



California Regional Water Quality Control Board
Central Valley Region
Katherine Hart, Chair



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29 August 2011

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NOTICE OF APPLICABILITY (NOA) LIMITED THREAT GENERAL WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2008-0082-013, MATHER AIR FORCE BASE, MAIN BASE/STRATEGIC AIR COMMAND AREA GROUNDWATER EXTRACTION AND TREATMENT FACILITY, SACRAMENTO COUNTY

Our office received an application packet dated December 2007 from Steven C. Hamilton, BRAC Environmental Coordinator for the discharge of treated groundwater from the former Mather Air Force Base. Based on the application packet and subsequent information submitted by the Discharger, including a Notice of Intent dated 3 August 2011, we have determined that the project meets the required conditions for approval under the General Order for Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water (Limited Threat General Order). For this Limited Threat General Order, the Air Force Real Property Agency is designated as Discharger. This project is hereby assigned Limited Threat General Order No. R5-2008-0082-013 and National Pollutant Discharge Elimination System (NPDES) Permit No. CAG995002. Please reference your unique Order number, R5-2008-0082-013, in your correspondence and submitted documents.

The Limited Threat General Order (enclosed) can be viewed and downloaded at: http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2008-0082.pdf. You are urged to familiarize yourself with the contents of the entire general order as well as Attachment 1 to this NOA. Attachment 1 to this NOA provides monitoring requirements extracted from Appendix E of Limited Threat General Order, including sample locations, target parameters, and sampling frequencies.

CALIFORNIA TOXIC RULE / STATE IMPLEMENTATION POLICY MONITORING

The Limited Threat General Order incorporates the requirements of the California Toxic Rule (CTR) and the State Water Resources Control Board's (State Water Board), *Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, 2005, also known as the State Implementation Policy (SIP).

California Environmental Protection Agency

According to the Clean Water Act Section 303(d), Morrison Creek is impaired for chlorpyrifos. One time monitoring of the discharge for chlorpyrifos is required upon initial discharge. The reporting limit for chlorpyrifos shall be less than 10 nanograms per Liter (ng/L) which can be achieved using U.S. EPA Method 8141 or an equivalent method.

PROJECT DESCRIPTION

The former Mather Air Force Base (Base) is a National Priorities List site regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and no longer operates as an Air Force Base. The Base was closed under the Base Realignment and Closure Act (BRCA) for environmental cleanup in 1993. Groundwater contamination at the Base occurred during routine base operations from 1918 to 1993. These operations included industrial activities, equipment maintenance, disposal of waste in landfills, dry cleaning, fuel storage and delivery, and other miscellaneous waste disposal activities. The main contaminants of concern in the groundwater include volatile organic compounds (VOCs), consisting primarily of trichloroethene (TCE), tetrachloroethene (PCE), and carbon tetrachloride (CCl₄).

The Discharger, in compliance with the United States Air Force Installation Restoration Program, began operating the Main Base/Strategic Air Command Area groundwater remediation system (Facility) in April 1998 and the plume has been undergoing cleanup since that time. The Facility is designed to extract groundwater contaminated with VOCs, remove the contaminants by air-stripping, and re-inject up to 2,200 gallons per minute (gpm) of treated water into the subsurface aquifer through injection wells. In addition, the Facility pumps approximately 100 gpm of treated groundwater to the Sacramento County Irrigation System at Mather Field. The discharge by injection is currently regulated by the *Final Record of Decision for the Soil and Groundwater Operable Unit Plumes* (Record of Decision), issued on 29 April 1996 by the US Air Force Base Conversion Agency (AFBCA), now referred to as the Air Force Real Property Agency (AFRPA).

The design treatment capacity of the Facility is 2,200 gpm. Although recent redevelopment of Main Base/Strategic Air Command Area injection wells has improved disposal capacity, the Discharger anticipates injection capacity will continue to decrease over time and adversely impact the Discharger's ability to contain and extract groundwater pollutants. Therefore, to support a supplemental method for the discharge of treated groundwater from the Facility, the Discharger has evaluated several disposal alternatives. The evaluation concluded that discharge of flow exceeding injection well capacity to the West Drainage Canal is the cost effective solution for the groundwater remediation project.

The Discharger submitted a Notice of Intent indicating they intend to begin with discharge of 300 gpm of treated groundwater to the West Drainage Canal, a tributary to the Sacramento-San Joaquin Delta via Morrison Creek.

