CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-0146

WASTE DISCHARGE REQUIREMENTS CALIFORNIA DEPARTMENT OF CORRECTIONS DEUEL VOCATIONAL INSTITUTION FIRE PIT AREA GROUNDWATER REMEDIATION, SOIL REMEDIATION CONTAINMENT AREA SAN JOAQUIN COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds that:

1. The California Department of Corrections (hereafter Discharger), submitted a Report of Waste Discharge (RWD), dated 5 September 2001, for a soil cleanup and a groundwater extraction, treatment and disposal system at the Deuel Vocational Institution (DVI), a 3800-inmate state prison. Supplemental information was submitted on 4 January 2002.

2. The California Department of Corrections owns and operates the DVI facility. The facility is located at 23500 Kasson Road, East of Tracy in San Joaquin County on the 1981 United States Geological Survey (USGS) 7.5 Minute Tracy Quadrangle map, Range 6 E (R6E), Township 2 South (T2S) Section 29 (Sec 29) as shown in Attachment A, which is attached hereto and made a part of this order by reference.

3. Industries present at DVI include auto repair, welding, furniture refinishing, and a dairy. The facility has a wastewater treatment plant and a chemical analytical laboratory. The storm water and wastewater treatment plant discharge to Deuel Drain, an effluent-dominated drainage channel at the eastern boundary of the facility and is regulated by National Pollution Discharge Elimination System (NPDES) Order No. 94-212. Dairy discharges are regulated by General Order No. 96-270.

4. Monitoring and Reporting Program (MRP) No. 95-818, issued by the Executive Officer on 21 September 1995, specifies the scope and frequency of groundwater monitoring to delineate the extent of pollution. This Order and attached monitoring and reporting program (MRP) are issued to regulate the remedial activities at the former Fire Pit area, the Soil Remediation Containment Area (SRCA), and the Spray Field, as shown on Attachment B and C, which are attached hereto and made part of this order by reference.

5. A fire training area at the DVI facility was used from the 1950s to the 1980s for training firefighters to extinguish chemical fires. As a training exercise, chemicals were deposited in an open fire pit, ignited and suppressed by firefighting personnel. Volatile organic compounds (VOCs) including tetrachloroethene (PCE), trichloroethene (TCE) and cis-1,2,-dichloroethene (cis-1,2-DCE) are present in soil and groundwater as a result of the fire training activities. Concentrations of PCE up to 91 micrograms per kilogram (µg/kg) were detected in soil in the 9 December 1994 *Additional Soil and Groundwater Investigation Report*. Concentrations of PCE, TCE and cis-1,2 DCE in groundwater samples collected on

19 November 2001 were 27 micrograms per liter (µg/l), 9.9 µg/l, and 8.0 µg/l respectively. The Discharger proposes to conduct soil and groundwater remediation at the former Fire Pit in accordance with the 27 July 1999 *Final Soil and Groundwater Remediation Workplan*. The Discharger submitted a July 2000 *Project Manual* to describe soil and groundwater remediation protocol activities proposed for the former Fire Pit. According to the Project Manual, VOC impacted soil in the former Fire Pit will be excavated and transported to the SRCA and aerated to remove VOCs. Groundwater will be pumped from the excavated former Fire Pit and routed through granular activated carbon (GAC) for removal of VOCs. GAC effluent will be transported by truck to a Spray Field for disposal. The SRCA, GAC unit and Spray Field will be operated and maintained by the Discharger.

6. The Project Manual will be updated and submitted to the Board for review. Board staff approval of remediation procedures described in the Project Manual is required prior to implementation of the remedial effort. Prior to excavating the soil, the Discharger will conduct a soil investigation in the vicinity of the proposed excavation to verify that remaining pollutant concentrations warrant soil excavation and remediation. If it is determined that soil excavation will be performed, it is expected that the Discharger will excavate approximately 3,000 cubic yards (cy) of polluted soil from an area measuring 100 feet by 75 feet and 12 feet below ground (bgs), or 3 feet below the water table at the former Fire Pit. The soil from the excavation will be transported to the SRCA in the field approximately 300 feet northwest of the excavation, as shown on Attachment C.

