

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. R2-2004-0081

AMENDMENT OF SITE CLEANUP REQUIREMENTS (ORDER No. R2-2003-0035) FOR:

UNION PACIFIC RAILROAD COMPANY
DANIEL C. and MARY LOU HELIX, ELIZABETH YOUNG, JOHN V. HOOK, NANCY
ELLCOCK, STEVEN PUCCELL,
AND CONTRA COSTA COUNTY REDEVELOPMENT AGENCY

for the property referred to as:

HOOKSTON STATION

and located at
228 HOOKSTON ROAD
PLEASANT HILL, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Board), finds that:

1. **Site Location:** The Hookston Station site (herein referred to as “the Site”) is located at the intersection of Hookston and Bancroft Roads in Pleasant Hill. The Site covers approximately 8 acres, and the area is currently occupied by mixed commercial and light industrial businesses. Commercial industries are located immediately to the west of the property, and storage and landscape materials businesses are located to the north. A high-density housing complex is present immediately across the northeast edge of the property. Extended land use is predominantly residential in the Site vicinity.
2. **Site Description and Background:** The site was formerly owned by the Southern Pacific Transportation Company and was used for a rail line and a station (Hookston Station). The property was transferred from Southern Pacific to Mr. Daniel Helix in 1983, and the eastern portion of the site was subsequently purchased by the Contra Costa County Redevelopment Agency (CCCRA) in 1989. Union Pacific Railroad Company (UPRR) assumed responsibility for Southern Pacific’s portion of the project following the merger with Southern Pacific in 1997.

Investigations regarding environmental impacts to soil and ground water at the site were initially conducted between 1989 and 1996 by various environmental consulting firms on behalf of Contra Costa County and Mr. Helix. These investigations discovered the presence of both petroleum-based products (such as gasoline) and chlorinated solvents (which are

commonly used as degreasers) in the soil and groundwater at the site. The solvents are also known as volatile organic compounds (VOCs).

Ground water contamination from this and other sites has commingled and migrated in a north/northeasterly direction and has impacted an area of approximately 35 acres. VOCs have been detected in shallow ground water at concentrations above drinking water standards set by the state and the federal government.

3. **Board Orders:** The Board adopted site cleanup requirements for this site on April 16, 2003, in Order No. R2-2003-0035. That Order named Union Pacific, Daniel C. and Mary Lou Helix, Elizabeth Young, John V. Hook, Nancy Ellicock, Steven Pucell, and Contra Costa County Redevelopment Agency as dischargers. The Order included ten tasks, culminating in a Feasibility Study and Cleanup Standards task.
4. **Reason for Amendment:** The dischargers have completed eight of the ten tasks in Order No. R2-2003-0035. However, data collected from the indoor air sampling and the results of the subsequent screening level risk assessment indicate that additional indoor air sampling and a more thorough human health risk assessment are needed. Completion of these tasks will delay completion of the Feasibility Study and Proposed Cleanup Standards, Task 10 of Order No. R2-2003-0035. In order to adequately monitor the vapor intrusion pathway it will be necessary to collect periodic soil gas data. Therefore, the self-monitoring program should be amended to require periodic soil gas sampling at selected locations above the contaminant plume.
5. **Indoor Air Concerns:** The intrusion of volatile chemicals into buildings from underlying, contaminated soil and groundwater first gained attention as a potential health concern in the US during the early 1990s. While the Board focuses mainly on water quality and beneficial uses of water, it must also consider other human health threats, such as the vapor intrusion pathway, when overseeing sites with soil and groundwater contamination. The Board's authority to do so is contained in Section 13304(a) of the Water Code. If adverse impacts to indoor air are identified in existing buildings or predicted for future buildings, dischargers are required to remediate the contamination or abate vapor intrusion impacts until the risk to human health falls to an acceptable level.
6. **Confirmation Indoor Air Sampling:** Additional indoor air sampling is necessary at the site to validate the one-time sampling event that occurred in January 2004. That sampling event analyzed indoor air at 14 private residences located above the groundwater plume. Concentrations observed in the homes indicate that vapors from the groundwater plume at the site are entering seven of the homes at concentrations that slightly exceed conservative health-based screening levels. However, vapor intrusion studies at other sites have shown significant variability in indoor air concentrations over time. It is standard practice to require at least two seasonal sampling events of indoor air in order to adequately understand vapor

intrusion concerns at a site. Additional indoor air observations are needed to properly characterize the vapor intrusion pathways.

