

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

ORDER No. R2-2015-0017

**ADOPTION OF SITE CLEANUP REQUIREMENTS AND RESCISSION OF ORDER
No. R2-2002-0060 for:**

FMC CORPORATION

for the property located at:

8787 ENTERPRISE DRIVE
NEWARK, ALAMEDA COUNTY

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

1. **Site Location:** The FMC Corporation (FMC) Site (Site) is located at 8787 Enterprise Drive, Newark. The Site is west of Interstate 880, south of Highway 84 and Dumbarton Bridge, and east of Highway 101. Figure 1 is a Site Map.

The Site is relatively flat with an elevation of approximately 11 feet above mean sea level and is made up of five formerly operational parcels (A, B, C, D, and I) comprising 39.3 acres of land where chemical manufacturing and processing occurred and two non-operational parcels (F and G) that remained undeveloped and not used for manufacturing. Parcels F and G, comprising 5.8 acres, are located on the northeast corner of Enterprise Drive and Willow Street and are still owned by FMC.

Parcel E is no longer considered part of the Site. Parcel E comprising 2.1-acres is located at the northeast corner of Enterprise Drive and Willow Street. It is a non-operational parcel that remained undeveloped and not used for manufacturing. FMC transferred ownership of Parcel E in February 2015, following environmental due diligence studies and a recorded environmental deed restriction.

The Site area was historically industrial and is currently being redeveloped into a mix of residential and commercial uses as part of the City of Newark's Dumbarton Transit Oriented Development Specific Plan. At present, the Site consists almost entirely of vacant open space. The only remaining aboveground structures are a warehouse, the groundwater extraction and treatment system, an office building, remnant building foundation pads, and two engineered asphalt caps. Land uses adjacent and near the Site include: San Francisco Public Utilities Commission's Hetch Hetchy pipeline right-of-way and the Union Pacific Railroad to the north, the former and active salt evaporation ponds to the west and southwest and adjacent to the San Francisco Bay, an engineered barge canal connected to the Newark Slough to the west; undeveloped land owned by Cargill, Inc.'s Salt Division to the south, and a Wildlife Refuge parcel to the northwest. The Hetch Hetchy pipeline right-of-way is just north of Parcel B and bisects the Site through Parcels A, D, and G.

The nearest surface water bodies to the FMC Site are the Newark Slough located approximately 2,000 feet north of the Site and Plummer Creek located approximately 2,500 feet south of the Site. Plummer Creek is a tidal tributary of South San Francisco Bay and drains into the Newark Slough.

2. **Site History:** From 1929 through 1995, extensive chemical manufacturing by FMC and its predecessor companies produced a variety of chemicals, discussed below, that resulted in adverse impacts to the soil and groundwater beneath the Site.

Sierra Magnesite Company first began chemical production at the Site in 1929. Bromine and ethylene dibromide (EDB) were made from seawater bittern (Parcels B and I) and quick lime was manufactured from oyster shells (Parcel C). The bromine towers were constructed on Parcel B in 1929, and the EDB plant was constructed at the same time on Parcel I, which had been leased from Leslie Salt Company. In 1934, Sierra Magnesite became California Chemical Company, which merged into Westvaco Chlorine Products Corporation in 1937, and then constructed a magnesia plant on Parcel C. In 1942, a pilot plant for a copper-based catalyst (1707 Catalyst) was built on Parcel I, which was leased from Leslie Salt Company, and a plant for the full production of the catalyst was constructed on Parcel A. These catalyst plants were closed in 1944. Westvaco Chlorine Products Corporation merged with Food Machinery Corporation in 1948 to form Food Machinery and Chemical Corporation (later renamed FMC Corporation).

A phosphate plant and phosphoric acid plant were constructed on Parcel A in 1950. Phosphoric acid was manufactured by burning elemental phosphorus (P_4) that was produced elsewhere and shipped to Newark by rail. Phosphate products were manufactured by processing phosphoric acid and sodium carbonate. The plant was subsequently retrofitted for purposes of manufacturing additional phosphate products using sodium and potassium hydroxide. Between 1955 and 1959, full scale manufacturing of the 1707 Catalyst was performed at the location of the former pilot plant on Parcel I.

In 1968, the magnesia plant, bromine towers, and EDB plant were shut down and the associated manufacturing facilities were removed. The lease with Leslie Salt Company for Parcel I was terminated, and Leslie Salt Company assumed management of this property. During demolition of the magnesia plant (Parcel C), aboveground structures were removed, except for two 100,000-gallon Bunker C oil tanks that were demolished in place. The tank bottoms and four feet of side-walls were folded in on the tank bottom and buried. Footings and other below-grade concrete structures were also left in place.

In the mid-1960s, a small catalyst plant was constructed on Parcel B for manufacture of Petro-Tex catalyst; this facility was shut down in 1976. During that same year, a hydrogen peroxide (and other chemicals) distribution facility was constructed on Parcel B. FMC acquired the adjacent Site (Parcel I, where part of the former EDB plant was located) from Designed Building Systems, Inc., on August 16, 1988. The phosphate plant and phosphoric acid plant were shut down in 1994 and 1995, respectively. FMC removed all former phosphate plant and phosphoric acid plant manufacturing facilities by

the end of 1996. The warehousing and distribution activities ceased by 1998, and the hydrogen peroxide trans-loading facility was closed in 2002.