7. The threat to groundwater quality by VOC constituents in the in-situ fire pit soils, soils below the SRCA, and treated soils in the SRCA will be assessed by the Discharger**.** Soils containing constituents that would pose a threat to water quality if remaining in place or if discharged in an uncontrolled manner, and are therefore, classified as "designated wastes" will require excavation and transport to the SRCA, for remediation by aeration.

8. Native soils under the fire pit and SRCA are alluvial with layers of clays, silts, sands and gravels of moderate permeability providing hydraulic continuity with groundwater. Groundwater is present at a depth of approximately 9 feet below ground surface (bgs).

9. The SRCA, a waste pile, shall be designed, constructed, and operated to prevent inundation or washout due to floods with a 100-year return period. Specifications for the construction and operation of the SRCA will be detailed in the Project Manual and shall conform to, or present a reasonable alternative of, the prescriptive standards promulgated by Chapter 15 Section 2510(b) and (c) which affords protection against water quality impairment. The SRCA will be constructed with a liner to contain the soil, and collect potential leachate.

10. It is anticipated that the excavated soil in the SRCA will be tilled to promote aeration until it can be verified, using laboratory analysis, that the volatile constituents in soil are sufficiently low that they do not pose a threat to water quality. The excavation will then be backfilled with the remediated soil from the SRCA. The SRCA is expected to be in operation from July to September of 2002.

11. Potential leachate and runoff from the SRCA will flow into a sump where it will be routed to the GAC for treatment. At closure of the SRCA, all residual wastes, including liquids, sludges, precipitates, settled solids, and liner materials and adjacent natural geologic materials contaminated by wastes, shall be completely removed and discharged to an appropriate waste management unit in accordance with an approved closure plan that will be presented in the Project Manual.

12. The groundwater will be pumped from the excavation, and treated by a granular activated carbon (GAC) system to remove VOCs to below the detection limit of 0.5 µg/l. A leachate collection system will capture water collected in the SRCA and convey it to the groundwater treatment system. Between 28,800 and 86,400 gallons per day (gpd) of treated groundwater are anticipated to be transported via a tanker/spray truck or irrigation lines to 22 acres adjacent to the excavation site and discharged to the ground surface, hereafter Spray Field, as shown on Attachment B. Extracted groundwater will be sampled monthly until monitoring demonstrates that water quality objectives have been achieved, or the excavation is backfilled. Treated groundwater will be applied in a manner to prevent any runoff into surface water or surface water drainage courses.

13. The GAC treatment system will consist of bag filters and two GAC vessels operated in series. The carbon source is virgin coconut shell.

14. The spray discharge system will provide a maximum of about 0.12 feet of water per month of operation over the 22-acre field. The existing groundwater monitoring well network serves as a detection monitoring system for the Spray Field. The network shall be used to identify flow gradients, and monitor groundwater quality to ensure water quality is not degraded by the discharge.

15. The operation of the GAC will be independent of the industrial activities at the plant, or the wastewater treatment facility. This order prohibits the discharge of any wastewater from the GAC system to the existing sewer system or to surface water.

16. If it is determined that excavation is not necessary, the Discharger proposes to install a groundwater extraction well or trench to pump polluted groundwater to the treatment system.

17. Surface water drainage is to Deuel Drain. Deuel Drain is part of the Sacramento-San Joaquin Delta, and is tributary to Paradise Cut and the Old River.

18. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition,* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Board. Pursuant to

Section 13263(a) of the California Water Code, waste discharge requirements must implement the Basin Plan.

19. As described in the Basin Plan, groundwater cleanup goals range between background concentration and the water quality objective (WQO), unless background concentrations are higher that the WQO, in which case the cleanup goal is the background concentration. For this site, the background concentrations are the detection limits since these compounds are not naturally occurring. For WQOs that are not maximum contaminant levels (MCLs) the WQO is the narrative toxicity objective. Numerical limits cited here implement the objective. The cleanup goals are tabulated below:

Groundwater Range of Cleanup Goals

	PCE (µg/l)	**TCE (µg/l)**	**Cis-1,2-DCE (µg/l)**
Background Concentration	<0.5	<0.5	<0.5
Water Quality Objective	0.06	0.8	6
Rationale for Water Quality Objective	California Public Health Goal in Drinking Water	California Public Health Goal in Drinking Water	California Maximum Contaminant Level
Range of Cleanup Goals	<0.5 - 0.06	<0.5 - 0.8	<0.5 - 6

20. Effluent limits for the constituents of concern are set at the detection limit of 0.5 µg/l.

21. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981). These standards, and any more stringent standards adopted by the Discharger or County pursuant to CWC Section 13801, apply to all monitoring or extraction wells.

