

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

CLEANUP AND ABATEMENT ORDER R5-2008-0714

FOR
FORWARD INC.
FORWARD LANDFILL, A CLASS II FACILITY
SAN JOAQUIN COUNTY

This Order is issued to the Forward Inc. (hereafter Discharger) based on provisions of California Water Code sections 13304 and 13267, which authorize the Executive Officer of the California Regional Water Quality Control Board, Central Valley Region (hereafter Central Valley Water Board) to issue a Cleanup and Abatement Order (Order) and to require the submittal of technical reports.

The Executive Officer of the Central Valley Water Board finds, with respect to the Discharger's acts, or failure to act, the following:

1. Forward Inc. owns and operates the Forward Landfill near Stockton. The City of Stockton owned and operated the Austin Road Landfill, located just north of Forward Landfill, from 1954 until 2000. In September 2000, Forward, Inc. purchased the Austin Road Landfill from the City of Stockton. Allied combined the two landfill operations into a single facility under the name of Forward Landfill, which is owned operated by its subsidiary, Forward Inc. As a result of this consolidation, the Austin Road Landfill became the north unit of the Forward Landfill. However, in this Order, this waste management unit will continue to be referred to as the Austin Road Landfill.
2. Forward Landfill, including the Austin Road Landfill, is now regulated under Waste Discharge Requirements (WDRs) Order Nos. R5-2003-0049 (for the land application of treated groundwater) and R5-2003-0080 (for the landfill operation). The combined landfill facilities cover approximately 567 acres, including both existing and proposed waste management units. The landfill is located about seven miles southeast of Stockton in Section 3, T1S, R7E, MDB&M. The facility is comprised of Assessor's Parcel Numbers (APN) 181-150-07, 181-150-08, 181-150-09, 181-150-10, 201-060-01, 201-060-02, 201-060-03, and 201-060-05.
3. Land uses adjacent to the combined landfill include agricultural lands to the east, west, and south. The Northern California Youth Authority, a youth criminal detention facility, is located approximately 1,900 feet north from the Austin Road Landfill. The Stockton Municipal Airport is approximately one mile west of the Austin Road Landfill. One mile northeast of the facility is the Burlington Northern and Santa Fe Railroad Intermodal facility. There is a residence on Austin Road that is 500 feet

from the entrance to Austin Road Landfill. There are also two residences on Lynch Road, approximately 0.5 miles southeast of the site.

4. The Austin Road Landfill was filled by the City of Stockton using the trench method. Trenches were excavated to an approximate depth of 20 feet below ground surface. There is no liner or leachate collection and removal system in the trenches to prevent the downward migration of landfill leachate or gas from the unit to the underlying groundwater.

SURFACE AND GROUND WATER CONDITIONS

5. The landfill is on the floor of the northern San Joaquin Valley. Surface drainage is toward the west to Littlejohns Creek in the Duck-Littlejohns Hydrologic Area (31.40) of the San Joaquin River Basin.
6. The Water Quality Control Plan, Fourth Edition, for the Sacramento River Basin and the San Joaquin River Basin (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin. The designated beneficial uses of Littlejohns Creek, as specified in the Basin Plan, are agricultural supply, industrial service and process supply water, contact and non-contact water, recreation, warm fresh water habitat, preservation of rare, threatened and endangered species, and groundwater recharge.
7. The direction of groundwater flow is to the north-northeast. The measured hydraulic conductivity of the uppermost aquifer underlying the landfill ranges between 2×10^{-2} and 2×10^{-3} cm/sec. The groundwater gradients, based on the Discharger's fourth quarter 2007 groundwater monitoring report measurements, range from 0.0010 to 0.0020 ft/ft. The average groundwater velocity is 195 feet per year (Order No. R5-2003-0049, Finding 26 at p. 6).
8. The first encountered groundwater is about 60 to 80 feet below the native ground surface. Groundwater elevations range from -20 feet mean sea level (MSL) to -30 feet MSL. The groundwater is unconfined. The depth to groundwater fluctuates seasonally by as much as 10 feet.
9. There are an estimated 35 domestic, industrial, or agricultural groundwater supply wells within one mile of the site.
10. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal supply, agricultural supply, industrial service supply, and industrial process supply.

