California Regional Water Quality Control Board
Santa Ana Region

October 25, 2002

STAFF REPORT

ITEM: 13

SUBJECT: Waste discharge requirements for the National Guard Bureau for discharges of extracted and treated groundwater resulting from the cleanup of groundwater polluted by petroleum hydrocarbons, solvents and/or solvents mixed with petroleum hydrocarbons at Joint Forces Training Base, Los Alamitos, Orange County, Order No. R8-2002-0079 (NPDES No. CA8000398)

DISCUSSION:

In 1992, the National Guard Bureau started investigations under the Department of Defense Installation Restoration Program (IRP) at the Armed Forces Reserve Center in Los Alamitos. The name of the Armed Forces Reserve Center was changed to Joint Forces Training Base (JFTB), Los Alamitos (JFTB-LA) on July 1, 2001. The facility is owned by the National Guard Bureau. The site is shown in Attachment "A".

The Installation Restoration Program is the investigation and cleanup of contaminant releases resulting from military practices that occurred prior to 1988. Investigations and cleanup under the IRP are conducted in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), and Executive Orders 12088 and 12580.

Nine areas of concern (AOCs) were identified in the initial investigations at JFTB-LA. Seven of the nine AOCs were subsequently identified as source areas for groundwater contamination. There are generally three types of source area contamination: solvent releases, fuel and other petroleum product releases, and a combination of solvent and fuel releases. The principal groundwater contaminants of concern are fuels (gasoline, JP-4 jet fuel, benzene, toluene, ethylbenzene, xylenes (BTEX)), and solvents (trichloroethene (TCE), tetrachloroethene (PCE), 1,1-dichloroethane (1,1 DCA), 1,2-dichloroethane (1,2 DCA), 1,1-dichloroethene (1,1 DCE), cis and trans 1,2-dichloroethene (1,2 DCE)).

The National Guard Bureau at JFTB-LA is using interim remedial actions to expedite the cleanup of groundwater contamination source areas. Treated groundwater discharges from an interim groundwater treatment system were initially authorized on November 29, 1995 under General Groundwater Cleanup Permit Order No. 91-63-169, NPDES No. CAG918001. Discharges of up to 150,000 gallons per day were re-authorized on May 2, 1997 under General Groundwater Cleanup Permit Order No. 96-18-110, NPDES No. CAG918001. On January 23, 2002, the general groundwater cleanup permit Order No. 96-18 was replaced by general groundwater cleanup permit Order No. R8-2002-0007, NPDES No. CAG918001. JFTB-LA filed a Notice of Intent for coverage under Order No. R8-2002-0007. However, due to the

multiplicity and complexity of groundwater treatment systems at JFTB-LA, Board staff believes that an individual permit is more appropriate for the groundwater cleanup program. The National Guard Bureau's Remedial Project Manager agrees with this finding.

The following briefly describes the areas within the facility where remediation is ongoing or is proposed, and the remediation technologies that are being or will be employed. More detailed information concerning each of these systems is included in the Board's files pertaining to JFTB-LA. Attachment "B" shows in tabulated form the discharge coordinate points, estimated volume of discharge, and the treatment employed at each remediation site within the facility. Attachment "C" shows the schematics of the treatment systems.

Existing systems

A) JP-4 Tank Farm - DPVE/SP System

The JP-4 Tank Farm area is located in the northwest quadrant of the facility and is designated as JP-4 DPVE/SP IRA. An extraction system was installed to remove floating products in November 1996. In February 1998, a dual phase vacuum extraction/air sparging (DPVE/SP) system was installed to remediate JP-4 fuel that had leaked into the groundwater. The DPVE/SP system is the best available control technology for the JP-4 Tank Farm area. The DPVE process is designed to remove identified contaminants from groundwater and soil vapor. Remediation of the subsurface is accomplished using a high vacuum to create a large cone of depression and lower the water table below the zone of highest soil contamination. This process results in the extraction of groundwater along with soil vapor. The air sparging process is designed to enhance volatilization of contaminants dissolved in groundwater beneath the vapor extraction zone and route vapors to the DPVE system.

B) Building 35 - DPVE System

The Building 35 area is located between the airfield and Enterprise Avenue and adjacent to the Fire Department of the JFTB-LA. The site is designated as Building 35 DPVE IRA. A dual phase vacuum extraction (DPVE) system is the best available control technology for the Building 35 area. The DPVE was installed in July 1997 to remediate solvents such as trichloroethene and tetrachloroethene that had leaked into the groundwater from maintenance operations in the area.

C) Crash Fire Rescue area - DPVE System

The Crash Fire Rescue (CFR) area is located west of the airfield and adjacent to the Medfly compound of the JFTB-LA. The site is designated as CFR DPVE IRA. A dual phase vacuum extraction (DPVE) system is the best available control technology for the CFR area. The system was installed in October 1999 to remediate solvents and petroleum hydrocarbons that had leaked into the groundwater from fire rescue operations and training sessions.

D) Landfill area - DPVE System

The Northern Landfill is located southwest of the CFR Area. The Landfill is located along the communications tower of the JFTB-LA. The site is designated as the Landfill DPVE IRA. A dual phase vacuum extraction (DPVE) system is the best available control technology for the Landfill area. The system was installed in March 2000 to remediate fuel and solvents that had leaked into the groundwater resulting from activities of the area as a landfill.

E) Field Artillery Compound (formerly Seabee Compound) - DPVE System

The Field Artillery Compound is a fenced area located at the northwest corner of the intersection of Enterprise Avenue and Essex Road at the JFTB-LA. The area was used for vehicle and heavy equipment maintenance, hazardous material storage, and battery maintenance and storage. A dual phase vacuum extraction (DPVE) system, the best available control technology for the Compound, was installed at the area in October 1998. The DPVE system was installed to remediate solvents that were used extensively for cleaning parts and vehicles. The DPVE system was decommissioned in April 2000, with Regional Board staff's concurrence, based on successful remediation. However, one old extraction well and three new extraction wells from the area are now incorporated into the newly installed Fuel Farm Office DPVE system ("F", below). During its operation, the site was designated as the Seabee Compound DPVE IRA.

F) Fuel Farm Office - DPVE System

Fuel Farm Office (FFO**)** is located south of the Field Artillery Compound. The site is designated as the FFO DPVE IRA. A dual phase, dual pump vacuum extraction (DPVE) system, the best available control technology for the FFO area, was installed in June 2002. The system was installed to remediate fuel and solvents that had leaked into the groundwater from fuel lines and maintenance activities conducted by aircraft refueling personnel.

G) JP4 Groundwater Containment (GWC) System

JP-4 Groundwater Containment area is located west of the JP-4 Tank Farm. The site is designated as the JP-4 GWC system. A groundwater extraction system was installed in November 1995 to provide a barrier to offsite contaminant migration from the JP-4 Tank Farm area. The GWC process is designed to extract impacted groundwater and treat the water at the surface, thereby inhibiting the movement of the contaminant plume off JFTB-LA.

H) Building 158 - Groundwater Extraction and Treatment System

Building 158 is located in the center of the JFTB-LA and north of the airfield. A groundwater pump and treat system was installed in November 1996 to remediate petroleum hydrocarbon fuel that had leaked into the groundwater from former underground storage tanks (USTs). The site is designated as the Building 158 GETS system. The system was installed in February 1996. The GETS process is designed to extract impacted groundwater and treat the water at the surface.

Planned Systems

The following systems are planned for JFTB-LA.

1. Upgrade of the Building 158 groundwater pump and treat system (GETS) to a DPVE system similar to the DPVE interim remedial systems now being operated. Major components of the Northern Landfill area treatment system will be used.

2. Installation of a DPVE system as an interim remedial action for the groundwater contamination in the area of Hangar 2, Building 11 and Building 9. Major components of the JP-4 DPVE system will be used.

