STATE OF ALASKA

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DEPT. OF ENVIRONMENTAL CONSERVATION

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DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES REMEDIATION PROGRAM

May 26, 2000

Dear Interested Alaskan:

The Alaska Department of Environmental Conservation invites public comment on proposed cleanup levels and cleanup options to address contamination from dry cleaning solvents (tetrachloroethene or "PCE") at the River Terrace Recreational Vehicle Park in Soldotna Alaska.

In 1997 several thousand cubic yards of contaminated soil were excavated from the site and treated. However, some PCE contamination remains in soil, groundwater and Kenai River sediments.

Groundwater - There are two areas with contaminated shallow groundwater that exceed site-specific cleanup levels. One area is between the former dry cleaning building and the Sterling highway. Groundwater from this area flows towards the highway and into the stormwater sewer under the highway to the Kenai River. The other area is between the building and the Kenai River. Groundwater from this area flows to the river.

No one is drinking this shallow groundwater, and institutional controls (a "deed restriction") will be put in place to notify future owners of the site not to use the shallow groundwater as a drinking water supply. Therefore, there should be no risk to humans from the groundwater, provided that property owners comply with the restriction.

Surface Water - Groundwater from the site discharges directly to the river at levels that exceed the water quality standard; however, PCE has only been detected in the Kenai River surface water at levels that are up to ½ the level considered safe for drinking water (the water quality standard of 5 micrograms per liter [ug/L] of PCE). Due to the high level of dilution, the Kenai River is safe for adult fish and people who use it for fishing, fish consumption, boating, and even drinking. Nevertheless, state law does not allow for a discharge of PCE above the water quality standard to a surface water body. The department is therefore proposing to treat the groundwater to remove PCE down to the water quality standard before it enters into the river. The department could instead treat the groundwater to a level that is based on current regulatory aquatic life criteria (840 ug/L), if this small stretch of the Kenai River is reclassified to remove drinking water, contact recreation and agriculture as protected uses. The department invites public comment on this issue.

Sediments - Kenai River sediments along a 60-foot section of riverbank are contaminated with PCE and its breakdown chemicals at levels that are potentially toxic to organisms that live in the sediment. PCE does not have high potential to bioaccumulate in the food chain. DEC believes that the proposal to treat groundwater to 5 ug/L before it leaves the site and enters the Kenai

River (to protect the River's uses for drinking water, contact recreation and agriculture) is sufficiently protective of organisms that live in the sediment. DEC's conclusion is based on a review of scientific literature. This proposal will prevent additional sediment contamination and will allow the contamination already in the sediments to naturally degrade over time. Active treatment (excavation) of the sediments is not proposed because it would likely cause more harm than good.

Soil – Known soil contamination remaining on the site does not pose a risk to site visitors or residents.

Vapor contamination emanating from contaminated groundwater near or under the former dry cleaner building (approximately 10-15 feet below the surface) has been measured at levels that are approximately ½ of the levels considered appropriate for worker exposure. Worker exposure levels are based on a worker spending 8 hours per day, 40 hours per week in the workplace. While it is not likely that concentrations in the basement of the building could exceed the levels in the surrounding soil, the property owner may choose to evaluate vapor concentrations in the building.

Soil excavation from under the building is also considered an option that could potentially reduce the soil contamination that is leaching to the groundwater, possibly reducing the amount of time it takes to treat groundwater. The department invites public comment on the option to perform excavation and treatment of soils from beneath the building area in addition to its proposed cleanup plan.

Kenai River Bridge project - Known contamination in the Department of Transportation's right-of-way adjacent to the River Terrace site is generally deep (i.e. at the groundwater table or about 15 feet below the ground surface). The proposed cleanup method will stop the contaminated groundwater from migrating onto the right-of-way. Remaining contamination is not expected to affect the Department of Transportation's plans to improve the Sterling Highway or the Kenai River Bridge. Construction techniques are available to avoid any potentially unidentified contamination. The department is working with the Department of Transportation and the U.S. Environmental Protection Agency to develop a plan to address any unexpected contamination encountered during construction to ensure the construction project is not delayed.