The history of chemical use and manufacturing, processing, handling, storage, and research operations, as well as the documented chemical releases, summary of soil and groundwater investigations, interim remedial actions, and facility closures are detailed in the following documents:

- *Remedial Investigation (RI) Workplan*, September 25, 1998;
- *Remedial Investigation Report*, June 15, 1999;
- *Closure Certification Report for Two Aboveground Bunker C Oil Storage Tanks and Remediation Petroleum Impacted Soil*, September 20, 1999;
- *Resource Conservation and Recovery Act Facility Assessment Document*, October 10, 2000;
- *Human Health and Screening Ecological Risk Assessment*, December 21, 1999;
- *Proposed Final Remedial Actions and Cleanup Standards*, January 31, 2001;
- *Risk Management Plan*, December 2001;
- *Arsenic Hot Spot Removal Report*, March 20, 2002;
- *P₄ Cap Construction Completion Report*, December 5, 2002;
- *Revised Curtailment Report and Feasibility Study for the EDB-Impacted Area of Parcels B and I*, June 2006;
- *Data Gaps Analysis Report*, February 4, 2013; and
- *Data Gaps Phase II Workplan*, February 2015.

3. **Named Discharger:** FMC is named as a discharger because of substantial evidence that it discharged pollutants to soil and groundwater at the Site and because it is the current owner of the property on which there is an ongoing discharge of pollutants, it has knowledge of the discharge, and it has the legal ability to control the discharge.

If additional information is submitted indicating that other parties caused or permitted any waste to be discharged on the Site where it entered or could have entered waters of the State, the Regional Water Board will consider adding those parties' names to this Order.

4. **Future Site Use:** The Site and surrounding area is slated for redevelopment as part of City of Newark's Dumbarton Transit Oriented Development Specific Plan. A variety of uses are planned for different parcels at the Site, including low-density residential (Parcel C), non-residential mixed-use (Parcels B, I, and A) and high-density residential (Parcel D).
5. **Regulatory Status:** Beginning in 1969, the Site was subject to a series of waste discharge requirement orders, cease and desist orders, NPDES permits, and site cleanup requirements adopted by the Regional Water Board. Prior to adoption of this Order, the Site was subject to Final Site Cleanup Requirements (SCR) Order No. R2-2002-0060, adopted May 22, 2002.

6. **Site Hydrogeology:** The Site is located within the Niles Cone groundwater basin. The Newark Aquitard is the uppermost clay unit covering nearly all of the Niles subarea and is underlain by the Newark aquifer, Centerville aquifer, Fremont aquifer, and the deeper aquifers.

Lithologically, the Site is characterized by a thin layer of fill materials 0 to 5 feet bgs. The fill layer consists primarily of gravel, sand, clay, crushed rock, concrete, brick and asphalt. Below the fill layer, a predominantly silty clay layer is encountered that extends, on average, to 10 feet bgs. The silty clay layer is underlain by a layer of fine-grained sand, silt, and clay layer extending to about 18 to 20 feet bgs. This layer, known as the Shallow Zone, is generally wet to saturated, especially at lower depths. Groundwater levels in the Shallow Zone beneath the Site vary from 2 to 10 feet bgs. The depth to groundwater depends on the proximity to recharge areas, varies seasonally, and responds rapidly to direct precipitation.

The Shallow Zone is underlain by the Newark Aquitard, a blue-gray, clayey silt, and clay deposits that extend to a depth of approximately 45 feet bgs. The Newark Aquitard, which averages 25 feet in thickness, separates the Shallow Zone from the deeper Newark Aquifer. The Newark Aquitard is not considered an effective barrier to the downward migration of solvent-impacted groundwater in the vicinity of the Site. The existence of EDB and 1,2-DCA in the Newark Aquifer at the Site indicates that transport of contaminants from the shallow zone groundwater to the deeper Newark Aquifer has occurred.

The Newark Aquifer consists of sand and gravel, is approximately 10 to 35 feet thick beneath the Site, and is encountered at depths ranging from 45 to 60 feet bgs. The Newark Aquifer is the uppermost aquifer within the Niles subarea and is underlain by the Irvington Aquitard, which is encountered at approximately 80 feet bgs at the Site. The competency of the Irvington Aquitard is unknown. The Irvington Aquitard is underlain by the Centerville Aquifer, the top of which lies at an average depth of 180 feet bgs.

The groundwater flow in the shallow zone varies between northerly and northwesterly direction with a nearly flat gradient. Shallow zone groundwater flow in the immediate vicinity of the Site is influenced by pumping and recharge and other artificial stresses. Groundwater flow in the Newark Aquifer is to the west/southwest towards San Francisco Bay. An isolated bedrock outcrop of serpentine occurs near the southwestern corner of the Site and acts as a barrier to groundwater movement in the Shallow Zone and the Newark Aquifer. In both groundwater zones, the groundwater flow direction is deflected to the north in the southwestern corner of the Site. Historically, dating back to the 1940's through 1972, groundwater in the Newark Aquifer was below sea level with an eastward flow direction (reversal from its current flow direction) in the inland areas of the basin, due to excessive agricultural pumping.