22. The beneficial uses of the Delta downstream of the discharge as identified in Table II-1 of the Basin Plan are municipal and domestic supply, agricultural irrigation, agricultural stock watering, industrial process water supply, industrial service supply, body contact water recreation, other non-body contact water recreation, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, cold fish migration habitat, warm spawning habitat, wildlife habitat, and navigation. Waters of Paradise Cut, downstream of the confluence with Deuel Drain, are used to irrigate crops such as walnuts, alfalfa, wheat, barley, processing and fresh market tomatoes, asparagus, and sugar beets.

23. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service and process supply, and agricultural supply.

24. State Board Resolution No. 68-16 (Resolution 68-16) requires the Board, in regulating the discharge of waste, to maintain high quality waters of the state until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State,

will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Board's policies (e.g., quality that exceeds water quality objectives). The Regional Board finds that the discharge, as allowed in these waste discharge requirements, is consistent with Resolution No. 68-16 since (1) the purpose of the discharge is to implement the cleanup of groundwater pollution and such remediation will benefit the people of the State; (2) this order requires use of best practicable treatment, including adequate monitoring and contingency plans to assure protection of water quality; and (3) this order does not allow discharges of waste to degrade water quality. If the discharge causes or threatens to cause degradation of water quality, then the Dischargers will be required to cease the discharge, implement source control, change the method of disposal, or take other action.

25. Issuance of this order is an action to assure the restoration of the environment and is therefore, exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.), in accordance with the Sections 15308 and 15330, Title 14, California Code of Regulations (CCR,).

26. Section 13267(b) of California Water Code provides that:

"In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."

The technical reports required by this Order and the attached Monitoring and Reporting Program No. R5-2002-0146 are necessary to assure compliance with these waste discharge requirements.

27. This discharge is exempt from the requirements of *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1, Section 20005, et seq., (hereafter Title 27). The exemption, pursuant to Section 20090(b), is based on the following:

(a) The Board is issuing waste discharge requirements;
(b) The discharge complies with the Basin Plan; and
(c) The wastewater does not need to be managed as a hazardous waste according to 22 CCR, Division 4.5, and Chapter 11.

28. Pursuant to California Water Code Section 13263 (g), discharge is a privilege, not a right, and adoption of this order does not create a vested right to continue the discharge.

29. The Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

30. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the California Department of Corrections and its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

[Note: The findings, prohibitions, specifications, limitations, and provisions stated in Monitoring and Reporting Program No. 95-818 are neither rescinded nor replaced by this order which is prepared for the Soil and Groundwater Remediation Project at the Fire Pit. Other prohibitions, conditions, definitions, and some methods of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991, incorporated herein.]

A. Discharge Prohibitions:

1. The discharge of waste classified as hazardous as defined I Section 2521(a) of Chapter 15, Title 23, CCR is prohibited. Discharge of waste classified as "designated" as defined in Section 13173 of the California Water Code at this facility to any area outside of the SRCA is prohibited.

2. The discharge of liquid, other than treated groundwater from the excavation, trench, or extraction well and treated leachate from the SRCA.

3. The discharge of treated or partially treated solid or liquid waste to surface waters, surface water drainage courses, or groundwater is prohibited.

4. The discharge of treated soils in a manner or location, which degrades or threatens to degrade the quality of ground or surface waters, is prohibited.

5. The discharge of waste to ponded water from any source is prohibited.

6. The discharge of waste within 100 feet of surface waters is prohibited.

7. The discharge of any wastewater from the GAC system to the existing sewer system or to surface water is prohibited.

B. Discharge Specifications:

SOIL REMEDIATION CONTAINMENT AREA (SRCA)

1. Designated wastes shall only be discharged into and confined to, the SRCA, shown on Attachment C.

2. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.

