

Simple kit lets locals test for contaminated sites

by Tundra Times staff

Oil spills. Old rusty drums oozing unknown chemicals. Leaking gasoline tanks. Military garbage.

Dealing with environmental problems can be costly and time-consuming, especially cleaning up old contamination. Rural municipalities and tribal governments, strapped for cash and lacking technical staff, must rely on consultants from distant urban centers to investigate pollution problems and guide them through government regulations in order to build new housing, roads, public facilities and protect public health.

Now, an Anchorage firm is offering a contaminant testing kit that is inexpensive, accurate and very easy to use. Although not intended to replace the more comprehensive capabilities of a laboratory, users are finding that the kits can help them evaluate local conditions to more clearly define for themselves the extent, and prospective cost of re-

solving, a contamination problem.

According to Heather Hall of Alaska Scientific Inc., a local distributor for the kits, the kits are based on a technology called immunoassaying. It uses the ability of antibodies—proteins produced by the immune system in response to foreign substances (antigens)—to bind to certain compounds, including manufactured, non-biological substances. Once this binding takes place, the nature and quantity of the compounds can be determined.

"This entire technology is encouraged by the Environmental Protection Agency because of its efficiency," says Hall. It's really designed for screening and follow-through monitoring."

Although the technology has been around for several decades, Hall says refinements have resulted in a very portable, cost-effective tool for work in the field.

"These on-site tests are ideal for monitoring environmental remediation projects, identifying hot spots,

mapping sites and screening samples for laboratory analysis," says Hall.

"Field tests are available for PCBs, petroleum products, explosives and industrial cleaners. (They) require no prior experience or training. They provide results with substantial savings of time and money."

While testing of lab samples can run to hundreds of dollars, the field test kits are priced in the \$30 range.

With seven different kits, tests can be conducted for the presence

and quantity of numerous highly toxic chemicals, including: Benzene, Toluene, Ethyl Benzene and Xylene (chemicals used in gasoline); Polyaromatic hydrocarbons (including diesel, home heating fuel and light oils); PCBs, a substance used as hydraulic fluid in electric

transformers often found at electric utilities, government installations, industrial sites and schools; PCP, a chemical used to treat wood, often associated with industrial sites; two kinds of explosives, RDX and TNT; and industrial solvents called TCE and PCE.

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Alaska Scientific, Inc.**

The kits sold by Alaska Scientific are marketed under the brand name D-Tech and are suitable for both soil and water analysis. With a one year shelf life, they are effective at temperatures above 40 degrees. However, they can be used year round by simply raising the temperature of the sample to the desired level.

Possible applications for the test kit are numerous. Where leaking fuel tanks, large or small, are being removed, the tests can be used to readily identify the extent of existing contamination so that contractors can remove only the amount of soil necessary to remediate the problem. Where abandoned military bases have left a legacy of fear about old chemical dumps, city or tribal officials can test suspected areas to prompt federal cleanup action. Housing authorities can test sites where old land use practices may raise public health concerns for the future tenants. In areas where land is being transferred, buyers or grantees of parcels can determine the potential for legal liability arising from long-forgotten activities on the property that may have caused contamination.