

California Regional Water Quality Control Board
Santa Ana Region

Cleanup and Abatement Order No. R8-2002-0051

For

Goodrich Corporation

And

Kwikset Corporation (Former West Coast Loading Company)

160-Acre Property Bounded Approximately by Casa Grande Park Avenue on the North, Locust Avenue on the East, the Extension of Alder Avenue on the West, and the Extension of Summit Avenue on the South, City of Rialto, San Bernardino County

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board), finds that:

1. From 1950 to 1957, the West Coast Loading Company (WCLC), a division of the former Kwikset Locks Corporation (now Kwikset Corporation – hereinafter Kwikset), owned and occupied the 160 acres of property consisting of the southwest quarter of Section 21, Township 1 North, Range 5 West, San Bernardino Base and Meridian in the County of San Bernardino, State of California.
2. In 1957, the B.F. Goodrich Corporation (hereinafter Goodrich) purchased the 160-acre property. Goodrich occupied the property until 1964.
3. The property was later subdivided and sold. The property (site) now consists of numerous separate parcels, with multiple landowners. Since 1964, continuing through the present, various tenants involved in pyrotechnics have occupied portions of the site.
4. During their occupancy of the site (1950-1957), WCLC (Kwikset), manufactured pistol flares and parachute flares.
5. During their occupancy of the site (1957-1964), Goodrich performed solid propellant research and development for the United States Air Force. Goodrich had contracts with the Naval Ordnance Test Station in China Lake, California, which included work on the Sidewinder Missile.
6. Perchlorate, in the form of perchlorate salts, such as ammonium perchlorate, is known to have been used as an oxidizer in the manufacture

- of solid rocket propellants during the time period that Goodrich occupied the site. Perchlorate salts are also used in the manufacture of fireworks and flares. Perchlorate salts are highly soluble and dissociate in water to form perchlorate ions. There are currently no state or federal drinking water standards for perchlorate. However, in 1997, the California Department of Health Services (DHS) established a drinking water Action Level (AL) for perchlorate of 18 parts per billion (ppb). An AL is a temporary safe drinking water level that is based on limited studies that have been performed.
7. In 1997 and 1998, the City of Rialto, City of Colton and the West San Bernardino County Water District collected samples of groundwater from their municipal water supply wells in the Rialto Groundwater Subbasin. Laboratory analyses of the groundwater samples indicated that perchlorate was present in seven of the wells that were sampled. These seven wells are downgradient (southeast) of the site. Two wells exceeded the perchlorate AL of 18 ppb (at concentrations of 273 ppb and 57 ppb), and five wells were below the AL (all at concentrations less than 6 ppb). The well containing 273 ppb was the well closest to the site (approximately one mile away), and was not in use. The well containing 57 ppb of perchlorate was the next closest well downgradient from the site. This well remained in use, the water from the well was blended with other wells for a period of time, and the well was eventually shut down. The remaining five wells that contained perchlorate in concentrations below the AL continued in use. These five wells are located further downgradient from the site than the other two wells that contained much higher concentrations of perchlorate. Based on the analytical results and the well locations, it appears that a plume of perchlorate exists, covering an area of about 6.5 square miles.
 8. On January 18, 2002, DHS lowered the AL to four ppb. Since then, the Cities of Rialto and Colton have shut down four municipal water supply wells that exceeded the new AL of 4 ppb, but did not exceed the previous AL of 18 ppb.
 9. The direction of groundwater flow in the area is known to be towards the southeast, which is from the subject site to the location of the Rialto and Colton wells. Taken in conjunction with the facts that the well with the highest concentration of perchlorate is the well closest to the site, and the concentration of perchlorate in the remaining wells decreases with increasing distance of each well from the site, and considering the historical activities that took place at the site and the absence of any other nearby sites where perchlorate may have been discharged in the past, it is evident that the site is the source of the perchlorate that is in the groundwater.

10. Perchlorate was first analyzed for, and found, in the City of Colton's wells in 1997. This was 47 years after Kwikset began operations at the site, and 40 years after Goodrich began operations at the site. The estimated groundwater flow velocity in this area of the Rialto Subbasin is between one and three feet per day. At an average flow velocity of two feet per day, it would take approximately 43 years for groundwater to travel downgradient from the site to the City of Colton's wells that contain perchlorate, a distance of six miles. Therefore, perchlorate has likely been in the groundwater for about 43 years. As a result, it is evident that the perchlorate that has travelled about six miles downgradient from the site was discharged at the site during the time that Kwikset and Goodrich occupied the site.
11. The beneficial uses of the Rialto Groundwater Subbasin include:
 - A. Municipal and domestic supply,
 - B. Agricultural supply,
 - C. Industrial service supply, and
 - D. Industrial process supply.
12. Kwikset and Goodrich have caused or permitted, are causing or permitting, or threaten to cause or permit waste, i.e., perchlorate, to be discharged to waters of the state, specifically the Rialto Groundwater Subbasin, and have created, or threaten to create a condition of pollution or nuisance.
13. California Water Code Section 13304 allows the Regional Board to recover reasonable expenses from responsible parties for overseeing cleanup and abatement activities. It is the Regional Board's intent to recover such costs for regulatory oversight work conducted in accordance with this order.
14. This enforcement action is being taken by a regulatory agency to enforce a water quality law. Such action is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.) in accordance with Section 15321, Article 19, Division 3, Title 14, California Code of Regulations.
15. At this time, it is appropriate to order Kwikset and Goodrich to abate the effects of the discharge of perchlorate. A similar order may be issued at a later date to tenants at the site, if Regional Board staff obtains additional information indicating that any of the tenants may have been a source of the perchlorate that is present in the groundwater.

16. Goodrich has been in communication with Regional Board staff, and has expressed a willingness to initiate an investigation at the site. Goodrich is currently preparing a limited scope of work for the investigation.
17. The site is now subdivided, with multiple property owners. The current property owners are not named in this Order, but they are expected to provide reasonable and timely access to the site, to expedite the investigation and remediation activities. The Order may be revised in the future to include the property owners, if necessary.

IT IS HEREBY ORDERED THAT, pursuant to Section 13304, Article 1, Chapter 5, Division 7, of the California Water Code, Goodrich and Kwikset shall:

1. By July 8, 2002, submit a proposal with a one-year implementation schedule to obtain information and define the lateral and vertical extent of the perchlorate in soil and groundwater. The proposal and time schedule will be subject to the approval of the Executive Officer.
2. Implement the proposal in 1., above, as approved by the Executive Officer.
3. Sixty days after completing implementation of the approved proposal, submit a detailed remedial action plan, and a six-month time schedule for implementing the remedial action. The remedial action plan and schedule will be subject to the approval by the Executive Officer.
4. Implement the remedial action plan in 3., above, as approved by the Executive Officer.

Failure to comply with the terms and conditions of this order may result in the imposition of civil liabilities, either administratively by the Regional Board or judicially by the Superior Court in accordance with Section 13350 of the California Water Code, and/or referral to the Attorney General for such action as may be deemed appropriate.

Ordered by:

/s/

Gerard J. Thibeault
Executive Officer

June 6, 2002