Cal/EPA

Arnold Schwarzenegger
Governor

Public Notice

Public Comments Accepted for
DRAFT INTERIM REMEDIAL INVESTIGATION/ FEASIBILTY STUDY AND DRAFT INTERIM REMEDIAL ACTION PLAN
Impacts to Groundwater near the City of Rialto

RWQCB Project Fact Sheet No. 2
September 17, 2004

PURPOSE AND INTRODUCTION

The San Bernardino County Solid Waste Management Division (SWMD) is considering constructing a series of wells near the Rialto Municipal Airport, for connection to an above-ground treatment system near City of Rialto Well. No. 3, located along Linden Avenue, near the Rialto Municipal Airport.

This action is being taken to help prevent a plume of groundwater impacted with ***perchlorate*** and ***volatile organic compounds (VOCs)*** from reaching Well No. 3. The proposal includes constructing a groundwater treatment system and treating impacted water for service to the City's domestic supply. If Well No. 3 becomes impacted prior to system construction, the SWMD proposes to purchase domestic water to replace that which would be lost from Well No. 3. This proposed remedial action was one of four evaluated.

Therefore, the ***California Regional Water Quality Control Board – Santa Ana Region (RWQCB)*** in conjunction with the SWMD, is soliciting comments from interested individuals relative to the ***Draft Interim Remedial Investigation/Feasibility Study (DIRI/FS) and Draft Interim Remedial Action Plan (DIRAP)*** that is proposed to address impacted groundwater conditions in Rialto, California. ***Perchlorate*** and ***volatile organic compounds*** *(VOCs)* have been identified in groundwater upgradient of the City of Rialto's Well No. 3, and the DIRAP has been developed to mitigate this condition.

The RWQCB and SWMD have evaluated available remedial alternatives and have a responsibility to ensure that the public is made aware of the problem, the mitigation response measures studied that might be taken, and to provide comment on the remediation approach that has been analyzed to be the most effective.

The purpose of this fact sheet is to inform and invite the public to participate in selection of the remedial response and to inform the public of current and future opportunities to comment. Throughout this fact sheet, words or phrases in ***bold, italicized*** type are defined in the Glossary.

HOW TO COMMENT

The RWQCB is the lead agency responsible for accepting public comment and approving the DIRI/FS and DIRAP. The RWQCB will accept public comments on these documents from September 17, 2004 through October 18, 2004. Comments should be submitted in writing to the RWQCB, Attn: Kurt Berchtold, 3737 Main Street, Suite 500, Riverside, CA 92501.

Documents may be viewed at three locations (See Page 3, Information Repositories for a complete list of repositories).

Public Hearings and Meetings

September 17, 2004
9:00 a.m.
Regional Water Quality Control Board
Loma Linda City Council Chambers
25541 Barton Road
Loma Linda, CA
(909) 782-4130

September 21, 2004

10:00 a.m.
San Bernardino County
Board Chambers
385 N. Arrowhead Avenue
San Bernardino, CA
(909) 387-0130

6 p.m.
Rialto City Council
Council Chambers
150 S. Palm Ave.
Rialto, CA
(909) 820-2525

October 7, 2004
7:00 p.m.
Rialto City Council Chambers
150 S. Palm Avenue
Rialto, CA 92376
(909) 820-2525

October 13, 2004
6 p.m.
Rialto City Council Chambers
150 S. Palm Avenue
Rialto, CA 92376
(909) 820-2525

In 1997, California's Department of Health Services found levels of perchlorate in drinking water wells throughout the State of California. Perchlorate is both a naturally occurring and man-made chemical. It is used as an ingredient in the manufacturing process of such items as solid fuel propellant for rockets, missiles and fireworks and in industrial applications where it is used in the manufacture of matches, flares, pyrotechnics, ordnance and explosives.

Perchlorate can interfere with the iodide uptake of the thyroid gland which can result in decreased production of thyroid hormones, which are necessary for prenatal and postnatal growth and development, as well as for normal metabolism and mental function in adults.

The City of Rialto's Water Supply Well No. 3 is located approximately 1.6 miles southeast of the former Rialto Ammunition Back-up Storage Point (RABSP) that was active during World War II and where a large portion of the munitions that were used in the Pacific theater were temporarily stored. After the war, many of the original bunkers and roads continued to be used for commercial and industrial purposes, with pre-existing RABSP roadways and munitions bunkers subsequently used for the manufacture, storage, transport, and disposal of explosives, fireworks, and other potentially hazardous substances. Perchlorate and ***trichloroethene (TCE)*** may have been associated with historical RABSP activities and are considered the primary threats to groundwater quality near Well No. 3.

