Health Consultation

Basin Oil Company
Seattle, King County, Washington

September 5, 2001

Prepared by

The Washington State Department of Health
Under a Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

Washington State Department of Health

Foreword

The Washington State Department of Health (DOH) 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 health issues related to hazardous waste. This Health Consultation was prepared in accordance with methodologies and guidelines developed by ATSDR.

The purpose of this Health Consultation is to identify and prevent harmful human health effects resulting from exposure to hazardous substances in the environment. The Health Consultation allows DOH to respond quickly to a request from concerned residents for health information on hazardous substances. It provides advice on specific public health issues. DOH 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.

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Glossary

Agency for Toxic Substances and Disease Registry (ATSDR)	The principal federal pubic health agency involved with hazardous waste issues, responsible for preventing or reducing the harmful effects of exposure to hazardous substances on human health and quality of life. ATSDR is part of the U.S. Department of Health and Human Services.
Contaminant	Any chemical that exists in the environment or living organisms that is not normally found there.
Exposure	Contact with a chemical by swallowing, by breathing, or by direct contact (such as through the skin or eyes). Exposure may be short-term (acute) or long-term (chronic).
Groundwater	Water found underground that fills pores between materials such as sand, soil, or gravel. In aquifers, groundwater often occurs in quantities where it can be used for drinking water, irrigation, and other purposes.
Hazardous substance	Any material that poses a threat to public health and/or the environment. Typical hazardous substances are materials that are toxic, corrosive, ignitable, explosive, or chemically reactive.
Media	Soil, water, air, plants, animals, or any other part of the environment that can contain contaminants.
Organic	Compounds composed of carbon, including materials such as solvents, oils, and pesticides which are not easily dissolved in water.
Indeterminate public health hazard	Sites for which no conclusions about public health hazard can be made because data are lacking.
Route of exposure	The way in which a person my contact a chemical substance that includes ingestion, skin contact and breathing.

Background and Statement of Issues

The Washington State Department of Health (DOH) has prepared this health consultation in response to a request from the Community Coalition for Environmental Justice to evaluate whether people in the vicinity of the Basin Oil Company, a used oil recycling facility, are being exposed to harmful levels of chemicals. DOH prepares health consultations under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR).

The Basin Oil Company (Basin Oil) is located at 8661 Dallas Avenue South in South Park, a small community in the southern part of Seattle, Washington. The property occupied by Basin Oil is triangular shaped and bounded by Dallas Avenue South to the east; 17th Avenue South to the west; and Donovan Street to the south (Figure 1).

Basin Oil collects, transports, processes, recycles, and markets used oil at its Dallas Avenue facility.[1] Used oil accepted by the facility includes any oil that has been refined from crude oil and as a result of its use has been contaminated by physical or chemical impurities.[2] Used synthetic oils, including a variety of metal working fluids, brake fluids, and transmission fluids, are also processed on site.[3] Used oil is also brought to the facility by commercial carriers or individuals wanting to recycle used oil.[4] In addition to recycling used oil, Basin Oil also recycles used sorbent pads and rags.[5] Gasoline and jet kerosene are not processed on-site, but are blended in small quantities with recovered oil to adjust properties (e.g., flash point) prior to shipment off-site.[3]

Basin Oil reportedly handles used oils that are considered non-hazardous.[1] However, in the past, it has temporarily stored some hazardous wastes such as anti-freeze at the facility.[6] Throughout its operation at the Dallas Avenue property some violations of environmental regulations occurred including lack of notification to the Washington State Department of Ecology regarding waste oil activities and storing dangerous waste on the property beyond the allowable time limit.[7]

The South Park community has expressed concerns about the potential health effects associated with the Basin Oil facility for a number of years.[6] Approximately three years ago, a South Park citizen group, 98108 We Are Ready Now (WARN), petitioned ATSDR to evaluate whether Basin Oil and seven other facilities in the South Park area posed a threat to human health.[7] When 98108 WARN disbanded, the Community Coalition for Environmental Justice took over as the petitioner.[8]

DOH held an availability session at the South Park Neighborhood Center on June 23, 1999, to provide community members an opportunity to discuss their health concerns about Basin Oil along with three other South Park facilities. No specific health concerns were expressed by the community about Basin Oil during the availability session. However, community members did express concern about the used oil recycling facility operating adjacent to an area occupied by residents.

Site Visit

A site visit was conducted by DOH staff at the Basin Oil facility on May 26, 1999.[9] The purpose of the visit was to observe site conditions and discuss the operation of the facility with Basin Oil personnel. A Basin Oil representative answered questions and accompanied DOH staff.

The Basin Oil facility is located in a mixed use area with unpaved streets. Two homes and a light industrial facility are located to the west of Basin Oil, a wholesale lumber yard is located to the east, and Boeing property to the south. Other homes and an apartment building are located to the west. Access to the Basin Oil facility is restricted. by a fence with access gates. The facility gates are open five days a week from approximately 8:00 a.m. to 5:00 p.m. After hours, the gates are locked unless personnel are on site transferring used oil.

Basin Oil began transporting and processing used oil at the property in the early 1990s. The types of used oil currently processed at the facility includes metal working fluids, brake fluids, transmission fluids, diesel, as well as oily water. In the past, crude oil, Bunker C oil, machine shop oils, oil/water separator sludges, and oil filters were processed at the facility and antifreeze was temporarily stored while awaiting transport to a waste handling facility.

