Health Consultation

EVERYDAY STORE SITE

LA SALLE, WELD COUNTY, COLORADO

OCTOBER 6, 2004

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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HEALTH CONSULTATION

EVERYDAY STORE SITE

LA SALLE, WELD COUNTY, COLORADO

Prepared by:

Colorado Department of Public Health
Under a Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

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Foreword

The Colorado Department of Public Health and Environment (CDPHE) has prepared this health consultation in cooperation with the Agency for Toxic Substances and Disease Registry (ATSDR). ATSDR is part of the U.S. Department of Health and Human Services and is the principal federal public health agency responsible for the health issues related to hazardous waste. This health consultation was prepared in accordance with the methodologies and guidelines developed by ATSDR.

The purpose of this health consultation is to identify and prevent harmful health effects that result from exposure to hazardous substances in the environment. Health consultations focus on health issues associated with specific exposures so that the state or local department of public health can respond quickly to requests from concerned citizens or agencies about health information on hazardous substances. The state or local department of public health evaluates sampling data collected from a hazardous waste site, determines whether exposures have occurred or could occur, reports any potential harmful effects, and recommends actions to protect public health. The findings in this report are relevant to conditions at the site during the time of this health consultation and should not necessarily be relied upon if site conditions or land use changes in the future.

For additional information or questions regarding the CDPHE or the contents of this health consultation, please call the health advisor who prepared this document:

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For additional information about ATSDR, contact the ATSDR Information Center at 1-888-422-8738 or visit the agency's Web site: www.atsdr.cdc.gov/.

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Purpose

This Health Consultation has been prepared in response to a request that was submitted to the Colorado Department of Public Health and Environment by several concerned citizens of La Salle, Colorado, in May 2003. Concern has been raised by local residents about possible exposure by inhalation to chemicals related to the gasoline leak that occurred at the Everyday Store site in La Salle, Weld County, Colorado.

Background

Site History

The Everyday Store site is located at 105 South 2nd Street, La Salle, Colorado, at the southwest corner of State Highway 85 and 1st Avenue. The business is a convenience store and gas station operated by Duke and Long Distributing Company. The site began operating under the name of Circle K in 1985 and was renamed the Everyday store in 1999. The first incidence of contamination was found on the property in 1990 when an estimated 500 gallons of unleaded gasoline leaked from an underground storage tank (UST). Cleanup of the 1990 spill concluded in 1996.

More recently, on March 22, 2002, contamination from a new leak at the same site appeared to impact nearby properties. Employees of the Wells Fargo Bank, located directly across 1st Avenue, noticed a petroleum odor and evacuated the bank building. On March 26, 2002, petroleum odors were also detected in the North Valley Middle School Music Arts building and the adjacent Mirich Elementary School. Both schools were evacuated and students were sent home. Colorado Oil and Public Safety (OPS) dispatched an environmental protection specialist to evaluate the site. Air screening tests, (both indoor and outdoor) were performed at the schools, the bank, the church, and three homes near the gas station. Screening tests confirmed the presence of petroleum vapors greater than the expected background levels in the structures. Consequently, all remaining occupants of the homes and buildings in close proximity to the site were evacuated.

Following the characterization of the extent of the contamination, the gas station closed and the mitigation process began. Soil vapor extraction systems were installed around impacted and potentially impacted buildings. Indoor ventilation systems were installed where necessary.

The residents, schools, and church are served by a municipal water supply. The municipal water source is located outside of the area of impact from this site contamination. Currently, the owner of the Everyday Store site is planning to continue the cleanup of the site. Future use of the property will include a working gas station after the cleanup of the site is complete. Presently, the convenience store is operating.

In March 2002, OPS contracted with Colorado Groundwater Resource Services, Inc. (CGRS), to perform the remedial and monitoring activities associated with the gasoline release at the underground storage unit at the Everyday Store. Remedial activities consist of a dedicated soil

vapor extraction (SVE) system and a groundwater recovery and treatment system to recover gasoline fuel released from the Everyday Store. Monitoring activities consists of on-going indoor air sampling as needed at affected residences. Additional monitoring activities continue on a weekly and monthly basis measuring the water quality of the effluent discharge from the groundwater recovery treatment system and off-gas measurements from the SVE and thermal oxidizer. Results from these measurements are used for monitoring the cleanup efforts and will not be evaluated in this consultation because people are not expected to be exposed to the effluent discharge.

Discussion

Health Consultation Methodology

The Colorado Department of Public Health and Environment (CDPHE), Environmental Health Studies Program is working under a cooperative agreement with ATSDR. Therefore, CHPH will use ATSDR methodology to evaluate the health concerns for this site. In the course of creating health assessments and consultations, ATSDR evaluates the environmental and human components that lead to human exposure from releases of hazardous substances from a given site. A pathways analysis consists of five elements: (1) a source of contamination, (2) a transport in an environmental medium, (3) a point of human exposure, (4) a route of human exposure, and (5) a receptor population. ATSDR classifies exposure pathways into three groups: (1) "completed pathways," that is, those in which exposure is reasonably expected to have occurred, to occur, or to occur in the future; (2) "potential pathways," that is, those in which exposure might have occurred, may be occurring, or may yet occur; and (3) "eliminated pathways," that is, those that can be eliminated from further analysis because at least one of the five elements listed above is not present and will never be present, or because no contamination of concern can be identified.

After the pathways are designated as completed, potential, or eliminated, ATSDR follows a two-step methodology to comment on public health issues related to exposure pathways at hazardous waste sites. First, ATSDR obtains representative environmental monitoring data for the site of concern and compiles a list of site-related contaminants. ATSDR compares this list of contaminants to health-based values (health comparison values or HCVs) to identify those contaminants that do not have a realistic possibility of causing adverse health effects. Second, for the remaining contaminants, ATSDR evaluates site-specific conditions to determine what exposure scenario is realistic for a given exposure pathway. Given this exposure scenario, ATSDR determines a dose and compares this dose to scientific studies to determine whether the extent of exposure indicates a public health hazard.

Vapor Intrusion into Indoor Air

Vapor intrusion is the migration of volatile chemicals from the subsurface into overlying structures. Volatile chemicals in buried wastes or contaminated groundwater can emit vapors that may migrate through subsurface soils and into indoor air spaces of overlying buildings in ways