal company, was involved in the spin-off. (See AR, Item. No. 149 [MTD 3773].)

Sunoco's error was reasonable. Indeed, the Board made a similar error in 2009 when it issued a Cleanup and Abatement Order to Rio Tinto, alleging that (Nevada) Cordero was Rio Tinto's predecessor, having been purchased by Kennecott in 1993. As shown above, the Cordero Mining Co. purchased by Kennecott was a Delaware company, and it mined coal, not mercury. (AR, Item No. 84.) Rio Tinto notified the Board of the error. (*Ibid.*)

[10] The court takes judicial notice that there is or was a "Cordero" coal mine in Wyoming.

Sunoco has persuasively shown that the admissions made in the 1994 Myers Industries Case – a separate action involving a separate mine site in California – were the result of an unfortunate mistake, and not evidence of an oral agreement by Sunoco to assume Cordero's environmental liabilities. The correspondence and pleadings mistakenly refer to Cordero Mining Company of Delaware, a coal company, not Cordero of Nevada, the mercury mining company.

The other evidence relied on by the Prosecution Team – Sunoco's cleanup efforts at the Mount Diablo site – also does not support a finding of an express or implied agreement to assume Cordero's liabilities. Indeed, it is disturbing that the Board would seek to hold Sunoco's cooperation with the Board and the EPA against it, especially when Sunoco was responding to "emergency" conditions requiring "immediate" action. In any event, the evidence shows that Sunoco's cooperation was subject to an express reservation of rights. Sunoco stated that its silence should not be taken as an "assent to or admission of" the Board's factual and legal assertions. The court has little difficulty concluding that Sunoco's cleanup efforts cannot and should not be used as proof of an agreement by Sunoco to assume Cordero's liabilities.

With regard to the issue of apportionment, Sunoco argues that even if there were evidence that it assumed Cordero's liabilities, the Board abused its discretion by failing to conduct an apportionment analysis. The Board's position is that it is not required to consider apportionment because the Porter-Cologne Act imposes strict environmental liability. The court agrees with Sunoco that the Board should have considered apportionment, but the court does not decide whether apportionment was (or is) required in this case.

Courts have held that Water Code section 13304, defining who is a "responsible person," must be construed in light of the common law principles of public nuisance. (*City of Modesto Redevelopment Agency v. Superior Court* (2004) 119 Cal.App.4th 28, 36-38; see also *City of Lodi v. Randtron* (2004) 118 Cal.App.4th 337, 357.)

Under the common law applicable to nuisance cases, the starting point for divisibility of harm is section 433A of the Restatement (Second) of Torts. (*Burlington Northern & Santa Fe Ry. v. United States* (2009) 556 U.S. 599, 614.) Under the Restatement, where two or more persons cause a single and indivisible harm, each is subject to liability for the entire harm. But when two or more persons acting independently cause a distinct harm, or a single harm for which there is a reasonable basis for division according to the contribution of each, each is subject to liability only for the portion of the total harm that he has himself caused. (*Ibid*; see also 9 Witkin, Summary of California Law, Torts §§ 50, 67; Restatement (Second) of Torts, §§ 875, 881.) Thus,

apportionment is proper when "there is a reasonable basis for determining the contribution of each cause to a single harm." (*Burlington Northern & Santa Fe Ry.*, 556 U.S. at p.614; see also *California Orange Co. v. Riverside Portland Cement Co.* (1920) 50 Cal.App. 522, 525.)

The Board argues that *Burlington Northern* is distinguishable because it is a CERCLA case, and not decided under the Porter-Cologne Act, which imposes strict liability. However, this argument falls flat because CERCLA too is a "strict liability" statute. (*Standun, Inc. v. Fireman's Fund Ins. Co.* (1998) 62 Cal.App.4th 882, 890.) Thus, there is no material distinction between Porter-Cologne and CERCLA for purposes of the apportionment rule.

It is true that not all harms are capable of apportionment. Where two or more persons cause a single and indivisible harm, each is subject to liability for the entire harm. A defendant seeking to avoid joint and several liability bears the burden of proving that a reasonable basis for apportionment exists.

The problem in this case is that the Board seemingly refused to consider whether the environmental harm at issue in this case is subject to apportionment.[11] At minimum, the Board failed to make any findings on that issue. The court agrees with Sunoco that this was an abuse of discretion and, on remand, if the Board ultimately finds Sunoco to be a responsible person, the Board is directed to consider and determine whether the environmental harm at issue is capable of apportionment and, if so, to determine how much of the harm should be apportioned to Sunoco.

Disposition

Without considering the issue raised by the recital language, the court concludes that the weight of the evidence in the record is insufficient to sustain the Board's finding that Sunoco expressly or impliedly assumed all of Cordero's liabilities.[12]

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[11] At the hearing, the Board's advisory counsel informed the Board that it could undertake an apportionment analysis, but, for reasons that are not clear, the Board apparently decided not to do so. Before this court, the Board has attempted to show that apportionment is not possible, but the court believes this issue should be decided in the first instance by the Board, not by the court, as it is a mixed question of fact and law. For example, Sunoco contends that the evidence in the record shows that 88% of the mine's mercury pollution is "directly traceable" to certain "exposed mine tailings." If true, and if Sunoco can show that Cordero was not responsible for any of the pollution from the exposed mine tailings, then it theoretically would be unreasonable to hold Sunoco responsible for more than 12% of the pollution.

