

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
895 AEROVISTA PLACE, SUITE 101
SAN LUIS OBISPO, CALIFORNIA**

ORDER NO. R3-2005-0124

Conditional Waiver of Waste Discharge Requirements

For

**GROUNDWATER CLEANUP WITH
INJECTION OF SODIUM PERMANGANATE INTO GROUNDWATER
AT
TECKNIT, INC & TUBE HOLDING CO., INC.
312 & 320 NORTH NOPAL STREET, SANTA BARBARA
SANTA BARBARA COUNTY**

The California Regional Water Quality Control Board, Central Coast Region (hereinafter Water Board) finds that:

1. California Water Code Section 13260(a) requires that any person discharging waste, or proposing to discharge waste within any region that could affect the quality of the waters of the state, other than into a community sewer system, shall file with the appropriate Water Board a report of the discharge ("report of waste discharge" or "ROWD") or other report containing such information and data as may be required by the Water Board.
2. The Water Board prescribes waste discharge requirements except where the Water Board finds that a waiver of waste discharge requirements is consistent with applicable water quality control plans, will not pose a significant threat to water quality, and is in the public interest pursuant to California Water Code Section 13269.
3. California Water Code Section 13269 provides that all waivers of waste discharge requirements must be conditional, may not exceed five years in duration, and may be terminated at any time by the Water Board.
4. The subject site consists of two adjacent parcels located at 312 and 320 North Nopal Street in Santa Barbara (hereafter Property). Tube Holding Company (and its predecessors Penta Laboratories, Inc. and Matchlett Laboratories, Inc.) leased and operated the property at 312 North Nopal from 1955 until November 1967. Tube Holding and its predecessors are subsidiaries of Raytheon Company, Inc. From 1967 to 1989, Tecknit, Inc. (Tecknit) owned and operated a wire manufacturing business at the Property. Tube Holding, its predecessors, and Tecknit stored, in drums, and used trichloroethylene (TCE) and other chlorinated solvents as degreasers. Spent solvents were discharged to drains and underground sumps that connected to the sanitary sewer laterals. Past business operations resulted in ground water contamination with TCE and other volatile organic compounds (VOCs) at the Property. From 1991 to 1993, the Property was used as an auto repair shop. Since 1993, the tenant at 312 North Nopal Street operates a smoked salmon business and the tenant at 320 North Nopal Street operates a plastic film manufacturing company. Since at least 1993, TCE has not been used at the Property. Tube Holding, Tecknit, and Raytheon Company, Inc. are considered "Dischargers" for this Order.
5. In December 1994, the Water Board issued Cleanup or Abatement Order (Order) No. 94-49 to Tecknit and Tube Holding Company. The Order required the Dischargers to characterize the extent of contamination, propose a cleanup plan, implement Monitoring and Reporting No. 94-49, and comply with time schedules.

