

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER R2-2019-0031

ADOPTION OF SITE CLEANUP REQUIREMENTS for:

**CHAMPION LABORATORIES, INC.
MAXION WHEELS, A DIVISION OF IOCHPE-MAXION
CRANBROOK REALTY INVESTMENT FUND, LP
EOP-INDUSTRIAL PORTFOLIO, LLC**

For the property located at:

**4186 Park Road
Benicia, Solano County**

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter “Regional Water Board”), finds that:

1. **Site Location:** The site is located at 4186 Park Road (Figure 1) in Benicia (Site). The Site is northeast of the Carquinez Strait, approximately 250 feet northwest of interstate freeway 680, and approximately 1,400 feet from tidal marshland and the Southern Pacific railroad tracks. A ditch in these tidal marshlands flows to Goodyear Slough and then to Suisun Bay. The Site is approximately 4,000 feet from Suisun Bay.
2. **Site History:** The Site is located on a portion of the former U. S. Army Benicia Arsenal. The Site was converted to private commercial and industrial use after the Arsenal was closed in approximately 1964. The Arsenal was sold and sub-divided through four transactions between 1975 and 1979. The Site is also referred to as Assessor’s Parcel Number (APN) 080-070-050. The parcel is bounded to the north by Iowa Street, to the east by Stone Road, to the west by a railroad spur, and to the south by Park Road.

The Site was transferred to the Surplus Property Authority of the City of Benicia (a public corporation) during 1965 then to Benicia Industries in 1975. The property was transferred to Shareholder Properties, LTD, then to Benicia Properties in 1979. The Site was transferred to Spieker Properties, LP, in 1996. In connection with Spieker Properties, LP’s merger with EOP Operating Limited Partnership in 2001, the Site was transferred to SPK-Industrial Portfolio, LLC, and then to EOP-Industrial Portfolio, LLC, (EOP) shortly after trichloroethene (TCE) contamination was identified on the property. In 2017, EOP transferred the Site to the current owner, Cranbrook Realty Investment Fund, LP.

Between 1970 and 1983 the Site was occupied by E-T Industries (E-T). E-T manufactured aftermarket “mag” automobile wheels. E-T’s operations included a large conveyORIZED vapor degreaser, which utilized TCE as the degreaser solvent. The degreaser had a capacity of approximately 300 gallons of TCE, or more. Records show that E-T had a TCE recycling system, a drum storage area, a boiler, a storage tank, and an

oil-water separator, and that E-T implemented poor waste handling practices, including open containers of TCE and other solvents on the premises and releases of oily wastewater to the Benicia Wastewater Treatment Plant.

According to court documents, Filter Dynamics Incorporated (FDI) purchased E-T in approximately 1970 and in 1975 E-T merged into FDI and operated at the Site as a division of FDI. In 1980 the Kelsey Hayes Company acquired certain assets from FDI, including the Benicia E-T/FDI operations and the E-T trade name. E-T as a division of Kelsey-Hayes operated the manufacturing operations until 1983, which included the continued use of TCE and, later 1,1,1 trichloroethane (1,1, 1 TCA) as a degreaser.

FDI continued to exist as a corporation separate from the Benicia operations. FDI was acquired and merged with Champion Laboratories. In federal court filings, Champion Laboratories admitted that it is the successor corporation to FDI and E-T Industries in a product liability lawsuit for a mag wheel manufactured by E-T Industries in 1973.

Bryon Neal, of Maxion Wheels, verbally provided the following details of corporate successorship: Kelsey-Hayes was split from Fruehauf Corporation in 1989. In 1996, Kelsey-Hayes acquired Lemmerz and changed its name to Hayes-Lemmerz International, Inc. Hayes-Lemmerz International, Inc. was acquired by Maxion Wheels in 2012, which is now a division of Iochpe-Maxion.

3. **Named Dischargers:** Champion Laboratories is named as a discharger because it is a corporate successor to E-T and FDI and there is substantial evidence that they discharged waste to soil and groundwater at the Site.

Maxion Wheels, a division of IOCHPE-Maxion, is named as a discharger because it is a corporate successor to Kelsey-Hayes Company. E-T as a division of Kelsey-Hayes Company operated at the Site and there is substantial evidence that E-T discharged waste to soil and groundwater at the Site.

The Cranbrook Realty Investment Fund, LP, is named as a discharger because it is the current owner of the Site on which there is an ongoing discharge of waste, it has knowledge of the ongoing discharge, and has the legal ability to control the discharge.

EOP is named as a discharger because it owned the Site for more than fifteen years during which there was an ongoing discharge of waste, had knowledge of the discharge, and had the legal ability to prevent the discharge. During EOP's ownership, the contamination at the Site continued to migrate and discharge. EOP knew about the discharge from Site investigations. As the owner of contaminated property, EOP had the ability to prevent and control the discharge and did so in part by undertaking remedial measures. Since the primarily responsible parties are carrying out the cleanup and EOP did not in any way initiate or contribute to the initial discharge of waste, EOP is secondarily liable. It will be responsible for compliance with this Order only if the Regional Water Board or Executive Officer finds that other named dischargers have failed to comply.

The dischargers named above are collectively referred to as the Dischargers. Previous property owners are not named because there is insufficient evidence that they qualify as dischargers and most are either defunct or lacking contact information.

4. **Regulatory Status:** This Site is not currently subject to a Regional Water Board site cleanup order. The Regional Water Board has issued several Water Code section 13267 directives for past site investigation and interim cleanup work.
5. **Site Hydrogeology and Hydrology:** Site geology is primarily controlled by an unnamed fault running directly below the warehouse. The fault was interpreted to exist when exploratory borings encountered fractured bedrock, southwest of the warehouse and more than 100 feet of unconsolidated fine to coarse grained sediments to the northeast of the building. The fault has been interpreted to be oriented toward the northwest and dipping steeply to the northeast.

The unconsolidated sediments were interpreted to be stream channel deposits. The stream would have flowed toward the southeast toward Suisun Bay. The stream channel acts as a preferential pathway for groundwater and contaminant migration toward the southeast in the unconsolidated sediments. Hydrology in the fractured bedrock area is different. In the bedrock area contaminant distribution in groundwater is toward the southwest (Figure 2). Previous investigations indicated that there is an upward gradient in the unconsolidated sediments and a downward gradient in the bedrock area. Bay mud overlies the stream deposits 2,000 feet to the southwest in the general direction of the offsite groundwater plume. The stream deposits extend below and into the marsh portion of the Caltrans Mitigation Area (CMA). Previous investigations have shown that there is a downward gradient in the CMA. Groundwater beneath the Site and the offsite area flows eastward towards the wetlands and Suisun Bay. Depth to groundwater is about 20 feet beneath the Site and decreases to about 5 feet where the groundwater approaches the CMA. At the CMA, the depth to groundwater converges towards, and likely connects with, the bottom of wetlands.