[12] Having concluded that there is insufficient evidence in the record to find that an oral agreement existed, it is unnecessary for the court to decide whether such an agreement would be void under the statute of frauds.

The court shall issue a peremptory writ of mandate commanding the Board to set aside its finding to the extent it is based on the Myers Industries Case documents and Sunoco's cleanup efforts at the Mount Diablo site. The court shall remand this matter to the Board for further hearing regarding the argument based on the language of the recital in the Consent. (See *Voices of the Wetlands v. State Water Resources Control Bd.* (2011) 52 Cal.4th 499, 534-535.) On remand, the Board may reopen the hearing to consider additional evidence related to the meaning of that language. On remand, if the Board finds that Sunoco is a responsible person, the Board also shall consider and make findings on Sunoco's argument that there is a reasonable basis for apportionment.

The writ shall require the Board to make and file a Return within six months setting forth what the Board has done to comply with the writ.

Counsel for Sunoco is directed to prepare a formal judgment (incorporating this ruling as an exhibit) and writ; submit them to opposing counsel for approval as to form; and thereafter submit them to the court for signature and entry of judgment in accordance with Rule of Court 3.1312. Sunoco shall be entitled to recover its costs upon appropriate application.

Dated: September 22, 2016

Hon. Timothy M. Frawley
California Superior Court Judge
County of Sacramento

CASE NUMBER: 34-2016-80002282
DEPARTMENT: 29
CASE TITLE: SUNOCO, INC. vs. CVRWQCB/Wessman

CERTIFICATE OF SERVICE BY MAILING
(C.C.P. Sec. 1013a(4))

I, the undersigned deputy clerk of the Superior Court of California, County of Sacramento, do declare under penalty of perjury that I did this date place a copy of the above entitled RULING in envelopes addressed to each of the parties, or their counsel of record as stated below, with sufficient postage affixed thereto and deposited the same in the United States Post Office at Sacramento, California.

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Dated: September 22, 2016

By: F. Temmerman
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Attorneys for Petitioner
SUNOCO, INC.

SUPERIOR COURT OF CALIFORNIA

IN AND FOR THE COUNTY OF SACRAMENTO

SUNOCO, INC., a Delaware corporation,

Petitioner

v.

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD, a California State Agency,

Respondent;

JACK AND CAROLYN WESSMAN, as individuals; THE BRADLEY MINING CO., a defunct company; THE U.S. DEPARTMENT OF INTERIOR, a United States Federal Agency; MT. DIABLO QUICKSILVER CO., LTD., a defunct company, and the CALIFORNIA DEPARTMENT OF PARKS AND RECREATION, a California State Agency.

Real Parties In Interest.

Case No.: 34-2016-80002282

[PROPOSED] PEREMPTORY WRIT OF ADMINISTRATIVE MANDAMUS

Hearing: Sept. 9, 2016
Time: 9:00 a.m.
Dep't: 29
Hearing judge: Hon. Timothy M. Frawley
Action filed: Jan. 29, 2016

RECEIVED OCT 17 2016

The People of the State of California,

To the Central Valley Regional Water Quality Control Board ("Board"), respondent:

Good cause appearing from the verified petition for a writ of administrative mandamus on file in this proceeding,

YOU ARE HEREBY COMMANDED, by order of this Court made on 10/25/16, 2016, to:

1. Set aside Cleanup and Abatement Order No. R5-2014-0124 ("CAO") as it pertains to Sunoco, Inc. ("Sunoco"), which was named as a "Discharger" in that CAO based on a finding by the Board that Sunoco expressly or impliedly assumed the liabilities of Cordero Mining Company ("Cordero"), to the extent its finding was based on the *Myers Industries* Case documents, or Sunoco's cleanup efforts at the Mount Diablo site or the site involved in the *Myers Industries* case.
2. On remand, because the Board's findings are not adequate to ascertain whether the Board's finding that Sunoco was properly named as a Discharger in the CAO was based in part on the recital language in the 1973 Unanimous Written Consent of Cordero's Directors ("Consent") in the administrative record, the Board may conduct a further hearing regarding the argument, based on the recital language in the Consent, that Sunoco voluntarily assumed all known debts and liabilities of Cordero to facilitate Cordero's dissolution in 1975, and that such known debts and liabilities included the contamination at issue in the CAO. On remand, the Board may consider additional evidence related to the meaning of the recital language in the Consent.
3. On remand, if the Board finds that Sunoco is properly named as a "Discharger" in the CAO based on the recital language in the Consent, the Board shall consider and make findings on Sunoco's argument that there is a reasonable basis for apportionment.
4. File a Return within six months setting forth what the Board has done to comply with this writ.