This NOA authorizes discharge of treated groundwater flows up to 500 gpm (monthly average) to the West Drainage Canal. The Central Valley Water Board recognizes that, as the capacity of the injection wells continues to decline, the Discharger wants to increase the discharge to flow rates exceeding 500 gpm, at which time the Central Valley Water Board will issue a

revised NOA or site-specific permit. In the meantime, the Discharger may increase discharge to the West Drainage Canal to a flow of up to 2,200 gpm on a temporary basis only and shall request the temporary increase in discharge in writing and receive written concurrence from California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) staff before increasing flows above 500 gpm to the West Drainage Canal.

MONITORING AND REPORTING

The Discharger is required to comply with all monitoring and reporting requirements contained in Attachment E of the Limited Threat General Order and Attachment 1 to this NOA, and any revisions thereto issued by the Executive Officer. Attachment 1 to this NOA provides monitoring locations, parameters, and sampling frequencies extracted from Appendix E in the Limited Threat General Order to provide specifics of the monitoring requirements for this discharge.

Effluent and receiving water monitoring shall be conducted and submitted to the Central Valley Water Board on a quarterly basis at a minimum. You must submit quarterly reports, even if there is no discharge or receiving water flow during the reporting quarter, until Central Valley Water Board staff formally terminates your coverage under the Limited Threat General Order.

GENERAL INFORMATION AND REQUIREMENTS

The Discharger will be required to implement its Pollution Prevention and Monitoring and Reporting Plan, if applicable. Discharge of material other than what is described in the application is prohibited.

The required annual fee (as specified in the annual billing you will receive from the State Water Board) shall be submitted until this NOA is officially terminated. You must notify this office in writing if the discharge regulated by this Limited Threat General Order is no longer necessary. If a timely written request is not received, then the Discharger will be required to pay additional annual fees as determined by the State Water Board.

The following requirements apply:

- 1) Discharge of treated groundwater will be conducted in accordance with the requirements contained in this NOA (including Attachment 1), General Order No. R5-2008-0082, *Waste Discharge Requirements for Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water*, and with the information submitted by the Discharger in the Notice of Intent. Certain constituents, such as trichloroethylene, perchloroethylene, carbon tetrachloride, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene; chloromethane; benzene; xylene; Total Petroleum Hydrocarbons as Gasoline (TPH-G); TPH-D; and lead have the potential to be in the discharge and effluent limits for those constituents, as specified in Tables 3 and 4 of this Limited Threat General Order, shall not be exceeded.
- 2) The Discharger shall notify the Central Valley Water Board staff 24 hours before the start of each new discharge.

- 3) The Discharger shall notify the Central Valley Water Board staff of each noncompliance or anticipated noncompliance in accordance with the Standard Provisions found in the General Order, Section VII.A.2.r.
- 4) Monthly monitoring in accordance with Attachment 1 to this NOA and Attachments A through E of the Limited Threat General Order shall be initiated within the first month of discharge from the treatment system.
- 5) The discharge to surface waters is limited to a monthly average flow of 500 gallons per minute, unless approved for a limited duration by Central Valley Water Board staff.
- 6) The Discharge shall only occur when treated water flows exceed the combined capacity of the injection wells and landscape/irrigation needs.
- 7) The Discharger shall ensure that the air-stripping treatment systems is properly maintained and operated and performs reliably for essentially complete removal of VOCs to concentrations less than the practical quantitation limit. The practical quantitation limit for VOCs detected in the Discharger's influent is 0.5 µg/L and can be achieved by U.S. EPA Method 8260. If any VOC concentrations are detected at or above 0.5 µg/l, the Discharger shall within five days, notify the Central Valley Water Board by letter identifying the exceedance(s) and any unique factors that caused the discharge to exceed the practical quantitation limit.
- 8) The Limited Threat General Order does not supersede the *Final Record of Decision for the Soil and Groundwater Operable Unit Plumes* (ROD) or relieve the Discharger from its responsibility to comply with all applicable discharge standards set forth in Table 6-7 of the ROD.
- 9) An initial Investigative Toxicity Reduction Evaluation (TRE) and Work Plan are required in accordance with the requirements in Section VII.C.2 of the Limited Threat General Order.
- 10) A Salinity Evaluation and Minimization Plan is required in accordance with the requirements in Section VII.C.3 of the Limited Threat General Order.
- 11) The Discharger shall comply with all local ordinances for discharge of the treated water, including Sacramento County requirements to their drainage system.

ENFORCEMENT

Failure to comply with the Limited Threat General Order may result in enforcement actions, which could include civil liability. Effluent limitation violations are subject to a Mandatory Minimum Penalty (MMP) of \$3,000 per violation. Late reports are subject to an MMP of \$3,000 per each period of 30 days late. When discharges do not occur during a quarterly report monitoring period, the Discharger must still submit a quarterly report indicating that no discharge occurred to avoid being subject to enforcement actions.