7. **Remedial Investigations:** FMC initiated investigations to characterize soil and groundwater conditions at the Site in 1980. Numerous additional soil and groundwater investigations occurred through 2000. The table below identifies the chemicals of concern at each parcel and in each media, based on prior investigation results:

| Parcels and Historic Operations | Chemicals of Concern | | |
|--|---|---|---|
| | Soil | Shallow Groundwater | Newark Aquifer |
| Parcel A <ul style="list-style-type: none"> Phosphate & Phosphoric Acid Plants Phossey Pond 1707 Catalyst Plant Engineered Asphalt Cap for Elemental Phosphorus (P₄ Cap) | Metals P ₄ TPH SVOC | Metals 1,1-Dichloroethane 1,1-Dichloroethene 1,2-Dichloroethane (1,2-DCA) 1,2-Dichloropropane Tetrachloroethene (PCE) Trichloroethene (TCE) Other VOCs | VOCs |
| Parcel D <ul style="list-style-type: none"> Stormwater Pond Tetrapotassium Pyrophosphate (TKPP) Pond Filter Aid Pit E-1 Ditch | Metals | 1,2-DCA Other VOCs Metals | 1,2-DCA Other VOCs |
| Parcels B and I <ul style="list-style-type: none"> EDB and Bromine Towers Petro-Tex Catalyst Pilot Plant 1707 Catalyst Pilot Plant Magnesia Research Pilot Plant Soda Ash Transloading area Effluent E-1 Pond QC Laboratory Above Ground Storage Tanks (AST) Repair Garage and Paint Shed Hazardous Waste 90-day Storage area Hydrogen Peroxide Transloading | EDB 1,2-DCA Other VOCs TPH Metals (Ch, Ni) SVOCs | EDB 1,2-DCA Trihalomethanes Other VOCs TPH Stoddard Thinner 265 Metals | EDB 1,2-DCA Trihalomethanes Other VOCs Metals |
| Parcel C <ul style="list-style-type: none"> Magnesia Plant Fuel Oil Storage | TPH Bunker C fuel Metals | TPH SVOCs | No known impacts |
| Parcels F and G <ul style="list-style-type: none"> Rail spurs bisected these undeveloped and non-operational parcels. Railcars transported chemicals in the Site vicinity. | No known impacts | TCE and PCE (offsite sources) | TCE and PCE |

Based on proposed land use changes described in Finding 4 and conditions of pollution still present at the Site, FMC conducted a comprehensive review of previous investigations. The results were compiled into the February 2013 *Data Gaps Report*. FMC is addressing the identified data gaps in a phased approach with non-intrusive (Phase 1) and intrusive (Phase 2) activities. Phase 1 included groundwater sampling and analysis of 21 Site monitoring wells and sub-surface surveys to identify underground structures from past demolition and facility closure work. The Phase 1 work was completed in September 2013 and the results were reported in an October 2014 *Phase II Data Gaps Work Plan*, which was approved by the Regional Water Board on March 17, 2015.

Summary results from all investigations, including Data Gaps evaluation conclusions and Data Gaps Phase I results, are discussed below:

Parcels A and D:

Soil investigations have confirmed that the soil in Parcel A has been adversely impacted with P₄ in the vicinity of the former phosphorus storage pits. Additionally, elevated metal concentrations have been identified in Parcels A and D, associated with specific historic operations at the former phosphate and phosphoric acid plants. The area impacted with P₄ is 130 feet by 115 feet and is currently contained under an asphalt cap. The previous RI report concluded that metal impacts to soil were not widespread and no metals were present above industrial soil screening levels; however, the Data Gaps Report concluded that limited additional investigation was needed in Parcels A and D to further delineate previous investigation locations with exceedances based on updated screening levels. Additionally, the Data Gaps Report found that additional targeted investigation was required in Parcel A to evaluate the potential for TPH and SVOC impacts in the vicinity of former operational areas identified during the data gaps evaluation.

Groundwater in Parcels A and D is currently monitored using four Shallow Zone monitoring wells (W-8, W-10, W-12, and W-13) and one Newark Aquifer monitoring well, DW-11. Four additional wells were previously used to monitor Shallow Zone groundwater (W-9, W-11, W-15, and W-16).

Arsenic, cobalt, chromium, copper, cadmium, lead, mercury, molybdenum, nickel, selenium, and vanadium have been detected in the Shallow Zone groundwater in Parcels A and D at concentrations exceeding MCLs. During the 1998 RI, P₄ was detected in groundwater collected from two borings but was not detected in Site monitoring wells. VOCs have also been detected in Shallow Zone groundwater below Parcels A and D, including 1,2-DCA, 1,1-dichloroethane (1,1-DCA), 1,1- dichloroethene (1,1-DCE), 1,2-dichloropropane (1,2-DCP), tetrachloroethene (PCE), and trichloroethene (TCE). The chlorinated ethanes and ethenes in groundwater below Parcels A and D are attributed at least in part to offsite upgradient sources, as discussed in Finding 9.

The Data Gaps Report concluded that additional investigation was necessary in delineating the impacts of metals and VOCs in groundwater and the potential presence of TPH and SVOCs in groundwater near certain historical operational areas.

Parcels B and I:

Soil investigations have confirmed that soil is impacted by EDB and 1,2-DCA, with other VOCs and TPH present to a lesser extent in Parcels B and I. Metals are not widely present at Parcels B and I. The Data Gaps Report concluded that additional investigation was needed in Parcels B and I to define potential TPH, metals, and SVOC impacts in a limited number of locations, primarily in the vicinity of previous investigation locations with exceedances based on updated screening levels. The Data Gaps Report also found that additional characterization of VOCs in soil was needed in the vicinity of the EDB Cap.

