



STATEMENT OF BASIS
Prepared by
California Department of Toxic Substances Control



For
Chevron USA Inc. Richmond Refinery
Richmond, California
August 2016

Facility/Unit Type: Post-Closure Facility / Land Treatment Units
Activity Type: Groundwater Monitoring and Maintenance
Permit Type: RCRA Hazardous Waste Post-Closure Permit



1. INTRODUCTION

This Statement of Basis has been prepared by the Department of Toxic Substances Control (DTSC) to document the draft RCRA hazardous waste post-closure permit (permit) decision for Chevron USA Inc. Richmond Refinery (Permittee) Landfarms 1 through 5 (Facility). The Facility is located at 841 Chevron Way in Richmond, CA.

Document Organization

This Statement of Basis is divided into four (4) sections as follows:

1. INTRODUCTION
2. FACILITY DESCRIPTION
3. DRAFT PERMIT CONDITIONS
4. NEXT STEPS

List of Acronyms

CEQA	California Environmental Quality Act
DTSC	Department of Toxic Substances Control
DOT	Department of Transportation
HWMU	Hazardous Waste Management Unit
RCRA	Resource Conservation and Recovery Act
SWMU	Solid Waste Management Unit

2. FACILITY DESCRIPTION

The Facility is a 2,900-acre petroleum refinery in Richmond, California. The Facility has two hazardous waste facility permits – one treatment and storage permit and one post-closure permit. This project is only to renew the post-closure permit, expired on March 4, 2013, for the Chevron Richmond Refinery's Landfarms 1 through 5 (Landfarms 1-5).

Post-Closure Units Landfarms 1 through 5 (Landfarms 1-5, or collectively "Landfarms") are situated within the Chevron USA Inc. Richmond Refinery, located at 841 Chevron Way, Richmond, in Contra Costa County, California. The Landfarms are zoned for general industrial use and cover approximately 29 acres of the 2,900-acre refinery property. They are situated more than 1,900 feet from the nearest property boundary to the east. The refinery is bordered to the south by the Interstate 580 freeway, to the east by the Richmond Parkway, and to the west and north by San Pablo Bay. Access to Landfarms 1-5 is through secured Gates 31 and 91.

Permittee operated Landfarms 1-5 from the mid-1970s to 1987. Landfarming was conducted to promote biodegradation of oily wastes generated from on-site petroleum processing. Landfarms 1-4 were built over existing landfarming sites and Landfarm 5 was built over fill. Historical landfills underlie portions of Landfarms 1-3. Prior to the start of landfarming operations, 10 to 25 feet of clean fill was placed at each of the Landfarms. The fill material came from adjacent pond and channel dredging and from soil generated by the San Pablo Tank Farm construction activities. During landfarming, wastes (primarily oil/water separator sludge, leaded and non-leaded tank bottoms, and oil/water mixtures) were placed on the surface of the Landfarms and tilled into the top 6 to 12 inches of fill.

After submitting a hazardous waste permit application to the United States Environmental Protection Agency (U.S. EPA), Permittee was notified on February 10, 1987, that the Landfarms did not meet the requirements for a permit and in January 1988, U.S. EPA issued to the Permittee a Consent Agreement and Final Order (No. RCRA 09-88-005) to ensure that the Landfarms were closed in accordance with applicable U.S. EPA regulations. DTSC followed by issuing a Stipulation and Order (HWCA 87/99-019) to ensure that the Landfarms were closed in accordance with the applicable California regulations. The Landfarms have not received waste since 1987.

DTSC issued a Post-Closure Permit to Permittee for Landfarms 1-5 effective on March 7, 2003, with an expiration date of March 7, 2013.

3. DRAFT PERMIT CONDITIONS

The following sections briefly describe the derivation of the conditions of the draft permit. There are four types of conditions in the draft permit – General Conditions, Unit-Specific Special Conditions, Special Conditions, and Conditions for Corrective Action.

A. General Conditions

Pursuant to California Health and Safety Code section 25200, the following general conditions are included in the draft Permit to insure that facility operations shall be in compliance with all applicable State laws and are protective of human health and the environment.

1. PERMIT APPLICATION DOCUMENTS:

The DTSC-approved Application – The Part A Application and the Part B Application dated October 16, 2015, both signed by Permittee on October 19, 2015, are hereby made a part of this Permit by reference.