COMMUNICATION

Questions regarding the permitting aspects of your Limited Threat General Order, written notification for termination of coverage under the Order, all monitoring reports submittals, discharge notifications, and questions regarding compliance and enforcement shall be directed to Conny Mitterhofer at (916) 464-4821 or cmitterhofer@waterboards.ca.gov.

Fredrick S. Moss

for
Pamela C. Creedon
Executive Officer

Enclosure: General Order No. R5-2008-0082 (Discharger only)

cc: U.S. Environmental Protection Agency, Region IX, San Francisco
Mr. Phil Isorena, Division of Water Quality, State Water Board, Sacramento

ATTACHMENT 1

I. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in Order R5-2008-082:

Monitoring Location Name	Monitoring Location Description
MBS-PTI	Prior to Main Base/SAC Treatment System
MBS-PTE	Downstream from Main Base/SAC Treatment System and prior to outfall to West Drainage Canal
R-001	Morrison Creek – approximately 100 feet upstream from where the West Drainage Canal empties into Morrison Creek
R-002	Morrison Creek – approximately 100 feet downstream from where the West Drainage Canal empties into Morrison Creek

Approval of these monitoring locations by Central Valley Water Board staff shall be obtained by the Discharger prior to initiating discharge. Receiving water locations R-001 and R-002 are shown on Attachment 2.

II. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor **MBS-PTI** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Measure	Continuous	[1]
Volatile Organics	µg/L	Grab	Monthly	[2][3][4]

1. Field Measurements
2. Test Method to be EPA Methods 601 and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Central Valley Water Board, with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the Method Detection Level and Practical Quantitation Level shall be reported as trace.
3. Parameters shall be analyzed using the analytical methods described in 40 CFR Part 136 or other equivalent approved methods.
4. For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.

III. EFFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor **MBS-PTE** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Measure	Continuous	[1][3]
pH	Standard	Grab	Monthly	[1][3]
Temperature	°F(°C)	Grab	Monthly	[1][3]
Dissolved Oxygen	mg/L	Grab	Monthly	[1][3]
Turbidity	NTU	Grab	Monthly	[1][3]
Electrical Conductivity	µmhos/cm	Grab	Monthly	[1][3]
Volatile Organics	µg/L	Grab	Monthly	[2][3][4]
Lead	µg/L	Grab	Quarterly	[3][4]
Selenium	µg/L	Grab	Quarterly	[3][4]
Hexavalent Chromium	µg/L	Grab	Quarterly	[3][4]
Hardness as CaCO ₃	mg/L	Grab	Quarterly	[3]
Total Suspended Solids	mg/L	Grab	Quarterly	[3]
Priority Pollutants	µg/L	Grab	Once during Second Year	[3][4]
Acute Toxicity	% Survival	Grab	Annually	[5]
Chronic Toxicity	TU _c	Grab	Annually	[5]

1. Field Measurements.
2. Test Method to be EPA Methods 601 and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Central Valley Water Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the Method Detection Level and Practical Quantitation Level shall be reported as trace.
3. Parameters shall be analyzed using the analytical methods described in 40 CFR Part 136 or other equivalent approved methods.
4. For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
5. Acute and chronic toxicity testing shall be performed as described in Attachment E of Order R5-2008-082.
6. The Discharger shall report injection well capacity and irrigation flow demands on a daily basis.

