

**RESPONSES**  
**FOR**  
**BOEING SANTA SUSANA FIELD LABORATORY**  
**TERMINATION OF WASTE DISCHARGE REQUIREMENTS (WDR)**

**COMMENTS RECEIVED FROM:**

- 1) Ginn Doose (comments dated 5/26/2010)
- 2) Teresa Jordan (comments dated 5/26/2010)
- 3) Chris Rowe, West Hills Neighborhood Council (comments dated 5/28/2010)
- 4) Jacqueline C. Young, (comments received 5/28/2010)
- 5) Chris Rowe, West Hills Neighborhood Council (comments dated 5/31/2010)

**General Response to comments submitted:**

Regional Board WDR Order No. R4-2004-0112 was issued to Boeing (Discharger) specifically to implement the biotreatment of targeted perchlorate impacted soils in the Happy Valley area of the Facility. Under the direction of the Department of Toxic Substances Control (DTSC) as the lead agency, the Discharger conducted in-situ and ex-situ treatment of perchlorate impacted soils generated from the use of rocket fuel at the Facility for the purpose of controlling potential releases to surface waters. In a letter dated December 16, 2008, DTSC determined that “No additional action is required at this time for further reduction of residual soil perchlorate within the Happy Valley Drainage area”. Because remediation goals for perchlorate impacted soils targeted for cleanup had been achieved and no additional soil cleanup is proposed for the biocell, Regional Board staff has determined that Order No. R4-2004-0112 is no longer applicable to the Facility and prepared a tentative Order to terminate Order No. R4-2004-0112. Regional Board staff verified, by inspection, that treatment of perchlorate impacted soil at the existing biocell in the Happy Valley area of the Facility has been discontinued.

More importantly, surface water runoff from the Santa Susana Field Laboratory, including the Happy Valley area, continues to be monitored and regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Order No’s. R4-2009-0058 and R4-2010-0090, under the management of Ms. Cassandra Owens of the Regional Board Industrial Permitting Unit, to protect against contamination from any remaining perchlorate impacted soil that has not been removed or treated in the existing biocell. The proposed termination of Order No. R4-2004-0112

in no manner impacts monitoring and regulating activities pursuant to Order No's. R4-2009-0058 and R4-2010-0090. Regional Board staff apologizes for any confusion associated with the proposed termination order regarding on-going monitoring and regulating activities at the Santa Susana Field Laboratory.

Edits have been made to the termination tentative Order to clarify that Order No. R4-2004-0112 specifically addressed the biotreatment of targeted perchlorate impacted soils in the Happy Valley. Specific responses to comments received are addressed below.

**Response to Ginn Doose comments dated 5/26/2010:**

- #1 The soil treatment involved the application of methyl soyate (a biodiesel produced from soy oil and methanol) and calcium magnesium acetate (a common road salt) to perchlorate impacted soils to cause indigenous soil bacteria to reduce perchlorate. The by-products of the perchlorate bioremediation are chloride and water.
- #2 Approximately 9,630 cubic yards (CY) of soil were excavated and either disposed of off-site or treated in the on-site biocell.
- #3 All soils targeted for cleanup have either been disposed of off-site or treated in the on-site biocell.
- #4 The termination of Order No. R4-2004-0112 relates only to the onsite treatment of perchlorate impacted soil in the Happy Valley Area. Surface waters will continue to be monitored and regulated. As stated in the attached letter from DTSC, dated December 16, 2008, "If perchlorate concentrations in the surface water of the Happy Valley Drainage increase to consistently exceed NPDES water quality objectives of 6 micrograms per liter (ug/L), then further excavations of soil or in-situ bioremediation may be warranted".
- #5 The termination of Order No. R4-2004-0112 relates only to the onsite treatment of perchlorate impacted soil in the Happy Valley Area. Monitoring and regulating continues at the site pursuant to Order No's. R4-2009-0058 and R4-2010-0090 to protect against contamination from any remaining perchlorate impacted soil that has not been removed or treated in the existing biocell. General concerns regarding the Santa Susana Field Laboratory should continue to be directed to Ms. Cassandra Owens, project manager, for Order No's. R4-2009-0058 and R4-2010-0090.
- #6 See also comment No. 1 above, the by-products of the perchlorate biotreatment are chloride and water.
- #7 Of the approximately 9,630 CY of soils that were excavated, approximately 8,000 CY were treated on-site in the biocells. Approximately 500 CY of rock and approximately 1,130 CY of soils impacted by perchlorate were transported offsite to permitted disposal facilities. Also see response to Comment No. 5, above.
- #8 The cleanup measures required in Order No. R4-2004-0112 were effective and therefore staff is recommending termination. Also see response to Comment No. 5, above.

**Response to Teresa Jordan comments dated 5/26/2010**

- #1 Remediation was completed for all targeted soils. Clarification language has been inserted in the tentative Order.
  