2. EFFECT OF PERMIT:

- (a) The Permittee shall comply with the terms and conditions of this Permit and the provisions of the Health and Safety Code and California Code of Regulations (Cal. Code Regs.), title 22, division 4.5. The issuance of this Permit by DTSC does not release the Permittee from any liability or duty imposed by federal or state statutes or regulations or local ordinances, except the obligation to obtain this Permit. The Permittee shall obtain the permits required by other governmental agencies, including but not limited to, those required by the applicable land use planning, zoning, hazardous waste, air quality, water quality, and solid waste management laws for the construction and/or operation of the Facility.
- (b) The Permittee is permitted to maintain and monitor this Facility for post-closure activities in accordance with the terms and conditions of this Permit and the Approved Application. Any management of hazardous wastes not specifically authorized in this Permit is strictly prohibited.
- (c) Compliance with the terms and conditions of this Permit does not constitute a defense to any action brought under any other law governing protection of public health or the environment, including, but not limited to, one brought for any imminent and substantial endangerment to human health or the environment.
- (d) DTSC's issuance of this Permit does not prevent DTSC from adopting or amending regulations that impose additional or more stringent requirements than those in existence at the time this Permit is issued and does not prevent the enforcement of these requirements against the Permittee.
- (e) Failure to comply with any term or condition set forth in the Permit in the time or manner specified herein will subject the Permittee to possible enforcement action including but not limited to penalties pursuant to Health and Safety Code section 25187.

- (f) Failure to submit any information required in connection with the Permit, or falsification and/or misrepresentation of any submitted information, is grounds for revocation of this Permit (Cal. Code of Regs., title 22, §66270.43).
- (g) In case of conflicts between the Approved Application and the Permit, the Permit conditions take precedence.
- (h) This Permit includes and incorporates by reference any conditions of Waste Disposal Requirement (WDR) R2-2011-0036 and the Site Cleanup Requirement (SCR) R2-2012-0015, including the attached Statistical Evaluation Plan for the Revised Self-Monitoring and Reporting Program (SMP attachment) dated May 28, 2015, and any subsequent approved modifications, issued to the Facility by the State Water Resources Control Board or any of the California Regional Water Quality Control Boards and any conditions imposed pursuant to section 13227 of the Water Code.

3. COMPLIANCE WITH CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA):

A Notice of Exemption has been prepared in accordance with the requirements of Public Resources Code section 21000 et seq. and the CEQA Guidelines of California Code of Regulations, title 14, section 15061(b)(3) et seq.

4. ENVIRONMENTAL MONITORING:

The Permittee shall comply with the applicable environmental monitoring and response program requirements of California Code of Regulations, title 22, division 4.5, chapter 14, articles 6 and 7.

- (a) For the purpose of California Code of Regulations, title 22, §66264.91(b), the specific elements of the Groundwater Monitoring and Response Program for the Facility are those described in Appendix K (in Section 2.5 Groundwater Protection System) of the Approved Application.
- (b) For the purpose of California Code of Regulations, title 22, §66264.92, the Water Quality Protection Standard for the Facility is described in Appendix L (on pages 17-18 of the second part, titled "Updated Waste Discharge Requirements and Rescission of Order No. 00-043") of the Approved Application.
- (c) For the purpose of California Code of Regulations, title 22, §66264.93, the Constituents of Concern (COCs) for the Facility are described in Appendix K (in Section 3.9 Groundwater Quality Monitoring Program), and Appendix L (in Tables 2 and 4 of the first part, titled "Revised Self-Monitoring and Reporting Program", and on page 17 of the second part, titled "Updated Waste Discharge Requirements and Rescission of Order No. 00-043") of the Approved Application.
- (d) For the purpose of California Code of Regulations, title 22, §66264.94, the Concentration Limits for the Facility are in Appendix K (in Section 3.9 Groundwater Quality Monitoring Program) and Appendix L (in Tables 2 and 4 of the first part, titled "Revised Self-Monitoring and Reporting Program", and on pages 17-18 of second

part, titled “Updated Waste Discharge Requirements and Rescission of Order No. 00-043”) of the Approved Application.

- (e) For the purpose of California Code of Regulations, title 22, §66264.95, the Monitoring Points and Points of Compliance for each authorized unit at the Facility are described in Appendix L (in Tables 1 and 3 of first part, titled “Revised Self-Monitoring and Reporting Program”, and on page 18 of the second part, titled “Updated Waste Discharge Requirements and Rescission of Order No. 00-043”) of the Approved Application.
- (f) For the purpose of California Code of Regulations, title 22, §66264.90(c) and §66264.117 the Post Closure Care Period for the authorized unit at the Facility is 30 years. DTSC may extend the Post Closure monitoring period beyond 30 years to protect human health and the environment. The requirement for this financial responsibility is shown in Appendix Q of the Approved Application.
- (g) For the purpose of California Code of Regulations, title 22, §66264.97, the general water quality monitoring and system requirements are described in Appendix L of the Approved Application.
- (h) For the purpose of California Code of Regulations, title 22, §66270.31, the monitoring, recording, and reporting program for the Facility is described in Appendixes K and L of the Approved Application.