6. **Remedial Investigations:** Remedial investigations were conducted at onsite and offsite locations. The April 1999 Kleinfelder report indicated that there was an onsite TCE groundwater plume. Subsequent investigations reported that the TCE plume extends into the CMA and within 1,700 feet of the Suisun Bay. Investigations completed between 2001 and 2002 indicated that groundwater southwest of the Site was contaminated with TCE, gasoline, diesel, toluene, ethylbenzene, xylenes, cis-1,2 dichloroethene, 1,1 dichloroethane, and 1,1,2 trichloroethane. The source of petroleum hydrocarbons is onsite. Since 2003, soil, soil vapor, groundwater and indoor air samples have not been analyzed for petroleum constituents.

The *Offsite Characterization Summary Report*, dated August 2008, included soil vapor characterization near offsite buildings. The soil vapor sample analysis results indicated that vinyl chloride concentrations were either below or slightly above screening levels. Soil vapor sampling was conducted onsite and offsite during 2018 indicated that the soil vapor plume including TCE and vinyl chloride has continued to persist. Soil vapor concentrations have rebounded onsite. The groundwater and soil vapor monitoring well network has inadequate sampling locations to verify that the plume is not migrating

below additional commercial buildings or to surface water. In some areas, estimates of the plume lateral extent are based on multiple one-time sampling events. The groundwater monitoring well network needs to be expanded at the following locations: between the Union Pacific Railroad (UPRR) tracks and Teal Court, between the UPRR tracks and the Tulloch property, in the southern portion of the CMA, and east of the railroad tracks in the wetland area at the distal edge of the plume. The soil vapor monitoring well network needs to be expanded to offsite areas where commercial buildings are located above the groundwater plume.

7. **Risk Assessment:** The Dischargers' human health and ecological health assessments dated July 2011 separately addressed both onsite and offsite conditions. These assessments indicated that risk and hazard indices were within the acceptable range for commercial buildings using guidelines established at that time.

These documents were approved prior to three recent regulatory developments. First, the U.S. EPA Integrated Risk Information System (IRIS) published new toxicity criteria for TCE in 2011 which included a new short-term exposure non-cancer toxicity endpoint. Second, U.S. EPA issued the 2015 Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air. The more stringent "safe exposure" levels and default attenuation factor indicate that the previous risk assessments underestimate the human health risk and hazard. Third, the current regulatory practice for the protection of a surface water or wetlands from discharges of contaminated groundwater is that the point of compliance is upgradient of the surface water or wetlands before the groundwater discharges to the surface water or wetlands. This change was instituted to better protect ecological receptors from contaminated groundwater.

In the following table, Water Board staff conducted a screening level evaluation of potential environmental concerns related to identified soil, soil gas, and groundwater impacts. TCE data were compared to Environmental Screening Levels (ESLs) compiled by Regional Water Board staff. The presence of chemicals at concentrations above the screening levels indicates that additional evaluation of potential threats to human health and the environment is warranted. Screening levels for groundwater address the following environmental concerns: 1) drinking water impacts (toxicity and taste and odor), 2) impacts to indoor air, and 3) migration and impacts to aquatic habitat. Screening levels for soil address: 1) direct exposure, 2) leaching to groundwater and 3) nuisance issues. Screening levels for soil gas address impacts to indoor air. Chemical-specific screening levels for other human health concerns (i.e., indoor air and direct exposure) are based on a target excess cancer risk of 1×10^{-6} for carcinogens and a target Hazard Quotient of 1 for noncarcinogens. Groundwater screening levels for the protection of aquatic habitats are based on promulgated surface water standards (or equivalent). Soil screening levels for potential leaching concerns are intended to prevent impacts to groundwater above target groundwater goals (e.g., drinking water standards). Soil screening levels for nuisance concerns are intended to address potential odor and other aesthetic issues.

Results of Screening Evaluation

Media / Constituent	Human health direct	Leaching to ground water	Indoor air	Aquatic life	Drinking water	Nuisance
Soil TCE:	blank	X	NA	NA	NA	blank
Soil Vapor TCE:	NA	NA	X	NA	NA	NA
Groundwater TCE:	NA	NA	X	X	X	blank

* Note: An "X" indicates that the ESL for that concern was exceeded. A blank cell indicates that the ESL for that concern is not exceeded. An "NA" indicates the concern is not affected by that media.

In 2019, the maximum onsite TCE groundwater concentrations is 13,000 µg/l and the maximum TCE groundwater concentration in wetlands near the distal edge of the plume is 4,800 µg/l. For comparison, the drinking water standard for TCE is 5 µg/l and the aquatic habit screening level is 200 µg/l. Benthic organisms in the wetlands need to be protected so they are not exposed to the high concentrations of TCE in groundwater. This screening level evaluation shows that additional remediation is needed to address environmental concerns.

8. **Remedial Measures:** Beginning in 2004, remedial measures were implemented onsite. These measures included soil vapor extraction (SVE) with air sparging in the unconsolidated sediment source area, high vacuum extraction (total fluids) in the bedrock source area, and in-situ chemical oxidation in both unconsolidated and bedrock source areas. To mitigate the potential vapor intrusion, the Dischargers sealed cracks in the onsite warehouse office floor and installed a sub-slab depressurization (SSD) system around the warehouse office area in 2009.

The remedial measures removed more than 7,340 pounds of chlorinated volatile organic compounds (CVOCs). The high vacuum extraction system operated between 2004 and 2006 and removed approximately 440 pounds of CVOCs. Seven chemical oxidation injection events occurred onsite between 2006 and 2012 that destroyed an estimated 900 pounds of CVOCs. The SVE system was operated between 2004 and 2013 removing an estimated 6,000 pounds of CVOCs.