GROUNDWATER IMPACTS FROM THE AUSTIN ROAD LANDFILL

11. Significant volatile organic compound (VOC) groundwater impacts including, but not limited to, 1,1-dichloroethane, cis-1,2-dichloroethylene, tetrachloroethylene, and trichloroethylene are associated with waste discharged to the Austin Road Landfill. Impacts were initially detected in 1989. By 1991, evaluation monitoring determined that chlorinated hydrocarbon impacts extended as far as 1,000 feet down-gradient from the Austin Road Landfill. A corrective action plan, consisting of a phased approach to remediate the plume, was approved in 1991, but by 1998 it was apparent that the initial corrective actions had failed to remediate the groundwater impacts because detections of 1,1-dichloroethane, cis-1,2-dichloroethylene, tetrachloroethylene, and trichloroethylene were still detected in downgradient monitoring wells.
12. The Discharger stated in its 2002 Joint Technical Document that “the VOC polluted groundwater extends approximately 4,000 feet northeast from the northern border of the existing Austin Road Landfill. The plume appears to have migrated to a lower depth at the leading edge of the plume. The primary contaminants of concern are Tetrachloroethylene and Trichloroethene, with concentrations levels up to 59 and 48 micrograms per liter, respectively. The highest VOC concentrations are present within a sand layer that extends beneath the site between approximately 80 to 104 feet below ground surface.”
13. There are no monitoring wells at the downgradient edge (vertically or laterally) of the plume.
14. In 2003, the Central Valley Water Board adopted WDRs Orders R5-2003-0049 and R5-2003-0080 to implement revised corrective actions to remediate groundwater impacts. The Discharger extracts groundwater from two wells adjacent to the northern boundary of the Austin Road Landfill, and then runs it through an air sparger prior to discharging the effluent to an infiltration area. From 1 October through 31 December 2007, the two wells extracted at an average rate of 209 gallons per minute or 301,000 gallons per day. Based on the continuing detections in the downgradient wells, the current extraction rate is insufficient to control the plume and remediate the release of groundwater pollutants from the landfill.
15. The Austin Road Landfill corrective action monitoring system includes monitoring wells AMW 13 and AMW 14. These wells are approximately 1,600 feet directly downgradient of the two extraction wells EW-1 and EW-2. During the first Quarter 2008 sampling event the following VOCs concentrations were detected in these wells:

VOLATILE ORGANIC COMPOUND	MONITORING WELL	
	AMW 13	AMW 14
1,1-dichloroethane	0.51 ug/l	0.25 ^J
cis-1,2-dichloroethylene	1.5 ug/l	0.32 ^J
dichlorodifluoromethane	1.7 ug/l	1.0 ug/l
tetrachloroethylene	25 ug/l	18 ug/l
trichloroethylene	7.1 ug/l	1.3 ug/l
trichlorofluoromethane	0.79 ug/l	0.28 ug/l ^J

J value: detected above the method detection limit, yet value is below the practical quantitation limit.

16. The Northern California Youth Authority (NCYA) facility is located due north and approximately 1,000 feet downgradient of the Austin Road Landfill monitoring wells AMW 13 and AMW 14. This facility uses three of their four supply wells as their means for supplying drinking water to their facility. The facility wells are sampled on a monthly basis and have consistently shown that the tetrachloroethylene plume extends past the corrective action monitoring wells AMW 13 and AMW 14 as shown in the following table, assuming there are no other sources of such contaminants contributing to contamination of the NCYA wells. Furthermore, the tetrachloroethylene in Well #2 has concentrations which at times which exceed the US EPA Primary MCL of 5 ug/l. Well #1, #2 and #4 all exceed the public health goal of 0.06 ug/l for tetrachloroethylene

NORTHERN CALIFORNIA YOUTH AUTHORITY WELLS TETRACHLOROETHYLENE CONCENTRATIONS (UG/L)								
	11/ 07	12/07	01/08	02/08	03/08	04/08	05/08	6/08
Well #1	3.2	3.8	3.8	4.0	4.2	3.9	3.8	3.3
Well #2	4.4	4.8	5.4	4.0	5.7	5.4	5.6	6.7
Well #4	1.3	1.5	1.4	1.4	1.5	1.5	1.6	ND
<ul style="list-style-type: none"> • U.S. EPA Primary MCL = 5 ug/l • Public Health Goal = 0.06 ug/l 								

17. On 24 April 2007 the California Department of Health Services, Division of Drinking Water and Environmental Management issued Citation No. 03-10-07C-004 to the North California Youth Authority for failure to comply with Section 116566 of the California health and Safety Code. Specifically, the system failed to comply with the primary drinking water standard for tetrachloroethylene as specified in Section 64444 Maximum Contaminant Levels – Organic Chemicals of Title 22, California Code of Regulations during March 2007. Citation No. 03-10-07C-004 has been attached as Appendix A of this Order.