The Shallow Zone groundwater in Parcels B and I has been impacted by EDB, 1,2-DCA, trihalomethanes (bromoform, bromodichloromethane, dibromomethane, and

dibromochloromethane), and other VOCs, and TPH to a lesser extent. Metals (arsenic, chromium, nickel, lead, and selenium) were also detected above MCLs in the shallow groundwater in Parcels B and I. The EDB Cap Area contains the highest levels of these contaminants found at the Site. Groundwater sampling during September 2013 (Data Gaps Phase I) showed the presence of EDB, 1,2-DCA, and bromoform at maximum concentrations of 287,000 µg/L(W-36), 170,000 µg/L(W-5), and 471,000 µg/L (W-36), respectively, in wells located within the EDB Cap Area. Dense-non-aqueous-phase-liquid (DNAPL) was also encountered at the bottom of the screened interval in W-36. Fingerprinting of the DNAPL analytical results indicate the sample is comprised of 12 percent of total extractable material in the C09-C40 range, 40 percent of bromoform, eight percent of EDB, 3.7 percent of dibromochloromethane, and 0.43 percent of 1,2-DCA.

Sampling of the Newark Aquifer indicates the presence of 1,2-DCA and EDB, with trihalomethanes, other VOCs, and metals (arsenic and selenium) present to a lesser extent. As of September 2013, 1,2-DCA has been detected in five Newark Aquifer monitoring wells at levels exceeding its MCL. In July 2013, EDB and 1,2-DCA were detected in Well DW-2 at concentrations of 16.1 µg/L and 1,100 µg/L, respectively. These concentrations exceed the MCL for each constituent by over two orders of magnitude. The lateral extent of the 1,2-DCA contamination in the Shallow Zone and Newark Aquifer has not been defined to the north. There are no wells screened in the deeper Centerville Aquifer, to evaluate the vertical extent of contamination.

Parcel C:

Investigations performed in Parcel C have concluded that the primary pollutants to soil and groundwater in this parcel are associated with releases from the two former 100,000-gallon Bunker C fuel oil storage tanks removed in April 1999. Magnesia was manufactured on this parcel but was not found to be a pollutant in the soil and groundwater at the Site. Petroleum hydrocarbon-impacted soil was delineated and, although various petroleum hydrocarbon constituents have been detected in groundwater monitoring wells, no benzene, toluene, ethylbenzene or xylenes (BTEX), or polycyclic aromatic hydrocarbons (PAHs) have been detected in these wells.

The Data Gaps Report concluded that additional investigation was warranted in Parcel C to resolve data gaps based on updated screening levels (potential TPH, metals, and SVOC impacts in a limited number of locations in the vicinity of previous investigation locations). The lateral and vertical extent of these pollutants in groundwater is not delineated.

8. **Interim and Other Remedial Measures:** FMC has implemented remedial measures in accordance with current and past orders. FMC conducts operation and maintenance of the groundwater extraction and treatment system for the shallow zone groundwater and the deeper Newark Aquifer with subsequent treatment and discharge to the Union Sanitary District. FMC also maintains two engineered asphalt caps – one in the former EDB production and handling area (EDB Cap) in Parcels B/I; and the other in the former P₄ storage pit area in Parcel A. These interim and other remedial measures are further described below:

Engineered EDB Cap in Parcels B and I: In late 1985 and early 1986, FMC constructed an asphalt cap with perimeter concrete ditches to prevent the direct infiltration of precipitation into the EDB Cap area to minimize the possibility of leaching into the shallow zone groundwater, to prevent direct exposure to EDB-impacted soils and reduce the migration of vapors that may originate from the soil and shallow groundwater, and to prevent surface water from coming into contact with EDB-impacted soils.

Groundwater Extraction and Treatment System in Parcels B and I: In 1985, FMC installed two extraction wells, DW-2 and DW-8, for a Newark Aquifer groundwater extraction, treatment, and reinjection system, which began operating in 1986 in accordance with the provisions of Order No. 85-113. The reinjection wells were shut down in 1987 due to operational difficulties, and the wells were subsequently destroyed. In 1989, FMC installed 26 extraction wells in the Shallow Zone to create a barrier to the lateral migration of EDB downgradient to the north and east. The current shallow zone extraction and containment system includes 17 extraction wells aligned along the northern and eastern boundaries of the EDB Cap area. Since October 1988, FMC has discharged the treated groundwater into the Union Sanitary District sewer system under permit limitations and reporting requirements.

Localized groundwater depressions are evident in the EDB area within the Shallow Zone as a result of groundwater extraction indicating that the system is providing hydraulic control. Concentration reductions of EDB and 1,2-DCA have occurred in the shallow zone during the past ten years in the capped area. Likewise, the trend for extraction wells DW-2 and DW-8 and the Newark Aquifer monitoring wells indicates decreasing concentrations of EDB and 1,2-DCA.

Dual Phase Extraction System in Parcels B and I

In 2002, FMC installed a steam-enhanced dual phase extraction (DPE) system as a remedy for the 1,2-DCA- and EDB-impacted soil and groundwater in Parcels B and I, in accordance with Order No. R2-2002-0060. The DPE system encountered operational problems and ceased to operate in 2003. The aboveground components of the DPE system were dismantled and removed in September 2014 upon approval of the Regional Water Board. The below ground components of the DPE consist of a network of extraction wells and piping that are still in-place and may act as a conduit for contaminant migration.