In 2014 and 2015, respectively, the Dischargers submitted an onsite and an offsite *Feasibility Study/Remedial Action Plan* (FS/RAP) which were approved by the Regional Water Board. The Onsite FS/RAP proposed the use of SVE followed by in-situ chemical oxidation in the unconsolidated soils and proposed discontinuing remediation to perform a rebound test. Monitored natural attenuation was the selected remedial method in the onsite fractured bedrock area and the offsite areas. The Onsite FS/RAP proposed that the sub-slab depressurization system would not be operated unless soil vapor concentrations of TCE exceeded 42,646 micrograms per cubic meter (µg/m³). For comparison, the current TCE screening level for soil vapor intrusion at a commercial site is 100 µg/m³. The Onsite FS/RAP also proposed that no additional injections of sodium permanganate would be completed unless groundwater concentrations of TCE exceeded 10,285 µg/l. For comparison, the current TCE screening level for groundwater CVOCs vaporization to indoor air at a commercial site is 7.5 µg/l. To date, the current indoor air sampling events at the Site have not found TCE at concentrations above the commercial ESL. The Offsite

FS/RAP proposed monitored natural attenuation with the provision for reconsideration if groundwater concentrations of CVOCs increased.

In 2018 and 2019, the Dischargers implemented additional injections of sodium permanganate near the warehouse. The Dischargers also restarted the sub-slab depressurization system, despite the lack of detection of TCE concentrations in indoor air above the commercial ESL.

The remedial measures described above significantly reduced groundwater concentrations. However, in 2019, the maximum onsite TCE groundwater concentration is 13,000 µg/l and the maximum TCE groundwater concentration in wetlands near the distal edge of the plume is 4,800 µg/l.

Additional active remedial measures need to be implemented to reduce the threat to water quality, public health, and the environment posed by the discharge of waste. A revised feasibility study and remedial action plan is needed.

9. **Basis for Cleanup Levels**

- a. **General:** State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge. It requires maintenance of background levels of water quality unless a lesser water quality is consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses, and will not result in exceedance of applicable water quality objectives. This order and its requirements are consistent with Resolution No. 68-16.

State Water Board Resolution No. 92-49, "*Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*" applies to this discharge. It directs the Regional Water Boards to set cleanup levels equal to background water quality or the best water quality which is reasonable, if background water quality cannot be restored. The cleanup levels established in this order are consistent with the maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses of such water, and will not result in exceedance of applicable water quality objectives. This order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

- b. **Beneficial Uses:** *The Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was adopted by the Regional Water Board and approved by the State Water Resources Control Board, Office of Administrative Law and the U.S. EPA, where required.

Regional Water Board Resolution No. 89-39, "*Sources of Drinking Water*" defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally-high contaminant

levels. Groundwater underlying and adjacent to the Site qualifies as a potential source of drinking water. The bedrock area is reported to be a low yield area. The CMA is likely to have elevated salinity and electrical conductivity due to the proximity to Suisun Bay.

The Basin Plan designates the following potential beneficial uses of groundwater in the Suisun-Fairfield Valley Basin underlying and adjacent to the Site include:

- o Municipal and Domestic Supply (MUN)
- o Industrial Process Supply (PRO)
- o Industrial Service Supply (IND)
- o Agricultural Supply (AGR)

The existing and potential beneficial uses of surface water in the Goodyear Slough watershed include:

- o Commercial and Sport Fishing (COMM)
- o Estuarine Habitat (EST)
- o Fish Migration (MIGR)
- o Preservation of Rare and Endangered Species (RARE)
- o Wildlife habitat (WILD)
- o Water Contact Recreation (REC1)
- o Noncontact Water Recreation (REC2)

The existing and potential beneficial uses of water in the Suisun Marsh include:

- o Estuarine Habitat (EST)
- o Fish Migration (MIGR)
- o Preservation of Rare and Endangered Species (RARE)
- o Wildlife habitat (WILD)
- o Fish Spawning (SPWN)
- o Water Contact Recreation (REC1)
- o Noncontact Water Recreation (REC2)

- c. **Basis for Groundwater and Surface Water Cleanup Levels:** The groundwater and surface water cleanup levels for the Site and offsite areas are based on applicable water quality objectives that are protective of beneficial uses. Groundwater and surface water cleanup levels in the CMA are protective of aquatic ecological receptors (in freshwater and saltwater habitat). Groundwater cleanup levels for the area outside the CMA are the more stringent of the U.S. EPA and California drinking water maximum contaminant levels (MCLs) protective of human health (primary MCLs).
- d. **Basis for Soil Cleanup Levels:** The soil cleanup levels for the Site are intended to prevent leaching of contaminants to groundwater and will result in acceptable residual risk to humans and ecological receptors. The soil to groundwater leaching levels are based on the groundwater cleanup levels set for areas outside the CMA.

- e. **Basis for Soil Vapor Cleanup Levels:** The soil vapor cleanup levels for the Site are intended to protect commercial building occupants from health risks and odor nuisances caused by Site related vapor intrusion.
 - f. **Basis for Indoor Air Cleanup Levels:** The indoor air cleanup levels for the Site are intended to protect commercial building occupants from health risks and odor nuisances caused by Site related vapor intrusion
10. **Future Changes to Cleanup Levels:** If new technical information indicates that the established cleanup levels are significantly over-protective or under-protective, the Regional Water Board will consider revising those cleanup levels.
 11. **Risk Management:** The Regional Water Board considers the following human health risks to be acceptable at remediation sites: a cumulative hazard index of 1.0 or less for non-carcinogens and a cumulative excess cancer risk of 10^{-6} to 10^{-4} or less for carcinogens. The previous risk assessments for this Site indicated that contamination-related risks were near these acceptable levels. Finding 7 describes the changes that have occurred, suggesting that the previous risk assessments underestimate the human health risk and hazard. Active remediation will reduce these risks over time. However, risk management measures are needed at this Site during active remediation to assure protection of human health. Risk management measures include engineering controls (such as engineered caps or wellhead treatment) and institutional controls (such as deed restrictions that prohibit certain land uses). The following risk management measure is needed at this Site: a post-remediation deed restriction that notifies future owners of sub-surface contamination and prohibits sensitive uses of the Site such as residences and daycare centers.
 12. **Reuse or Disposal of Extracted Groundwater:** Regional Water Board Resolution No. 88-160 allows discharges of extracted, treated groundwater from site cleanups to surface waters only if it has been demonstrated that neither reclamation nor discharge to the sanitary sewer is technically and economically feasible.
 13. **Basis for 13304 Order:** Water Code section 13304 authorizes the Regional Water Board to issue orders requiring a discharger to cleanup and abate waste where the discharger has caused or permitted 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 a condition of pollution or nuisance.
 14. **Cost Recovery:** Pursuant to California Water Code Section 13304, the Dischargers are hereby notified that the Regional Water Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Regional Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this order.
 15. **California Safe Drinking Water Policy:** 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 discharges to be remediated such that maximum contaminant levels

(designed to protect human health and ensure that water is safe for domestic use) are met in existing and future supply wells.

