



# ADOT&PF SOLDOTNA MAINTENANCE STATION

Alaska Department of Environmental Conservation • Division of Spill Prevention and Response

### Site Description

The site of the former ADOT&PF Soldotna Maintenance Facility is located at 44149 Sterling Highway, (Mile 94.6 of the Sterling Highway) in Soldotna, Alaska. The subject property is situated at the intersection of Birch Street and the Sterling Highway, near the intersection of the Sterling Highway with the Kenai Spur Highway, in downtown Soldotna, and is adjacent to the banks of the Kenai River. The property is relatively flat and unpaved with the surrounding area sloping south towards the Kenai River. All buildings have been removed from the property, and the on-site drinking water well has been abandoned.

### Threats and Contaminants

Salt and petroleum hydrocarbon contamination have been encountered in the soil and groundwater at the site. Soil and groundwater contaminated with petroleum hydrocarbons are the main threat to public health and the environment.

### Public Health and Environmental Concerns

The extent of soil contamination and the impact to shallow groundwater have been fairly well defined. The impact of the contamination on the adjacent Kenai River sediments is presently being evaluated.

### Response Actions

A Phase I site assessment was undertaken by Dames & Moore in 1992. Six potentially contaminated areas were identified by this investigation. Area 1 included a dry well, a leachfield, and associated piping. Area 2 contained a 3,000-gallon used oil Underground Storage Tank (UST) and 55-gallon drums for used oil storage. Diesel and gasoline UST's and their associated pump island are present in Area 3. Area 4 is the location of an abandoned concrete septic tank, associated piping, and septic drain field. Area 5 is a paint, toluene, and calcium chloride (CaCl) storage area. Area 6 was formerly used to store salted sand.

The Phase II Assessment activities conducted in 1993 were planned to address the six areas of concern on the property. The work included drilling and installing six groundwater monitoring wells in each of the six areas, drilling an additional seven soil borings, collecting soil samples from each boring and a groundwater sample from each well for analytical testing, sampling the 50 cubic yard soil stockpile in Area 3, and attempting to locate the reported dry well and leach field in Areas 1 and 4, respectively. The results of the field sampling activities indicated that low levels of petroleum hydrocarbon contamination were present in the

subsurface soils in Areas 1 through 5. Petroleum hydrocarbon impacted groundwater was identified in Areas 3 and 5. Chlorides were detected in all of the six groundwater samples. Attempts to locate the dry well and leach field in Areas 1 and 4 were unsuccessful. The soil samples collected from the 50 cubic yard stockpile indicated it was below the applicable cleanup guidelines and could be landspread on site.

From June to December 1996, Shannon & Wilson, Inc. (S&W) conducted assessment and cleanup activities. These activities included the excavation of petroleum hydrocarbon impacted soil in Areas 1, 2 and 4. Numerous additional activities were conducted including removal of the dry well and associated piping in Area 1; assessment of the soil and groundwater in a newly discovered leachfield and installation of a collection gallery in Area 1; removal and disposal of the 3,000-gallon used oil UST in Area 2; in-place closure of the concrete septic tank in Area 4; groundwater monitoring; and cleaning and modification of the maintenance shop floor drains. Confirmation soil sampling from the dry well excavation in Area 1, the used oil UST excavation in Area 2 and the leachfield excavation and concrete septic tank in-place closure assessment in Area 4 indicates that the soil remaining in these areas is less than the applicable cleanup guidelines and no further action is needed. Approximately 600 cubic yards of impacted soils above the most stringent clean up levels (level A cleanup criteria) were thermally remediated on-site using a Hot Air Vapor Extraction system. Remediated soils were landspread on-site.

In 1998, activities included the removal of 2 regulated UST's and one heating oil tank, the characterization of two existing stockpiles, the assessment of a former oil/water separator outflow line, the installation and development of 10 new monitoring wells, the implementation of a quarterly groundwater monitoring program for the 10 new wells and the 1 existing monitoring well, the demolition of the main shop building and the movement off-site of auxiliary buildings, the exploration for a former tar pit, the excavation of approximately 3,075 cubic yards of clean overburden and 3,180 cubic yards of petroleum impacted soil, and the thermal remediation of the impacted soils so that they met level A cleanup criteria.

Sediment samples were collected along the banks of the Kenai River adjacent to the facility in May, 1999. Analytical results depict that the sediments are not being impacted by gasoline range petroleum hydrocarbons and

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BTEX constituents, however, diesel range petroleum hydrocarbons and residual range petroleum hydrocarbons were encountered adjacent to and up-gradient of the site. Analytical results for chloride indicate that chloride is impacting sediments adjacent to the area where the former sand pile was stored.

In June, 1999, Shannon & Wilson undertook additional assessment activities to attempt to locate a reported tar pit that used to exist at the site, and to evaluate the potential source of methylene chloride encountered in one of the monitoring wells. Although the source for the methylene chloride was not identified, the former tar pit was discovered, and approximately 700 cubic yards of impacted soil were excavated and subsequently thermally remediated. The remediated soils were transported to the new ADOT&PF facility south of Soldotna, where they will be staged awaiting incorporation into a road bed due to the pieces of asphalt that remain.

### **Current Status**

- Additional activities planned for this coming summer include: installing an additional monitoring well down gradient of the tar pit, conducting another round of sediment sampling to better interpret the results obtained last year, and conducting an investigation regarding the abandoned confined aquifer well to see if it is leaking. ADOT&PF intends to continue long term groundwater monitoring, possibly for the next five years. Based on trends that develop during the groundwater monitoring, the department will determine whether or an active remediation of the groundwater will be needed.