Discharges from these treatment systems flow into onsite, buried storm drains or into the open storm water channel along JFTB's western boundary. These flows come together and flow onto the golf course adjacent to the southwestern corner of the JFTB. The discharges, commingled with any irrigation tailwater and stormwater, flow across the golf course via culverts, landscape ponds and open channel and under the 405 Freeway, and thence into an unlined channel on the northeastern corner of the Naval Weapons Station, Seal Beach. This storm water channel drains southwest across Leisure World and merges with a storm channel that drains south at Westminster Avenue and thence into the Los Alamitos Retarding Basin, which is unlined. The approximate distance from the JFTB-LA to the retarding basin is two and one half miles. Water in the retarding basin is pumped into the San Gabriel River when the water level in the basin reaches a certain height. Normally, under non-storm conditions, wastewater discharges infiltrate into underlying groundwater upstream of the 405 Freeway. The proposed Order includes requirements necessary to protect both surface and groundwater quality.

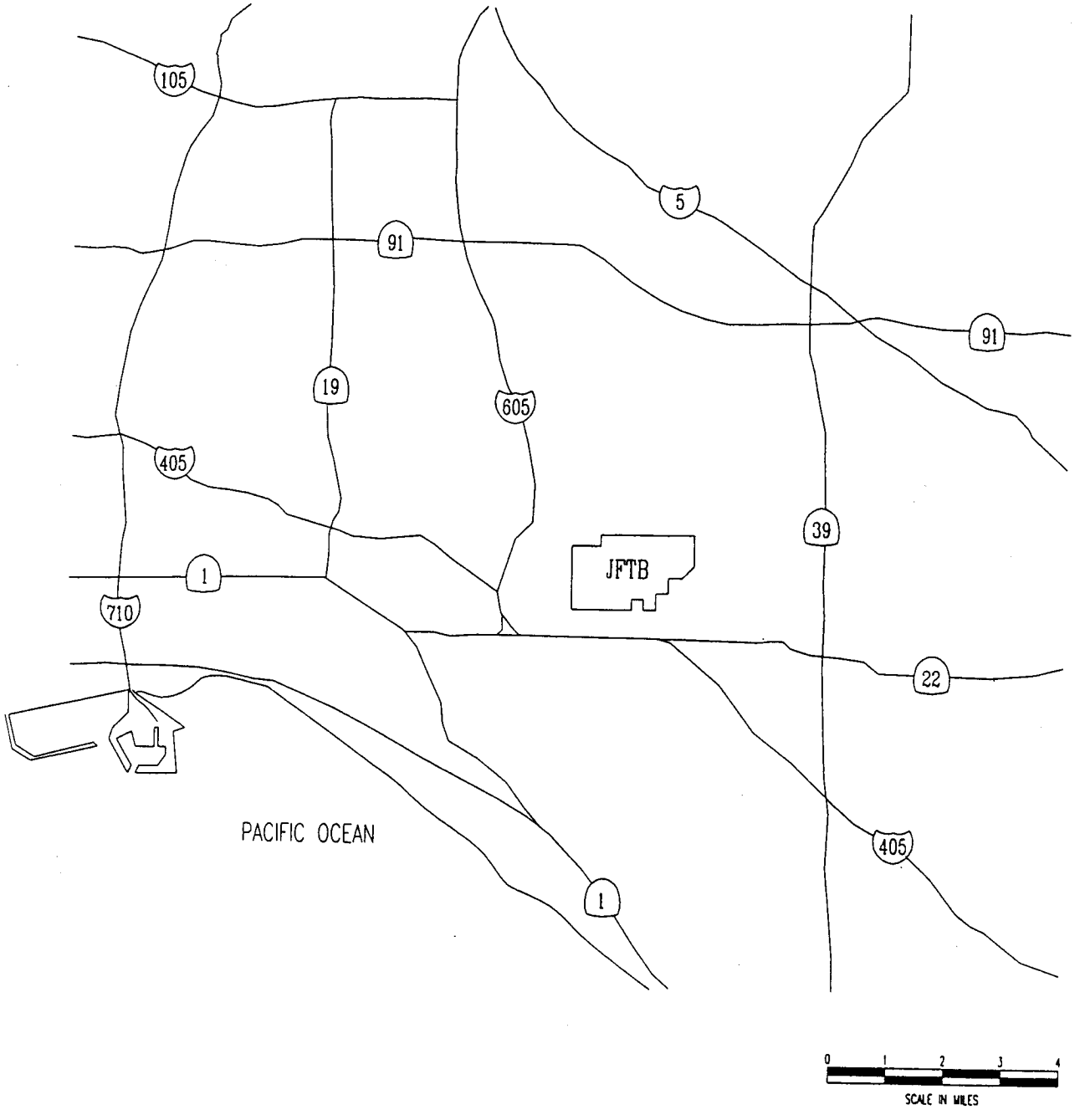
The discharge overlies the Santa Ana Pressure Groundwater Subbasin, the beneficial uses of which include municipal and domestic supply, agricultural supply, industrial process supply, and industrial service supply. The proposed limitations for trichloroethene (TCE), tetrachloroethene (PCE), 1,1-dichloroethane (1,1 DCA), 1,2-dichloroethane (1,2 DCA), 1,1-dichloroethene (1,1 DCE), cis and trans 1,2-dichloroethene (1,2 DCE), total petroleum hydrocarbons, benzene, toluene, ethylbenzene, and total xylene (BTEX), arsenic and thallium reflect levels that are at or below the State Department of Health Services' Drinking Water Maximum Contaminant Levels and are technologically achievable. The discharge limitations should be adequate to protect the beneficial uses of the waters in the area.

RECOMMENDATION:

Adopt Order No. R8-2002-0079, NPDES No. CA8000398 as presented.

Comments were solicited from the following agencies:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) - Terry Oda
U.S. Army District, Los Angeles, Corps of Engineers - Regulatory Branch
U.S. Fish and Wildlife Service - Carlsbad
State Water Resources Control Board, Office of the Chief Counsel – Jorge Leon
State Water Resources Control Board, Division of Water Quality - James Maughan
California Regional Water Quality Control Board, Los Angeles Region – Augustin Anijielo
State Department of Health Services, Santa Ana – Frank Hamamura
State Department of Water Resources - Glendale
State Department of Fish and Game - Long Beach
Orange County Public Facilities and Resources Department - Chris Crompton
Orange County Health Care Agency - Seth Daugherty
Orange County Water District – Nira Yamachika
City of Los Alamitos- City Manager
South Coast Air Quality Management District - James Lents
Orange County Coastkeeper – Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper
Clayton Group Services, Inc. – Sandi Schafer