3. Prior to the Discharge of waste to the SRCA, all wells within 500 feet of the unit shall have sanitary seals, which meet the requirements of the San Joaquin County Environmental Health Management Department. A record of the sealing of such wells shall be sent to the Board and to the State Department of Water Resources.

4. Materials used to construct the liner shall have appropriate physical and chemical properties to ensure containment of discharged wastes over the operation life and closure of the SRCA.

5. Materials used to construct leachate collection and removal systems (LCRS) shall have appropriate physical and chemical properties to ensure the required transmission of leachate over the life of the SRCA.

6. LCRS shall be designed, constructed, and maintained to collect twice the anticipated daily volume of leachate generated by the waste pile in the SRCA and to prevent the buildup of hydraulic head on the underlying liner or underlying natural geologic materials of low hydraulic conductivity at any time. The depth of fluid in any LCRS sump shall be kept at the minimum needed for safe pump operation.

7. Design plans shall be submitted to the Executive Officer for review and approval prior to construction and shall include but not be limited to; the final engineering design plans for the SRCA and the construction specifications.

8. The SRCA shall be designed and constructed under the direct supervision of a California registered civil engineer or a certified engineering geologist and shall be certified by that individual as meeting the prescriptive standards and performance goals of Chapter 15 or a reasonable alternative thereof as implemented by this Order and the approved design plans and specifications.

9. The closure of the facility shall be under the direct supervision of a California registered civil engineer or certified engineering geologist.

10. Prior to closure the Discharger shall submit a Closure Plan for review and approval by the Executive Officer.

11. At closure of the SRCA, all residual waters, including liquids, sludges, precipitates, settled solids, and liner materials and adjacent natural geologic materials contaminated by wastes, shall be completely removed and discharged to an appropriate waste management unit in accordance with the approved closure plan.

12. The SRCA will comply with air emission standards established by the San Joaquin Air Quality Management District (SJAQMD) and a copy will be made available in the Project Manual. The standards establish the criteria for exemption from permit requirements and the use of Best Available Control Technology (BACT) for aeration projects involving VOC contaminated soil. The waste pile in the SRCA will be checked on a weekly basis with a photoionization detector (PID) for potential emissions of VOCs. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the excavation, the SRCA and Spray Field.

13. The GAC unit shall be operated to maximize removal efficiency of VOCs. When any concentration of VOCs is detected in the effluent of the first GAC vessel, the detection will be confirmed and the vessel shall be replaced within 30 days of.

FIRE PIT

14. Discharges into the excavation will be restricted to soils remediated in the SRCA and determined to pose no threat to water quality. Aerated soil will be sampled until VOCs in the soil gas are not detectable per analytical methods specified in the attached Monitoring and Reporting Program No. R5-2002-0146

SPRAY FIELD

15. The maximum daily discharge flow to the Spray Field shall not exceed 86,400 gallons per day (gpd).

16. All wastewater will be managed to remain on land.

17. Neither the treatment nor the discharge shall create a nuisance or condition of pollution as defined in Section 13050 of the California Water Code.

18. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in concentrations or in a mass that causes violation of the Groundwater Limitations.

19. Application of effluent shall be confined to the Spray Field, as defined in Finding No. 12 of this order.

20. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.

21. The Spray Field shall have sufficient capacity to accommodate allowable treated wastewater flow and design, seasonal precipitation and ancillary inflow and infiltration. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

22. The wastewater treatment system shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

C. Spray Field Application Specifications:

1. Discharge to the Spray Field area shall be managed to minimize erosion and prevent any runoff.

2. The Spray Field area shall be managed to prevent breeding of mosquitoes. In particular:

    a) There shall be no standing water on the irrigation area 24 hours after effluent application ceases; and
    b) Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store effluent.

3. Discharge shall not occur during, or within 24 hours after any precipitation event, nor shall it occur when the ground is saturated.