16. **California Environmental Quality Act (CEQA):** This action is an order to enforce the laws and regulations administered by the Regional Water Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to California Code of Regulations, Title 13, section 15321 of the Resources Agency Guidelines.
17. **Notification:** The Regional Water Board has notified the Dischargers and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge and has provided them with an opportunity to submit their written comments. This Order also requires technical reports under Water Code section 13267 in order to monitor the cleanup and its effectiveness.
18. **Public Hearing:** The Regional Water Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED: pursuant to sections 13304 and 13267 of the California Water Code, that the Dischargers (or their agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner that will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.
2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup that will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. CLEANUP LEVELS

1. **Groundwater Cleanup Levels outside of the Caltrans Mitigation Area:** The following groundwater cleanup levels shall be met in all groundwater monitoring wells identified in the attached Self-Monitoring Program (not including CMA groundwater monitoring wells):

Constituent	Concentration (µg/l)	Basis*
Cis-1,2-Dichloroethene	6	Primary MCL
Trans-1,2-Dichloroethene	10	Primary MCL
Tetrachloroethene	5	Primary MCL
Trichloroethene	5	Primary MCL
Vinyl Chloride	0.5	Primary MCL

* Primary MCL: Lower of the primary maximum contaminant levels from U.S. EPA or California.

2. **Groundwater and Surface Water Cleanup Levels in the Caltrans Mitigation Area:** The following groundwater cleanup levels shall be met in all CMA groundwater monitoring wells identified in the attached Self-Monitoring Program:

Constituent	Concentration (µg/l)	Basis*
Cis-1,2-Dichloroethene	590	US DOE FW Chronic PRG
Trans-1,2-Dichloroethene	590	US DOE FW Chronic PRG
Tetrachloroethene	230	US EPA SW Chronic LOEL
Trichloroethene	200	US EPA SW Acute LOEL
Vinyl Chloride	780	US EPA CMC

*

US EPA DOE FW Chronic PRG: US EPA Department of Energy Freshwater Chronic Preliminary Remediation Goals for Ecological Endpoints

US EPA SW Chronic LOEL: US EPA Salt Water Chronic Lowest Observed Effect Level

US EPA SW Acute LOEL: US EPA Salt Water Acute Lowest Observed Effect Level

US EPA CMC: US EPA Criteria Maximum Concentration

3. **Soil Cleanup Levels:** The following soil cleanup levels shall be met in all onsite vadose-zone soils.

Constituent	Concentration (mg/kg)	Basis*
Cis-1,2-Dichloroethene	0.19	Leaching to Groundwater
Trans-1,2-Dichloroethene	0.65	Leaching to Groundwater
Tetrachloroethene	0.62	Leaching to Groundwater
Trichloroethene	0.35	Leaching to Groundwater
Vinyl Chloride	0.088	Leaching to Groundwater

* Leaching to Groundwater: Calculated using methodology from *Background Documentation for the Development of the MCP Numerical Standards (Massachusetts Department of Environmental Protection, April 1994)* and using groundwater target concentrations based on the above referenced Groundwater Cleanup Levels for areas outside the Caltrans Mitigation Area.

4. **Soil Vapor Cleanup Levels:** The following soil vapor cleanup levels shall be met in all onsite and offsite vadose-zone soils.

Constituent	Concentration (µg/m ³)	Basis*
Cis-1,2-Dichloroethene	1,200	Vapor Intrusion
Trans-1,2-Dichloroethene	12,000	Vapor Intrusion
Tetrachloroethene	67	Vapor Intrusion
Trichloroethene	100	Vapor Intrusion
Vinyl Chloride	5.2	Vapor Intrusion

* Vapor Intrusion: Screening levels for the protection of building occupants from nuisance odors and health concerns caused by vapor intrusion of contamination into indoor air. Calculated using a USEPA default soil gas to indoor air attenuation factor of 0.03 and the Indoor Air Cleanup Levels shown below.

5. **Indoor Air Cleanup Levels:** The following indoor air cleanup levels shall be met in all onsite and offsite existing buildings.

Constituent	Concentration (µg/m ³)	Basis*
Cis-1,2-Dichloroethene	35	Human Health
Trans-1,2-Dichloroethene	350	Human Health
Tetrachloroethene	2.0	Human Health
Trichloroethene	3.0	Human Health
Vinyl Chloride	0.16	Human Health

* Human Health: Indoor air risk based levels calculated using the USEPA Regional Screening Level risk equations for commercial worker exposure. The lower of the cancer and non-cancer indoor air risk was used.

C. TASKS

- 1a. **ADDITIONAL OFFSITE VAPOR INTRUSION WORK PLAN**

COMPLIANCE DATE: November 29, 2019

Submit a work plan acceptable to the Executive Officer to define the vertical and lateral extent of vapor intrusion concerns. The work plan shall consider all relevant contaminants, media (groundwater, soil vapor, and indoor air), exposure pathways, and receptors. The work plan shall also include a building survey and indoor air investigation, if the soil vapor cleanup levels near the building are

exceeded. It shall be designed so that its implementation shall produce site data needed to assess contamination threat to human health and the environment. The work plan shall specify investigation methods and a proposed time schedule.

1b. ADDITIONAL OFFSITE VAPOR INTRUSION REPORT

COMPLIANCE DATE: According to schedule in Task 1a work plan approved by the Executive Officer

Complete work in the Task 1a work plan and submit a technical report acceptable to the Executive Officer documenting their completion. The technical report shall define the vertical and lateral extent of vapor intrusion concerns down to cleanup levels.

2a. ADDITIONAL VAPOR INTRUSION MITIGATION WORK PLAN

COMPLIANCE DATE: If necessary, as determined and on a schedule approved by the Executive Officer

Submit a work plan acceptable to the Executive Officer to implement vapor intrusion mitigation at the Site and at offsite properties. It shall be designed so that its implementation shall reduce the threat to human health and the environment. The work plan shall specify methods and a proposed time schedule.