Property owned by the County of San Bernardino (known as the "Bunker Area") adjacent to the northeast corner of the Mid-Valley Sanitary Landfill (MVSL) was historically part of the RABSP. Following detection of perchlorate at elevated concentrations in samples from monitoring wells located near the northeastern portion of the MVSL, the RWQCB directed the County to develop Work Plan(s) to investigate the nature and extent of the groundwater impacts. Following RWQCB approval of the Work Plans, the County completed three phases of field investigation that involved soil sampling in the former Bunker Area northeast of the MVSL and installation of 18 groundwater monitoring wells.

Groundwater

Based on the results of the investigation that was completed by SWMD, it is concluded that perchlorate and VOC impacts locally exceed the ***state and federal maximum contaminant levels (MCLs) and action levels (ALs)*** that were established to safeguard municipal water supplies.

While impacts have not been identified in samples obtained from the City of Rialto's Well No. 3, groundwater impacts have migrated approximately 8,500 feet southeast toward Well No. 3 and now threaten the well. Details of the groundwater investigation can be found in the reports that are provided at the information repositories.

REMEDIATION AND FEASIBILITY STUDY

A focused DIRI/FS was completed that characterized the nature and extent of groundwater impacts upgradient of Well No. 3 and evaluated remedial alternatives that might be employed to mitigate groundwater impacts. Eight alternatives were initially identified as potentially meeting the project's objectives.

The objectives of the remedial action that is ultimately selected to address impacted groundwater conditions near Well No. 3 are:

- The selected alternative should prevent direct contact or ingestion by the public of groundwater containing contaminants that exceed regulatory-defined maxiumum contaminant levels (MCLs) or action levels (ALs).
- The preferred alternative should assure that replacement water is provided to the City of Rialto if MCLs or ALs are exceeded at well CR-3.
- The potential for further degradation of the aquifer downgradient of CR-3 should be minimized.
- The selected alternative should comply with state and federally mandated appropriate regulations and requirements (ARARs).

Of the eight evaluated, only four alternatives were deemed capable of meeting the objectives. The four viable alternatives can best be described as either treating (removing) contaminants in the aquifer, or pumping and treating contaminants at an above-ground treatment plant. With all alternatives, an alternate source of water will be supplied, should Well No. 3 become impacted, until the preferred alternative can be implemented.

The following four alternatives are the subject of public comment:

Alternative No. 1 – Direct Aquifer Treatment Upgradient of Well No. 3. This alternative would involve installation of a large number of "inoculant" wells near the Rialto Airport. Aquifer treatment would involve time released injection of a substrate (food) inoculant via canisters that would be placed in the wells to promote microbial growth and biodegradation of the perchlorate and VOC contaminants. While viable, this approach is most commonly employed in shallow groundwater environments where well construction costs would not be as great as they are in Rialto. Since this alternative requires that the inoculant be broadcast in an even manner from the inoculation wells, the aquifer heterogeneity that exists near Well No. 3 also renders the effectiveness of this approach questionable.

Alternative No. 2 – Aquifer Treatment by Recirculating Wells Upgradient of Well No. 3. This alternative is similar to Alternative No. 1 in that an inoculant is used to promote microbial growth and biodegradation of contaminants. However, this approach employs a groundwater extraction well

network to intercept the plume, an above-ground mixing vessel to mix groundwater with the inoculant, and a series of reinjection wells to reintroduce water to the aquifer for treatment. While this alternative has the advantage of intercepting the plume and minimizing additional downgradient impacts, it requires a great number of wells with associated large costs.

Alternative No. 3 – Groundwater Pumping, Above Ground Treatment, and Aquifer Recharge. This alternative involves construction of approximately six groundwater extraction wells at the Rialto Airport to intercept the contaminant plume and deliver impacted water to a treatment plant where perchlorate and VOCs would be removed. Following treatment, the treated water would then be piped to a spreading basin off Baseline Avenue where the water would percolate back to groundwater to recharge the aquifer. While this approach minimizes the potential for additional downgradient impacts and assures continued potability of water pumped at Well No. 3, costs to pump groundwater to the ground surface for treatment are not recouped when the treated product is recharged to the aquifer.

Alternative No. 4 – Groundwater Pumping, Above Ground Treatment, and Water Delivery to Rialto's Supply System. This approach employs the same technology that would be used for Alternative No. 3 except that the treated water product would be delivered to the City's water supply system. In addition to removal of perchlorate and VOCs, water would undergo the same disinfection processes that are currently used at Well No. 3. Since treated water would be routed to the City's water supply system, pumping could be reduced at Well No. 3 thus minimizing the demand on the groundwater basin.

DETAILED EVALUATION CRITERIA

The four viable remedial alternatives were further evaluated according to U.S. Environmental Protection Agency (USEPA) guidance using nine criteria that encompass statutory requirements and include gauges of overall feasibility and acceptance. These criteria include: 1) overall protection of human health and the environment; 2) compliance with Applicable or Relevant and Appropriate Requirements (ARARs); 3) long-term effectiveness and permanence; 4) reduction of toxicity, mobility, or volume; 5) short-term effectiveness, 6) implementability; 7) cost; 8) regulatory acceptance; and 9) community acceptance.

