
Central Valley Regional Water Quality Control Board

24 October 2017

Mr. Lars Johansen
Alpha Explosives
P.O. Box 310
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RECISSION OF CLEANUP AND ABATEMENT ORDER NO. R5-2002-0719, ALPHA EXPLOSIVES, 3400 NADER ROAD, PLACER COUNTY

Since about 1964, explosives have been manufactured at this location. Between 1964 and 1971, Hercules Incorporated produced ammonium nitrate and fuel oil (ANFO) and developed perchlorate slurries. In 1971, Alpha Explosives began producing ANFO. In 1995, nitrate was found to exceed water quality objectives in groundwater, and in 1997, perchlorate was also discovered in groundwater. On 14 May 1999, Cleanup and Abatement Order (CAO) 99-715 was issued to Alpha Explosives (Alpha) directing Alpha to define the lateral and vertical extent of pollution, submit a Remedial Options Feasibility Study for soil and groundwater, and a Remedial Action Plan for soil and groundwater. Alpha complied with the required actions by defining soil pollution, advancing identification of groundwater pollution, performing a biological treatability study, and conducting a capture zone analysis for implementation of treatment. On 26 August 2002 the CAO was revised as Cleanup and Abatement Order No. R5-2002-0719, which updated the task list and also named Hercules Incorporated as a discharger.

Cleanup and Abatement Order R5-2002-0719 required additional groundwater delineation, installation of groundwater pilot test monitoring wells, implementation of a pilot test, followed by development of a cleanup plan, securing Waste Discharge Requirements for cleanup plan implementation, and implementing the cleanup. Alpha Explosives and Hercules Incorporated have submitted the following reports prepared by Hydrometrics Inc. documenting completion of the named tasks.

Site Assessment

- January 2003 *Site Assessment Report*: installation of downgradient monitoring wells.
- August 2003 *Delineation of Perchlorate in Downgradient Groundwater*: grab groundwater samples assessing limits of perchlorate beneath off-site property.
- September 2004 *Downgradient Groundwater Perchlorate Investigation*: completion of assessment of off-site perchlorate extent.

Pilot Test

- April 2003 *Alpha Explosives Pilot Test Final Report*: implementation and results of first pilot study to treat perchlorate and nitrate insitu using ethanol at the evaporation pond.
- April 2004 *Alpha Explosives Pilot Test II Final Report*: implementation and results of insitu treatment using a higher concentration of ethanol added to a remediation well at the evaporation pond.

- July 2005 *Alpha Explosives Pilot Test III Final Report*: implementation and results of insitu treatment comparing ethanol, acetate and molasses at the evaporation pond.
- March 2006 *Pilot Test IV Final Report*: implementation and results of insitu treatment with ethanol, molasses, and acetate at the evaporation pond, ethanol at the mix building, including tracer study results.

Cleanup Plan

- April 2006 *Remedial Action Plan*: proposal for a phased implementation of groundwater remediation starting with the evaporation pond and mix building.
- September 2006 *Waste Discharge Requirements R5-2006-0110* issued for insitu remediation.
- August 2006 *PowerProbe Injection Test*: injection of acetate into boreholes at the mix building area.
- December 2006 *Implementation Report for Phase 1 Site Remediation*: injection of acetate into boreholes at the evaporation pond and mix building.
- June 2007 *Phase 1 Site Remediation Progress Report*: results of August and December injections, jar test to determine if ammonium would interfere with remediation.
- Injections at the mix building and evaporation ponds and associated reporting have continued semi-annually.

Alpha Explosives and Hercules Incorporated have completed all the tasks identified in Cleanup and Abatement Order R5-2002-0719. In addition, several of the monitoring wells at the evaporation pond and mix building no longer contain perchlorate or nitrate, and are being evaluated for rebound. Therefore, Cleanup and Abatement Order No. R5-2002-0179 is rescinded, as it is no longer appropriate or necessary.

Central Valley Water Board appreciates the progress that Alpha and Hercules have achieved and expects that Alpha Explosives and Hercules Incorporated will continue to remediate and proceed towards site closure in the absence of a Cleanup and Abatement Order. If you have any questions, you may contact Ms. Amy Terrell of my staff at (916) 464-4680.

Original signed by

ANDREW ALTEVOGT
Assistant Executive Officer

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