2b. ADDITIONAL VAPOR INTRUSION MITIGATION REPORT

COMPLIANCE DATE: According to schedule in Task 2a work plan approved by the Executive Officer

Complete work in the Task 2a work plan and submit a technical report acceptable to the Executive Officer documenting their completion. The technical report shall document the reduction of pollution down to cleanup levels.

3a. GROUNDWATER MONITORING WELL NETWORK WORK PLAN

COMPLIANCE DATE: March 30, 2020

Submit a work plan acceptable to the Executive Officer to define the lateral extent of groundwater pollution. It shall be designed so that its implementation shall produce site data to assess contamination threat to human health and the environment. The work plan shall specify investigation methods and a proposed time schedule.

3b. GROUNDWATER MONITORING WELL NETWORK COMPLETION REPORT

COMPLIANCE DATE: 90 days after Executive Officer approval of Task 3a

Complete work in the Task 3a work plan and submit a technical report acceptable to the Executive Officer documenting their completion. The technical report shall define the vertical and lateral extent of pollution down to cleanup goals

4a. **REVISED FEASIBILITY STUDY/ REMEDIAL ACTION PLAN
(REVISED FS/RAP)**

COMPLIANCE DATE: July 30, 2020

Submit a technical report acceptable to the Executive Officer containing:

- a. Summary of remedial investigation
- b. Evaluation of the installed interim remedial actions
- c. Feasibility study evaluating alternative final remedial actions
- d. Recommended final remedial actions
- e. Implementation tasks and time schedule

The remedial action plan must propose remedial work that has a high probability of eliminating unacceptable threats to human health and restoring beneficial uses of groundwater in a reasonable time, with “reasonable time” based on the severity of impact to the beneficial use (for current impacts) or the time before the beneficial use will occur (for potential future impacts). The remedial action plan must address the full extent of contamination originating at the Site, including any contamination that extends beyond the source-property boundary such as at the CMA.

Item d shall include projections of cost, effectiveness, benefits, and impact on public health, welfare, and the environment of each alternative action.

Items a through c shall be consistent with the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 C.F.R. § 300), CERCLA guidance documents with respect to remedial investigations and feasibility studies, Health and Safety Code section 25356.1(c), and State Water Board Resolution No. 92-49 as amended ("*Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*").

Item e shall consider the cleanup levels for soil, soil vapor, indoor air, and groundwater identified in Section B Cleanup Levels above and shall address the attainability of background levels of water quality.

4b. **REVISED FS/RAP IMPLEMENTATION WORK PLAN**

COMPLIANCE DATE: 90 days after Executive Officer approval of Task 4a

Submit a technical report acceptable to the Executive Officer that includes a detailed design for implementing the chosen remedial action alternative in the Revised FS/RAP. The implementation plan shall include an implementation schedule.

4c. **IMPLEMENTATION OF REVISED REMEDIAL ACTION PLAN**

COMPLIANCE DATE: 90 days after Executive Officer approval of Task 4b

Complete work in the Task 4b implementation work plan and submit a technical report acceptable to the Executive Officer documenting their completion. For ongoing actions, such as soil vapor extraction or groundwater extraction, the report shall document system start-up (as opposed to completion) and shall present initial results on system effectiveness (e.g., capture zone or area of influence). Proposals for further system expansion or modification may be included in annual reports (see attached Self-Monitoring Program).

5. **FIVE-YEAR STATUS REPORTS**

COMPLIANCE DATE: October 31, 2025, and every five years thereafter

Submit a technical report acceptable to the Executive Officer evaluating the effectiveness of the approved remedial action plan. The report shall include:

- a. Summary of effectiveness in controlling contaminant migration and protecting human health and the environment
- b. Comparison of contaminant concentration trends with cleanup levels
- c. Comparison of anticipated versus actual costs of cleanup activities
- d. Performance data (e.g., groundwater volume extracted, chemical mass removed, mass removed per million gallons extracted)
- e. Cost effectiveness data (e.g., cost per pound of contaminant removed)
- f. Summary of additional investigations (including results) and significant modifications to remediation systems
- g. Additional remedial actions proposed to meet cleanup levels as applicable including a time schedule

If cleanup levels have not been met and are not projected to be met within a reasonable time, the report shall assess the technical practicability of meeting cleanup levels and discuss one or more alternative cleanup strategies.

6a. **REMEDIAL INVESTIGATION WORK PLAN (ADDITIONAL PHASE)**

COMPLIANCE DATE: If necessary, as determined and on a schedule approved by the Executive Officer

Submit a work plan acceptable to the Executive Officer to complete the definition of the vertical and lateral extent of subsurface pollution. The work plan shall consider all relevant contaminants, media (soil, groundwater, soil vapor, and indoor air), exposure pathways, and receptors. The work plan shall also include a building survey and indoor air investigation. It shall be designed so that its implementation shall produce site data needed to assess contamination threat to human health and the environment. The work plan shall specify investigation methods and a proposed time schedule. The Executive Officer will require this work plan if the previous phase of the remedial investigation complied with the approved work plan but did not adequately define the vertical and lateral extent of soil, soil vapor, groundwater, and surface water pollution (e.g., cleanup levels were exceeded at the most distant groundwater sampling points).

6b. **COMPLETION OF REMEDIAL INVESTIGATION (ADDITIONAL PHASE)**

COMPLIANCE DATE: 90 days after Executive Officer approval of Task 6a

Complete tasks in the Task 6a work plan and submit a technical report acceptable to the Executive Officer documenting their completion. The technical report shall define the vertical and lateral extent of pollution down to cleanup levels.

7a. **RISK MANAGEMENT PLAN**

COMPLIANCE DATE: If necessary, as determined and on a schedule approved by the Executive Officer

Submit a proposed risk management plan acceptable to the Executive Officer whose goal is to limit onsite occupants' exposure to Site contaminants to acceptable levels. The proposed risk management plan shall prohibit the use of shallow groundwater beneath the Site as a source of drinking water until cleanup levels are met and prohibit sensitive uses of the Site such as residences and daycare centers outside the cleaned-up area (including the buffer area) unless additional investigation demonstrates that there would be no unacceptable vapor intrusion threat. The Executive Officer will require this task once active cleanup is completed if the cleanup does not result in meeting the cleanup levels in this Order.