The southern portion of the approximately one acre facility is unpaved and used as a storage yard by a subsidiary of Basin Oil that decommissions underground heating oil tanks. Equipment, empty former heating oil tanks, and barrels were observed during the site visit. The northern portion of the property, which is generally paved, contains the used oil storage and processing areas as well as the used sorbent pad and rag storage and processing area. Some oily residue was observed on the paved surfaces in the northern portion of the property. However, general housekeeping practices seemed good based on observations during the site visit.

In the past, Basin Oil operated part of its used oil processing operation at the Malarkey Asphalt property located east of the Basin Oil facility.[9] According to Basin Oil, they no longer have a lease with Malarkey Asphalt and all used oil processing now occurs at the Basin Oil facility.

The used oil transported to the facility is pumped to aboveground tanks for gravity separation of oil, water and sediment. After gravity separation, the used oil is transferred by hose or pipe to heat processing tanks for further separation of oil and water. Two heat processing tanks are located at the facility and both vent directly to the atmosphere. No apparent odors were detected near the heat processing tanks during the site visit. Processed oil and water recovered during the processing are transferred to separate tanks through pipes and hoses for cooling and disposal or shipment off-site.

Although there is a potential for volatile organic emissions during processing and handling of the waste oil, the facility is not under permit with the Puget Sound Clean Air Agency (PSCAA). According to the facility representative, the heating processing tanks

are operated below 200˚F (approximately 93˚C) so no air quality permits are required. However, Basin Oil is being encouraged (not required) by PSCAA to install control equipment to reduce emissions. If Basin Oil decides to install control equipment, they may be required to monitor emissions and obtain a permit from PSCAA.[3]

Used sorbent pads and rags are stored and processed in a shed located south of the used oil processing area. No apparent odor was detected in this area during the site visit.

Environmental Studies

There are no environmental data available for the Basin Oil facility to indicate whether contaminants are being released as a result of operations at the property. A site assessment was reportedly conducted at the Basin Oil facility in 1997 or 1998.[9] The site assessment report, however, has not been released to DOH although it has been requested.[9]

Discussion

A. Introduction

The public health effects associated with a property depend on two factors: the contaminants of concern and how people come into contact with the contaminants (i.e., exposure pathways). Contaminants of concern are those chemicals found at a property that may cause human health effects. However, not all chemicals found at a property are chemicals of concern and not all chemicals of concern are a health hazard.

In order for an exposure to a contaminant of concern to occur, all the elements of an exposure pathway must be in place. Exposure pathways are divided into completed and potential pathways and can be current, past, or future exposures. A completed exposure pathway consists of five elements: a contaminant source; environmental media that transport contaminants from the source (e.g., soil, groundwater, air); a point where people contact contaminated media (e.g., tap water); route of exposure by which a contaminant enters the human body (e.g., inhalation, ingestion, dermal contact or absorption); and a receptor population that is exposed to contaminants. A potential exposure pathway exists when some, but not all, of the five elements are present and the potential exists that the missing element(s) have been present, are present or will be present in the future.

B. Exposure Pathways

Basin Oil processes used oil at its Dallas Avenue facility. Volatile organic compounds may be released to the environment when the used oil is exposed to the atmosphere or

processed through the heat processing tanks. *Site workers and people living or working adjacent to the facility are potentially exposed to the volatile organic compounds.* No air quality data are available to evaluate this exposure pathway.

Although some site assessment work has been completed, DOH has not been provided this information. *It is possible that workers at the facility may be exposed to contaminants in the surface and/or subsurface soils.* Public exposure to contaminants on-site is unlikely since access to the site is restricted.

C. Child Health

The potential for exposure and subsequent adverse health effects are often increased for young children when compared with older children or adults. For example, children ingest more soil per body weight than do adults and therefore, receive higher exposures than adults. In addition to the potential for higher exposures of young children, the risk of adverse health effects is also increased. ATSDR and DOH recognize that children are susceptible to developmental toxicity that can occur at levels much lower than those causing other types of toxicity. Child exposure to air contaminants may be occurring but there are no data to evaluate this scenario.

Conclusions

1. An indeterminate public health hazard exists for workers and residents exposed to contaminants released to the environment through the air pathway because no facility emissions data are available.

2. An indeterminate public health hazard exists for workers who may be potentially exposed to contaminated soil on-site.

Recommendations

An air emissions inventory should be developed for this facility. This can be accomplished by emissions estimations, using process rates and commensurate emission factors, or through source testing of actual process/device emissions. Using the resultant emissions data, dispersion analysis should be performed to assess impacts on the surrounding community. Once this information is available, an informed decision on the necessity for pollution control equipment can be made.

Actions

DOH is available to review plans and reports generated as a result of the above recommendations.

References

1. Used Oil for Recycling brochure, Basin Oil Company, undated.

2. Price Sheet, Basin Oil Company, January 6, 1999.

3. Letter from Puget Sound Clean Air Agency to WA DOH, September 30, 1999

4. Basin Oil facility information submitted to WA Dept. of Ecology, September 29, 1995.

5. Used Oil Sorbent Pads or Rags brochure, Basin Oil Company, undated.

6. Dangerous Waste Compliance Inspection Report, Washington State Department of Ecology, December 8, 1992.

7. Letter from Jeannie Summerhays, Washington State Department of Ecology, to Martin Frico, Seattle Department of Land Use and Construction, June 22, 1994.

8. DOH Public Involvement File.

9. Site Visit Summary, May 26, 1999, prepared by Barbara Trejo, DOH.

10. Spill Prevention Control and Countermeasure (SPCC) Plan, Prepared for Basin Oil Company, Revised January 1998.