REGULATORY CONSIDERATIONS

18. To summarize, the Austin Road Landfill VOC plume may have polluted downgradient drinking water supply wells at the Northern California Youth Authority facility. A groundwater extraction and treatment system and a landfill gas extraction system have been installed and are operating at the landfill. The June 2008 groundwater monitoring data from the Northern California Youth Authority supply wells and the landfill's groundwater monitoring wells indicates that pollutants in groundwater are still present. The groundwater extraction system has not contained the entire VOC plume.
19. Groundwater quality data and flow direction measurements provided by the Discharger indicate that the groundwater treatment system is undersized and unable to prevent the migration of the VOC plume.
20. Prohibition A (4) of WDRs Order No. R5-2003-0049 states: "The discharge shall not cause the release of pollutants or waste constituents in a manner which could cause a condition of nuisance, degradation, contamination, or pollution of groundwater to occur." Consequently, the detection of VOCs in any monitoring well is a violation of the WDRs.
21. This Order requires the Discharger to: (a) evaluate the vertical and lateral extent of groundwater impacts; (b) upgrade the corrective action system such that it prevents the constituents of concern associated with the release of waste from the landfill from passing the point of compliance of the waste management unit; (c) restore the water quality of the polluted aquifer; and (d) supply replacement water to any facility and or residence with a water supply that has been affected by the release of waste from the landfill such that concentrations exceed MCLs established by the U.S. EPA, to the extent such exceedances are not naturally-occurring or attributable to other sources.
22. The Discharger's data indicate that the release from the Austin Road Landfill has impacted the beneficial uses of the monitored aquifer downgradient of the landfill property. The data show that all three supply wells at the Northern California Youth Authority have concentrations of tetrachloroethylene that exceed the public health goal of 0.06 ug/l. The highest concentrations of tetrachloroethylene detected in supply well #4 at the NCYA exceed the US EPA Primary MCL of 5 ug/l.
23. The wastes detected at the Austin Road Landfill and NCYA are solvents used in the dry cleaning and other processes and breakdown products that are not naturally occurring, and some are known human carcinogens. The presence of with tetrachloroethylene, trichloroethylene and cis-1,2-dichloroethylene in groundwater has impaired the beneficial uses of the groundwater.

24. The constituents listed in Finding 15 are wastes, as defined in CWC section 13050.
25. The Discharger has caused or permitted waste to be discharged or deposited where it has discharged to waters of the state and has created, and continues to threaten to create, a condition of pollution or nuisance.
26. The State Water Resources Control Board (hereafter State Water Board) has adopted Resolution No. 92-49, the *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304*. This Policy sets forth the policies and procedures to be used during an investigation or cleanup of a polluted site and requires that cleanup levels be consistent with State Water Board Resolution No. 68-16, the *Statement of Policy With Respect to Maintaining High Quality of Waters in California*. Resolution No. 92-49 and the Basin Plan establish the cleanup levels to be achieved. Resolution No. 92-49 requires the groundwater contaminants to be cleaned up to background, or if that is not reasonable, to an alternative level that is the most stringent level that is economically and technologically feasible in accordance with California Code of Regulations, title 23, section 2550.4. Any alternative cleanup level to background must (1) be consistent with the maximum benefit to the people of the state; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Board.
27. Chapter IV of the Basin Plan contains the *Policy for Investigation and Cleanup of Contaminated Sites*, which describes the Central Valley Water Board's policy for managing contaminated sites. This policy is based on CWC Sections 13000 and 13304, California Code of Regulations, title 27, division 2, subdivision 1, and State Board Resolution Nos. 68-16 and 92-49. The policy addresses site investigation, source removal or containment, information required to be submitted for consideration in establishing cleanup levels, and the bases for establishment of soil and groundwater cleanup levels.
28. The State Water Board's *Water Quality Enforcement Policy* states in part: "At a minimum, cleanup levels must be sufficiently stringent to fully support beneficial uses, unless the Central Valley Water Board allows a containment zone. In the interim, and if restoration of background water quality cannot be achieved, the Order should require the discharger(s) to abate the effects of the discharge. Abatement activities may include the provision of alternate water supplies." (Enforcement Policy, p. 19)
29. Applicable sections from California Code of Regulations, title 27, are as follows:
 - Section 20425(i) states: "*RWQCB-Initiated EMP Changes — Any time the RWQCB determines that the evaluation monitoring program does not satisfy the requirements of this section, the RWQCB shall send written notification of such*

determination to the discharger by certified mail, return receipt requested. The discharger shall, within 90 days of such notification by the RWQCB, submit an amended report of waste discharge to make appropriate changes to the program.”