6. Groundwater monitoring data indicates that underlying groundwater contains chlorinated solvents and the solvent plume extends offsite under Nopal Street onto neighboring properties located on Montecito Street west-southwest of the Property. Groundwater monitoring performed on January 19, 2005, indicates that extraction well EW-2 has the highest levels of trichloroethylene (TCE) at 17,000 ug/l. Historically, the highest concentration of TCE was detected in well PZ-1 at 140,000 ug/l during the November 11, 1994, groundwater sampling event. Chlorinated solvents cis-1,2 dichloroethene, trans-1,2 dichloroethene, 1,1 dichloroethene, and freon-12 have also been detected at other wells at the Property. Petroleum constituents methyl tertiary butyl ether, benzene, ethylbenzene, and toluene, have also been detected in other wells at the Property.
7. Depth to groundwater at the Property is approximately three to five feet below ground surface (bgs), which corresponds with a ground water elevation of about seven to nine feet above mean sea level. The groundwater flow direction is estimated to be from the northeast to the southwest at 0.016 feet per foot.
8. The Dischargers have submitted a Report of Waste Discharge to inject sodium permanganate into the vadose zone and shallow groundwater to clean up chlorinated solvent groundwater contamination at the Property. Since 1994, a groundwater extraction and treatment system has been in operation, which utilized one groundwater extraction well. The groundwater extraction system was modified in 1999 to utilize two extraction wells (EW-1 and EW-2). The proposed chemical oxidation treatment is expected to substantially speed up groundwater cleanup compared to continued operation of the existing groundwater extraction and treatment system.
9. On July 26, 2005, the Discharger's consultant, Environmental Resources Management, submitted a report titled "*Final Workplan for In Situ Chemical Oxidation*" (Work Plan). The Work Plan proposes installation of a series of infiltration trenches to deliver 10,828 pounds (7,596 gallons) of sodium permanganate to the vadose zone in the treatment area. In addition, 30 injection wells are proposed to deliver 13,463 pounds (9,445 gallons) of the sodium permanganate to shallow groundwater (ranging from approximately five to 30 feet depth bgs) in the dissolved-phase chlorinated solvent plume. The sodium permanganate injection is expected to take less than one week.
10. After the injection or infiltration begins, chlorinated solvents will be mineralized into manganese dioxide and other soluble ion salts (potassium, sodium, chloride), and carbon dioxide by means of a chemical oxidation process. The oxidation destroys the organic double bonds of the chlorinated ethene compounds, reducing them ultimately to oxygen and carbon dioxide. The chemical reaction is rapid and is will not adversely affect beneficial uses. In addition, the Dischargers will be required to evaluate the chemical reaction effect on groundwater quality using Monitoring and Reporting Program No. R3-2005-0124.
11. Pursuant to Chapter 2 of the Water Quality Control Plan, Central Coast Region (Basin Plan), present and potential beneficial uses of groundwater (both shallow and deeper water-bearing zones) underlying the Property include domestic and municipal water supply, agricultural water supply, and industrial water supply.
12. The Basin Plan contains water quality objectives for manganese and chlorine. The Maximum Contaminant Levels for manganese and chlorine are 50 µg/l and 4,000 µg/l, respectively. In addition, the Basin Plan states that groundwaters shall not contain taste or odor producing substances in concentrations that adversely affect beneficial uses. The taste and odor objective for sodium is 30,000 µg/l.

13. The injection of sodium permanganate into the vadose zone and shallow groundwater will significantly improve ground water quality and is proposed in a manner that will not be a significant threat to human health and the environment, a conditional waiver of waste discharge requirements is not against the public interest and is consistent with applicable water quality control plans, including the Basin Plan.
14. Relevant factors in determining whether a waiver is in the public interest include the following:
 - a) Whether the discharge is already regulated by another governmental entity;
 - b) Whether the Dischargers will observe reasonable practices to minimize the deleterious effects of the discharge;
 - c) Whether a feasible treatment method exists to control the pollutants in the discharge; and
 - d) Whether conditionally waiving Reports of Waste Discharge and/or waste discharge requirements will adequately protect beneficial uses while allowing the Water Board to utilize more of its resources to conduct field oversight, public outreach and, where necessary, enforcement.
15. The conditions of this waiver protect beneficial uses by:
 - a) Prohibiting pollution, contamination or nuisance;
 - b) Requiring monitoring and compliance with applicable water quality control plans; and
 - c) Requiring the Dischargers to grant access to Water Board staff to perform inspections.
16. Individual groundwater remediation systems are categorically exempt from California Environmental Quality Act (CEQA), California Code of Regulations, Title 14, Section 15303.
17. Pursuant to California Water Code Section 13269, this action waiving the issuance of waste discharge requirements for injection of sodium permanganate: (a) is conditional, (b) may be terminated at any time, (c) does not permit an illegal activity, (d) does not preclude the need for permits which may be required by other local or governmental agencies, and (e) does not preclude the Water Board from administering enforcement remedies (including civil liability) pursuant to the California Water Code.
18. Application of sodium permanganate to the vadose zone and shallow groundwater and operation of the groundwater extraction system are consistent with this Order and will not significantly degrade groundwater quality and are consistent with State Water Resources Control Board (State Board) Resolution No. 68-16. State Board Resolution No. 68-16 provides if there is degradation of water quality it must not "unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed [by the water quality control] policies." In short, the degradation may not violate water quality objectives or in the absence of objectives, must not unreasonably affect existing and designated beneficial uses. Also, if there is degradation the Water Board must determine that it has been demonstrated the change "will be consistent with the maximum benefit to the people of the State."
19. In the event that the sodium permanganate injection fails to completely degrade chlorinated solvents in groundwater, the Executive Officer may require the Discharger to re-apply and monitor sodium permanganate in the treatment area.
20. In the event that the sodium permanganate injection or its effects significantly degrade water quality, the Executive Officer will require the Dischargers to re-start the existing groundwater extraction and treatment system to prevent offsite migration of the discharge or effects of the discharge.
21. The monitoring and reporting requirements of this Order are imposed pursuant to California Water Code Section 13267. The monitoring and reporting are necessary to ensure compliance with the conditions of this Order and to verify the adequacy and effectiveness of the conditions.