B. Unit-Specific Special Conditions

The Unit-Specific Special Conditions are not covered elsewhere in the draft permit, but are included for each hazardous waste management unit (HWMU) to make the post-closure care monitoring and maintenance requirements more clear and enforceable.

This Facility has five (5) HWMUs. These units are described in detail in the Approved Part B Application and the draft Permit. There is no unit-specific special condition for each HWMU, but the general conditions for Permittee to maintain the vegetation and vegetative cover on each Landfarm, to maintain and protect the Groundwater Protection System (GPS), and to monitor the concentration of the constituents of concern in the Landfarm's groundwater.

C. Special Conditions

DTSC has added following Special Conditions to the Draft Permit for the Permittee's current Hazardous Waste Facility Post-Closure Permit in accordance with Cal. Code of Regs., title 22, division 4.5, chapter 14. These Special Conditions are followed by their reasons. The purpose of these conditions is to identify any compliance schedule and special conditions that apply to these land treatment units and to make their monitoring and maintenance requirements more clear and enforceable. As required by the approved "*Revised Landfarms Post-Closure Monitoring Plan*" revised April 2, 2015, the Permittee shall perform following post-closure care activities with conditions. These conditions may be used to modify and/or supplement the post-closure care plan. A summary of the basis for the additional permit conditions follows:

1. Waste Discharge Requirements

The Permittee shall comply with Waste Discharge Requirements (WDR) and Site Cleanup Requirements (SCR), which were adopted since 1990 by the Regional Water Quality Control Board (RWQCB). The two RWQCB Orders (WDR Order R2-2011-0036 and SCR Order R2-2012-0015) currently in effect for the facility require monitoring in the vicinity of Landfarms 1-5. Future changes or amendments to the WDR or SCR that apply to the documents referenced in the Approved Application may require a modification to this Permit in accordance with California Code of Regulations, title 22, chapter 20, article 4.

2. Vegetation Monitoring and Maintenance (from Sections 3.3 and 3.4 of the "Revised Landfarms Post-Closure Monitoring Plan")

The Permittee shall inspect annually prior to start of the rainy season to assess the condition of the vegetation and any maintenance needs. Mowing is performed once per year following the end of the rainy season. Pruning of tree branches or other vegetation management activities shall be performed as needed. Vegetation maintenance shall be performed in accordance with the goal of maintaining the integrity of the final vegetated cover, as described in the Section 2.0 Closure Unit Description of the Appendix K of the Approved Application. The observation and the results shall be documented in the Semi-Annual Landfarms Status Report.

- This condition was added to ensure the Permittee is in compliance with title 22, section 66264.280(c)(2), and the Revised Self-Monitoring and Reporting Program (RWQCB, 2014), to maintain a vegetative cover over closed portions of the facility.

3. Surface Settlement Monitoring (from Section 3.5)

The final cover shall be monitored for signs of differential settlement, which may cause ponding. The Landfarm surfaces shall be inspected and settlement markers surveyed on an annual basis for evidence of differential settlement. If differential settlement has occurred and the grades of the final cover will no longer prevent ponding in that area, the surface will be regraded to maintain positive drainage. The results of the inspections shall be documented in the Semi-Annual Landfarms Status Report.

- This condition was added to ensure the Permittee is in compliance with title 22, section 66264.280(c)(3) and the Revised Self-Monitoring and Reporting Program (RWQCB, 2014), to maintain the run-on control system required under section 66264.273(c).

4. Soil Cover Inspection and Maintenance Program (from Section 3.6)

An annual inspection of the cover shall be performed by an independent qualified engineer registered in California prior to onset of the rainy season. The engineer identifies and recommends appropriate repairs for areas where the soil cover may have become eroded, affected by rodent burrows, or otherwise damaged, or where the paved areas have become damaged. Repairs shall be performed prior to the rainy season. Records of all inspections and repairs shall be maintained by the Permittee.

The cover shall also be inspected after major rainfall events where ponding or erosion may have occurred. Areas where ponding or erosion has occurred shall be repaired to maintain positive drainage. The results of the inspections and any necessary repair shall be documented in the Semi-Annual Landfarms Status Report.

- This condition was added to ensure the Permittee is in compliance with title 22, section 66264.280(c)(3) and the Revised Self-Monitoring and Reporting Program (RWQCB, 2014), to maintain the run-on control system and run-off management system required under section 66264.273(c).