- Section 20430(b) states: *“The discharger shall take corrective action to achieve the following goals: to remediate releases from the Unit; to ensure that the discharger achieves compliance with the Water Standard adopted under section 20390 for that Unit.”*
- Section 20430(c) states: *“The discharger shall implement corrective action measures that ensure that COCs achieve their respective concentration limits at all Monitoring Points and throughout the zone affected by the release, including any portions thereof that extend beyond the facility boundary, by removing the waste constituents or treating them in place.”*
- Section 20430(j) states: *“RWQCB-Initiated CAP Changes — Any time the RWQCB determines that the corrective action program does not satisfy the requirements of this section, the discharger shall, within 90 days of receiving written notification of such determination by the RWQCB, submit an amended report of waste discharge to make appropriate changes to the program.”*

30. CWC section 13304(c)(1) provides that: *“Any person who has discharged or discharges waste into waters of this state in violation of any waste discharge requirements or other order or prohibition issued by a Regional Water Board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the Regional Water Board clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including but not limited to, overseeing cleanup and abatement efforts. A cleanup and abatement order issued by the state board or a Regional Water Board may require the provision of, or payment for, uninterrupted replacement water service, which may include wellhead treatment, to each affected public water supplier or private well owner. [emphasis added] Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant.”*

31. CWC section 13267(b) provides that: *“In conducting an investigation specified in subdivision (a), the Regional Water Board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or*

political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste outside of its region that could affect the quality of waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports”.

32. The technical reports required by this Order are necessary to assure compliance with this Order and the WDRs, and to protect the waters of the state. Existing data and information about the site indicates that waste has been discharged or may continue to be discharged at the property, which is currently owned and operated by the Discharger named in this Order.
33. The issuance of this Order is an enforcement action taken by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act (CEQA) (Pub. Resources Code, section 21000 et seq.), pursuant to California Code of Regulations, title 14, section 15321(a)(2). The implementation of this Order is also an action to assure the restoration of the environment and is exempt from the provisions of the CEQA in accordance with California Code of Regulations, title 14 sections 15307 and 15308. This Order may also be classified as a minor action to prevent, minimize, stabilize, mitigate or eliminate the release or threat of release of hazardous waste or substances, and is exempt from the provisions of CEQA in accordance with California Code of Regulations, title 14 section 15330.
34. Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with CWC section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

IT IS HEREBY ORDERED THAT, pursuant to CWC sections 13267 and 13304, Forward Inc. and its agents, successors, and assigns, shall investigate the discharges of waste to groundwater, clean up the waste, and abate the effects of the waste, forthwith, resulting from the Austin Road Landfill (now Forward Landfill), in conformity with State Board Resolution No. 92-49 *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*, California Code of Regulations, Title 27, section 20380 et seq., and the Central Valley Water Board's *Water Quality Control Plan for the Sacramento River and San Joaquin River*

Basins (in particular the Policies and Plans listed within the Control Action Considerations portion of Chapter IV). “Forthwith” means as soon as is reasonably possible. Compliance with this requirement shall include, but not be limited to, completing the tasks listed below.

1. **Water Supply**

- a. By **31 December 2008**, the Discharger shall submit a contingency plan to supply drinking water to the Northern California Youth Authority without any cost to the facility. The contingency plan must include a short-term remedy that could be implemented immediately, such as wellhead treatment or a water line. The plan must be implemented upon the confirmed detection of VOCs above drinking water standards (Maximum Contaminant Levels (MCLs)) in the drinking water faucets fed by the Northern California Youth Authority water storage tank. The Central Valley Water Board must be notified in writing and by phone within 24 hours of implementation of the contingency plan. A copy of the plan shall be provided to Northern California Youth Authority and a second copy shall be placed in the facility’s Operating Record.
- b. By **15 January 2009**, the Discharger shall submit a plan to sample all downgradient water wells that are within 4,000-feet of the point of compliance of the Austin Road landfill without any cost to the landowners. The plan must include a sampling and analysis plan that includes a discussion of confirmation sampling and the address of each well. A copy of the plan shall be placed in the facility’s Operating Record.
- c. By **1 March 2009**, the Discharger shall sample all downgradient domestic and municipal drinking water wells, subject to the landowners’ prior consent, within 4000 feet of the Austin Road Landfill that are currently not being monitored by the Discharger.
 - i. **15 days prior to sampling** the Discharger shall provide all identified landowners and/or well users by certified mail with an explanation of the purpose for the sampling and a schedule for the individual’s well sampling. A copy of each of the letters shall be submitted to the Central Valley Water Board as well as the San Joaquin County Environmental Health Department. An additional copy shall be placed in the facility’s Operating Record.
 - ii. If any landowner denies access to a well, the Discharger shall provide a written statement that the landowner/well user elected not to allow access to the property for the required sampling. A copy shall be placed in the facility’s Operating Record.