Arsenic Hot Spot Removal in Parcel D

In 2002, FMC excavated 17 cubic yards of arsenic-impacted soil at a location approximately 25 feet west of the FMC's maintenance/storage building in Parcel D in accordance with Order No. R2-2002-0060.

P₄ Engineered Cap at Parcel A

In 2002, FMC capped the former P₄ storage pit area in Parcel A in accordance with Order R2-2002-0060.

9. **Adjacent Sites:** Four neighboring sites are currently conducting groundwater investigation and cleanup under Regional Water Board jurisdiction. These sites are the

Ashland Chemical Company (Ashland) property; the 37445 Willow Street property, formerly owned and/or operated by Romic Environmental Technologies (Romic); the Jones-Hamilton Chemical Company (Jones-Hamilton) property; and the Honeywell, Inc., solvent processing facility (formerly Allied Signal Corporation and formerly Baron-Blakeslee). Three of these sites are located upgradient of the Site, with Ashland being upgradient to cross-gradient of the Site. Contaminants from an upgradient offsite source have migrated in the groundwater to FMC's undeveloped Parcels E, F, and G. However, the source or sources have not been identified, and the natural flow of groundwater has been altered in this area due to historic (1940 to 1972) over-pumping for irrigation and agricultural use and also due to the groundwater cleanups occurring for the past 30 years at FMC and the adjacent sites mentioned above.

The FMC and Baron-Blakeslee sites are the only dischargers currently operating groundwater extraction and treatment systems to control migration of pollutants. Baron-Blakeslee's system will be shut down prior to in-situ remediation by reductive dechlorination using lactate/emulsified vegetable oil injected into the shallow groundwater. In the past, Ashland, Jones-Hamilton, and Romic also operated groundwater extraction systems to control their individual plumes. The extraction systems at Ashland and Romic were shut down prior to soil excavation activities for source removal, whereas the system at Jones-Hamilton was shut down to evaluate the effectiveness of monitored natural attenuation. The history of chemical use and known contamination at these adjacent sites is summarized in the Data Gaps Report.

Baron-Blakeslee:

Baron-Blakeslee operated a solvent processing facility at 8333 Enterprise Drive, approximately 0.4 mile east of the FMC Site. Previous investigations have indicated that soil and groundwater at this facility and groundwater downgradient (westward) from this facility, including FMC Parcels F and G, have been impacted by VOCs, including TCE, PCE, cis-1,2-dichloroethene (1,2-DCE), 1,1-DCE, 1,1,1-trichloroethane (1,1,1-TCA), methylene chloride, Freon-113, and 1,4-dioxane. Concentrations observed during the May 2012 monitoring event showed TCE and PCE concentrations greater than 2,000 parts per billion present in Shallow Zone and Newark Aquifer monitoring wells on or near FMC Parcels F and G.

Romic:

The former Romic facility is located at 37445 Willow Street, south of Parcel E and southeast of the Ashland facility. Groundwater investigations have revealed elevated concentrations of 1,2-DCA, TCE, PCE, and methylene chloride. Elevated concentrations of VOCs, particularly 1,2-DCA, continue to be detected in Romic's monitoring wells. During the March 2011 sampling event, 1,2-DCA concentrations ranging from 0.61 to 200 µg/L were recorded. The 1,2-DCA groundwater plume emanating from Romic is believed to contribute to the groundwater impacts present beneath downgradient properties, including FMC's Parcel E.

Jones-Hamilton:

The Jones-Hamilton facility is located at 8400 Enterprise Drive, southeast of the intersection of Willow Street and Enterprise Drive. Impacted Shallow Zone

groundwater has been observed beneath the Jones-Hamilton site. Chemicals handled included sodium bisulfate, hydrochloric acid, arsenic acid, chromic acid, cupric acid, pentachlorophenol (PCP), tetrachlorophenol (TCP), and others. Sodium bisulfate was also manufactured onsite before 1985. The primary COC for the Jones-Hamilton site are PCP, TCP, 1,2-DCA and 1,1-DCA, benzene, toluene, and xylenes, gasoline-range hydrocarbons, and metals.

Ashland Chemical:

The Ashland facility is located directly southeast of the Site. Contaminants previously detected during onsite monitoring include ketones; benzene, toluene, ethylbenzene, and xylenes (BTEX); methylene chloride; PCE; TCE; vinyl chloride; 1,2-DCE; 1,1-DCA; 1,2-DCA; and 1,1,1-TCA.

10. **Basin Plan:** 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. The Basin Plan 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 duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board), the Office of Administrative Law, and U.S. EPA, where required.

The existing beneficial uses of groundwater in the Niles Cone Sub-Basin include:

- a. Municipal and domestic water supply
- b. Industrial process water supply
- c. Industrial service water supply
- d. Agricultural water supply

At present, there is no known use of groundwater underlying the FMC Site for the above purposes. Groundwater in the Shallow Zone and the deeper Newark Aquifer beneath the Site is brackish due to saltwater intrusion in this vicinity. The Alameda County Water District (ACWD) operates a groundwater desalination facility, as discussed in Finding 11. Thus, while groundwater in the Newark Aquifer beneath the Site is brackish, it has the potential to be used as a drinking water source.

