



FACT SHEET
BENTLEY FAMILY CHARITABLE TRUST
TAX LOT 201
FAIRBANKS, ALASKA

JANUARY 2002

What's New?

Since fall 2000, an environmental site investigation has been underway at Tax Lot 201. The tax lot is now essentially a vacant lot approximately 154 acres in size and located between the Johansen Expressway, the Old Steese Highway, and the Alaska Railroad right-of-way that crosses to Trainor Gate Road (see Figure 1). Tax Lot 201 is owned by the Bentley Family Charitable Trust, the beneficiaries of which are nonprofit hospitals and educational institutions. Union Bank of California is one of the Co-Trustees of this charitable trust. The site investigation is overseen by Union Bank of California as Co-Trustee of the Bentley Family Charitable Trust, with regulatory oversight by the Alaska Department of Environmental Conservation (ADEC).

The site investigation began by the removal and cleanup of known underground storage tanks and injection wells. Soil and groundwater contamination was detected at several locations. Some of the soil contamination has been removed. The contamination is composed of a mixture of petroleum hydrocarbons and chlorinated solvents. The primary groundwater contaminant is trichloroethylene (TCE), a degreasing agent. Analysis of data from the first set of groundwater monitoring wells necessitated the installation of additional monitoring wells and soil borings/trenches to obtain more soil samples.

The on-site monitoring wells were sampled in the spring and late summer 2001 to determine on-site groundwater flow direction and water quality. The information obtained thus far is inconclusive but supports the hypothesis that at least some of the contaminants detected in the groundwater monitoring wells have originated on Tax Lot 201. These results strongly suggested the possibility that the TCE groundwater contamination extended off-site to the west-northwest. As a result, additional temporary groundwater wells (well points) were installed and sampled in fall 2001 on Bentley-owned property to the west-northwest.

The fall 2001 sampling results suggest that the TCE groundwater contamination may extend beyond Anna Avenue to the west-northwest. The TCE concentration at well point three (WP-3) averaged roughly 130 µg/l. For reference, the safe drinking standard for TCE in public drinking water wells is 5 µg/l. Additional monitoring wells or well points will have to be installed to determine if the groundwater contamination extends beyond Anna Avenue (see Figure 1) and how far. The installation of these wells is tentatively scheduled for spring 2002.

The information received from Golden Heart Utilities, the public water utility, indicates that occupied properties west-northwest of Anna Avenue and North of College Road are serviced by the water utility. Safe drinking water is supplied by the utility to this area and therefore there is no need to consume groundwater from private wells in this area.

As a precaution, ADEC has requested that if there are residences or businesses that use private water wells for other than drinking water purposes, they contact ADEC. At this time it is not known if any private wells exist. Once the location of the groundwater contamination beyond WP-3 is determined, ADEC may request permission to test an existing private well, if present.

Who Caused the Contamination?

At this time it is not known conclusively who caused the contamination. Circumstantial evidence, however, does point to businesses and operators who occupied the property during the 1970's in support of the construction of the Trans-Alaska Pipeline. Both soil and groundwater contamination has been detected at or near former locations of pipeline construction operations on the property at that time.

The site has seen only limited use by other occupants and has been essentially vacant since the completion of the pipeline. There is no evidence that indicates that the Bentley Family Charitable Trust caused the contamination.

Who is responsible for cleanup?

Because it is the current landowner, the Bentley Family Charitable Trust is responsible under Alaska statutes for initiating and pursuing cleanup activities. Union Bank of California as Co-Trustee of the Bentley Family Charitable Trust has worked diligently with ADEC in meeting their legal responsibilities.

The Trust can negotiate or pursue litigation with former site occupants to participate in the cleanup process. Under certain circumstances, ADEC has similar options.

What Caused the soil and groundwater contamination?

In simple terms, spills, or discharges of hazardous substances to the ground caused the contamination. Although each contaminant behaves differently, if a sufficient quantity is spilled or discharged over time, the substance itself may reach the groundwater.

How the substance physically reacts once it reaches the water table depends on the density of the substance. Contaminants such as diesel oil will float on the water table since its density is less than water. Contaminants such as pure TCE will sink below the water table since its density is greater than water. Mixtures of diesel and TCE may or may not float on the water depending on the density of the mixture.

In either case, contaminants may dissolve into the groundwater. Each contaminant dissolves at different rates. As the groundwater flows, the dissolved contaminant will be carried with it. This causes the formation of a groundwater plume in a shape similar to an expanding skinny balloon. The plume eventually stops expanding once equilibrium is reached. Portions of the plume that are close to the source will have higher concentrations than portions of the plume that are further away from the source. Natural physical, chemical, and biological processes diminish the concentration levels as the plume migrates from the source.

What is the nature and extent of the soil and groundwater contamination at Tax Lot 201?

Both petroleum products such as diesel and chlorinated solvents such as TCE have been detected in the soil and groundwater. A variety of chemicals have been detected that are typical components or degradation products of petroleum products, chlorinated solvents, or mixtures of both.

The primary groundwater contaminant is TCE. There appear to be several source areas that have groundwater plumes associated with them. One of the TCE groundwater plumes extends off of Tax Lot 201 to the west-northwest and has gone as far as WP-3 (see Figure 1).

What is the possibility that TCE plume extends far beyond WP-3 and Anna Avenue?

This is a difficult question to answer with the limited data at hand. There is a possibility that the plume extends beyond WP-3 and possibly beyond Anna Avenue. There are many factors that control the migration of a groundwater plume. Several factors are the amount of natural organic carbon in the soil, the existence and amount of any permafrost, the natural degradation rate of the contaminant within the plume and at the source area, and other hydrological parameters that affect groundwater flow.

The installation of additional monitoring wells or well points are required to answer the question.

When will the additional wells be installed?

Due to the winter weather and the frozen ground surface, the installation is tentatively scheduled for spring 2002. Since safe drinking water is available through the water utility, it is felt that winter work is not warranted at this time.

It is anticipated that installation of the wells will progress in stages. A set of wells will be installed and water samples collected from them will be analyzed. These results will be used to determine if additional monitoring wells are necessary. This iterative process will continue until the extent of the plume is delineated. This may take at least several months to complete.

How long will it take to cleanup the soil and groundwater?

This question can not be answered at this time. Some soil cleanup of petroleum-contaminated soil occurred concurrent with the site characterization process. Further identification and characterization of some source areas, especially the chlorinated solvent sources, may be necessary.

In general, a contaminated site investigation is broadly broken down into sequential stages: site characterization - where the nature and extent of the contamination is identified, cleanup alternative evaluation - where different cleanup options are evaluated, and actual cleanup operations - where the selected cleanup option is implemented.

The time from start to finish of the process depends on the complexity of the site. It is anticipated for Tax Lot 201 the process will take several more years.



LEGEND	
⊕	Temporary Well Points
⊙	Monitoring wells
Bentley Trust Property Tax Lot 201 Fairbanks, Alaska	
Figure 1 Well Point Locations	