- iii. All water sampled from these wells shall be analyzed by EPA Method 8260B for volatile organic compounds.
 - iv. Any downgradient domestic or municipal drinking water well that has a confirmed VOC detection at a concentration greater than its MCL shall be immediately supplied with replacement drinking water at no cost to the landowner, unless the City of Stockton is already providing such a supply.
- d. By **30 April 2009**, the Discharger shall submit a report of sampling results to Central Valley Water Board, the landowner/well user, and to the San Joaquin County Environmental Health Department. This report shall include a description of the sampling activities, an evaluation of each well's water chemistry, the geographic position of each well (latitude and longitude coordinates obtained with a handheld GPS unit is acceptable), the well completion report if available, a recommendation to add the well to the monitoring and reporting program, if appropriate, and documentation that the owners received the data for their well with an explanation of the results.

2. Source Control

- a. No later than **15 February 2009**, the Discharger shall submit an initial source control plan to modify the Austin Road Landfill's groundwater and landfill gas extraction systems such that VOC contaminants are prevented from migrating northward past the facility's point of compliance. The plan shall also include a proposed corrective action monitoring plan that meets the requirements in California Code of Regulations, title 27, section 20430(d).
- b. No later than **15 May 2009**, the Discharger shall:
 - i. Continuously operate the corrective action treatment system (24 hours a day, 365 days a year operation) except for periodic and required maintenance or unpreventable equipment failure until the groundwater plume is remediated to comply with concentration limits. The Discharger shall optimize remedial systems as needed to improve system efficiency, operating time, and/or pollutant removal rates
 - ii. Initiate the approved corrective action monitoring program that meets the requirements in California Code of Regulations, title 27, section 20430(d).
- c. No later than **15 September 2009**, the Discharger shall submit technical report demonstrating whether the modified corrective action system is achieving the performance standard listed above in 2(a).

3. Evaluation Monitoring Program

- a. No later than **15 April 2009**, the Discharger shall submit an evaluation monitoring work plan to collect and analyze all data necessary to assess the nature and extent of the release from the Austin Road Landfill. Consistent with California Code of Regulations, title 27, section 20425, this assessment shall include a determination of the spatial distribution and concentration of each volatile organic compounds throughout all zones (both vertically and horizontally) affected by the release. The Discharger shall comply with the additional notification and monitoring system requirements incorporated by reference into State Board Resolution No. 92-49, regarding notification and monitoring relative to offsite or potential off-site migration of waste constituents.
- b. No later than **15 July 2009**, the Discharger shall commence the investigation.
- c. **Seven days** prior to initiating the investigation, the Discharger shall notify the Central Valley Water Board in writing regarding the date on which the fieldwork will begin.
- d. No later than **15 November 2009**, the Discharger shall submit a revised engineering feasibility study in the form of a Report of Waste Discharge in compliance with California Code of Regulations, title 27, section 20425(d), that includes:
 - i. A well installation completion report for any newly installed monitoring points.
 - ii. A complete evaluation of the vertical and lateral extent of all detected volatile organic compounds such that each constituent of concern has been characterized to levels below the lowest applicable water quality protection standard.
 - iii. Any proposed improvements of the existing corrective action system such that the system will be capable of achieving compliance with concentration limits for all constituents of concern at all monitoring points throughout the zone(s) affected by the release.
 - iv. A description of how wastewater generated by any expanded groundwater pump and treatment system will be discharged. The report shall evaluate different disposal options and identify the selected alternative.

- v. A schedule for implementation of the selected remedy from the engineering feasibility study. This schedule shall include milestones and the final completion date for remediation of the entire groundwater plume and a date when groundwater quality will reach applicable concentration limits for all constituents of concern.
- e. By **15 February 2010**, the Discharger shall complete all approved modifications to the corrective action system identified in the engineering feasibility study. The Discharger shall document its compliance, or lack thereof, with this requirement in its Quarterly Progress Report.

4. CORRECTIVE ACTION PROGRAM

- a. By **15 December 2009**, the Discharger shall maintain a corrective action monitoring system, in compliance with California Code of Regulations, title 27, section 20415(b)(1)(D), and approved by the Executive Officer, to evaluate the operational performance of the entire corrective action remediation system.
- b. By **15 March 2010**, the Discharger shall continuously operate the newly upgraded corrective action system until the groundwater plume is remediated to comply with concentration limits. The Discharger shall optimize remedial systems as needed to improve system efficiency, operating time, and/or pollutant removal rates. Upon startup of any remediation system(s), the Discharger shall operate the remediation system(s) continuously (24 hours a day, 365 days a year) operation except for periodic and required maintenance or unpreventable equipment failure.