The existing beneficial uses of Plummer Creek, a tidal tributary of South San Francisco Bay, include:

- a. Water contact and non-contact recreation
- b. Wildlife habitat
- c. Estuarine habitat
- d. Preservation of rare and endangered species

11. **Groundwater Management:** ACWD manages groundwater resources in Fremont, Newark, and Union City. During fiscal year 2013/14, groundwater accounted for 36 percent of ACWD's distributed water supply. To manage water supplies more effectively, ACWD has implemented the following measures to increase production and improve water quality: artificial recharge, the Aquifer Reclamation Program, and the

Newark Desalination Facility. Potential production from Aquifer Reclamation Program wells "Sites A, B, C, D and E" screened in the Newark Aquifer is being evaluated by ACWD. In 2013, "Site A" was operational and located approximately 4 miles from FMC. "Site C" is located approximately 2,000 feet north of the Site and has a potential to be impacted if used in the future. The Newark Desalination Facility was placed in service in September 2003, produces potable water from brackish groundwater, and operates at a current capacity of 10 million gallons per day. The source of water for the Newark Desalination Facility is from portions of the Niles Cone Groundwater Basin that contain brackish groundwater due to saltwater intrusion caused by past overdraft of the Newark Aquifer and deeper aquifers.

12. **Other Regional Water Board Policies:** 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.

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.

13. **State Water Board Policies:** State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality or the highest level of water quality that is reasonable if background levels of water quality cannot be restored. 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. 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 such water, and not result in exceedance of applicable water quality objectives. The remedial action plan will assess the feasibility of attaining background levels of water quality, while considering best available technology and attainability of such goals. This Order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

14. **Preliminary Cleanup Goals:** The cleanup standards prepared for the Site in 2001 did not consider the future site uses discussed in Finding 4; therefore, revised cleanup levels are needed for the Site. Pending the establishment of site-specific cleanup levels, preliminary cleanup goals are needed for the purpose of conducting remedial investigation and interim remedial actions. These goals should address all relevant media (e.g., groundwater, soil, and soil gas) and all relevant concerns (e.g., groundwater ingestion, migration of groundwater to surface waters, and vapor intrusion). The goals shall also take into consideration any other factors needed for extracted groundwater to be usable as a supply for the ACWD desalinization plant and hazards such as fire and explosion and nuisance conditions.

15. **Basis for 13304 Order:** California Water Code (CWC) 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.
16. **Cost Recovery:** Pursuant to CWC section 13304, the Discharger is 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.
17. **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.
18. **California Environmental Quality Act (CEQA):** The project is adoption of an order (revised site cleanup requirements) and actions to be taken by the Discharger to comply with the order, namely implementing the treatability and pilot studies to evaluate cost effective cleanup alternatives, continued operation of the groundwater extraction and treatment system, and groundwater monitoring activities to track plume migration. All investigation, cleanup, and monitoring activities will occur in the subsurface. Remedial investigations will include minor drilling and sampling to define the lateral and vertical extent of pollution, bench-scale studies, and adding benign chemicals to the subsurface for in-situ remediation pilot testing. The continuation of the groundwater extraction and treatment system and pilot studies will have no potential for significant environmental effects and the activities are intended to support cleanup for the Site. The project is therefore exempt from the provisions of CEQA under the general rule that “CEQA applies only to projects that have the potential for causing a significant effect on the environment.” (Cal. Code Regs., tit. 14 § 15061, subd. (b) (3).)
19. **Notification:** The Regional Water Board has notified the discharger and all interested agencies and persons of its intent under CWC section 13304 to prescribe Site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.

IT IS HEREBY ORDERED, pursuant to CWC section 13304, that the discharger (or its 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. PRELIMINARY CLEANUP GOALS

The Regional Water Board's Environmental Screening Levels (ESLs) can be used as the basis for preliminary cleanup goals for the purpose of conducting supplemental remedial investigations and interim remedial actions to protect both human and ecological receptors under current and proposed land uses:

1. Groundwater: Groundwater cleanup goals cannot exceed maximum contaminant levels, or MCLs. Groundwater screening levels should incorporate at least the following exposure pathways: groundwater ingestion and vapor intrusion to indoor air. For groundwater ingestion, use applicable water quality objectives (i.e., lower of primary and secondary MCLs) or, in the absence of a chemical-specific objective, equivalent drinking water levels based on toxicity and taste and odor concerns.
2. Soil: Soil screening levels are intended to address a full range of exposure pathways, including direct exposure, nuisance, and leaching to groundwater assuming a potential source of drinking water.
3. Soil gas: Soil gas screening levels are intended to address the vapor intrusion to indoor air pathway. The levels must be protective of future buildings designated for human occupancy.

C. TASKS

Parcels B and I - EDB Cap Area

1. EDB CAP AREA TREATABILITY STUDY WORKPLAN

COMPLIANCE DATE: May 29, 2015

Submit a workplan acceptable to the Executive Officer proposing bench-scale treatability study design and sample collection procedures for the EDB Cap Area. The Treatability Study Workplan shall include a description of remedial technologies to be evaluated and the technical basis for study design. The Treatability Study Workplan shall also include methods for collection of representative samples within the EDB Cap Area. The Treatability Study Workplan shall present a proposed time schedule for implementation and reporting.

2. **COMPLETION OF EDB CAP AREA TREATABILITY STUDY**

COMPLIANCE DATE: According to Task 1 schedule approved by the Executive Officer

Complete all necessary tasks identified in the Task 1 report (EDB Cap Area Treatability Study Workplan) and submit a technical report acceptable to the Executive Officer documenting the activities. The technical report shall provide analytical data and conclusions on the applicability and feasibility of the remedial technologies evaluated.