DATE: 10/25/16

BY DEPUTY CLERK
FRANK TEMMERMAN

SUPERIOR COURT OF CALIFORNIA COUNTY OF SACRAMENTO

EXHIBIT B

Required Work Issued by the LARWQCB (Including Work Under January 2019 Approved Work Plan)	LARWQCB Original Due Date	Submittal Due Date Extension Request(s) by HSC – (DATE)[1]	Date of Document Submittal to LARWQCB[2]
Delineate the extent of VOC impacts to soil vapor and the vapor intrusion potential to the east of Crenshaw Boulevard (Module I)	March 4, 2019	(February 5, 2020) (March 13, 2020)	March 13, 2020 (12 mos. 1 wk.)
Collect additional data to evaluate current VOC and metal impacts to onsite soil and delineate the extent of these impacts. Delineate the VOC impacts to onsite soil vapor and migration of soil vapor both onsite and offsite (Module II)	May 19, 2019	(December 16, 2019) (February 24, 2020) (March 9, 2020)	March 16, 2020 (10 mos,)
Delineate the extent of VOC and metal impacts to soil and VOC impacts to soil vapor to the north, west, south of the Site and east of the Site to Crenshaw Boulevard (Module III) and addendum	August 9, 2019	(March 27, 2020) (May 9, 2020) (June 1, 2020) (July 3, 2020) _____ Addendum (August 3, 2020) (October 30, 2020) *(December 31, 2020)*	July 3, 2020 (11 mos.) - Addendum: TBD
Delineate the lateral extent of the perched groundwater layer and evaluate VOCs, metals, 1,4-dioxane, hexavalent chromium, and perchlorate impacts to perched groundwater (Module IV)	October 23, 2019	(May 29, 2020) (August 28, 2020) (October 30, 2020) *(August 2, 2021)*	TBD (21.5 mos. if submitted on date in last extension request)
Delineate the lateral and vertical extent of VOC, metals, 1,4-dioxane, hexavalent chromium (CrVI), and perchlorate impact to groundwater downgradient (east) of the Site (Module V) and addendum	December 25, 2019	(January 21, 2020) (March 22, 2020)	April 3, 2020 (3 mos.) - Addendum: June 15, 2020 (not determined)
Update – Soil, Soil Vapor, and Groundwater Delineation Report – Modules I through III	September 30, 2020	(October 30, 2020)	TBD (now 3+ mos)
Update to March 2010 Site Conceptual Model	April 1, 2019	(July 31, 2020) (September 25, 2020) (November 20, 2020) *(March 12, 2021)*	TBD (2 yrs. 11 mos. if submitted on date in last extension request)
Workplan To Conduct Flow and Transport Groundwater Modeling For The Onsite And Offsite Groundwater Contaminant Plumes	January 15, 2020	(May 15, 2020)	TBD (now 12 mos.)
On-Site Indoor Air Assessment Work Plan	March 31, 2020	Follow-up work due October 15, 2020 *(December 21, 2020)*	April 28, 2020 (1 mo.) Follow up Work – TBD (now 2 wks.)
Vapor Intrusion Response Plan and Evaluate Need for Action Zone (ENA) Plan	March 20, 2020	(July 30, 2020) *(Requested Extension ENA for after LARWQCB approves Decision Flow Charts)*	March 20, 2020 ENA Plan - TBD
Vapor Intrusion Response Plan Report	October 15, 2020	(November 30, 2020)	TBD (now 3 mos.)
On-Site Vapor Intrusion Assessment Work Plan	March 31, 2020	(April 30, 2020)	November 15, 2020 (7.5 mos.)
On-Site Vertical Groundwater Investigation Work Plan	April 1, 2020	(May 15, 2020)	May 22, 2020 (1.5 mo.)
Sub-Slab Depressurization System Work Plan	April 18, 2020	(June 1, 2020) (August 3, 2020) (September 4, 2020) *(November 13, 2020)* *(January 25, 2021)*	TBD (9 mos. if submitted by date in last extension request)
First Semi-Annual 2020 Groundwater Monitoring Report	July 31, 2020	(September 4, 2020) *(October 7, 2020)*	October 7, 2020 (2 mos.)
Additional Source Area Assessment	December 18, 2020	*(Requested Extension for date after meeting with RWQCB)*	TBD (now 1+ mo.)
Soil Vapor Extraction System Report	June 12, 2020	(August 14, 2020) (November 23, 2020) *(January 29, 2021)*	TBD (7.5 mos. if submitted by date in last extension request)

[1] Dates in italics represent pending requests or requests that were not acted on by the Board.
[2] Time period in parenthetical is from original due date unless otherwise noted.

Required Work Issued by the LARWQCB (Including Work Under January 2019 Approved Work Plan)	LARWQCB Original Due Date	Submittal Due Date Extension Request(s) by HSC – (DATE)[1]	Date of Document Submittal to LARWQCB[2]
Soil Vapor Extraction (SVE) System Expansion Work Plan	December 18, 2020	*(May 28, 2021)*	TBD (5 mos. if submitted by date of extension)
Technical Report on the Results of Vapor Extraction Wells and Radius of Influence Testing following Restart of the Onsite Vapor Extraction System	June 12, 2020	(November 23, 2020)	TBD (7 mos.)
On-Site Groundwater Investigation Report	January 4, 2021		TBD