7b. **PROPOSED DEED RESTRICTION**

COMPLIANCE DATE: If necessary, as determined and on a schedule approved by the Executive Officer

If the cleanup does not result in meeting the cleanup levels in this Order, submit a proposed deed restriction acceptable to the Executive Officer whose goal is to limit onsite occupants' exposure to Site contaminants to acceptable levels. The proposed deed restriction shall prohibit sensitive uses of the Site such as residences and daycare centers outside the cleaned-up area (including the buffer area) unless additional investigation demonstrates that there would be no

unacceptable vapor intrusion threat. The proposed deed restriction shall incorporate by reference the risk management plan. The proposed deed restriction shall name the Regional Water Board as a beneficiary and shall anticipate that the Regional Water Board will be a signatory. The Executive Officer will require this task once active cleanup is completed. The current land owner shall be responsible for this task.

7c. RECORDATION OF DEED RESTRICTION

COMPLIANCE DATE: 60 days after Executive Officer approval of the proposed deed restriction

Record the approved deed restriction and submit a technical report acceptable to the Executive Officer documenting that the deed restriction has been duly signed by all parties and has been recorded with the appropriate County Recorder. The report shall include a copy of the recorded deed restriction. The current landowner shall be responsible for this task.

8a. PROPOSED CURTAILMENT

COMPLIANCE DATE: 60 days after Executive Officer requirement letter

Submit a technical report acceptable to the Executive Officer containing a proposal to curtail remediation. Curtailment includes system closure (e.g., well closure), system suspension (e.g., cease extraction but wells retained), and significant system modification (e.g., major reduction in extraction rates, closure of individual extraction wells within extraction network). The report shall include the rationale for curtailment. Proposals for final closure shall demonstrate that cleanup levels have been met, contaminant concentrations are stable, and contaminant migration potential is minimal.

8b. IMPLEMENTATION OF CURTAILMENT

COMPLIANCE DATE: 60 days after Executive Officer approval of Task 8a

Implement the approved curtailment and submit a technical report acceptable to the Executive Officer documenting completion of the tasks identified in the proposed curtailment report.

9. EVALUATION OF NEW HEALTH CRITERIA

COMPLIANCE DATE: If necessary, as determined and on a schedule approved by the Executive Officer

Submit a technical report acceptable to the Executive Officer evaluating the effect on the approved remedial action plan of revising one or more cleanup levels in

response to revision of drinking water standards, maximum contaminant levels, or other health-based criteria.

10. **EVALUATION OF NEW TECHNICAL INFORMATION**

COMPLIANCE DATE: If necessary, as determined by and on a schedule approved by the Executive Officer

Submit a technical report acceptable to the Executive Officer evaluating new technical information that bears on the approved remedial action plan and cleanup levels for this Site. In the case of a new cleanup technology, the report should evaluate the technology using the same criteria used in the feasibility study. Such technical reports shall not be required unless the Executive Officer determines that the new information is reasonably likely to warrant a revision in the approved remedial action plan or cleanup levels.

11. **Delayed Compliance:** If the Dischargers are delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the Dischargers shall promptly notify the Executive Officer, and the Regional Water Board or Executive Officer may consider revision to this order.

D. **PROVISIONS**

1. **No Nuisance:** The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in Water Code section 13050(m).
2. **Good Operation and Maintenance (O&M):** The Dischargers shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this order.
3. **Cost Recovery:** The Dischargers shall be liable, to the extent allowed by law, pursuant to Water Code section 13304, to the Regional Water Board for all reasonable costs actually incurred by the Regional Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the Site addressed by this Order is enrolled in a State Water Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the Dischargers over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.
4. **Access to Site and Records:** In accordance with Water Code section 13267(c), the Dischargers shall permit the Regional Water Board or its authorized representative:

- a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the requirements of this Order.
 - c. Inspection of any monitoring or remediation facilities installed in response to this Order.
 - d. Sampling of any groundwater or soil that is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the Dischargers.
5. **Self-Monitoring Program:** The Dischargers shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer.
6. **Contractor / Consultant Qualifications:** All technical documents shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.
7. **Lab Qualifications:** All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Regional Water Board using approved U.S. EPA methods for the type of analysis to be performed. Quality assurance/quality control (QA/QC) records shall be maintained for Regional Water Board review. This provision does not apply to analyses that can only reasonably be performed onsite (e.g., temperature).
8. **Document Distribution:** An electronic copy of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the Regional Water Board.
- Electronic copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be uploaded to the State Water Board's GeoTracker database within five business days after submittal to the Regional Water Board. Guidance for electronic information submittal is available at:
http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal
9. **Reporting of Changed Owner or Operator:** The Dischargers shall file a technical report on any changes in contact information, Site occupancy or ownership associated with the property described in this Order.
10. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the Dischargers

shall report such discharge to the Regional Water Board by calling (510) 622-2369.

A written report shall be filed with the Regional Water Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, remedial actions taken or planned, schedule of remedial actions planned, and persons/agencies notified.

This reporting is in addition to reporting to the California Emergency Management Agency required pursuant to the Health and Safety Code.

11. **Secondarily-Responsible Discharger:** Within 60 days after being notified by the Executive Officer that other named dischargers have failed to comply with this order, EOP shall then be responsible for complying with this order.
12. **Periodic SCR Review:** The Regional Water Board will review this Order periodically and may revise it when necessary. The Dischargers may request revisions and upon review the Executive Officer may recommend that the Regional Water Board revise these requirements.

I, Michael Montgomery, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on November 13, 2019.

Michael Montgomery
Executive Officer

Compliance Notice: Failure to comply with the requirements of this Order may subject you to enforcement action, including but not limited to imposition of administrative civil liability under Water Code sections 13268 or 13350, or referral to the Attorney General for injunctive relief or civil or criminal liability.