3. **EDB CAP AREA PILOT STUDY WORKPLAN**

COMPLIANCE DATE: 180 days after Executive Officer approval of Task 2 report or no later than January 29, 2016

Submit a Pilot Study Workplan for the EDB Cap Area acceptable to the Executive Officer to field-test applicability of a select remedial approach. The Pilot Study Workplan shall include a description of the selected remedial approach to be evaluated and the technical basis for study design. The Pilot Study Workplan shall specify sample collection and performance evaluation methods for the select remedial approach, based on acceptable exposure levels defined in the Supplemental RA Technical Report (Task 7). The Pilot Study Workplan shall propose a time schedule for implementation and reporting.

4. **COMPLETION OF EDB CAP AREA PILOT STUDY**

COMPLIANCE DATE: According to Task 3 schedule approved by the Executive Officer or no later than July 29, 2016

Complete all necessary tasks identified in the Task 3 report (Pilot Study Workplan) and submit a technical report acceptable to the Executive Officer documenting the pilot study. The technical report shall evaluate the performance of the select remedial approach against acceptable exposure levels defined in the Supplemental Risk Assessment (Task 6 report).

Site-Wide Tasks

5. **COMPLETE DATA GAPS INVESTIGATION/SUPPLEMENTAL REMEDIAL INVESTIGATION**

COMPLIANCE DATE: December 30, 2015

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Data Gap Phase II Workplan, as described in Finding 7. The technical report shall define the vertical and lateral extent of pollution down to the Preliminary Cleanup Goals. Documentation of field investigation shall include boring logs, field observations (visual observations and field data), and sample documentation. Supplemental

investigations to address new data gaps that arise during the Phase II work shall be performed without delay. The technical report shall also include a framework for the preparation of the Supplemental Risk Assessment (Task 6 report).

6. COMPLETION OF SUPPLEMENTAL RISK ASSESSMENT

COMPLIANCE DATE: 90 days following Executive Officer approval of Task 5 report

Submit a Supplemental Risk Assessment acceptable to the Executive Officer presenting either a screening level evaluation or a site-specific risk assessment. The Supplemental Risk Assessment shall include a conceptual Site model (i.e., identify pathways and receptors where Site contaminants pose a potential threat to human health or the environment). If a screening level evaluation is selected, the Supplemental Risk Assessment shall identify which screening levels will be used and demonstrate that they address all relevant pathways and receptors for the Site. The results of this report will help establish acceptable exposure levels to be used in evaluating remedial alternatives (Tasks 4 and 7).

7. SUPPLEMENTAL FEASIBILITY STUDY

COMPLIANCE DATE: 90 days following Executive Officer approval of Task 6 report

Submit a technical report acceptable to the Executive Officer containing:

- a) Summary of remedial investigations
- b) Summary of risk assessments
- c) Evaluation of the installed interim remedial actions
- d) Feasibility study evaluating alternative final remedial actions, including actions evaluated as part of Task 4, EDP Cap Area Pilot Study

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 d. 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").

8. REMEDIAL ACTION PLAN INCLUDING DRAFT CLEANUP LEVELS

COMPLIANCE DATE: 90 days following Executive Officer approval of Task 7 report but no later than December 30, 2016

Submit a technical report acceptable to the Executive Officer containing:

- a) Recommended final remedial actions and cleanup levels
- b) Implementation tasks and time schedule

The remedial action plan shall propose remedial work that has a high probability of eliminating unacceptable threats to human health and restoring beneficial uses of water 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).

Item a. shall consider the preliminary cleanup goals for soil and groundwater and must address the attainability of background levels of water quality.

9. **INTERIM REMEDIAL ACTION WORKPLAN**

COMPLIANCE DATE: 90 days following a request by Executive Officer

If interim remedial actions are warranted, this task will be requested by the Executive Officer. This task may be implemented more than once if additional interim remedial actions are warranted. Submit a technical report acceptable to the Executive Officer that evaluates interim remedial action alternatives and recommends one or more alternatives for implementation. The report shall include cleanup levels and describe significant implementation steps, and a proposed schedule, for the interim remedial action. The report shall also include measures to control risk to Site workers and offsite receptors during the remedial action (if applicable).

10. **COMPLETION OF INTERIM REMEDIAL ACTIONS**

COMPLIANCE DATE: According to Task 9 schedule approved by the Executive Officer

Submit a technical report acceptable to the Executive Officer documenting the implementation of the interim remedial action workplan (Task 9). The technical report shall include documentation of completion of all tasks outlined in Task 9 and assess the effectiveness of the remedial action compared to cleanup levels. Additionally, the technical report shall document the implementation of risk mitigation during construction and proper installation, construction, and inspection of engineering controls (if applicable).

11. **Delayed Compliance:** If the Discharger is delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the Discharger 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 CWC section 13050(m).

2. **Good Operation and Maintenance (O&M):** The Discharger 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 Discharger shall be liable, pursuant to CWC 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 Discharger 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 CWC section 13267(c), the Discharger 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 which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the Discharger.
5. **Self-Monitoring Program:** The Discharger 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 and paper version of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the Regional Water Board, and electronic copies shall be provided to the following agencies:
 - a. Alameda County Water District (Water Resources Department)
 - b. Alameda County Fire Department.

The Executive Officer may modify this distribution list as needed.

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 Discharger 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 discharger 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, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

This reporting is in addition to reporting to the California Office of Emergency Services required pursuant to the Health and Safety Code.