Proposed Clean Up Method - A variety of methods to cleanup the property and protect the river were evaluated. While soil removal is often the best way to remove contamination, complete excavation at this site, like some other methods, was rejected primarily due to the high costs (greater than $10 million). Even with excavation, some groundwater treatment would be needed to stop contamination from flowing to the river. Other methods were rejected because they had never been applied to a site like River Terrace or were unproven technologies. A short list of viable cleanup methods was developed and is presented in the proposed plan.

Most of the potential cleanup methods involve interception and treatment of the contaminated groundwater before it reaches the river. These interception technologies are attractive because

they stop contamination from entering the river within a few days or months and can be cost effective to build.

Groundwater interception technologies have a disadvantage because they do not clean up soils that continue to contaminate the groundwater. Natural processes that may take up to 15 years are relied upon to clean up the source of contamination, and the interception technology needs to be maintained until the source or sources of contamination are naturally cleaned up. Consequently, some alternatives capable of treating the sources of contamination were also considered. The department is proposing to restrict use of the shallow groundwater for drinking water and to use in-situ biological treatment (Hydrogen Releasing Compound (HRC™) technology) to cleanup the contaminated groundwater before it enters the river. The main advantages of HRC™ are its ability to also treat groundwater and soils in contact with the groundwater in the source area, and cost savings that may be achieved if it can be added in phases based on sampling results. HRC™ is the method favored by the site owner's technical consultant. This technology has some uncertainty associated with it; consequently, if a pilot study indicates that HRC™is not viable, permeable reactive barriers will be installed instead to treat contaminated groundwater before it enters the Kenai River and the Sterling highway right-of-way.

Treatment by HRC™ is expected to stop contaminated groundwater from entering the Kenai River and the adjacent Sterling Highway within 6-12 months. The HRC™ is expected to remediate soils in approximately five years and cost about $2 million. The permeable reactive barrier (PRB) may actually be a less expensive alternative; however, PRB treatment is expected to require 15 years and does not actively address source area contamination.

The HRC™ cleanup involves installing permanent wells for groundwater interception in a row along the river approximately 30 feet up from the riverbank and in a row along the Sterling highway where the upper groundwater plume moves from the building towards the highway. The method also includes driving 100 temporary holes each in a grid pattern in both the lower plume area and the plume area between the building and the Sterling highway to treat contaminated soils in contact with the groundwater and groundwater. HRC™ is placed in the holes and allowed to slowly dissolve in the groundwater. Additional temporary holes and HRC™ may need to be placed in both areas every six months for up to five years. Each treatment event is expected to take no more than 30 days and can be scheduled to occur in the fall and spring to avoid the summer season. The permanent wells can be installed flush to the ground surface so that there is no obvious visual evidence of the cleanup system.

More detailed information regarding contamination, risk, cleanup levels, cleanup options and the Department's proposed cleanup plan can be found in the attached "Proposed Plan."

Public Comment - If you wish to comment on this plan, please send your response to me at ADEC, 555 Cordova St., Anchorage, AK 99501. You may also call me at (907) 269-7578 or e-mail me at rich_sundet@envircon.state.ak.us. The public comment period ends on June 26th. A formal public meeting will be held from 7:00 p.m. to 9:00 p.m., June 15th, 2000 at the Kenai Borough Chambers. ADEC will give a short presentation of the site and its proposed cleanup

action, and will accept comments from the public regarding the Proposed Plan. Prior to the formal meeting, ADEC and its contractors will be available to the public to discuss specific site issues between 4:00 p.m. and 5:30 p.m. on June 15 at the Borough building. If you would like to meet and comment on the plan individually with ADEC, please call me and I will schedule an appointment at the ADEC Soldotna office on June 16.

I look forward to your comments.

Sincerely,

Rich Sundet

Rich Sundet
Project Manager

Enclosure: River Terrace Recreation Vehicle Park Proposed Plan