Attachments: Figure 1 - Benicia Map with Site shown
Figure 2 – TCE Distribution in Groundwater from 2018 ERM Report
Self-Monitoring Program

Figure 1 – Benicia Map with Site shown

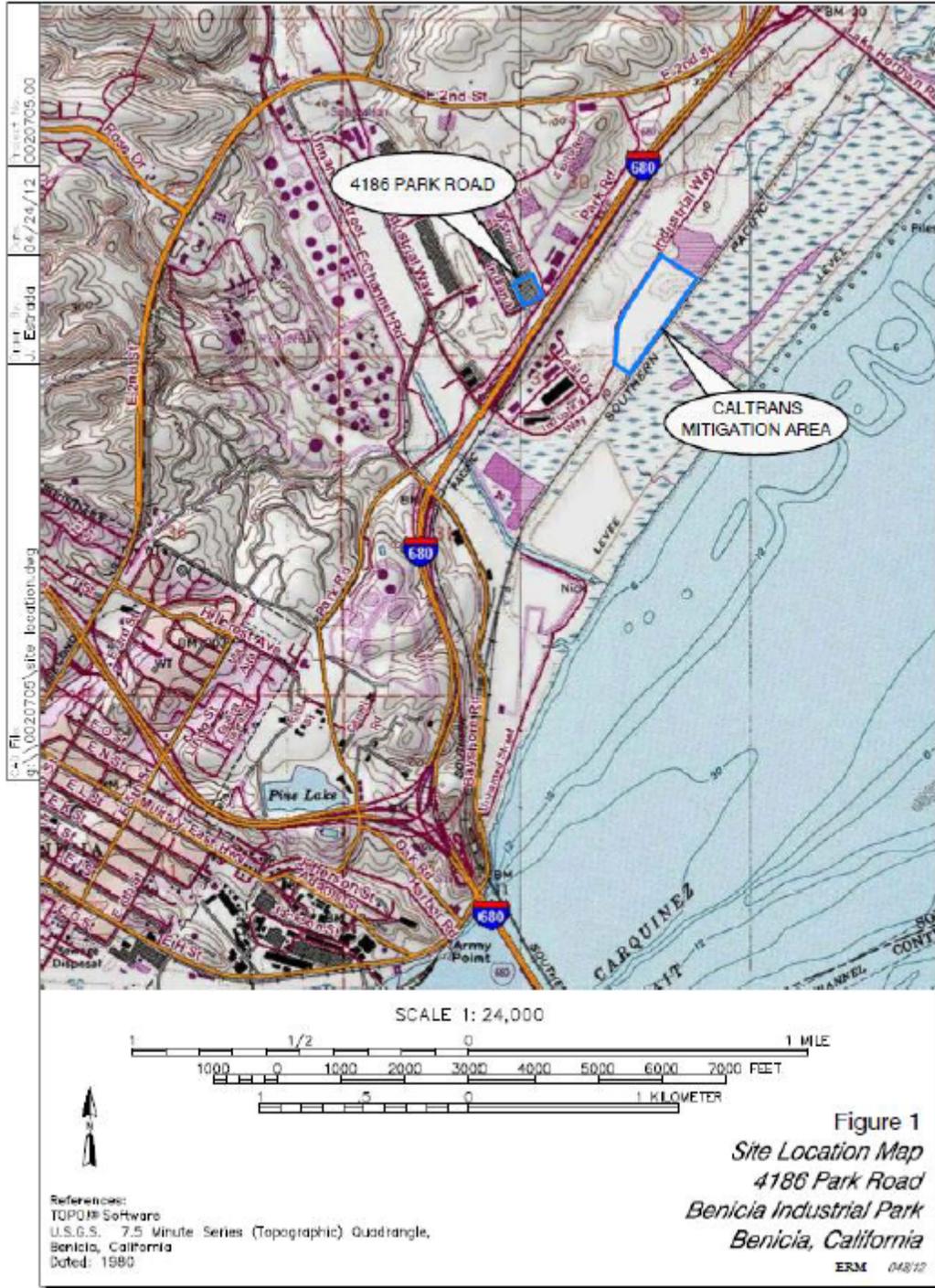
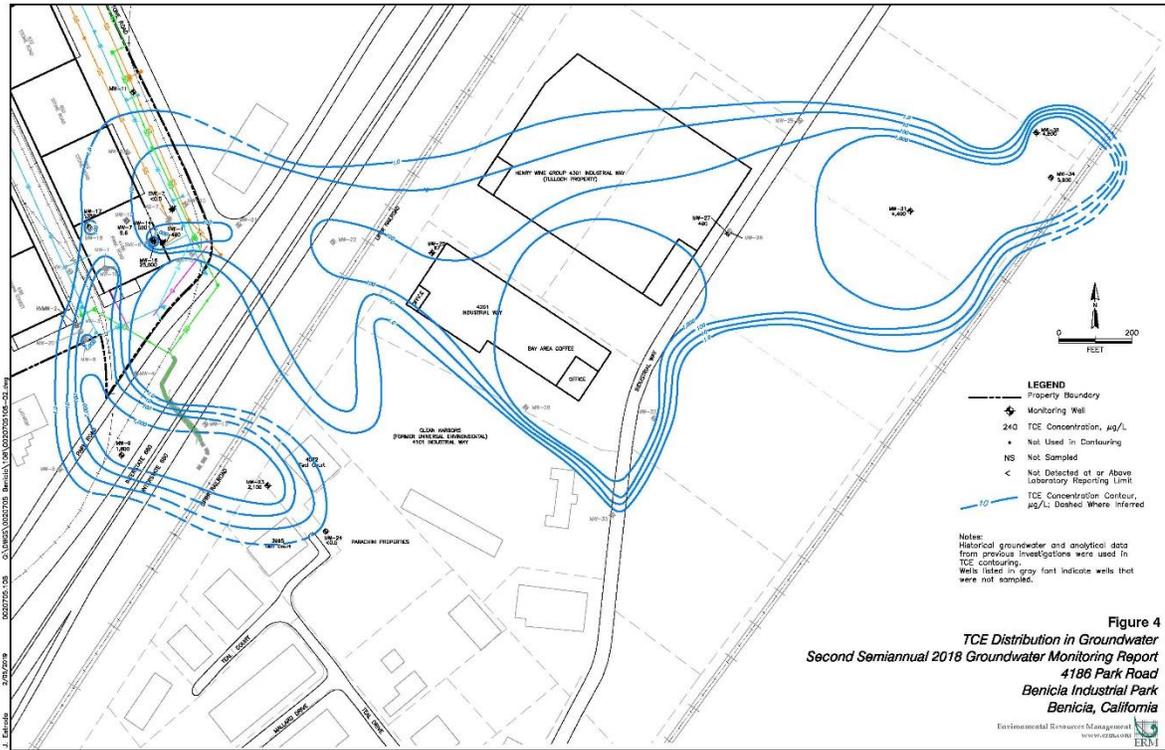


Figure 2 – TCE Distribution in Groundwater from 2018 ERM Report



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

SELF-MONITORING PROGRAM for:

**CHAMPION LABORATORIES, INC.
MAXION WHEELS, A DIVISION OF IOCHPE-MAXION
CRANBROOK REALTY INVESTMENT FUND, LP
EOP-INDUSTRIAL PORTFOLIO, LLC**
for the property located at

4186 Park Road
Benicia
Solano County

1. **Authority and Purpose:** The Regional Water Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with Regional Water Board Order No. R2-2019-0031 (Site Cleanup Requirements).