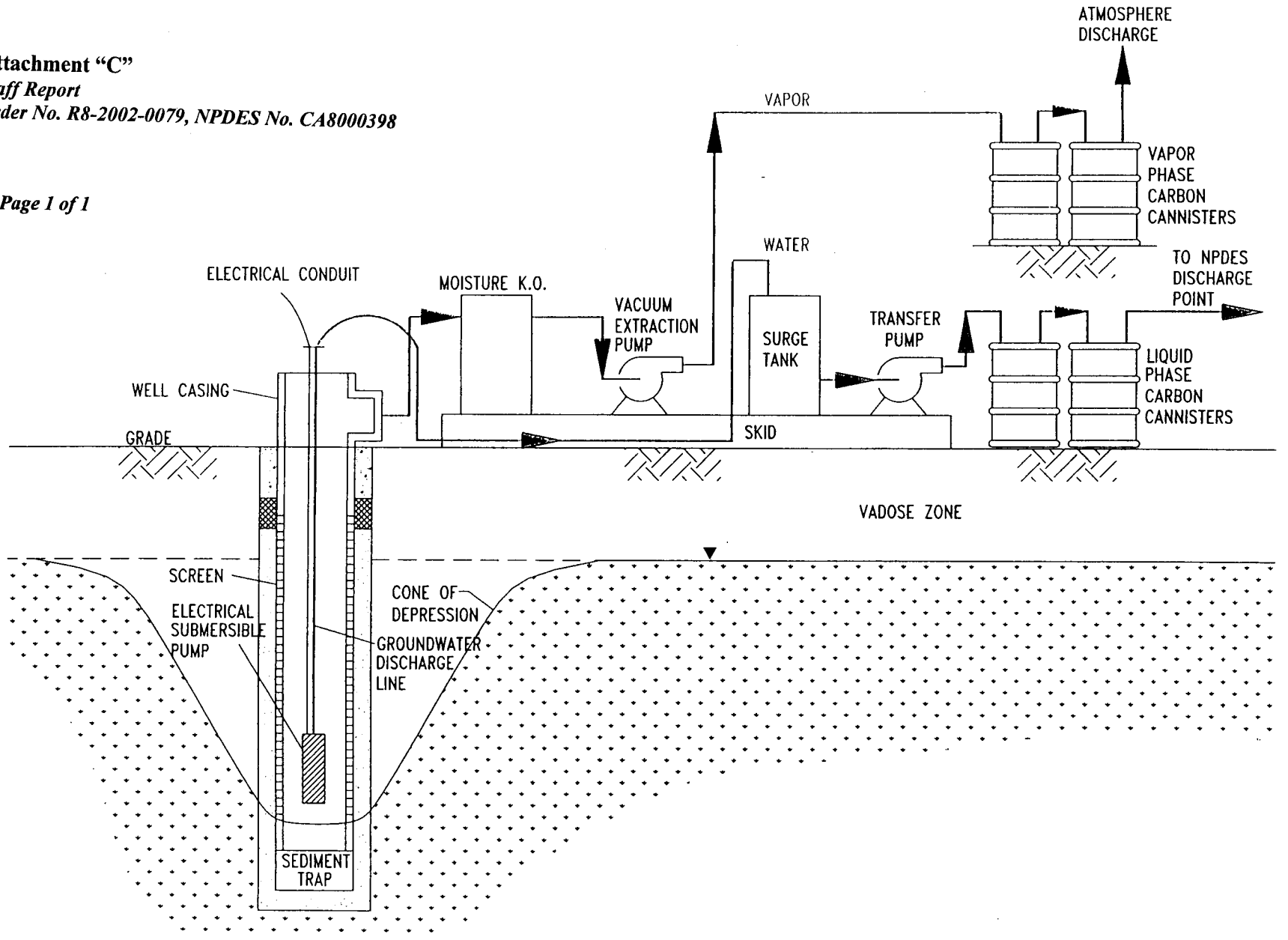


VICINITY MAP

JOINT FORCES TRAINING BASE
LOS ALAMITOS, CALIFORNIA

SITE	COORDINATES		FLUID EXTRACTION WELL NETWORK		BASE TREATMENT SYSTEM	VAPOR COMPONENT SYSTEM
	Latitude	Longitude	Extraction Rate (gpd)	No. of wells		
JP-4 Tank Farm DPVE/SP System	118° 4' 3"	33° 47' 42"	75,000	26-15 feet deep wells with 2-inch stingers	LGAC Treatment system with 2-2000 lbs vessels in series mounted above grade on pads.	catalytic oxidizer
Building 35 DPVE System	118° 3' 27"	33° 47' 38"	85,000	10-40 ft deep wells with 4-inch submersible pumps	LGAC Treatment system with 2-2000 lbs vessels in series mounted above grade on pads.	vapor-phase granular activated carbon (VGAC)-2 –2000 Lbs vessels in series
Crash Fire Rescue area DPVE System	118° 4' 3"	33° 47' 35".	100,000	14 clusters with 1-22 ft deep wells and 1-40 ft. deep well with 2-inch stingers and electrical submersible pump.	LGAC Treatment system with 2-2000 lbs vessels in series mounted above grade on pads.	(VGAC)-2 –2000 Lbs vessels in series
Landfill area DPVE System	118° 4' 3"	33° 47' 16"	100,000	8 clusters with 1 -22 ft deep wells and 1-40 ft. deep well with 2-inch stinger and electrical submersible pump.	LGAC Treatment system with 2-2000 lbs vessels in series mounted above grade on pads	(VGAC)-2 –2000 Lbs vessels in series
Fuel Farm Office DPVE System	118° 3' 47"	33° 47' 36"	125,000	23 clusters with each clusters having one-22 ft shallow well and one-40-70 ft deep well, each with electrical submersible pump	LGAC Treatment system with 2-2000 lbs vessels in series mounted above grade on pads.	(VGAC)-2 –2000 Lbs vessels in series
JP-4 Containment GWCS	118° 4' 3"	33° 47' 37"	75,000	8 wells at various depths ranging between 20-40 ft deep wells with pneumatic submersible pump.	LGAC Treatment system with 2-1000 lbs vessels in series mounted above grade on pads	None
Building 158 GETS	118° 3' 15"	33° 47' 38"	75,000	wells with pneumatic submersible pump.	LGAC Treatment system with 2-1000 lbs vessels in series mounted above grade on pads	None

Attachment "C"
Staff Report
Order No. R8-2002-0079, NPDES No. CA8000398



CONCEPTUAL DESIGN
DPVE SYSTEM
JOINT FORCES TRAINING BASE
LOS ALAMITOS, CALIFORNIA

California Regional Water Quality Control Board
Santa Ana Region

ORDER NO. R8-2002-0079
NPDES NO. CA8000398

Waste Discharge Requirements
For

The National Guard Bureau, Joint Forces Training Base
Los Alamitos, Orange County

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board), finds that:

1. The National Guard Bureau (hereinafter discharger) owns the Joint Forces Training Base, Los Alamitos in Orange County. Cleanup of polluted groundwater and soils resulting from past operations at the facility is ongoing under the Installation Restoration Program. The discharge of treated groundwater and other treated water generated by the cleanup program is currently regulated by Order No. 96-18, NPDES No. CAG918001, general waste discharge requirements for discharges to surface waters of extracted and treated groundwater resulting from the cleanup of groundwater polluted by petroleum hydrocarbons and/or solvents at service stations and similar sites. Order No. 96-18 expired on October 1, 2001 and was subsequently replaced by Order No. R8-2002-0007, NPDES No. CAG918001, adopted by the Regional Board on January 23, 2002.

2. The discharger applied for renewal of its waste discharge requirements under the general waste discharge requirements Order No. R8-2002-0007, NPDES No. CAG918001. However, individual waste discharge requirements would best regulate the discharges from the facility considering the complexity and multiplicity of treatment systems and the expected long-term nature of the wastewater discharges.

3. The Joint Forces Training Base, Los Alamitos is located at longitude 118°03'04", latitude 33°47'24".

4. Wastewater discharges from the facility consist of those from dual-phase vapor/groundwater extraction and treatment systems, groundwater pump and treatment systems, groundwater sampling and well construction and maintenance activities, and site investigations.

5. Currently, all groundwater treatment systems in operation use granular activated carbon for treatment of the extracted groundwater prior to discharge.

6. This Order regulates the discharge into surface waters of treated groundwater and other wastewater generated during the cleanup program that meets the requirements of this Order. It does not preempt or supersede the authority of municipalities, flood control agencies, or other local agencies to prohibit, restrict, or control discharges of waste to storm drain systems or other watercourses subject to their jurisdiction.

7. Wastewater discharges from the treatment systems at the facility are to unlined storm water channels or buried storm drains at the discharge points shown in the following table. These discharge points are ultimately tributary to the Tidal Prism of the San Gabriel River.

Discharge Serial	Estimated Discharges (gallons per day)	Location of Discharge	
		Latitude	Longitude
001: JP-4 Tank Farm	75,000 gpd	118°: 4': 3"	33°: 47': 42"
002: Bldg. 35 DPVE	85,000 gpd	118°: 3': 27"	33°: 47': 38"
003: CFR DPVE	100,000 gpd	118°: 4': 3"	33°: 47': 35"
004: Northern Landfill	100,000 gpd	118°: 4': 3"	33°: 47': 16"
005: Fuel Farm Office	125,000 gpd	118°: 3': 47"	33°: 47': 36"
006: JP-4 GWCS	75,000 gpd	118°: 4': 3"	33°: 47': 37"
007: Bldg. 158 GETS	75,000 gpd	118°: 3': 15"	33°: 47': 38"

8. This Order permits the discharge/re-injection to on-site injection wells/percolation trenches and use for landscape irrigation and/or dust control at construction site(s) of treated groundwater or wastewater that meets the requirements of this Order.