7. **Baseline Human Health Risk Assessment:** This task requires that the dischargers perform a more thorough evaluation of the human health risks to provide quantifiable benchmarks for site cleanup and to communicate the risks to the affected community.

Tasks 3 and 8 of Order No. R2-2003-0035 required a workplan and a Risk Assessment report for the site. During the workplan stage, Board staff agreed to a screening-level risk assessment followed by a more detailed risk assessment if warranted.

A screening level risk assessment is a tool to quickly assess if there are concentrations of chemicals at a site as well as exposure pathways that are a concern for human health or ecological receptors. Staff conditionally approved of the Screening Level Risk Assessment report submitted on April 7, 2004. The report determined that some of the homes down-gradient of the site had solvent vapor concentrations up to three times greater than the Board's Environmental Screening Levels (ESLs) for residential indoor air and private water supply wells were impacted by the contamination, although well concentrations were below calculated risk based screening levels. While a screening level risk assessment is the appropriate tool for evaluating the chemicals of concern and pathways for exposure at a site, it is not appropriate to use when there is a currently affected population, such as at this site.

A total of 14 homes were tested for TCE in indoor air, eight homes were within the "1,000 ug/L" groundwater contamination boundary. Five of those homes had indoor air concentrations of TCE in the 3 to 5 ug/m³ range. The ESL for TCE in indoor air of a residential home is 1.2 micrograms per cubic meter (ug/m³); an alternative screening level has not been proposed.

Eleven backyard wells have been identified in surveys of the neighborhood down-gradient from the Hookston Station site, five of which have since been permanently destroyed. None of these wells were permitted with the appropriate county agency. According to the surveys, the wells were used for irrigation and filling of swimming pools. It is possible that remaining wells could be used for watering lawns, washing cars, filling swimming pools, and other uses. The State's MCL for TCE in drinking water is 5ug/L. The site specific screening level for TCE from those private wells is 780 ug/L (based on the April 2004, *Risk Assessment, groundwater used for swimming pools*). The groundwater from five of the private wells had TCE concentrations greater than 100 ug/L and the highest concentration was 670 ug/L. The concentration of TCE in the first groundwater aquifer is well over 8,000 ug/L. The variations of the TCE concentrations from the private wells verses the measured groundwater is most likely that the private wells extract groundwater from multiple zones beneath the site mixing clean water and contaminated water. It is not known if private wells

exist that extract groundwater primarily from the contaminated aquifer. Such wells may produce water with TCE concentrations above the site-specific screening level of 780 ug/L.

When, as in this case, there are chemicals of concern in concentrations above the screening levels, and exposure pathways for those chemicals exist, it is appropriate to perform a baseline human health risk assessment to evaluate the threats to the public. A baseline risk assessment for this site will allow us to quantify the risks to the public, set appropriate cleanup goals, and tell us how aggressively we should pursue those goals.

Therefore, to be conservative and protective of human health, it is appropriate to require a Baseline Human Health Risk Assessment.

8. **Feasibility Study and Proposed Cleanup Standards:** Task 10 of Order No. R2-2003-0035 requires a Feasibility Study and Proposed Cleanup Standards, due August 13, 2004. This amendment delays the submittal of the Feasibility Study and Proposed Cleanup Standards by six months so that additional results can be incorporated into the final task. The Risk Assessment and Feasibility Study described in Findings 7 and 8 can proceed without the confirmation indoor air data discussed in finding 6 above.
9. **Self-Monitoring Program:** A self-monitoring program was imposed by Order No. R2-2003-0035. This amendment modifies the self-monitoring plan to include periodic soil gas sampling and monthly status reports.

The primary intent of the monitoring amendment is to evaluate the vapor intrusion exposure pathway over time to better understand the variability associated with ambient temperature, seasonal fluctuations in ground water and other environmental factors . Soil gas data is a better predictor of vapor intrusion problems than groundwater data, and is less prone to interference than indoor air data. Periodic monitoring of soil gas data, therefore, is a good way to monitor the vapor intrusion pathway.

10. Currently the dischargers submit a quarterly monitoring report that includes a discussion of the project status. However, some activities have been undertaken by the dischargers that are outside the scope of the Order. In order for the Board to be aware of all activities that affect the site, monthly status reports that document all activities undertaken at the site, whether directly mandated by the Order or at the discretion of the dischargers and residents, are necessary. This amendment requires monthly status reports be submitted.
11. **CEQA:** This action is an amendment of an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.