5. Surface Drainage System (from Section 3.7)

The drainage swales and culverts shall be inspected annually before the beginning of the rainy season for cracking, clogging, erosion, and operating performance. The drainage control system shall be monitored annually before the beginning of the rainy season to ensure the surface drainage facilities are intact and clear of debris. The pumps shall be inspected and tested annually. After major rainfall, additional inspections shall be made to monitor their performance. If deficiencies are found, they shall be corrected as soon as practicable. The results of the inspections and any necessary repair shall be documented in the Semi-Annual Landfarms Status Report.

- This condition was added to ensure the Permittee is in compliance with title 22, section 66264.280(c)(4) and the Revised Self-Monitoring and Reporting Program (RWQCB, 2014), to maintain the run-on control system and run-off management system required under section 66264.273(d).

6. Free-Phase Hydrocarbon Monitoring and Containment (from Section 3.8)

The thickness of free-phase hydrocarbon, also referred to as light non-aqueous phase liquids (LNAPLs) in the existing monitoring wells is measured and reported as part of the Refinery-Wide Groundwater Monitoring Program (RGMP). The GPS recovers primarily groundwater, but also provides effective long-term containment for the migration of LNAPLs. However, if the GPS were to be out-of-service for a period exceeding several days and temporary pumps could not be used to maintain drawdown in the extraction trenches, supplemental LNAPL recovery would be performed with vacuum trucks from the extraction sumps and monitoring wells whenever the measured thickness of LNAPL exceeded six inches. Recovery of LNAPLs shall be performed in accordance with the procedures described in the Free-Phase Liquid Petroleum Hydrocarbon Recovery Evaluation Plan, Chevron Richmond Refinery.

- Pursuant to SB 1082, the California Regional Water Quality Control Board (RWQCB) – San Francisco Region has been designated as the lead agency. DTSC is to incorporate by reference of WDRs into our Permit. This condition was added to ensure the Permittee is in compliance with RWQCB WDR Order R2-2011-0036, SCR Order R2-2012-0015 and the Revised Self-Monitoring and Reporting Program, to provide effective long-term containment for the migration of LNAPLs.

7. In the event of determining statistically significant evidence of a release from the regulated unit for any monitoring parameter or constituent of concern at any monitoring point, the

permittee shall notify DTSC by certified mail within 7 days of such determination.

- This condition was added to ensure the Permittee is in compliance with title 22, section 66264.98(J)(1) and 66264.278(J)(1) in evidence of a release from groundwater monitoring from a source under regulated unit.
8. In the event determining statistically significant evidence of a release from a source other than the regulated unit, or that the evidence resulted from error in sampling, analysis or evaluation or from natural variation in groundwater, surface water or the unsaturated zone, the permittee shall notify DTSC by certified mail within 7 days and submit a report to DTSC within 90 days of such determination.
- This condition was added to ensure the Permittee is in compliance with title 22, section 66264.98(k)(7)(A)&(B) in evidence of a release from groundwater monitoring from a source other than the regulated unit.
9. In the event of any violation of a permit condition as discovered by facility personnel during routine operations of the facility, the permittee shall verbally report the discovery to DTSC immediately, and follow by writing within 24 hours.
- This condition was added to ensure the Permittee is in compliance with RWQCB WDR Order R2-2011-0049, Section V. Standard Provision - Reporting, Item E. Twenty-Four Hour Reporting, Sub-item 1.
10. In the event of any earthquake of Magnitude 5 or greater at the Landfarms, the Permittee shall inspect and evaluate the impact of the earthquake and repair any damage following the approved "Revised Landfarms Post-Earthquake Inspection and Corrective Action Plan", dated June 2, 2015. The Permittee shall inspect the Landfarms and verbally report the results of the inspection to DTSC within 24 hours following a qualifying earthquake. A written report which includes the information listed in the approved "Revised Landfarms Post-Earthquake Inspection and Corrective Action Plan" shall be submitted to DTSC within 15 days of the incident.
- This condition was added to ensure the Permittee is conforming Permittee's responsibilities stated in the Revised Landfarms Post-Earthquake Inspection and Corrective Action Plan, to demonstrate compliance with the seismic standard.

D. Conditions for Corrective Action

The corrective action required at the time of issuing the permit is to continue the current on-going post-closure care and detection monitoring requirements, which came from the RWQCB's WDR and SCR Orders.