9. A Water Quality Control Plan (Basin Plan) became effective on January 24, 1995. The Basin Plan contains beneficial uses and water quality objectives for waters in the Santa Ana Region.

10. Discharges from the facility may affect the Tidal Prism of San Gabriel River, the beneficial uses of which include:
    a. Industrial Process Supply,
    b. Water Contact Recreation,
    c. Non-contact Water Recreation,
    d. Commercial and Sportfishing,
    e. Wildlife Habitat,
    f. Rare, Threatened or Endangered Species,
    g. Marine Habitat,
    h. Shellfish Harvesting and,
    i. Estuarine Habitat.

11. Discharges from the facility may affect the Santa Ana Pressure Groundwater Subbasin, the beneficial uses of which include:

    a. Municipal and Domestic Supply,
    b. Agricultural Supply,
    c. Industrial Service Supply, and
    d. Industrial Process Supply

12. The requirements contained in this Order are necessary to implement the Basin Plan.

13. Effluent limitations and national standards of performance established pursuant to Section 301, 302, 303(d), 304, 306, and 307 of the Federal CWA and amendments thereto are applicable to this type of discharges.

14. Federal Regulations require permits to include limitations for all pollutants that are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion of a water quality standard. This Order includes effluent limitations for the identified contaminant of concern at JFTB-LA. These limitations are based on best available technology economically achievable and Department of Health Services Maximum Contaminant Levels (MCLs).

15. The quality characteristics of the discharges and the impacts of the discharges on the affected receiving waters have been carefully considered. If conducted in accordance with the terms and conditions of this Order, the discharge will not result in adverse impacts to the beneficial uses of the affected receiving waters. In many cases, pollutants in the discharges are below detectable levels; such discharges would not result in the lowering of water quality. In some cases, groundwater treatment systems may reduce pollutant concentrations to levels that are detectable but are less than the permit limits specified in this Order. Discharges from such systems may result in the lowering of water quality. However, any such lowering of water quality would not be significant. Moreover, it is to the maximum benefit of the people of the State to allow such lowering of water quality in order to facilitate groundwater cleanup activities and thereby restore and protect the beneficial uses of affected groundwaters. Therefore, these waste discharge requirements are consistent with federal and state antidegradation policies.

16. In accordance with California Water Code Section 13389, the issuance of waste discharge requirements for this discharge is exempt from those provisions of the California Environmental Quality Act contained in Chapter 3 (Commencing with Section 21100), Division 13 of the Public Resources Code.

17. The Regional Board has notified interested agencies and persons of its intent to issue general waste discharge requirements for groundwater cleanup discharges resulting from the cleanup of groundwater, and has provided them with an opportunity to submit their written views and recommendations.

18. The Regional Board, in a public meeting, heard and considered all comments pertaining to general waste discharge requirements for discharges of treated groundwater resulting from groundwater cleanup projects.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder, shall comply with the following:

A. DISCHARGE SPECIFICATIONS:

1. The discharge of wastes shall not contain constituent concentrations in excess of the following limits:

EFFLUENT LIMITATIONS APPLICABLE TO DISCHARGES		
Constituent	Maximum Daily Concentration Limit µg/l)	Average Monthly Concentration Limit µg/l)
Total Petroleum Hydrocarbons	155	100
Benzene	1.6	1.0
Toluene	15.5	10.0
Xylene	15.5	10.0
Ethylbenzene	15.5	10.0
Carbon Tetrachloride	0.39	0.25
Chloroform	8.8	5.7
Tetrachloroethylene (PCE)	1.2	0.8
Trichloroethylene (TCE)	4.2	2.7
1,1-Dichloroethane (1,1-DCA)	7.8	5.0
1,1-Dichloroethylene (1,1-DCE)	0.088	0.057
1,2-Dichloroethylene (1,2-DCE)	15.5	10.0
1,1,1-Trichloroethane (TCA)	7.8	5.0

2. The pH of the discharge shall be within 6.5 and 8.5 pH units (see also Receiving Water Limitations B.2.g.).

3. There shall be no visible oil and grease in the discharge.

B. RECEIVING WATER LIMITATIONS:

1. The discharge of wastes shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Board or the State Board, as required by the Federal CWA and regulations adopted thereunder.

2. The discharge shall not cause any of the following:

   a. The undesirable discoloration of the receiving waters.

   b. The presence of objectionable odor in the receiving water.

   c. The presence of visible oil, grease scum, floating or suspended material or foam in the receiving waters.

   d. The deposition of objectionable deposits along the banks or the bottom of the stream channel.

   e. The depletion of the dissolved oxygen concentration below 5.0 mg/l in the receiving water. If the ambient dissolved oxygen concentration is less than 5.0 mg/l, the discharge shall not cause a further depression.

   f. An increase in the temperature of the receiving waters above 90°F (32°C) which normally occurs during the period of June through October, nor above 78°F (26°C) during the rest of the year.

   g. Change the ambient pH levels more than 0.5 pH units.

   h. The presence of radionuclides in concentrations that exceed the maximum permissible concentrations for radionuclides in water set forth in Chapter 5, Title 17 of the California Code of Regulations.

   i. The concentration of pollutants in the water column, sediments, or biota to adversely affect the beneficial uses of the receiving waters.

   j. The bioaccumulation of chemicals in aquatic resources to levels which are harmful to human health.

3. The discharge shall not result in acute toxicity in ambient receiving waters. The effluent shall be deemed to cause acute toxicity when the toxicity test of 100% effluent as required in Monitoring and Reporting Program No. R8-2002-0079, results in failure of the test as determined using the pass or fail test[1] protocol specified in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (EPA/600/4-90/027F, August 1993). The discharger shall immediately stop the discharge whenever the discharge fails the toxicity test(s). Prior to resuming the discharge, the discharger shall identify and correct the source of the toxicity to the satisfaction of the Executive Officer.

C. PROHIBITIONS:

1. The discharge of oil, trash, industrial waste sludge, or other solids directly to the surface waters in this region or in any manner that will ultimately affect surface waters in this region is prohibited.

---

[1] *The pass fail survival limits for acute toxicity test require tests consisting of a control and a single concentration of effluent with a pass/fail endpoint. Control survival must be 90% or greater for an acceptable test. The test "passes" if survival in the control and effluent concentration equals or exceeds 90%. The test "fails" if survival in the effluent is less than 90%, and is significantly different from control survival (which must be 90% or greater), as determined by hypothesis testing.*

2. The discharge of any substances in concentrations toxic to animal or plant life is prohibited.

3. The discharge of wastes to property not owned or controlled by the discharger is prohibited.

4. Odors, vectors, and other nuisances of waste origin are prohibited beyond the limits of each discharger's facility.

5. The addition of chemicals to the extracted groundwater, exclusive of chlorine to control biofouling (H_2S) in treatment systems, is prohibited except when approved by the Executive Officer.

6. There shall be no direct discharges of waste to Areas of Special Biological Significance.

D. COMPLIANCE DETERMINATION:

1. The "maximum daily" concentration is defined as the measurement made on any single grab sample or composite sample.

2. Compliance with average weekly and monthly discharge limitations specified under Discharge Specifications A.1. shall be determined from the average of the analytical results of all samples collected during a calendar week or month, respectively. Where a calendar week overlaps two different months, compliance shall be determined for the month in which the week ends.

3. Compliance with Discharge Specification A.1. shall be based on the quantification levels specified in Attachment "A" of the Monitoring and Reporting Program No. R8-2002-0079, unless an alternative minimum level[2] (ML) or practical quantitation level[3] (PQL) is approved for the pollutant of concern by the Regional Board's Executive Officer. If the discharger develops a limit of quantitation (LOQ) specific to their matrix, the LOQ shall serve as the ML with the approval of the Executive Officer of the Regional Board. If no minimum level is specified for a constituent, the method detection limit (MDL) specified in 40 CFR 136 shall be used. If no MDL is available, the lowest practicable detection limit shall be used with the approval of the Executive Officer.