22. The Water Board conducted a public hearing on September 9, 2005, in San Luis Obispo, California, and considered all evidence concerning this matter.

THEREFORE BE IT RESOLVED:

1. In accordance with California Water Code Sections 13267 and 13269, waste discharge requirements for the proposed groundwater remediation system are hereby waived subject to the following conditions:
 - a) The injection of sodium permanganate into the vadose zone and shallow groundwater shall not create a condition of pollution, contamination, or condition of nuisance, as defined by California Water Code Section 13050.
 - b) The Water Board shall be immediately notified of any proposed change(s) in discharge volume, nature, or location.
 - c) The Water Board shall be immediately notified of any discharges threatening water quality or public health.
 - d) The Water Board may inspect the chemical oxidation cleanup and groundwater treatment system at any time to evaluate compliance with this Region's Basin Plan and this waiver.
 - e) Waste discharged shall not cause groundwater to contain concentrations of chemical substances or its by-products in amounts that adversely affect any designated beneficial use, outside the application area or treatment zone.
 - f) The discharge of wastes shall not cause the pH of the receiving groundwater downgradient of the application area beyond the range of 6.5 and 8.5.
 - g) Pursuant to California Water Code Section 13267, the Discharger shall comply with Monitoring and Reporting Program No. R3-2005-0124. Water Board staff needs this information to verify that a conditional waiver of waste discharge requirements is the appropriate regulatory tool.
2. This Waiver shall not create a vested right and all such discharges shall be considered a privilege, as provided for in California Water Code Section 13263.
3. The Executive Officer or Water Board may terminate the applicability of the Waiver described herein at any time if the Discharger violates the conditions of this waiver, if such termination is in the public interest, or if the discharge could adversely affect the quality or beneficial uses of the waters of the State.
4. This Waiver shall become effective on **September 9, 2005**, and shall expire on **September 1, 2010**.
5. As provided by California Water Code Section 13350(a), any person may be civilly liable if that person is in violation of a waiver condition or waste discharge requirements, intentionally or negligently discharges waste, or causes waste to be deposited where it is discharged, into the waters of the State and creates a condition of pollution or nuisance.
6. Any person affected by this action of the Water Board may petition the State Water Board to review the action in accordance with section 13320 of the California Water Code and Title 23, California Code of Regulations, Section 2050. The State Water Board must receive the petition within 30 days of the date of this Resolution. Copies of the law and regulations applicable to filing petitions will be provided upon request.

I, Roger W. Briggs, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Water Quality Control Board, Central Coast Region, on September 9, 2005.

Roger W. Briggs
Executive Officer

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