- #2 The termination is for Order No. R4-2004-0112 which relates only to the operation of the remediation biocell. Order No's. R4-2009-0058 and R4-2010-0090 which relate to NPDES permitting at the Santa Susana Field Laboratory will remain in effect.
  
- #3 See comment No. 2 above. There have not been any violations to date of Order No. R4-2004-0112 which relates only to the operation of the remediation biocell.
  
- #4 Page numbers have been added as suggested.
  
- #5 All comments received for the proposed termination order are included and responded to herein.
  
- #6 The termination of Order No. R4-2004-0112 relates only the onsite treatment of perchlorate impacted soil in the Happy Valley Area. Monitoring and regulating continues at the site pursuant to Order No's. R4-2009-0058 and R4-2010-0090 to protect against contamination from any remaining perchlorate impacted soil that has not been removed or treated in the existing biocell. General concerns regarding the Santa Susana Field Laboratory should continue to be directed to Ms. Cassandra Owens, project manager, for Order No's. R4-2009-0058 and R4-2010-0090.

### **Response to Chris Rowe comments dated 5/28/2010**

- #1 The termination of Order No. R4-2004-0112 relates only the onsite treatment of perchlorate impacted soil in the Happy Valley Area. Monitoring continues at the site pursuant to Order No's. R4-2009-0058 and R4-2010-0090 to protect against contamination from any remaining perchlorate impacted soil that has not been removed or treated in the existing biocell. Ms Cassandra Owens remains the Regional Water Quality Control Boards lead project manager for the Santa Susana Field Laboratory. General concerns regarding the Santa Susana Field Laboratory should continue to be directed to Ms. Owens.
  
- #2 We apologize for not including the West Hills Neighborhood Council in correspondence regarding the proposed termination Order. Our intent was not to exclude anyone. Our mailing list was developed from that used originally during the development of Order No. R4-2004-0112, as well as inter-agency letters relating to the Order.
  
- #3 See the 'General Response to comments submitted' on the first page of these responses section that summarizes DTSC findings that targeted perchlorate clean-up in the Happy Valley area had been completed.
  
- #4 See response to Comment No. 3, above. Additionally, regulations and monitoring continues at the site pursuant to Order No's. R4-2009-0058 and R4-2010-0090 to protect against contamination from any remaining perchlorate impacted soil that has not been removed or treated in the existing biocell. As stated in the DTSC letter, dated December 16, 2008, "If perchlorate concentrations in the surface water of the Happy Valley Drainage increase to consistently exceed NPDES water quality objectives of 6 micrograms per liter (ug/L), then further excavations of soil or in-situ bioremediation may be warranted".

### **Response to Jacqueline C. Young comments**

#1 The termination of Order No. R4-2004-0112 relates only the onsite treatment of perchlorate impacted soil in the Happy Valley Area. Monitoring continues at the site pursuant to Order No's. R4-2009-0058 and R4-2010-0090 to protect against contamination from any remaining perchlorate impacted soil that has not been removed or treated in the existing biocell. Ms Cassandra Owens remains the Regional Water Quality Control Boards lead project manager for the Santa Susana Field Laboratory. General concerns regarding the Santa Susana Field Laboratory should continue to be directed to Ms. Owens.

#2 We apologize for not including the West Hills Neighborhood Council in correspondence regarding the proposed termination Order. Our intent was not to exclude anyone. Our mailing list was developed from that used originally during the development of Order No. R4-2004-0112, as well as inter-agency letters relating to the Order.

#3 See response to Comment No. 1, above. Additionally, monitoring continues at the site pursuant to Order No's. R4-2009-0058 and R4-2010-0090 to protect against contamination from any remaining perchlorate impacted soil that has not been removed or treated in the existing biocell. As stated in the DTSC letter, dated December 16, 2008, "If perchlorate concentrations in the surface water of the Happy Valley Drainage increase to consistently exceed NPDES water quality objectives of 6 micrograms per liter (ug/L), then further excavations of soil or in-situ bioremediation may be warranted".

**Response to Chris Rowe comments dated 5/31/2010**

As you may know, the Regional Board is divided into multiple units tasked with managing different areas of groundwater and surface water quality. Order No. R4-2004-0112, was drafted and adopted by the what is now designated as the Groundwater Permitting and Landfills Section, formerly referred to as the Landfills unit, for the purpose of managing the operation the onsite treatment of perchlorate contaminated soils, in coordination with the California Department of Toxics Substances Control, to eliminate a known source for surface water contamination while limiting potential impacts to groundwater quality. The termination of this permit, Order No. R4-2004-0112, is only for the Happy Valley area of the Boeing facility, in the vicinity of former buildings 359, 316, and 376. The proposed termination of Order No. R4-2004-0112 is not meant to imply that all potential perchlorate impacted soils have been remediated at the facility. Regional Board staff apologizes for any confusion in discussing the specific purpose of the proposed termination order. Also, #1 See the 'General Response to comments submitted' on the first page of Responses.