5. Corrective Action Program Notification:

- a. The Discharger shall notify the Central Valley Water Board within 24 hours of any unscheduled shutdown of the remediation system(s) that lasts longer than 48 hours. This notification shall include the cause of the shutdown and the corrective action taken (or proposed to be taken) to restart the system. Any interruptions in the operation of the remediation system(s), other than for maintenance, emergencies, or equipment failure, without prior approval from Central Valley Water Board staff or without notifying the Central Valley Water Board within the specified time is a violation of this Order. A copy of any notifications shall be placed in the facility operating record.
- b. The Discharger shall notify Central Valley Water Board staff at least three working days prior to any onsite work, testing, or sampling that pertains to environmental remediation and investigation and is not routine monitoring, maintenance, or inspection.

6. Progress Reports

- a. **Beginning with the first quarter of 2009**, the Discharger shall submit a Quarterly Progress Report. These reports shall be submitted by the **15th day of the month following the quarter for which the report is prepared** (e.g., the 2009 first quarter summary report is due on **15 April 2009**). The reports shall describe all work completed during the previous calendar quarter to comply with this Cleanup and Abatement Order and describe any violations of this Order. The report shall include information about the remediation system: total hours of operation of all remediation systems/day (estimated for holidays and weekends); the exact time of any system failure and restart; a description of any repairs; an evaluation of the performance of each individual extraction point (both landfill gas and groundwater); the volume of water discharged from the system; the flow (in gallons) from each well on a daily basis; and the mass of contaminants removed by the gas extraction system and the groundwater extraction system.

The Discharger shall obtain all local and state permits and access agreements necessary to fulfill the requirements of this Order.

The Discharger shall continue any remediation or monitoring activities until such time as the Executive Officer determines that sufficient cleanup has been accomplished to fully comply with this Order and this Order has been rescinded.

In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall contain the professional's signature and/or stamp of the seal.

Each report submitted to the Central Valley Water Board shall be included in the Discharger's Operating Record. Furthermore, any person signing a document submitted under this Order shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability.

Failure to comply with this Order may result in the assessment of an Administrative Civil Liability of up to \$10,000 per violation per day, pursuant to the CWC sections 13268, 13350, and/or 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

This Order is effective upon the date of signature.

PAMELA C. CREEDON, Executive Officer

8 December 2008

Date

Appendix A: California Department of Health Services Citation No. 03-10-07C-004



SANDRA SHEWRY
Director

State of California—Health and Human Services Agency
Department of Health Services



ARNOLD SCHWARZENEGGER
Governor

April 24, 2007

Rick Jaime
Chief of Plant Operations III
Northern California Youth Correctional Center
7650 S. Newcastle Road
P.O. Box 213004
Stockton, CA 95213-9004

TRANSMITTAL OF CITATION NUMBER 03-10-07C-004

Enclosed is a citation issued to the Northern California Youth Correctional Center for violation of the maximum contaminant level for Tetrachloroethylene (PCE) for the month of March 2007. The citation lists the directives that the Northern California Youth Correctional Center must implement to avoid civil penalties.

If you have any questions regarding this matter, contact Dave Remick at 948-3878.

Joseph O. Spano, P.E.
District Engineer
Stockton District
Drinking Water Field Operations Branch

Enclosure

H:\Stockton System Files\3910802\CITLTR.0407

Certified Mail, Article # 7004 2890 0002 0058 0955



Do your part to help California save energy. To learn more about saving energy, visit the following web site:
www.consumerenergycenter.org/flex/index.html

Southern California Drinking Water Field Operations Branch
31 East Channel Street, Room 270, Stockton, CA 95202
(209) 948-7696; (209) 948-7451 fax

Internet Address: <http://www.dhs.ca.gov/ps/ddw/stockton/>

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STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES
DIVISION OF DRINKING WATER AND ENVIRONMENTAL MANAGEMENT

IN RE: Northern California Youth Correctional Center
7650 S. Newcastle Road
P.O. Box 213004
Stockton, CA 95213-9004

TO: Rick Jaime
Chief of Plant Operations III

CITATION No. 03-10-07C-004

CITATION FOR NONCOMPLIANCE: WATER SYSTEM NO. 3910802

Issued on April 24, 2007

Section 116650, Article 9, Chapter 4, Part 12, of Division 104 of the California Health and Safety Code (CHSC), authorizes the issuance of a citation for failure to comply with a requirement of Chapter 4 (California Safe Drinking Water Act), or any regulation, standard, permit, or order issued thereunder.

VIOLATION

The Department of Health Services, Division of Drinking Water and Environmental Management, (hereinafter Department) hereby issues a citation to the Northern California Youth Correctional Center (NCYCC) for failure to comply with Section 116555 of the CHSC. Specifically, the system failed to comply with the primary drinking water

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standard for Tetrachloroethylene (PCE) as specified in Section 64444 Maximum Contaminant Levels – Organic Chemicals of Title 22, California Code of Regulations (hereinafter 22CCR) during the month of March 2007.