DETERMINATION OF PREFERRED ALTERNATIVE

Using the nine USEPA criteria as a basis for evaluation, the DIRI/FS and DIRAP concluded that groundwater pumping, above-ground treatment and delivery of the treated water product to the City's water supply system, (Alternative No. 4) ranked as the highest alternative to best respond to groundwater impacts near Well No. 3.

To ensure that the public is best served by this alternative, public comment regarding the remedial investigation, feasibility studies and analysis, and the determination of a preferred alternative is currently being accepted.

UPCOMING/ONGOING ACTIVITIES

The public is encouraged to comment on the DIRI/FS work completed to date and to assist in selection of an appropriate remedial response to impacted groundwater conditions near the City of Rialto's Well No. 3. There will be several meetings/hearings and information repositories where project details are discussed. The dates and locations of meetings/hearings are provided on Page 1 of this Fact Sheet.

The Rialto City Council's September 21, 2004 meeting will be a live broadcast. The rebroadcast schedule is Sunday, September 26 at 4 p.m.; Tuesday, September 28 at 6 p.m.; and Thursday, September 30 at 2 p.m.

Information Repositories

RWQCB
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501
(909) 782-4130
Monday-Friday: 8 a.m. to 5 p.m.
Saturdays and Sundays: Closed
(appointments recommended)
www.swrcb.ca.gov/rwqcb8

San Bernardino County
Solid Waste Management Division
222 West Hospitality Lane, Second Floor
San Bernardino, CA 92415
(909) 386-8701
Monday–Friday 8 a.m. to 5 p.m.
Saturdays and Sundays: Closed
(appointments recommended)
www.sbcounty.gov/wsd

Rialto Branch Library
251 West 1st. Street
Rialto, CA 92376
(909) 875-0144
Mondays and Wednesdays: 10 a.m. to 8 p.m.
Thursdays and Fridays: 10 a.m. to 6 p.m.
Saturdays: 9 a.m. to 5 p.m.
Sundays: Closed

GLOSSARY

Action Level – An interim guidance level established by state or federal agencies, which on-going studies indicate, if exceeded, could be detrimental to public health.

Draft Interim Remedial Investigation (DIRI) - A plan to be approved by the RWQCB that asseses site conditions to the extent necessary to select a remedy.

Draft Interim Remedial Action Plan (DIRAP) – A supplement to the DIRI/FS to provide the public with a reasonable opportunity to comment on the preferred alternative for remedial action as well as alternative plans under consideration, and to participate in the selection of the remedial action at a site.

Feasibility Study Report (FS) – A report where the primary objective is to ensure that appropriate remedial alternatives are developed and evaluated such that relevant information concerning remedial action options can be presented to a decision maker and an appropriate remedy selected.

Groundwater - Water beneath the ground surface that resides in small voids between soil particles.

Maximum Contaminant Level (MCL) - The maximum allowable concentration of a particular chemical in drinking water, established by the State of California or the U.S. EPA.

Micrograms per Liter - A unit of measure used to describe the concentration of a chemical in a liquid. In water, one microgram per liter is the same as one part per billion, which is roughly equivalent to one drop in 10,500 gallons of water.

Monitoring Wells - Specially constructed wells used to analyze water quality.

Perchlorate – A man-made or naturally occurring anion whose salts have been used for solid rocket propellant, munitions, explosives, fireworks, fertilizers, and other purposes.

Potable – Suitable for drinking (i.e., water that does not exceed state or federal maximum contaminant levels or action levels).

Regional Water Quality Control Board - The state agency responsible for regulating water quality in areas within its jurisdiction, and enforcing State Water Quality laws.

Trichloroethene (TCE) - A volatile organic compound that was often used as a degreasing solvent.

Volatile Organic Compounds (VOCs) - Chemicals that contain carbon that readily evaporate at room temperature.

NOTES:

MAILING LIST REQUEST

Public Comments Accepted for
COUNTY OF SAN BERNARDINO DRAFT INTERIM REMEDIAL INVESTIGATION/ FEASIBILTY STUDY AND PROPOSED DRAFT INTERIM REMEDIAL ACTION PLAN
Impacts to Groundwater near the City of Rialto

To be added to the Mailing List or would like to receive copies of the above documents for the above titled project, please fill out the attached Mailing List Request form and mail.

REGIONAL WATER QUALITY CONTROL BOARD
ATTN: KURT BERCHTOLD
3737 MAIN STREET, SUITE 500
RIVERSIDE, CA 92501-3339

Name:_____

Address:_____

City, State, Zip Code:_____

Telephone:_____

Comments:_____

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Date: _____