---

[2] *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

[3] *PQL is the lowest concentration of a substance that can be determined within ± 20 percent of the true concentration by 75 percent of the analytical laboratories tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL is the method detection limit (MDL) x 5 for carcinogens and MDL x 10 for noncarcinogens.*

4. Compliance determinations shall be based on available analyses for the time interval associated with the effluent limitation. Where only one sample analysis is available in a specified time interval (e.g., weekly, monthly, quarterly), that sample shall serve to characterize the discharge for the entire interval.

5. When determining compliance, based on a single sample, with a single effluent limitation which applies to a group of chemicals (e.g., PCBs), concentrations of individual members of the group may be considered to be zero if the analytical response for individual chemicals falls below the MDL for that chemical.

6. Compliance with an effluent limitation based on multiple samples shall be determined through the application of appropriate statistical methods. Compliance based on a single sample analysis may be determined where appropriate, as described below.

    a. When the effluent limitation is greater than or equal to the ML or PQL, compliance shall be determined based on the effluent limitation and either single or multiple sample analyses.

    b. When the effluent limitation is less than the ML or PQL compliance determinations based on analysis of a single sample shall only be undertaken if the concentration of the constituent of concern in the sample is greater than or equal to the ML or PQL.

    c. When the effluent limitation is less than the ML or PQL, and recurrent analytical responses between the ML or PQL and the effluent limitation occur, compliance shall be determined by statistical analysis of multiple samples.

    d. For statistical analysis, the March 1991 Technical Support Document (EPA/505/2-90-001) methodology or other methods approved by the Executive Officer of the Regional Board shall be used.

7. For priority pollutants, when determining compliance with an average monthly limit and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or not detected (ND). In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

    a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ. If a sample result, or the arithmetic mean or median of multiple sample results, is below the reported ML, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a pollutant minimization program (PMP)[4] (as described in Section E.6.), the discharger shall not be deemed out of compliance.

8. For non-priority pollutants, compliance based on a single sample analysis shall be determined where appropriate, as described below:

a. When the effluent limitation is greater than or equal to the PQL, compliance shall be determined based on the effluent limitation in either single or multiple sample analyses.

b. When the effluent limitation is less than the PQL, compliance determinations based on analysis of a single sample shall only be undertaken if the concentration of the constituent of concern in the sample is greater than or equal to the PQL.

9. For non-priority pollutants, the discharge shall be considered to be in compliance with an effluent limitation which is less than or equal to the PQL specified in Attachment "A" of M&RP No. R8-2002-0079 if the arithmetic mean of all test results for the monitoring period is less than the constituent effluent limitation. Analytical results that are less than the specified PQL shall be assigned a value of zero.

E. PROVISIONS:

1. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the CWA, or amendments thereto, that shall become effective 10 days after the date of adoption, provided the Regional Administrator of the EPA has no objection. If the Regional Administrator objects to its issuance, this Order shall not serve as an NPDES permit until such objection is withdrawn.

2. Neither the treatment nor the discharge of waste shall create, or threaten to create, a nuisance or pollution as defined by Section 13050 of the California Water Code.

---

4 *The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation.*

3. This Order expires October 1, 2007 and the discharger must file a Report of Waste Discharge in accordance with Title 23, Division 3, Chapter 9 of the California Code of Regulations not later than 180 days in advance of such expiration date. The Report of Waste Discharge shall serve as the application for issuance of new waste discharge requirements.

4. The discharger shall comply with M&RP No. R8-2002-0079. Revision of this monitoring and reporting program by the Executive Officer may be necessary to confirm that the discharger is in compliance with the requirements and provisions contained in this Order. Revisions may be made by the Executive Officer at any time during the term of this Order, and may include a reduction or an increase in the number of constituents to be monitored, the frequency of monitoring or the number and size of samples collected. Reduction in the number of constituents being monitored and/or frequency of monitoring shall be considered only if the following conditions are satisfied:

   a. The discharger has not been convicted of any criminal convictions under any environmental statute and NPDES civil judicial and administrative enforcement actions.

   b. The discharger has been covered under Order No. 96-18 or under an existing individual permit for the last consecutive two years who have had no effluent violations of monitored constituents during the last two years.

   c. Constituents with effluent limitations shall be monitored at least once per year.

   d. The following performance conditions shall be met:

      1) For a specific constituent, reduction of weekly monitoring to bi-monthly (every two weeks) monitoring can be considered with approval by the Executive Officer when the effluent monitoring data for the last 3 months show compliance with effluent limitations.

      2) For a specific constituent, reduction of bi-monthly (every two weeks) monitoring to monthly monitoring can be considered with approval by the Executive Officer when the effluent monitoring data for the last 6 months show compliance with effluent limitations.

      3) For specific constituent, reduction of monthly monitoring to quarterly monitoring can be considered with approval by the Executive Officer when the effluent monitoring data for the last 12 months show compliance with effluent limitations.

   e. Should any of the weekly, bi-monthly, monthly, quarterly or annual monitoring for a specific constituent show effluent concentrations above the effluent limit, the frequency of monitoring for that constituent shall be increased to weekly or daily as directed by the Executive Officer.

   f. Should groundwater treatment and discharge stop for more than one month, the frequency of monitoring shall be increased to weekly as directed by the Executive Officer.

5. The discharger shall maintain a copy of this Order at the site so that it is available to site operating personnel at all times. Key operating personnel shall be familiar with its content.

6. The discharger shall conduct a Pollutant Minimization Program (PMP) when there is evidence that the priority pollutant is present in the effluent above an effluent limitation (e.g., sample results reported as detected but not quantified (DNQ) when the effluent limitation established in this Order is less than the MDL, sample results from analytical methods more sensitive than those methods included in this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) and either: (i) A sample result is reported as DNQ and the effluent limitation is less than the reported ML; or (ii) A sample result is reported as ND and the effluent limitation is less than the MDL. The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Board:

   a. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
   b. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;
   c. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
   d. Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
   e. An annual status report that shall be sent to the Regional Board including:
      1) All PMP monitoring results for the previous year;
      2) A list of potential sources of the reportable priority pollutant(s);
      3) A summary of all actions undertaken pursuant to the control strategy; and
      4) A description of actions to be taken in the following year.

7. The discharger shall comply with all requirements of this Order and the terms, conditions and limitations of the discharge authorization letter.

8. The discharge shall be limited to extracted and treated groundwater and added treatment chemicals approved by the Executive Officer.

9. The discharger shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

10. The discharger shall take all reasonable steps to minimize any adverse impact to receiving waters resulting from noncompliance with any effluent limitations specified in this Order, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

11. The discharger shall, at all times, properly operate and maintain[5] all facilities and systems of treatment (and related appurtenances) and control which are installed or used by the discharger to achieve compliance with this Order and the conditions of the authorization letter(s) from the Executive Officer. Proper operation and maintenance shall include the following:

    a. Effective performance, adequate funding, adequate operator staffing and training and adequate laboratory and process controls and appropriate quality assurance procedures.

    b. Regular maintenance and inspection of all systems.

    c. Maintenance of records of the inspection results that shall be made available to the Regional Board whenever required and demanded.

12. An Operation and Maintenance (O&M) Manual shall be updated as appropriate prior to the initiation of the discharge and shall be readily accessible to site operating personnel. The O&M Manual shall include the following:

    a. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.

    b. Process and equipment inspection and maintenance schedules.

    c. Describe preventive (fail-safe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events.

    d. Identification and description of the possible sources of accidental loss, bypass of untreated or partially treated wastes, and polluted drainage including power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes and possible spills.

13. All treatment facility startup and operation instruction manuals shall be maintained and available to operating personnel at the site where groundwater remediation is being conducted.