D. Effluent Limitations:

1. The effluent discharged to the Spray Field shall not have a pH of less than 6.5 or greater than 8.5.

2. The discharge of effluent to the Spray Field shall not exceed the following limits:

Constituent(total)	Units	30-day Average	Daily Maximum	Maximum Detection Limit[1]
Tetrachloroethene	µg/l	0.5	1.0	0.5
Trichloroethene	µg/l	0.5	1.0	0.5
Cis-1,2-dichloroethene	µg/l	0.5	1.0	0.5
Total VOCs	µg/l	1.0	2.0	0.5[2]

Notes
1. For non-detectable results
2. Total of all VOCs

E. Groundwater Limitations:

1. The discharge, in combination with other sources, shall not cause the underlying groundwater to contain waste constituents in concentrations statistically greater than background water quality.

2. The discharge shall not create a condition of groundwater mounding beneath the site.

F. Provisions:

1. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. To demonstrate compliance with sections 415 and 3065 of Title 16, CCR, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work

2. The following report shall be submitted pursuant of Section 13267 of the California Water Code. As required by the California Business and Professions Code, all reports shall be prepared by, or under the direction of a California Registered Professional Engineer or Geologist. The registered professional shall stamp each report. In addition, the Dischargers shall certify all reports, as required by the General Reporting Requirement B.3 of the Standard Provisions.

- Fourteen days prior to initiating flow through the GAC system, but no later than **15 August 2002** the Dischargers shall submit an Installation and Testing Report for approval by the Executive Officer, illustrating the final system design, describing all test procedures performed and the corresponding results. The report shall include a schematic of the GAC system clearly depicting the locations of all sampling points in the system.

3. The Discharger shall comply with the attached Monitoring and Reporting Program No. R5-2002-0146, and any revisions thereto, as ordered by the Executive Officer.

4. The Discharger shall notify the Regional Board within 24 hours of any unscheduled shutdown of the groundwater extraction and treatment system that is greater than 72 hours in duration and not due to a precipitation event. This notification shall include the cause of the shutdown and the corrective action taken (or proposed to be taken) to restart the system.

5. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (Waste Discharge to Land), dated 1 March 1991, which are part of this order. This attachment and its individual paragraphs are referred to as "Standard Provisions."

6. The Discharger shall notify the Regional Board within 24 hours of any spill of untreated water. This notification shall include the size and cause of the spill, any immediate impact to the environment, and the corrective/cleanup actions taken and/or proposed.

7. If any activities at DVI result in a change in the nature or character of the discharge, then a new RWD may be required. Prior to any modifications at DVI, which would result in material change in the quality or quantity, of wastes treated or discharged, or any material change in the location of discharge, the Discharger shall report all pertinent information in writing to the Board for review. The Discharger shall provide sufficient information for the change and all requested data for the proposed discharge to the Board, to allow staff to assess whether a new RWD and/or changes to the existing permit will be necessary.

8. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with discharge limits specified in this order.

9. The Discharger shall submit to the Board on or before the compliance due date, the specified document or, or if appropriate, a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Board in writing letter when it returns to compliance with the time schedule.

10. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving the treatment system, the Discharger shall notify the Board, in writing, of the situation and of what measures have been taken or have being taken to assure full

compliance with this order.

11. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with this order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems, which are to be installed by the Discharger only when necessary to achieve compliance with the conditions of this order

12. A copy of this order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

13. The Board will review this order periodically and may revise requirements when necessary.

14. In the event of any change in control or ownership of land or waste discharge facilities presently 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 shall be immediately forwarded to this office.

15. The Discharger shall comply with all conditions of this order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or revision or rescission of this order.

I, THOMAS R. PINKOS, Acting Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 19 July 2002.

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THOMAS R. PINKOS, Acting Executive Officer

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(Date)

INFORMATION SHEET

ORDER NO. R5-2002-0146
CALIFORNIA DEPARTMENT OF CORRECTIONS
DEUEL VOCATIONAL INSTITUTION
FIRE PIT AREA SOIL AND GROUNDWATER REMEDIATION
SAN JOAQUIN COUNTY

The Department of Corrections plans to install and operate a granulated activated carbon (GAC) groundwater treatment system at the Deuel Vocational Institution (DVI) for the remediation of volatile organic compounds (VOCs) detected in the soil and groundwater in the northwestern part of the site. DVI is a 3,800-inmate state prison located approximately four miles east of Tracy near the intersection of Interstate 5 and Kasson Road.