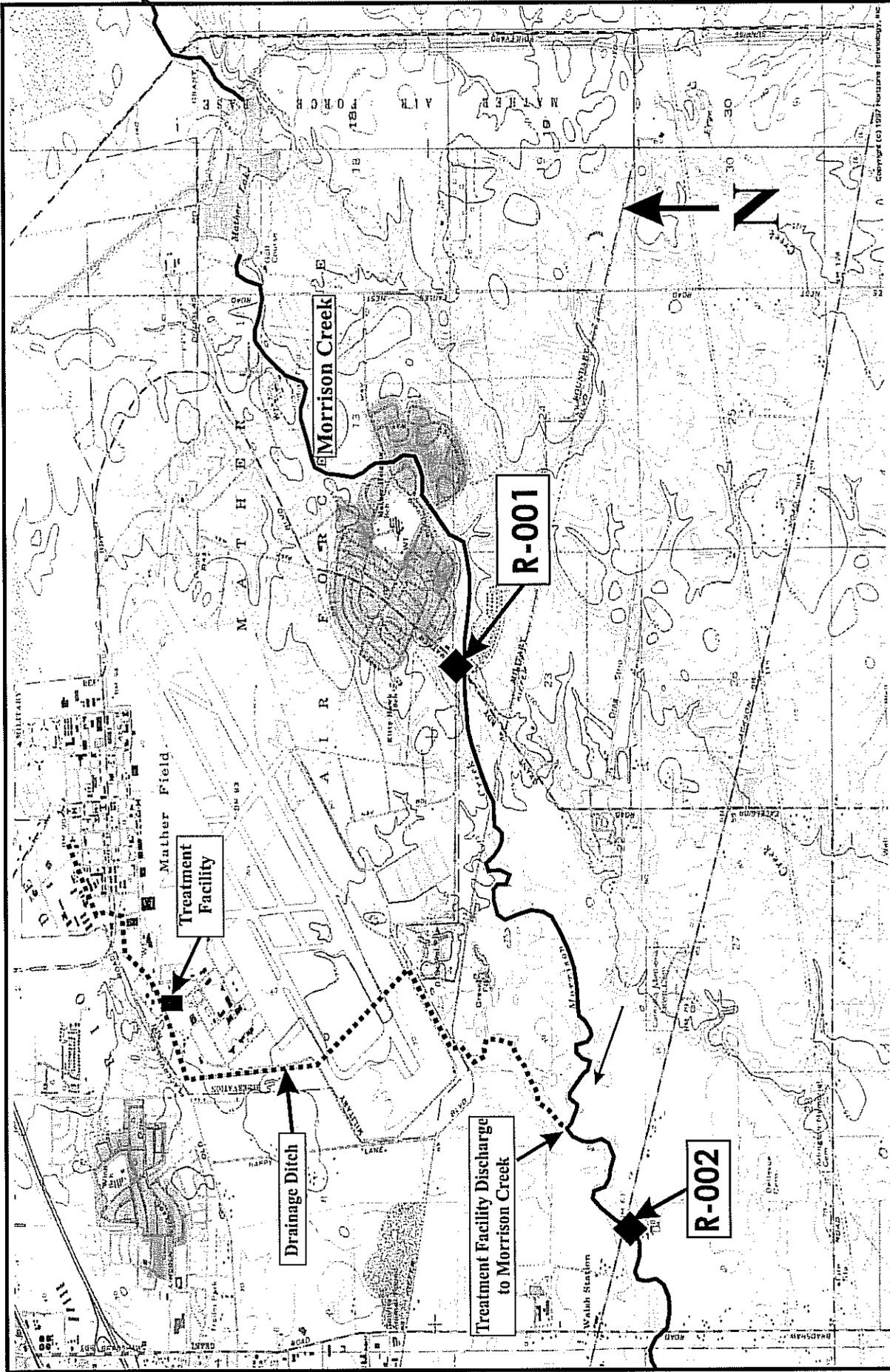
IV. RECEIVING WATER MONITORING REQUIREMENTS

During the times of effluent discharge to the West Drainage Canal, the Discharger shall monitor Morrison Creek at R-001 and R-002 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	Standard	Grab	Monthly	[1][3]
Temperature	°F(°C)	Grab	Monthly	[1][3]
Dissolved Oxygen	mg/L	Grab	Monthly	[1][3]
Turbidity	NTU	Grab	Monthly	[1][3]
Electrical Conductivity	µmhos/cm	Grab	Monthly	[1][3]
Volatile Organics	µg/L	Grab	Quarterly	[2][3][4][5]
Lead	µg/L	Grab	Quarterly for First Year and then Annually	[3][4]
Selenium	µg/L	Grab	Quarterly for First Year	[3][4]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
			and then Annually	
Hexavalent Chromium	µg/L	Grab	Quarterly for First Year and then Annually	[3][4]
Hardness as CaCO ₃	mg/L	Grab	Quarterly	[3]
Total Suspended Solids	mg/L	Grab	Quarterly	[3]
Priority Pollutants	µg/L	Grab	Once during Second Year	[3][4][5]

1. Field Measurements.
2. Test Method to be EPA Methods 601 and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Central Valley Water Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the Method Detection Level and Practical Quantitation Level shall be reported as trace.
3. Parameters shall be analyzed using the analytical methods described in 40 CFR Part 136 or other equivalent approved methods.
4. For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent Limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
5. Upstream sample (R-001) only.



Attachment 2
United States Air Force
Main Base/Strategic Air Command Area
Groundwater Extraction and Treatment Facility
|Mather Field, Sacramento County