Section 64444 specifies; The MCLs for the primary drinking water chemicals shown in Table 64444-A shall not be exceeded in the water supplied to the public. NCYCC exceeded the PCE MCL of 0.005 mg/l in two samples collected on March 26, 2007 from an indoor faucet at the institution, which had PCE concentrations of 0.0070 mg/l and 0.0072 mg/l, respectively.

Section 64445.1(c) requires confirmation when organic chemicals are detected. Confirmation of the initial finding shall be shown by the presence of the organic chemical in either the first or second additional sample, and the detected level of the contaminant for compliance purposes shall be the average of the initial and confirmation sample(s).

The Department directed NCYCC to sample all wells and sample from the same indoor faucet where the March 26th samples had been collected. Samples were collected from three of the wells and the indoor faucet on April 12, 2007. The PCE concentration from the indoor faucet sample was 0.0083 mg/l. Well No. 2 had a PCE concentration of 0.0088 mg/l, Well No. 4 had a non-detection of PCE (reporting limit was 0.00050 mg/l), and Standby Well No. 3 had a PCE concentration of 0.016 mg/l. However, Standby Well No. 3 has not been pumped into the system since 2000. Well No. 3 is only turned on and pumped to waste for sample collection. The average of the three indoor faucet samples was 0.0075 mg/l, which confirmed a violation of the PCE MCL of 0.005 mg/l

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2 In accordance with Section 116650 of the Health and Safety Code, the above violation
3 is classified as a continuing violation.

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BACKGROUND

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8 The Northern California Youth Correctional Center (NCYCC) is a state correctional
9 facility located southeast of Stockton. Construction of the NCYCC facilities was initiated
10 in 1966, including drilling of Wells Nos. 1 and 2 and storage Tanks Nos. 1 and 2. Well
11 No. 3 was drilled in 1978 and Well No. 4 was drilled in 1988, along with the addition of
12 storage Tank No. 3.

13 Water for the facility is produced primarily from Wells Nos. 1, 2, and 4. Well No. 3 was
14 changed to a standby well several years ago due to high iron and manganese.
15 However, the most recent monitoring results from September 2003 showed <30 ug/l for
16 manganese and 67 ug/l for iron. Monitoring has confirmed the presence of
17 Tetrachloroethylene since August 2003. The current high concentrations in excess of
18 the MCL make the maintenance of the well in standby status appropriate despite the
19 decreases in iron and manganese contamination. The well is still maintained as a
20 standby well that can be used only for short-term emergency purposes.

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22 The NCYCC system provides continuous chlorination treatment of the water supply and
23 also furnishes water from its system to the adjacent Northern California Women's
24 Facility (NCWF). The NCWF was closed as a women's prison in 2003 and the inmates
25 were transferred to other locations in the State; however, some employees are still
26 located at the NCWF and the facility is used for various Correctional Officer training
27 purposes. NCYCC continues to supply water to the facility.

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2 The Department has been aware of the presence of various organic chemicals in
3 NCYCC's active wells at concentrations less than their respective MCLs. In addition to
4 PCE, some wells have had sporadic detections of Trichloroethylene (TCE) and some
5 unregulated organic chemicals.
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7 Subsequent to the most recent August 23, 2006 inspection of the facility by the
8 Department, all four wells were placed on quarterly monitoring for PCE and Vinyl
9 Chloride. However, the monitoring results of March 26, 2007 were the first indication of
10 an exceedence of the PCE MCL in any of the active wells. All Vinyl Chloride results
11 have been non-detect. The following table shows the PCE detections within the past
12 several years:
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Historical Tetrachloroethylene (PCE) Detections

Well No. 1	Well No. 2	Well No. 3	Well No. 4
2.0 ug/l (6/8/04)	1.6 ug/l (3/9/04)	6.3 ug/l (8/6/03)	0.60 ug/l (6/7/06)
0.60 ug/l (6/7/05)	5.2 ug/l (6/8/04)	3.1 ug/l (11/13/03)	1.4 ug/l (9/27/06)
1.2 ug/l (12/6/05)	2.8 ug/l (9/6/05)	3.9 ug/l (9/27/06)	1.4 ug/l (12/13/06)
1.8 ug/l (3/1/06)	1.7 ug/l (12/6/05)	17 ug/l (2/21/07)	1.3 (2/21/07)ug/l
2.1 ug/l (6/7/06)	5.4 ug/l (9/20/06)	17 ug/l (3/7/07)	1.6 ug/l (3/7/07)
**Offline	3.9 ug/l (11/1/06)	16 ug/l (4/12/07)	<0.50 ug/l (4/12/07)
**Offline	3.4 ug/l (2/21/07)		
**Offline	2.9 ug/l (3/7/07)		
**Offline	8.8 ug/l (4/12/07)		

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24 **Well No. 1 has been offline due to mechanical problems since August 2006.

