Alaska Department of Environmental Conservation
Division of Spill Prevention and Response
Contaminated Sites Program

2006 FACT SHEET
J&J DEVELOPMENT & BENTLEY BENEFICIARIES TRUST
FORMER TAX LOTS 201 & 203

DECEMBER 2006

What's New ?

This fact sheet provides a summary of the major environmental and land development activities that have occurred at Tax Lots 201 and 203 since the February 2004 fact sheet. The landowners and Alyeska Pipeline Service Company (Alyeska) as the former site operator continued to work pro-actively with the Alaska Department of Environmental Conservation (ADEC). Information about the site's history and contamination issues may be found in previous ADEC fact sheets (January 2002, January 2003, and February 2004) that are listed on the Contaminated Sites Program's site summaries web-page at http://www.dec.state.ak.us/spar/csp/list.htm.

Change of Land Ownership and Designation

J&J Development, LLC purchased the western portion of Tax Lot 201 in September 2005 from the Bentley Family Charitable Trust. At the same time, the Bentley Family Charitable Trust legally changed to the Bentley Beneficiaries Trust (Trust) who retained ownership of Tax Lot 203.

Tax Lot 201 was re-platted as Tract A, Lots 12 through 18, Bentley Brothers Subdivision, Fourth Addition. J&J Development plans commercial development of the property consistent with the previous developments on the eastern portion of Tax Lot 201.

Tax Lot 203 was re-platted as Bentley Trust North. Commercial development is also planned for this property.

The nomenclature "Tax Lot 201" and "Tax Lot 203" will be used to describe the subject properties in this fact sheet.

Evaluation of Human Health and Screening Ecological Risk Assessment

In 2004, Alyeska Pipeline Service Company with the consent of the Trust began to gather data in order to evaluate any risk posed by hazardous substance contamination to human health and/or ecological receptors at Tax Lots 201 and 203. An air sparge and soil venting extraction system

was installed in 2003 as interim corrective action to reduce the Trichloroethlene (TCE) source area on Tax Lot 201. TCE is the major contaminant of concern at the property, with other minor contaminants also present.

The past discharges/releases of TCE appear to be localized near the former Double Jointing and Coating facilities, with the TCE then migrating in the ground water off of Tax Lot 201 onto portions of Tax Lot 203, the Lemeta Subdivision, Noyes Slough, and the Palace Court Subdivision. The purpose of the risk assessment was to evaluate if concentrations of contamination pose a risk and demonstrate whether the interim corrective action was necessary.

Human Health Risk Assessment

The risk assessment evaluated hypothetical risk(s) to humans under both current and future exposure conditions. It also evaluated risks to ecological receptors using "worst case" conditions or assumptions in both cases.

The human health risk assessment evaluated both theoretical cancer risks and noncancer health effects using the maximum concentrations of chemicals detected in the soil, ground water, or soil gas. The following chemicals were evaluated in the risk assessment: Tetrachloroethene (PCE), Trichloroethene (TCE), cis-1,2-Dichoroethene, 1,1-Dichloroethene, Chloroform, Methylene chloride, and Chloromethane.

The ground water ingestion pathway (e.g. drinking contaminated water from a private well) was not evaluated as an exposure pathway because off-site residences and businesses in the Lemeta and Palace Court Subdivisions are required to use Golden Heart Utilities for domestic drinking water. In addition, the platting requirements for Tax Lot 201 and 203 require mandatory hookup to Golden Heart Utilities, and ADEC will prohibit or restrict the future use of ground water or surface water on Tax Lots 201 and 203, until such time that it achieves safe drinking water levels.

The following exposure pathways were evaluated in the risk assessment process:

- Future Onsite construction/utility worker
  - Incidental soil ingestion
  - Dermal exposure to shallow ground water

- Future Onsite resident receptor (adult and child)
  - Incidental soil ingestion
  - Indoor vapor inhalation from the subsurface (vapor intrusion)

- Future Onsite commercial worker receptor
  - Indoor vapor inhalation from the subsurface (vapor intrusion)

- Current/future Offsite resident receptor
  - Indoor vapor inhalation from the subsurface (vapor intrusion)

Incidental soil ingestion and dermal exposure to ground water are standardized exposure scenarios. Likewise, inhalation of vapors is a common exposure scenario, however the characterization of the migration of vapors from subsurface contamination (e.g. contaminated soil or ground water) is a relatively new science and a growing nation-wide concern. It is still in its infancy but is rapidly maturing as evidenced by the U.S. Environmental Protection Agency (EPA) draft guidance on the subject.