2. **Monitoring:** The Dischargers shall measure groundwater elevations quarterly in all groundwater monitoring wells, and shall collect and analyze representative samples of groundwater, soil vapor, and indoor air according to the following schedule:

Well ID	Sampling Frequency	Analysis
MW-1	Annual	EPA Methods 8260B and 8015M
MW-2	Annual	EPA Methods 8260B and 8015M
MW-3	Annual	EPA Methods 8260B and 8015M
MW-4	Annual	EPA Methods 8260B and 8015M
MW-5	Annual	EPA Methods 8260B and 8015M
MW-6	Annual	EPA Methods 8260B
MW-7	Semiannual	EPA Methods 8260B
MW-8	Annual	EPA Methods 8260B
MW-9	Semiannual	EPA Methods 8260B and 8015M
MW-10	Annual	EPA Methods 8260B
MW-11	Annual	EPA Methods 8260B
MW-12	Annual	EPA Methods 8260B
MW-13	Annual	EPA Methods 8260B
MW-14	Semiannual	EPA Methods 8260B
MW-15	Annual	EPA Methods 8260B
MW-16	Semiannual	EPA Methods 8260B
MW-17	Semiannual	EPA Methods 8260B and 8015M
MW-18	Annual	EPA Methods 8260B
MW-19	Annual	EPA Methods 8260B
MW-20	Annual	EPA Methods 8260B
MW-21	Annual	EPA Methods 8260B and 8015M
MW-22	Annual	EPA Methods 8260B
MW-23	Semiannual	EPA Methods 8260B
MW-24	Semiannual	EPA Methods 8260B
MW-25	Semiannual	EPA Methods 8260B
MW-26	Annual	EPA Methods 8260B
MW-27	Annual	EPA Methods 8260B
MW-28	Annual	EPA Methods 8260B
MW-29	Annual	EPA Methods 8260B
MW-30	Quarterly	EPA Methods 8260B
MW-31	Annual	EPA Methods 8260B
MW-32	Annual	EPA Methods 8260B
MW-33	Annual	EPA Methods 8260B
MW-34	Quarterly	EPA Methods 8260B
SVE-1	Semiannual	EPA Methods 8260B
SVE-2	Not Sampled	EPA Methods 8260B
SVE-3	Not Sampled	EPA Methods 8260B
SVE-4	Not Sampled	EPA Methods 8260B
SVE-5	Not Sampled	EPA Methods 8260B
SVE-6	Not Sampled	EPA Methods 8260B
SVE-7	Semiannual	EPA Methods 8260B
AS-1	Not Sampled	EPA Methods 8260B
AS-2	Not Sampled	EPA Methods 8260B

AS-3	Not Sampled	EPA Methods 8260B
AS-4	Not Sampled	EPA Methods 8260B
AS-5	Not Sampled	EPA Methods 8260B
AS-6	Not Sampled	EPA Methods 8260B
AS-7	Annual	EPA Methods 8260B
SVP-1	Semiannual	EPA Method TO-15
IA-1	Semiannual	EPA Method TO-15
SVP-2	Semiannual	EPA Method TO-15
IA-2	Semiannual	EPA Method TO-15
SVP-3	Semiannual	EPA Method TO-15
IA-3	Semiannual	EPA Method TO-15
AA-1	Semiannual	EPA Method TO-15
IA-Restroom M	Semiannual	EPA Method TO-15
IA-Restroom W	Semiannual	EPA Method TO-15
IA-Office	Semiannual	EPA Method TO-15
SVP-4	Semiannual	EPA Method TO-15

MW=groundwater monitoring well, SVE=soil vapor extraction well, AS=air sparge well, SVP=soil vapor sampling probe, IA=indoor air sample, AA=ambient air sample

The Dischargers shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as shown in the above table. The Dischargers may propose changes in the above table. Any proposed changes are subject to Executive Officer approval.

3. **Semiannual Monitoring Reports:** The Dischargers shall submit semiannual monitoring reports to the Regional Water Board no later than 60 days following the end of the monitoring period (e.g., report for first half of the year is due August 31). The first semiannual monitoring report shall be due on March 1, 2020. The reports shall include:
 - a. **Transmittal Letter:** The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall be signed by the Discharger's principal executive officer or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.
 - b. **Groundwater Elevations:** Groundwater elevation data shall be presented in tabular form, and a groundwater elevation map shall be prepared for each monitored water-bearing zone. Historical groundwater elevations shall be included in the second semiannual monitoring report each year.
 - c. **Soil, Groundwater, Soil Vapor, and Indoor Air Analyses:** Sampling data shall be presented in tabular form, and an iso-concentration map shall be prepared for one or more key contaminants for each monitored zone, as appropriate. The report shall indicate the analytical method used, detection limits obtained for each reported constituent, and a summary of QA/QC data. Historical groundwater

sampling results shall be included in the second semiannual report each year. Supporting data, such as lab data sheets, need not be included (see record keeping below).

- e. **Mass Removal Results:** If applicable, the report shall include remediation results in tabular form, for each injection well and for the Site as a whole, expressed in mass of reagent injected and total groundwater volume remediated semiannually. The report shall also include contaminant removal results from other remediation systems (e.g., soil vapor extraction, groundwater extraction), expressed in units of chemical mass removed semiannually for the A and B aquifers. Historical mass removal results shall be included in the semiannual report.
 - f. **Status Report:** The semiannual reports shall describe relevant work completed during the reporting period (e.g., site investigation, interim remedial measures) and work planned for the following quarter.
4. **Violation Reports:** If the Dischargers violate requirements in the Site Cleanup Requirements, then the Dischargers shall notify the Regional Water Board office by telephone as soon as practicable once the Dischargers have knowledge of the violation. Regional Water Board staff may, depending on violation severity, require the Dischargers to submit a separate technical report on the violation within five working days of telephone notification.
 5. **Other Reports:** The Dischargers shall notify the Regional Water Board in writing prior to any Site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for site investigation.
 6. **Record Keeping:** The Dischargers or their agent shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination and shall make them available to the Regional Water Board upon request.
 7. **SMP Revisions:** Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the Dischargers. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.