12. **Notification:** The Board has notified the dischargers and all interested agencies and persons of its intent under California Water Code Section 13304 to amend site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.

13. **Public Hearing:** The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that Order No. R2-2003-0035 shall be amended as follows:

A. New Tasks

Tasks 8.a., 8.b. and 8.c. are added to the Order as follows:

Task 8.a. Indoor Air Sampling Workplan

COMPLIANCE DATE: October 15, 2004

The dischargers shall submit a workplan and time schedule, acceptable to the Executive Officer, for confirmation indoor air sampling at selected homes located above the contaminant plume, within the 1,000 ppb groundwater TCE plume boundary. The previous round of indoor air sampling was conducted during a winter rainy season. The objective of this confirmation round of indoor air sampling is to obtain a data set during a dry season and to perform the investigation using strict quality assurance and quality control (QA/QC). Therefore, the workplan should include QA/QC components such as ambient air monitoring, blank samples, indoor air taken from the crawl spaces in addition to the living space

Task 8.b. Baseline Human Health Risk Assessment

COMPLIANCE DATE: November 15, 2004

The dischargers shall submit a Baseline Human Health Risk Assessment report, acceptable to the Executive Officer. The report should adhere to CalEPA and USEPA guidance documents for preparation of such reports. The report must describe the scope and methods employed in preparing the Baseline Human Health Risk Assessment. The Baseline Human Health Risk assessment, at a minimum, will quantitatively evaluate the cumulative risk to human health posed by exposure to contaminants derived from the subject site in air, soil and groundwater in both onsite and offsite areas. The dischargers may utilize findings from the Screening Level Risk Assessment prepared pursuant to

Tasks 3 and 8 as appropriate. The baseline risk assessment should consider DTSC's April 15, 2004, comments on the screening level risk assessment as well as the baseline risk assessment template provided to the dischargers by DTSC.

Task 8.c. Indoor Air Sampling Report

COMPLIANCE DATE: February 15, 2005

The dischargers shall submit a report, acceptable to the Executive Officer, documenting implementation of the approved **Indoor Air** Sampling workplan (Task 8.a). The report shall include all previously collected indoor air data. If the results of the indoor air sampling are significantly different than the first-round results then the report shall include appropriate revisions to the baseline risk assessment (including but not limited to recalculation of cumulative risks).

B. Feasibility Study And Proposed Cleanup Standards

The compliance date for Task 10, Feasibility Study And Proposed Cleanup Standards, is 120 days after acceptance of the Baseline Human Health Risk Assessment Report (Task 8.b), by the Executive Officer.

C. Self Monitoring Program

The Self Monitoring Program is modified as follows:

1. Provision 2 of the SMP is modified by adding the following paragraph after the existing language:

Soil gas: The dischargers shall sample and analyze soil gas according to a monitoring plan submitted by the dischargers and approved by the Executive Officer. If such a plan is not submitted and approved by November 1, 2004, then the dischargers shall comply with the following monitoring schedule:

 - a. Quarterly monitoring of six soil vapor wells,
 - b. Wells to be located within the 1,000 ug/l groundwater TCE concentration contour and as close as practical to homes with elevated TCE concentrations in indoor air,
 - c. Wells to be installed and sampled consistent with 2003 joint guidance issued by DTSC and the Los Angeles RWQCB,
 - d. Wells to be screened 3-5 feet bgs,
 - e. Samples to be analyzed using EPA method 8260B or equivalent, and
 - f. Sampling to commence no later than the first quarter of 2005.

2. Provision 3.e of the SMP is replaced by the following paragraph:
Soil gas sampling data shall be presented in tabular form and shall include both current and historical soil gas data. If feasible, an isoconcentration map shall be prepared for the key constituents. The report shall indicate the analytical method used, detection limits obtained for each reported constituent, and a summary of QA/QC data. Supporting data, such as lab data sheets, need not be included, however, this data should be submitted in electronic format such as a pdf file.

3. Provision 4 of the SMP is modified as follows (and existing provisions 4-7 are shifted accordingly):

Status Reports: The dischargers shall submit a monthly status report to the Board no later than 7 days following the end of the month (e.g., report for January due February 7). The report shall describe relevant work completed during the reporting period and work planned for the following period. The report should address all remedial activities, including those not directly linked to the Board Order (e.g., activities involving off-site residents). During months in which a quarterly monitoring report is to be submitted under the self monitoring program, the quarterly report can serve as the monthly status report required herein.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on September 15, 2004.

Bruce H. Wolfe
Executive Officer

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FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13268 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY

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