Soils in a Fire Pit located in the former fire training area, now polluted with volatile organic compounds (VOCs) including trichloroethene (TCE), tetrachloroethene (PCE) and cis-1,2-dichloroethene (cis-1,2-DCE), will be excavated to approximately 12 feet below ground surface (bgs) or 3 feet below the water table. Excavated soils will be transferred to a soil remediation and containment area (SRCA) and aerated until the soil does not present a threat to groundwater quality. The treated soil will then be used to backfill the excavation.

This soil discharge is exempt from the requirements of Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, California Code of Regulations (CCR), and Title 23, Division 3, Chapter 15 due to the limited duration and low pollutant concentrations. The SRCA will be constructed with a liner to contain the soil, and collect potential leachate.

Groundwater contaminated with VOCs will be pumped from the excavation, or from a well or trench and routed through a dedicated GAC filtration system for removal of VOCs. Samples of the treated groundwater will be submitted for analysis for the presence of VOCs. Groundwater that has been treated to below the method detection limit of 0.5 µg/L will be transferred into a tanker/spray truck or irrigation line, transported onto the 22 acres adjacent to the excavation site and discharged to the ground surface. The discharge of the treated groundwater will be limited to within the boundaries of a “spray area.” It is estimated that approximately 28,800 to 86,400 gallons per day (gpd) of treated groundwater will be applied to the ground surface.

Monitoring and Reporting Program (MRP) No. 95-818, issued by the Executive Officer on 21 September 1995, specifies the scope and frequency of groundwater monitoring to delineate the extent of pollution. This Order and attached monitoring and reporting program (MRP) are issued in conjunction with all existing orders and is issued solely for the remedial activities at the former Fire Pit area, the Soil Remediation Containment Area (SRCA), and the Spray Field.

Soil vapor and groundwater sampling of the Fire Pit, Spray field and SCRA areas shall be conducted as described in the Monitoring and Reporting Program (MRP). All samples shall be representative of the volume and nature of the discharge, or of ambient soil, treated water, and groundwater quality, as indicated below. The time, date, and location of each grab sample shall be recorded on the sample Chain of Custody form.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
MONITORING AND REPORTING PROGRAM NO. R5-2002-0146
CALIFORNIA WATER CODE SECTION 13267

FOR

CALIFORNIA DEPARTMENT OF CORRECTIONS
DEUEL VOCATIONAL INSTITUTION
FIRE PIT AREA GROUNDWATER REMEDIATION AND
SOIL REMEDIATION CONTAINMENT AREA
SAN JOAQUIN COUNTY

This Monitoring and Reporting Program (MRP) describes the requirements for monitoring the soil remediation containment area (SRCA) and Groundwater Remediation and Spray Field areas. This MRP is issued pursuant to Water Code Section 13267, and is designed to determine the characteristics of the untreated soil and groundwater and determine whether remediation efforts are effective. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. This MRP is issued in conjunction with all existing orders and is issued solely for the remedial activities at the former Fire Pit area, the SRCA, and the Spray Field. This MRP does not rescind the requirements listed in MRP No. 95-818, which was issued on 21 September 1995.

FIRE PIT AND SPRAY FIELD

Sampling of the Fire Pit, Spray field and SRCA areas shall be conducted as described in the following sections. All samples shall be representative of the volume and nature of the discharge, or of ambient groundwater quality, as indicated below. The time, date, and location of each grab sample shall be recorded on the sample Chain of Custody form.

INFLUENT AND EFFLUENT MONITORING

The Discharger shall analyze influent and effluent samples from the granulated activated carbon (GAC) treatment system. Sampling cocks or ball valves shall be provided upstream of the adsorbers and on the downstream side of each unit for sampling the influent and effluent of each of the individual adsorbers. At a minimum, influent and effluent monitoring shall consist of the following:

Influent and Effluent Constituents

Constituent	**EPA Method**	Maximum Detection Limit	Units	Type of Sample
Volatile Organic Compounds (VOCs)	8260	0.5	Micro grams per liter (µg/l)	grab
flow	---	---	Gallons per day (gpd)	meter

Sampling frequency and locations shall be as follows:

Influent and Effluent Monitoring Frequency

Location	**Constituents**	Startup Monitoring Frequency*	Regular Monitoring Frequency
Influent to GAC	VOCs	Daily for first two days and weekly for first four weeks.	Monthly
Effluent from 2nd GAC	VOCs	Daily for first two days and weekly for duration of the project.	Weekly
Holding tank	VOCs	First day only	Quarterly
Influent to GAC	flow	Daily for first two weeks.	Weekly

** To be implemented after each new carbon replacement.*

If the target constituents are detected above the detection limits in the effluent, the Discharger shall obtain a confirmation sample within 24 hours of receiving the results and shall cease discharging until the analytical results of the confirmation sample are obtained. If the exceedance is confirmed, the Discharger shall replace the carbon vessel and retest within 24 hours of restarting the system.

UNTREATED AND TREATED SOIL MONITORING

All samples shall be representative of the volume and nature of the discharged soil as indicated below. The time, date, and location of each grab sample shall be recorded on the sample Chain of Custody form. The Discharger shall analyze soil gas in untreated soil samples from the excavation and below the SCRA and treated soil samples from the SRCA. At a minimum untreated and treated soil gas monitoring shall consist of the following;

Untreated and Treated Monitoring Constituents and Frequency

Location	**Constituents (µg/kg)**	Monitored Volume Cubic yards (cu yd)	Sample container*	Monitoring Frequency
Untreated, in-situ soils at the former fire pit and below the SCRA.	VOCs	Every 500 cu yd.	Tedlar Bags	One time at the initial deposit
Treated soils in the SRCA.	VOCs	Every 500 cu yd	Tedlar bags or Goresorber Samples	Weekly until results are ND.

Monitoring shall be conducted on a weekly basis until laboratory analytical results determine that treated soils no longer present a threat to groundwater quality.

LEACHATE MONITORING

The SRCA sumps shall be inspected three times per week for leachate generation. Liquids in the sump will be routed to the GAC. Leachate shall be monitored for the following parameters

Leachate Monitoring Schedule

Constituents	EPA Analytical Method	Max. Detection Limit (µg/l)[1]	Sampling Frequency
volume	---	---	Three times per week at startup and as required

[1] For nondetectable results.

REPORTING

When reporting data, the Discharger shall arrange the information in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner as to illustrate clearly the compliance with this Order. In addition, the Discharger shall notify the Board within 48 hours of a breach of the SRCA.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all reports shall be prepared by a registered professional or their subordinate and signed by the registered professional. Reporting frequency shall depend on the duration of the project. If the project is completed in less than three months, reports shall be completed in accordance with the monthly schedule. If the completion of the project requires greater than 3 months reports will be submitted according to the quarterly and annual schedule.

A. Monthly Monitoring Transmittals

Daily, weekly, and monthly monitoring data shall be transmitted to the Regional Board staff on the **1st day of the second month following sampling** (i.e. the July Report is due by 1 September). At a minimum, the transmittals shall include:

a) Results of influent and effluent monitoring;
b) Daily flow values (in gpd) and volume values in cu yds or gallons;
c) A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements;
d) Copies of laboratory analytical reports;
e) Volume of groundwater and soil treated; and
f) Description of maintenance activities, if applicable.

B. Annual Report

An annual report shall be submitted to the Board by **1 February** of each year. This report shall contain an evaluation of the effectiveness and progress of the remediation, and may be submitted with the appropriate monthly monitoring report. The annual report shall contain the following minimum information:

(a) both tabular and graphical summaries of all data obtained during the previous year;

(b) a discussion of the long-term trends in the concentrations of the pollutants;

(c) a description of all remedial activities conducted during the year, an analysis of their effectiveness in removing the contaminants, and plans to improve remediation system effectiveness;

(d) the anticipated date for completion of cleanup activities;

(e) an identification of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;

(f) if desired, a proposal and rationale for any revisions to the sampling plan frequency and/or list of analytes.

The results of any monitoring done more frequently than required at the locations specified in the MRP also shall be reported to the Board. The Discharger shall implement the above monitoring program as of the date of the Order.

Ordered by: _____
THOMAS R. PINKOS, Acting Executive Officer

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(Date)