On February 10, 1987, Permittee was notified by U.S. EPA that the Landfarms did not meet the requirements for a permit. On January 20, 1988, U.S. EPA issued to the Permittee a Consent Agreement and Final Order (No. RCRA 09-88-005) to ensure that the Landfarms were closed in accordance with applicable U.S. EPA regulations. DTSC followed by issuing a Stipulation and Order (HWCA 87/99-019) to ensure that the Landfarms were closed in accordance with the applicable California regulations. The

Permittee carried out the corrective action at the Facility pursuant to Health and Safety Code sections 25187 and 25200.10, and under the oversight of the U.S. EPA pursuant to the Consent Agreement and Final Order, RCRA 09-88-005.

Pursuant to SB 1082, the RWQCB has been designated as the lead agency for purposes of RCRA groundwater monitoring and corrective action. Several SCR and WDR Orders, which have been included as Appendix L of the Part B Application, have been issued since 1990 that required corrective action at the facility. The Landfarms are currently under the detection monitoring mode for the corrective action.

During the past Corrective Action, as discussed in Section 5.1 of the Part B Application, the Landfarms were closed in a manner that prevents exposure to the waste materials and minimizes the potential for mobilization of waste constituents. The detailed activities in the Closure Plan are included in the Part B Application, Appendix G.

Currently, there are two RWQCB Orders in effect, that require the facility to self-monitor and to report how effective the previous corrective action in the vicinity of Landfarms 1-5 has been. The two RWQCB Orders are Waste Discharge Requirements Order R2-2011-0036 and Site Cleanup Requirements Order R2-2012-0015. These two Orders share the same "Revised Self-Monitoring and Reporting Program (SMRP)". Copies of these Orders and SMRP are included as Appendix L of the Part B Application.

Results of groundwater monitoring performed per the SMRP are submitted semi-annually to the RWQCB and DTSC. The most recent monitoring report submitted to the agencies was the February 27, 2015 report, titled "2014 Annual Monitoring Report, Refinery-Wide Groundwater Monitoring Program and Landfarms Post-Closure Monitoring Program (Leidos, 2015)". The report confirmed no releases from the closed Landfarms have been detected over the 16 years of post-closure monitoring.

In the event the Permittee identifies an immediate or potential threat to human health and/or the environment, discovers new releases of hazardous waste and/or hazardous constituents, or discovers new Solid Waste Management Units (SWMUs) not previously identified, the Permittee shall notify DTSC orally within 24 hours of discovery and notify DTSC in writing within 10 days of such discovery summarizing the findings including the immediacy and magnitude of any potential threat to human health and/or the environment.

DTSC may require the Permittee to investigate, mitigate and/or take other applicable action to address any immediate or potential threats to human health and/or the environment and newly identified SWMUs or releases of hazardous waste and/or hazardous constituents. If and when corrective action is required at the Facility, the Permittee shall conduct corrective action under either a Corrective Action Consent Agreement or an Enforcement Order for Corrective Action issued by DTSC pursuant to Health and Safety Code sections 25187 and 25200.10.

To the extent that work being performed pursuant to Part VI of the Permit must be done on property not owned or controlled by the Permittee, the Permittee shall use its best efforts to obtain access agreements necessary to complete work required by this Part of the Permit from the present owner(s) of such property within 30 days of approval of any

workplan for which access is required. "Best efforts" as used in this paragraph shall include, at a minimum, a certified letter from the Permittee to the present owner(s) of such property requesting access agreement(s) to allow the Permittee and DTSC and its authorized representatives access to such property and the payment of reasonable sums of money in consideration of granting access. The Permittee shall provide DTSC with a copy of any access agreement(s). In the event that agreements for the access are not obtained within 30 days of approval of any workplan for which access is required, or of the date that the need for access becomes known to the Permittee, the Permittee shall notify DTSC in writing within 14 days thereafter regarding both efforts undertaken to obtain access and its failure to obtain such agreements. In the event DTSC obtains access, the Permittee shall undertake approved work on such property. If there is any conflict between this permit condition on access and the access requirements in any agreement entered into between DTSC and the Permittee, this permit condition on access shall govern.

Nothing in Part VI of the Permit shall be construed to limit or otherwise affect the Permittee's liability and obligation to perform corrective action including corrective action beyond the facility boundary, notwithstanding the lack of access. DTSC may determine that additional on-site measures must be taken to address releases beyond the Facility boundary if access to off-site areas cannot be obtained.

4. NEXT STEPS

DTSC encourages public comments and feedback on the draft Permit and draft Notice of Exemption for the Permittee Facility. Comments can be submitted to the DTSC staff listed below any time before the close of the 50 day public comment period, which begins on August 1st, 2016 and ends on September 20th, 2016. A public meeting/hearing to discuss the draft permit is scheduled on August 31st, 2016. Any questions or comments regarding this matter can be directed to:

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