14. The discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement.

15. This Order does not convey any property rights of any sort, or any exclusive privilege.

16. This Order is not transferable to any person except after notice to and approval by the Regional Board.

---

5 *Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls and appropriate quality assurance procedures.*

17. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the discharger from his liabilities under federal, state, or local laws, nor guarantee the discharger a capacity right in the receiving waters.

18. The provisions of this Order are severable, and if any provision of this Order, or the application of any provisions of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order shall not be affected thereby.

19. Any violation of this Order constitutes a violation of the CWA, its regulations, and the California Water Code, and is grounds for enforcement action and/or termination of the authorization to discharge.

20. The Regional Board, EPA, and other authorized representatives shall be allowed:

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

    b. Access to copy any records that are kept under the conditions of the order;

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

    d. To photograph, sample and monitor for the purpose of assuring compliance with this Order, or as otherwise authorized by the CWA.

F. PERMIT REOPENING, REVISION, REVOCATION, AND RE-ISSUANCE:

1. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal CWA, or amendments thereto, the Board will revise and modify this Order in accordance with such standards.

2. This Order may be reopened to address any changes in State or federal plans, policies or regulations that would affect the quality requirements for the discharges.

3. Any permit noncompliance constitutes a violation of the CWA and the California Water Code and is grounds for enforcement action; for permit or authorization letter termination, revocation and reissuance, or modification; the issuance of an individual permit; or for denial of a renewal application.

4. This Order may be modified by the Regional Board prior to the expiration date to include effluent or receiving water limitations for toxic constituents determined to be present in significant amounts in the discharge through the comprehensive monitoring program included as part of this Order.

5. This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by a discharger for modification, revocation and reissuance, or termination of this Order or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

G. PENALTIES:

1. The CWA provides that any person who violates a provision implementing sections 301, 302, 306, 307, or 308 of the CWA is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates provisions implementing these sections of the CWA is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

2. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

3. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

4. The California Water Code provides that any person who violates a waste discharge requirement or a provision of the California Water Code is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day, or $20 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.

H. REQUIRED REPORTS AND NOTICES:

1. Reporting Provisions:

   a. All applications, reports, or information submitted to the Regional Board shall be signed and certified in accordance with 40 CFR 122.22.

   b. The discharger shall furnish, within a reasonable time, any information the Regional Board or EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The discharger shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

   c. Except for data determined to be confidential under Section 308 of the CWA, all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the Regional Water Quality Control Board and the Regional Administrator of EPA. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act and Section 13387 of the California Water Code.

2. The discharger shall file with the Board a report of waste discharge at least 120 days before making any material change or proposed change in the character, location, volume, treatment or disposal methods of the discharge.

3. The discharger shall give advance notice to the Regional Board of any planned changes in the permitted facility or activity that may result in noncompliance with these waste discharge requirements.

4. The discharger shall submit to the Executive Officer, as part of the application for proposed discharge, a report certifying the adequacy of each component of the proposed treatment system and the associated Operation and Maintenance (O&M) Manual. This certification shall contain a requirement-by-requirement analysis, based on accepted engineering practice, of how the process and physical design of the treatment systems will ensure compliance with this Order. The design engineer[6] shall affix his/her signature, professional license number and seal to this certification.

5. In the event of any change in control or ownership of land or waste discharge facilities currently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which signed by the new owner accepting responsibility for complying with this Order shall be forwarded to the Executive Officer.

6. The discharger shall furnish, within a reasonable time, any information the Executive Officer may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The discharger shall also furnish to the Executive Officer, upon request, copies of records required to be kept by this Order.

I, Gerard J. Thibeault, 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, Santa Ana Region, on October 25, 2002.

Gerard J. Thibeault
Executive Officer

[6] *A registered civil engineer, registered geologist, or certified engineering geologist licensed in the State of California (Sections 6735, 7835, and 7835.1 of the California Business and Profession's Code).*

California Regional Water Quality Control Board
Santa Ana Region

Monitoring and Reporting Program No. R8-2002-0079
NPDES No. CA8000398
for
Groundwater Cleanup
Installation Restoration Program
Joint Forces Training Base, Los Alamitos

A. MONITORING GUIDELINES:

Monitoring shall be in accordance with the following:

1. All sampling and sample preservation shall be in accordance with the current edition of "*Standard Methods for the Examination of Water and Wastewater*" (American Public Health Association).

2. All laboratory analyses shall be performed in accordance with test procedures under 40 CFR 136 (revised as of May 14, 1999) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA), unless otherwise specified in this monitoring and reporting program (M&RP). In addition, the Regional Board and/or EPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR 136. Unless otherwise specified herein, organic pollutants shall be analyzed using EPA method 8260, as appropriate, and results shall be reported with ML or PQL and MDL.

3. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services or EPA or at laboratories approved by the Executive Officer of the Regional Board.

4. In conformance with federal regulations (40 CFR 122.45(c)), analyses to determine compliance with the effluent limitations for metals shall be conducted using the total recoverable method.

5. The discharger shall conduct acute toxicity testing as specified in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (EPA/600/4-90/027F, August 1993). Using a control and 100% effluent, static non-renewal survival (pass/fail) tests for 96 hours shall be conducted using the two test species specified in the table below corresponding to the onsite groundwater salinity, for the first required annual test under this permit. Based on the results, the discharger shall determine the most sensitive test species. For the required succeeding toxicity monitoring, the discharger shall use the most sensitive species with prior approval from the Regional Board Executive Officer. The discharger shall submit documentation supporting the discharger's determination of the most sensitive test species. The effluent tests must be conducted concurrent with reference toxicant tests. The effluent and reference toxicant tests must meet all test acceptability criteria as specified in the acute manual[1]. If the test acceptability criteria are not achieved, then the discharger must re-sample and re-test within 14 days. The test results must be reported according to the acute manual chapter on Report Preparation, and shall be attached to the monitoring reports. The use of alternative methods for measuring acute toxicity may be considered by the Executive Officer on a case-by-case basis.

a. Test species:

IF THE EFFLUENT OR RECEIVING WATER SALINITY IS:	TEST SPECIES	TEST
Less than 1,000 mg/l salinity	Fathead minnow, *Pimphales promelas*	Larval survival test
	Water flea, *Ceriodaphnia dubia*	Survival test
Equal to or greater than 1,000 mg/l salinity	Silverside, *Menedia beryllina*	Survival Test
	Pacific mysid, *Holmesimysis costata*	Survival Test

b. In the event that the required annual toxicity test fails, the discharger shall stop any discharge of wastewater to waters of the U.S. and shall retest within 14 days of receiving the notice of failure and shall determine the cause of the failure. The discharger shall stop any discharge of wastewater to waters of the U.S. until such time that the cause of toxicity is determined and appropriately addressed. Commencement of any discharge shall be with prior approval by the Executive Officer.

[1] *"Acute manual" refers to protocols described in "Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" (EPA) 600/4-90-027, September 1991 or subsequent editions).*

6. The discharger shall multiply each measured or estimated congener concentration by its respective toxic equivalency factor (TEF) as shown below and report the sum of these values. The discharger shall use the U.S. EPA approved test method 1613 for dioxins and furans. The discharger shall report the analytical results of the monitoring for each congener, including the quantifiable limit (approved reporting limit) and the method detection limit, and the measured or estimated concentration.

Toxic Equivalency Factors for 2,3,7, 8-TCDD Equivalents	
Congener	TEF
2,3,7,8-TetraCDD	1
1,2,3,7,8-PentaCDD	1.0
1,2,3,4,7,8-HexaCDD	0.1
1,2,3,6,7,8-HexaCDD	0.1
1,2,3,7,8,9-HexaCDD	0.1
1,2,3,4,6,7,8-HeptaCDD	0.01
OctaCDD	0.0001
2,3,7,8-TetraCDF	0.1
1,2,3,7,8-PentaCDF	0.05
2,3,4,7,8-PentaCDF	0.5
1,2,3,4,7,8-HexaCDF	0.1
1,2,3,6,7,8-HexaCDF	0.1
1,2,3,7,8,9-HexaCDF	0.1
2,3,4,6,7,8-HexaCDF	0.1
1,2,3,4,6,7,8-HeptaCDF	0.01
1,2,3,4,7,8,9-HeptaCDF	0.01
OctaCDF	0.0001

7. All analytical data shall be reported with method detection limits (MDLs) and with identification of either practical quantitation levels (PQLs) or limits of quantitation (LOQs).