11. **Rescission of Existing Order:** This Order supersedes and rescinds Order No. R2-2002-0060.
12. **Periodic SCR Review:** The Regional Water Board will review this Order periodically and may revise it when necessary. The Discharger may request revisions and upon review the Executive Officer may recommend that the Regional Water Board revise these requirements.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that this order is a full, true, and correct order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 21, 2015.

Bruce H. Wolfe
Executive Officer

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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

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Attachments: Site Map
Self-Monitoring Program

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

**SELF-MONITORING PROGRAM for:
FMC CORPORATION**

for the property located at:

8787 ENTERPRISE DRIVE
NEWARK, ALAMEDA COUNTY

1. **Authority and Purpose:** The Regional Water Board requests the technical reports required in this Self-Monitoring Program (SMP) pursuant to CWC sections 13267 and 13304. This SMP is intended to document compliance with Regional Water Board Order No. R2-2015-0017 (site cleanup requirements).
2. **Monitoring:** The Discharger shall measure groundwater elevations semiannually in all monitoring wells, and shall collect and analyze representative samples of groundwater according to the following table:

| Well | Sampling Frequency | Analyses | Well # | Sampling Frequency | Analyses |
|------|--------------------|----------------|-------------------|--------------------|-----------------------|
| W-1 | SA | 8015M, 8260 | W-30 | SA A | 8260 Metals |
| W-2 | SA | 8015M, 8260 | W-31 | SA A | 8260 Metals |
| W-3 | SA | 8015M, 8260 | W-32 | SA A | 8260 Metals |
| W-4 | SA A | 8260 Metals | W-34 | SA A | 8260 Metals |
| W-5 | SA A | 8260 Metals | W-35 | SA A | 8260 Metals |
| W-6 | SA A | 8260 Metals | W-37 | SA A | 8260 Metals |
| W-7 | SA A | 8260 Metals | W-40 | SA A | 8260 Metals |
| W-8 | SA A | 8260 Metals | W-44 | SA A | 8260 Metals |
| W-10 | SA A | 8260 Metals | W-48 | SA A | 8260 Metals |
| W-12 | SA A | 8260 Metals | W-54 | SA A | 8260 Metals |
| W-13 | SA A | 8260 Metals | ¹ DW-1 | SA A | 8015M, 8260 Metals |
| W-16 | SA A | 8260 Metals | ³ DW-2 | SA A | 8015M, 8260 Metals |
| W-19 | SA A | 8260 Metals | DW-3 | SA | 8015M, 8260 Metals |
| W-20 | SA A | 8260 Metals | DW-4 | SA | 8015M, 8260 Metals |

| Well | Sampling Frequency | Analyses | Well # | Sampling Frequency | Analyses |
|------|--------------------|----------------|-------------------|--------------------|-----------------------|
| W-24 | SA A | 8260 Metals | ² DW-5 | SA | 8015M, 8260 Metals |
| W-27 | SA A | 8260 Metals | ³ DW-8 | SA | 8015M, 8260 Metals |
| W-28 | SA A | 8260 Metals | DW-11 | SA | 8015M, 8260 Metals |

Key:

SA = Semi-Annually

A = Annually

8015M by USEPA Method 8015-Modified or equivalent

8260 by USEPA Method 8260 or equivalent, including EDB

Metals =Arsenic, Barium, Chromium, Nickel, Lead, Selenium by USEPA Method 6010

¹DW-1 is the deepest well at the Site, screened from 101 to 110 feet bgs in the Irvington Aquitard.

²DW-5 is a lost well that was a compliance point for the Newark Aquifer. A replacement well is required.

³DW-2 and DW-8 are extraction wells.

The Discharger shall sample any new monitoring or extraction wells or extraction wells quarterly for the first year and semi-annually thereafter and analyze groundwater samples for all COCs for the parcel in which the well is located. The Discharger may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

3. **Semi-Annual Monitoring Reports:** The Discharger shall submit semi-annual monitoring reports to the Regional Water Board no later than 30 days following the end of the semi-annual period (e.g., report for July through December period due January 31). The first semi-annual monitoring report shall be due on July 31, 2015. 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 fourth quarterly report each year.
 - c. **Groundwater Analyses:** Groundwater 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 water-bearing 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 fourth quarterly report each year. The report shall describe any significant increases in contaminant concentrations since

the last report, and any measures proposed to address the increases. Supporting data, such as lab data sheets, need not be included (however, see record keeping - below).

- d. **Groundwater Extraction:** If applicable, the report shall include groundwater extraction results in tabular form, for each extraction well and for the Site as a whole, expressed in gallons per minute and total groundwater volume for the quarter. The report shall also include contaminant removal results, from groundwater extraction wells and from other remediation systems (e.g., soil vapor extraction), expressed in units of chemical mass per day and mass for the quarter. Historical mass removal results shall be included in the second semi-annual report each year.
 - e. **Status Report:** The semi-annual report 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 Discharger violates requirements in the Site Cleanup Requirements, then the Discharger shall notify the Regional Water Board office by telephone as soon as practicable once the Discharger has knowledge of the violation. Regional Water Board staff may, depending on violation severity, require the Discharger to submit a separate technical report on the violation within five working days of telephone notification.
 - 5. **Other Reports:** The Discharger 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 Discharger or his/her 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 SMP may be ordered by the Executive Officer, either on his/her own initiative or at the request of the Discharger. 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.