The vapor intrusion pathway at the property was evaluated for three exposure scenarios: onsite resident receptor, offsite resident receptor, and onsite commercial worker receptor. Future commercial structures on Tax Lot 201 could be susceptible to vapor intrusion from contaminated soil and ground water; future commercial structures on Tax Lot 203 could be susceptible to vapor intrusion from contaminated ground water; and current off-site commercial and residential structures could be susceptible to vapor intrusion from contaminated ground water.

The results of the assessment indicated that the contamination remaining on the properties do not pose unacceptable risks to human health, based on the criteria established by ADEC.

Screening Ecological Risk Assessment

The ecological risk assessment assumed that contaminated ground water could potentially migrate into the water and/or sediments of Noyes Slough. The two former gravel pits on Tax Lot 203 were also evaluated for possible risk.

The ecological risk assessment assumed that the maximum ground water concentrations, irrespective of their proximity to the surface water bodies, discharged directly into Noyes Slough and the gravel pits. The maximum surface water concentrations were then compared to ecological screening values established to evaluate risk to ecological receptors. If surface water concentrations exceed the screening values, then additional assessment would be required. However, if surface water concentrations were below the screening values, this would be considered an acceptable ecological risk.

Record of Decision

ADEC has determined Tax Lots 201 and 203 have been adequately characterized and that there are no unacceptable risks to human health or the environment. Based on this determination, ADEC will not require any further active remediation at this site and will accept monitored natural attenuation as the approved treatment methodology to address the remaining contamination. This decision is subject to the following conditions:

1. The ground water cleanup levels established for the chemicals of potential concern listed in Table 8 of the HHRA for onsite Tax Lot 201, onsite Tax Lot 203, and offsite are the 18 AAC 75.345 Table C cleanup levels.
2. The soil cleanup levels for chemicals of potential concern listed in Table 7 of the HHRA for onsite Tax Lot 201 are the 18 AAC 75.341 Tables B1 and B2 levels (Under 40 inch zone). However, this decision recognizes that the maximum concentrations listed in Table 7 do not pose an unacceptable health risk and active cleanup (i.e. a cleanup method

other than monitored natural attenuation) will not be required unless these levels are exceeded.

3. Land use restrictions for onsite Tax Lot 201 prohibit use of ground water and off site transport of contaminated soils.
4. Land use restrictions for onsite Tax Lot 203 prohibit use of ground and surface water.
5. The monitored natural attenuation shall apply to onsite and offsite ground water based on a determination consistent with ADEC guidance *The Selection of Natural Attenuation as a Cleanup Alternative for the Restoration of Soil and Ground Water at Contaminated Sites* dated January 2000.
6. Alyeska Pipeline Service Company shall submit and implement a long-term ground water monitoring plan consistent with ADEC guidance *The Selection of Natural Attenuation as a Cleanup Alternative for the Restoration of Soil and Ground Water at Contaminated Sites* dated January 2000.

What's Ahead?

ADEC will review and approve Alyeska's long-term ground water monitoring plan. The frequency of the ground water monitoring events will likely change (either increase or decrease) as additional ground water data is collected. Typically it takes multiple sampling events over several years before concentration trends become evident and predictable with a statistical degree of confidence.

Ground water monitoring will continue on a semi-annual basis for the short term. All of the monitoring wells on Tax Lot 201 were removed for construction purposes. Alyeska will replace the Tax Lot 201 monitoring wells as construction allows. Semi-annual ground water monitoring will continue with the remaining monitoring wells on Tax Lot 203 and within the Lemeta and Palace Court Subdivisions.

The ground water will be monitored until it attains drinking water standards.

If you have any questions, please contact the ADEC Project Manager, Mr. Douglas Bauer, at 907-451-2192 or at Doug_Bauer@dec.state.ak.us.