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As seen from the PCE detections in the table above, Well No. 4 produces the water with the lowest levels of PCE and should be utilized as the system's lead well. Well No. 1 has the second lowest PCE concentrations and should have mechanical repairs completed as soon as possible so that the well can be monitored and utilized to supplement the lead Well No. 4 if Well No. 1 remains in compliance with all MCLs. Well No. 2 should be used as little as possible until treatment has been installed, and Standby Well No. 3 is to be used only for short term emergencies with public notification.

DIRECTIVES

Due to the violation of the Tetrachloroethylene MCL during the month of March 2007, NCYCC is hereby directed to take the following actions:

1. In accordance with Section 64463 of Title 22, California Code of Regulations (22CCR), NCYCC is required to notify the consumers of the institution of the Tetrachloroethylene MCL exceedence. Exceeding chemical MCLs is a Tier 2 violation (22CCR Section 64463.4), which requires providing public notice to persons served as soon as practical but within 30 days after the water system is made aware of the violation.
 - a. This notification shall be given in English. In addition, each notice must contain information in Spanish regarding (1) the importance of the notice or (2) contain a telephone number or address where Spanish speaking consumers may contact the water system to obtain a translated copy of the public notice or assistance in Spanish.

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NCYCC shall maintain posted notices in a large enough number of conspicuous locations throughout the facility to assure that all wards, employees, and visitors are aware of the notice for as long as the violation or occurrence continues. In addition to posting, notification shall be provided over public address systems in the institution to assure universal awareness of the violation and to bring attention to the posted notices.

b. The contents of the notice, including the mandatory language, shall be approved by the Department prior to publication/delivery. A copy of the CDHS Instructions for Tier 2 Chemical or Radiological MCLs Notice Template is attached and has been provided to NCYCC electronically.

c. Within ten (10) days of publication/delivery of the notice, NCYCC shall submit to the Department a copy of the notification including certification of its publication/delivery.

2. By May 30, 2007, submit a plan and schedule to install treatment for the water from Well No.2 to correct the MCL violation. NCYCC should consider designing the treatment facilities to facilitate the removal of organic chemical contaminants in a central facility that can provide treatment for any or several of the wells since it appears the contamination is likely to impact more wells in the near future. The plan should also address the actions that NCYCC will take in the event other active wells exceed an organic chemical MCL at some point in the future, since it is apparent that the organic chemical contamination has the potential to increase in the facility's other wells. Although Well No. 3 is standby and only permitted for short term emergency use, NCYCC should also address

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the long term use of this well since monitoring has shown a fairly rapid increase in PCE concentration.

3. By May 30, 2007, submit a plan and schedule for completing repairs to Well No. 1 and returning the well to service.

4. Based on the results of the most recent monitoring, Well No. 4 shall be utilized as the system's lead well. Well No. 1 has the second lowest PCE concentration and shall be utilized as the system's lag well if current monitoring verifies compliance. Well No. 2 shall be used as little as possible until treatment has been installed and Standby Well No. 3 is to be used only for short term emergencies. If subsequent chemical monitoring indicates changes in the organic chemical concentrations in the wells, the well with the lowest organic chemical concentration shall be utilized as the lead well, the well with the next lowest organic chemical concentration shall be utilized as lag well.

5. Active Wells Nos. 1 (when returned to service), 2, and 4 shall continue to be monitored for VOCs on a monthly basis and the results shall be submitted to the Department via electronic data transfer (EDT). Since the organic chemical contamination in the NCYCC wells appears to be changing rapidly, also provide the Stockton District office with printed summaries of the monitoring results each month.

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Responses to the above-required directives shall be submitted to:

Joseph O. Spano, P.E.
District Engineer
Drinking Water Field Operations Branch
31 E. Channel St., Room 270
Stockton, CA 95202

CIVIL PENALTIES

Section 116650(d) and Section 116650(e) of the California Health and Safety Code (CHSC) allow for the assessment of a civil penalty for failure to comply with the requirements of Chapter 4 of the California Safe Drinking Water Act. Failure to comply with any provision of the Citation may result in the Department imposing an administrative penalty of not less than \$200 (two hundred dollars) per day as of the date of violation of any provision of this Citation.

4/24/07
Date

Joseph O. Spano
Joseph O. Spano, P.E.
Stockton District Engineer
Drinking Water Field Operations Branch

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Certified Mail: Article #7004 2890 0002 0058 0955