8. Laboratory data must quantify each constituent down to the Practical Quantitation Levels specified in Attachment "A". Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.

9. The discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by the Board or EPA, the discharger shall participate in the NPDES discharge monitoring report QA performance study. The permittee must have a success rate equal to or greater than 80%.

10. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

11. The flow measurement system shall be calibrated at least once per year or more frequently, to ensure continued accuracy.

12. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Influent samples shall be taken at each point of inflow to the treatment system and shall be representative of the influent to the treatment system. Effluent samples shall be taken downstream of the last addition of waste to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters.

13. Whenever the discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report specified by the Executive Officer.

14. The discharger may request a reduction in the constituents to be monitored and/or a reduction in monitoring frequency for a specific constituent(s) subject to the approval of the Executive Officer when the conditions stipulated in Provisions E.4. of this Order are met.

15. The discharger shall monitor weekly those constituents that are detected at levels of concern[2] in the required priority pollutant scan or in the required organic scan using EPA Method 8260.

16. The discharger shall assure that records of all monitoring information are maintained and accessible for a period of at least five years from the date of the sample, report, or application. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or by the request of the Board at any time. Records of monitoring information shall include:

---

[2] *Levels of concern are detected values 50% or greater than the criteria values specified for Priority Pollutants in the California Toxics Rule (see Federal Register/Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations) and the national; recommended water quality criteria for non-priority pollutants (see Federal Register / Vol. 63, No. 237 / Thursday, December 10, 1998/ Notices, Pages 68360 & 68361) or Maximum Contaminant Level (MCL) and Action Levels (AL) adopted by the Department of Health Services.*

a. The date, exact place, and time of sampling or measurements;

b. The individual(s) who performed the sampling, and/or measurements;

c. The date(s) analyses were performed;

d. The individual(s) who performed the analyses;

e. The analytical techniques or methods used;

f. All sampling and analytical results;

g. All monitoring equipment calibration and maintenance records;

h. All original strip charts from continuous monitoring devices;

i. All data used to complete the application for this Order; and,

j. Copies of all reports required by this Order.

17. Discharge monitoring data shall be submitted in a format acceptable to the Regional Board. Specific reporting format may include preprinted forms and/or electronic media. Unless otherwise specified, discharge flows shall be reported in terms of daily average discharge flows. The results of all monitoring required by this Order shall be reported to the Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order.

18. The discharger shall deliver a copy of each monitoring report in the appropriate format to:

California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

19. Weekly samples shall be collected on a representative day of each week.

20. Bi-monthly samples shall be collected on a representative day of the week.

21. Monthly samples shall be collected on a representative day of the month.

22. Quarterly samples shall be collected in January, April, July, and October.

23. Semi-Annual samples shall be collected once during dry weather (April to September) and once during wet weather (October to March) for the first year of the discharge. The discharger may terminate monitoring for the congeners when the required wet and dry weather monitoring is complied with.

24. Annual samples shall be collected on the month the discharge authorization letter was issued.

B. INFLUENT MONITORING:

A grab[3] sample of the influent to each treatment system shall be monitored on a quarterly basis for total petroleum hydrocarbons, benzene, toluene, xylenes, ethylbenzene, tetrachlorethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethane (1,1-DCA), 1,2-dichloroethane (1,2-DCA), 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethylene (1,1-DCE), 1,2-dichloroethylene (1,2-DCE), chloroform, and methyl tertiary butyl ether (MTBE) and on an annual basis for arsenic and thallium.

C. EFFLUENT MONITORING:

1. The following shall constitute the effluent monitoring program:

CONSTITUENT[4]	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF SAMPLING & ANALYSIS
Flow	------	GPD	Daily for one week and weekly thereafter
Total Petroleum Hydrocarbons[5]	Grab	µg/l	Quarterly
Benzene	"	"	"
Toluene	"	"	"
Xylene	"	"	"
Ethylbenzene	"	"	"
Carbon Tetrachloride	"	"	"
Chloroform	"	"	"
Methyl Tertiary Butyl Ether (MTBE)	"	"	"
Naphthalene	"	"	"
Tetratchloroethylene (PCE)	"	"	"
Trichloroethylene (TCE)	"	"	"
1,1-Dichloroethane (1,1-DCA)	"	"	"
1,2-Dichloroethane (1,2-DCA)	"	"	"
1,1-Dichloroethylene (1,1-DCE)	"	"	"
1,2-Dichloroethylene (1,2-DCE)	"	"	"
1,1,1-Trichloroethane (1,1,1-TCA)	"	"	"
Total Dissolved Solids	"	mg/l	"
Arsenic[6]	"	"	"
Thallium[6]	"	"	"
Selenium[6]	"	"	"

---

3 *A "grab" sample is defined as any individual sample collected in less than 15 minutes.*

4 *For testing organic volatile compounds use EPA Method 8260 and report entire suite of detected constituents at level of concern (see footnote 2, above).*

5 *Total Petroleum Hydrocarbons with gasoline distinction. TPH-G (Modified 8015) must include analysis for carbon range C4 through C12.*

6 *Arsenic, thallium and selenium to be monitored quarterly for one year.*

CONSTITUENT[4]	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF SAMPLING & ANALYSIS
Total Inorganic Nitrogen (TIN)	"	"	Semi-Annual
2,3,7,8-TetraCDD	"	µg/l	One time sampling during first year (See A.6. & A.23.)
1,2,3,7,8-PentaCDD	"	"	"
1,2,3,4,7,8-HexaCDD	"	"	"
1,2,3,6,7,8-HexaCDD	"	"	"
1,2,3,7,8,9-HexaCDD	"	"	"
1,2,3,4,6,7,8-HeptaCDD	"	"	"
OctaCDD	"	"	"
2,3,7,8-TetraCDF	"	"	"
1,2,3,7,8-PentaCDF	"	"	"
2,3,4,7,8-PentaCDF	"	"	"
1,2,3,4,7,8-HexaCDF	"	"	"
1,2,3,6,7,8-HexaCDF	"	"	"
1,2,3,7,8,9-HexaCDF	"	"	"
2,3,4,6,7,8-HexaCDF	"	"	"
1,2,3,4,6,7,8-HeptaCDF	"	"	"
1,2,3,4,7,8,9-HeptaCDF	"	"	"
OctaCDF	"	"	"
Toxicity Testing (see paragraph A.5., above.)	Grab	Pass/Fail	At the initiation of the project and annually thereafter (see paragraph A.24., above)

2. The monitoring frequency for those priority pollutants that are detected during the required annual monitoring at a concentration greater than fifty percent of the most stringent applicable receiving water objective (freshwater or human health (consumption of organisms only) as specified for that pollutant in 40 CFR 131.38[7]) shall be accelerated to quarterly for one year following detection. To return to the annual monitoring frequency, the discharger shall request and receive approval from the Regional Board's Executive Officer or designee.

3. The discharger may request a reduction in the monitoring frequency when appropriate in accordance with Section E.14 of the Order.

D. REPORTING:

Reporting shall be in accordance with the following:

1. All monitoring reports, or information submitted to the Regional Board shall be signed and certified in accordance with 40 CFR 122.22 and shall be submitted under penalty of perjury.

---

[7] *See Federal Register / Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

2. All reports shall be arranged in a tabular format to clearly show compliance or noncompliance with each discharge limitation.

3. One week before groundwater extraction, treatment, and discharge is commenced, the discharger shall notify the Regional Board or its designated compliance officer by email and/or orally by telephone.

