California
NAWS China Lake

Facility and Location

Naval Air Weapons Station (NAWS) China Lake is located 150 miles northeast of Los Angeles, on the western edge of the Mojave Desert, encompassing 1.1 million acres of land. The station provides warfare systems and life-cycle support; performs research, logistics, and in-service support for guided missiles, free fall weapons, and targets; supports equipment, crew systems, and electronic warfare; integrates weapons and avionics on tactical aircraft; and operates a land and sea range test and evaluation complex. Some perchlorate detections at NAWS China Lake may be due to naturally-occurring perchlorate.

Media Sampled and Findings

Groundwater — In 2010, nine of ten samples detected perchlorate from 0.11 to 1.3 ppb. In 2008, seven of nine samples detected perchlorate from 0.14 to 1 ppb. In 2007, seven of nine samples detected perchlorate from 0.5 to 1 ppb. Prior to 2007, 12 of 22 samples detected perchlorate from 15 to 720 ppb.
Soil — In 2011, 7 of 83 samples detected perchlorate from 55 to 1,300 ppb.
Wastewater — In 2008, two of two samples detected perchlorate at 0.37 and 0.46 ppb. In 2007, two of two samples detected perchlorate at 0.4 and 0.95 ppb. Prior to 2007, one sample detected perchlorate at 0.52 ppb.

Appropriate Actions

Perchlorate sampling was conducted following a Record of Decision to determine if the remedial design needed to be modified. Soils with perchlorate were consolidated and capped as part of the implemented remedial action. There is potential for naturally-occurring perchlorate in this evaporative playa environment.

NAWS China Lake samples groundwater wells under the Safe Drinking Water Act and the Defense Environmental Restoration Program. To address past groundwater samples above the EPA and DoD PRG of 15 ppb China Lake is conducting a Remedial Investigation/Feasibility Studies at all sites where perchlorate is detected in groundwater. These studies will help determine the extent of environmental concerns at each site and aid in evaluating cleanup options. Data shows there are a lack of receptors where perchlorate was found. However, response actions will take place at some of the sites based on contaminants other than perchlorate.

The Propulsion Laboratory area had perchlorate detections in groundwater; however, there are no drinking water sources in this vicinity. Water quality is very poor, showing total dissolved solids concentrations of up to 30,000 ppm (i.e., brine). Michelson Laboratory also had perchlorate detections in groundwater. There are no drinking water sources in this vicinity and perchlorate occurs in a shallow aquifer overlain by significant clay layers which separate the

deep and shallow aquifers. Remediation is not expected to be necessary due to the lack of complete pathway to human or environmental receptors.