4. If no discharge occurs during the previous monitoring period, a letter to that effect shall be submitted in lieu of a monitoring report.

5. The discharger shall notify the Regional Board in writing when groundwater treatment and discharge is stopped for more than a week. The report shall include a discussion as to why groundwater remediation is stopped and when treatment will commence.

6. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, and of the actions undertaken or proposed which will bring the discharger into full compliance with requirements at the earliest time, and an estimate of the date when the discharger will be in compliance. The discharger shall notify the Regional Board by letter when compliance with the time schedule has been achieved.

7. Noncompliance Reporting

    a. The discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided to the Executive Officer (909-782-4130) and the Office of Emergency Services (1-800-852-7550) orally within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue, and, steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

    b. Any violation of a maximum daily discharge limitation for any of the pollutants listed in this Order shall be included as information that must be reported within 24 hours.

    c. The Regional Board may waive the above required written report on a case-by-case basis.

8. Except for data determined to be confidential under Section 308 of the Clean Water Act (CWA), all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the Regional Water Quality Control Board and the Regional Administrator of EPA. As required by the CWA, effluent data shall not be considered confidential.

9. Monitoring reports shall be submitted by the 30th day of each month following the monitoring period and shall include:

   a. The results of all chemical analyses for the previous quarter, and annual samples whenever applicable,

   b. The daily flow data,

   c. A summary of the quarter's activities including a report detailing compliance or noncompliance with the task for the specific schedule date, and

   d. For every item where the requirements are not met, the discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time and submit a timetable for correction.

Ordered by _____
Gerard J. Thibeault
Executive Officer

October 25, 2002

PRACTICAL QUANTITATION LEVELS FOR COMPLIANCE DETERMINATION

	Constituent	PQL µg/l	Analysis Method
1	Arsenic	7.5	GF/AA
2	Barium	20.0	ICP/GFAA
3	Cadmium	15.0	ICP
4	Chromium (VI)	15.0	ICP
5	Cobalt	10.0	GF/AA
6	Copper	19.0	GF/ICP
7	Cyanide	50.0	335.2/335.3
8	Iron	100.0	ICP
9	Lead	26.0	GF/AA
10	Manganese	20.0	ICP
11	Mercury	0.50	CV/AA
12	Nickel	50.0	ICP
13	Selenium	2.0	EPA Method 1638, 1640 or 7742
14	Silver	16.0	ICP
15	Zinc	20.0	ICP
16	1,2 - Dichlorobenzene	5.0	601/602/624
17	1,3 - Dichlorobenzene	5.0	601
18	1,4 - Dichlorobenzene	5.0	601
18	2,4 - Dichlorophenol	10.0	604/625
20	4 - Chloro -3- methylphenol	10.0	604/625
21	Aldrin	0.04	608
22	Benzene	1.0	602/624
23	Chlordane	0.30	608
24	Chloroform	5.0	601/624
25	DDT	0.10	608
26	Dichloromethane	5.0	601/624
27	Dieldrin	0.10	608
28	Fluorantene	10.0	610/625
29	Endosulfan	0.50	608
30	Endrin	0.10	608
31	Halomethanes	5.0	601/624
32	Heptachlor	0.03	608
33	Hepthachlor Epoxide	0.05	608
34	Hexachlorobenzene	10.0	625
35	Hexachlorocyclohexane		
	Alpha	0.03	608
	Beta	0.03	608
	Gamma	0.03	608
36	PAH's	10.0	610/625
37	PCB	1.0	608
38	Pentachlorophenol	10.0	604/625
39	Phenol	10.0	604/625
40	TCDD Equivalent	0.05	8280
41	Toluene	1.0	602/625
42	Toxaphene	2.0	608
43	Tributyltin	0.02	GC
44	2,4,6-Trichlorophenol	10.0	604/625

EPA PRIORITY POLLUTANT LIST

Metals	Method
Antimony	ICP
Arsenic	GF/AA
Beryllium	ICP
Cadmium	ICP
Chromium	ICP
Copper	GF/AA
Lead	GF/AA
Mercury	CV/AA
Nickel	ICP
Selenium	GF/HYDRIDE
Silver	ICP
Thallium	ICP
Zinc	ICP

Miscellaneous	Method
Cyanide	335.2/335.3
Asbestos (not required unless requested)	
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)	8280

Pesticides	Method
Aldrin	608
Chlordane	"
Dieldrin	"
4, 4' - DDT	"
4, 4' - DDE	"
4, 4' - DDD	"
Alpha Endosulfan	"
Beta Endosulfan	"
Endosulfan Sulfate	"
Endrin	"
Endrin Aldehyde	"
Heptachlor	"
Heptachlor Epoxide	"
Alpha BHC	"
Beta BHC	"
Delta BHC	"
Gamma BHC	"
Toxaphene	"
PCB 1016	"
PCB 1221	"
PCB 1232	"
PCB 1242	"
PCB 1248	"
PCB 1254	"
PCB 1260	"

Base/Neutral Extractibles	Method
Acenaphthene	625
Acenaphthylene	"
Anthracene	"
Benzidine	"
Benzo (a) Anthracene	"
Benzo (a) Pyrene	"
Benzo (b) Fluoranthene	"
Benzo (g,h,i) Perylene	"
Benzo (k) Fluoranthene	"
Bis (2-Chloroethoxy) Methane	"
Bis (2-Chloroethyl) Ether	"
Bis (2-Chloroisopropyl) Ether	"
Bis (2-Ethylhexyl) Phthalate	"
4-Bromophenyl Phenyl Ether	"
Butyl Benzyl Phthalate	"
2-Chloronaphthalene	"
Chrysene	"
Dibenzo (a,h) Anthracene	"
4-Chlorophenyl Phenyl Ether	"
1,2-Dichlorobenzene	"
1,3-Dichlorobenzene	"
1,4-Dichlorobenzene	"
3,3-Dichlorobenzidine	"
Diethyl Phthalate	"
Dimethyl Phthalate	"
Di-N-Butyl Phthalate	"
2,4-Dinitrotoluene	"
2-6-Dinitrotoluene	"
1,2-Dipenylhydrazine (as Azobenzene)	"
Di-N-Octyl Phthalate	"
Fluoranthene	"
Fluorene	"
Hexachlorobenzene	"
Hexachlorobutadiene	"
Hexachlorocyclopentadiene	"
Hexachloroethane	"
Indeno (1,2,3-cd) Pyrene	"
Isophorone	"
Naphthalene	"
Nitrobenzene	"
N-Nitrosodimethylamine	"
N-Nitrosodi-N-Propylamine	"
N-Nitrosodiphenylamine	"
Phenanthrene	"
Pyrene	"
1,2,4-Trichlorobenzene	"

Acid Extractibles	Method
2-Chlorophenol	625
2,4-Dichlorophenol	"
2,4-Dimethylphenol	"
4,6-Dinitro-O-Cresol	"
2,4-Dinitrophenol	"
2-Nitrophenol	"
4-Nitrophenol	"
P-Chloro-M-Cresol	"
Pentachlorophenol	"
Phenol	"
2, 4, 6 - Trichlorophenol	"

Volatile Organics	Method
Acrolein	603
Acrylonitrile	"
Benzene	601/602
Bromoform	"
Carbon Tetrachloride	"
Chlorobenzene	"
Chlorodibromomethane	"
Chloroethane	"
2-Chloroethyl Vinyl Ether	"
Chloroform	"
Dichlorobromomethane	"
1,1-Dichloroethane	"
1,2-Dichloroethane	"
1,1-Dichloroethylene	"
1,2-Dichloropropane	"
1,3-Dichloropropylene	"
Ethylbenzene	"
Methyl Bromide	"
Methyl Chloride	"
Methylene Chloride	"
1,1,2,2-Tetrachloroethane	"
Tetrachloroethylene	"
Toluene	"
1,2-Trans-Dichloroethylene	"
1,1,1-Trichloroethane	"
1,1,2-Trichloroethane	"
Trichloroethylene	"
Vinyl Chloride	"