

STATE OF ALASKA

SEAN PARNELL, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION DIVISION OF SPILL PREVENTION AND RESPONSE CONTAMINATED SITES PROGRAM

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December 16, 2009

File no.: 2332.38.017

Ms. Vanessa Alao-MacLeod
United States Forest Service
3301 C Street
Anchorage, Alaska 99503

Re: USFS Kenai Lake Work Center Camp, hazard id 1829
Site Closure Determination

Dear Ms. Alao-MacLeod:

The Alaska Department of Environmental Conservation (DEC) has received and reviewed the *Final Site Characterization Report* for the Hazmat Building Demolition at the Kenai Lake Work Center Camp site, prepared by G&S Management Services and dated December 1, 2009. The report is approved in accordance with 18 Alaska Administrative Code 75.325-.390.

In June 2009, contamination was found during the removal of the Hazmat Building foundation at the Kenai Lake Work Center. In accordance with a DEC-approved work plan, contaminated soil was excavated and stockpiled awaiting disposal. Two (2) confirmation samples and one (1) duplicate were collected and analyzed for diesel-range organics with the highest concentrations found being 378 milligrams per kilogram (mg/kg) in sample S2 and 469 in the duplicate S3 collected at a depth of 9-feet below ground surface. Approximately 42 cubic yards of contaminated soil was sent to Alaska Soil Recycling's Anchorage facility for disposal.

There is a small volume of contaminated soil remaining at depth which exceeds the DEC-approved cleanup level for diesel-range organics of 250 mg/kg for this site. Groundwater is general found to be present at depths ranging from 14-28 feet below ground surface generally flowing to the west, with seasonal variations. The drinking water well used at the facility is located upgradient of the former Hazmat Building. Therefore, DEC determines that the small volume of diesel-range organics contamination remaining at depth at the Hazmat Building does not pose a threat to human health and the environment at its current location.

In a letter dated July 3, 2006, DEC notified you as to its approval of the *2006 Groundwater Sampling and Analysis Report* and of the subsequent requirements for closure for the Kenai Lake Work Center Camp site. A copy of this letter is enclosed. Prior to DEC being able to make a closure determination on this site, DEC needed to obtain 1) documentation that the Forest Service has included an

administrative site control on its geographic information system (GIS) land status database noting the presence of the contaminated soil and that future excavation/disposal of the soil must be coordinated with the department; and 2) a report with sample locations and results from the 2006 removal at the Incident Command Multi-Purpose Administration Building and documentation of the successful disposal of the stockpiled soil.

In response to Item 1, to date, DEC has not been informed that the site boundaries have been included on the GIS-land management system. On July 24, 2009, DEC adopted a new policy for site closure. A copy of the memorandum is located on our website at the following link, <http://www.dec.state.ak.us/spar/csp/guidance/closurememo.pdf>. According to our new policy, for sites with lower-level petroleum soil contamination where groundwater is not contaminated, DEC is able to issue a closure determination without the US Forest Service having previously placed the site on its land management system. As the cleanup level for this site exceeds DEC's default cleanup level, the US Forest Service still needs to place an administrative site control on its GIS- land management system which outlines the area of remaining contamination and ensures that the contaminated soil will be managed in accordance to DEC guidance and regulations.

In response to Item 2, the cleanup at the Incident Command Multi-Purpose Administration Building, a brief letter report was prepared by Shannon and Wilson, Inc and dated August 16, 2006. Four confirmation samples were collected around the building footer and the highest concentration of diesel-range organics found was 878 mg/kg at a depth of 8-feet below ground surface. Approximately 65 cubic yards of contaminated soil was transported to Alaska Soil Recycling's Anchorage facility.

DEC has determined that the Kenai Lake Work Center Camp site can be closed.

Please note that if in the future additional contamination is found to be present that may pose an unacceptable risk to human health, safety, welfare or the environment, it must be reported to the department and additional cleanup may be required.

If you have any questions about this site, please do not hesitate to contact me at 766-3184.

Sincerely,



Anne Marie Palmieri
Environmental Program Specialist

Enclosure

CC: Michael Wilcox, US Forest Service – Juneau

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File #: 2332.38.017

July 3, 2006

Via Electronic and Regular Mail

Mr. Michael Wilcox
United States Forest Service
Post Office Box 21628
Juneau, Alaska 99802

RE: Requirements for Site Closure
USFS Kenai Lake Work Center Camp, Seward, Alaska;
Reckey: 1993230118805

Dear Mr. Wilcox:

The Alaska Department of Environmental Conservation (department) has received and reviewed the *2006 Groundwater Sampling and Analysis Report* for the Kenai Lake Work Center Camp site near Seward, Alaska, prepared by Kent & Sullivan, Inc and dated May 31, 2006. These samples were collected and analyzed in accordance with department regulations and guidance. This report is approved in accordance with 18 Alaska Administrative Code 75.355.

It was noted during the file review for this letter that cleanup levels for soil and groundwater have not been previously approved. Therefore, the department approves the default soil cleanup levels of 18 Alaska Administrative Code (AAC) 75.341, Tables B1 and B2 most stringent exposure pathway for the Over 40-inch precipitation climate zone and the groundwater cleanup levels of 18 AAC 75.345, Table C.

Site Background and History

The Kenai Lake Work Center Camp area has been part of the Chugach National Forest since 1909 and the camp itself was constructed in 1963. The 8-acre camp is used as the primary maintenance facility for the Seward Ranger District. The camp is located near Kenai Lake and groundwater levels fluctuate seasonally along with the water level of the lake. Groundwater has been found to be present at a depths ranging from 14-28 feet below ground surface (bgs). Groundwater has been found to flow west with a seasonal trend fluctuating to the northwest or southwest. Groundwater at the site is used for drinking water and the facility well is located approximately 175 feet to the southeast (upgradient) of the closest former tank location.

In 1988, three (3) underground storage tanks were removed from the area of the Gas/Oil shed. Approximately 200 cubic yards of contaminated soil was removed, however elevated levels of benzene up to 0.329 milligrams per kilogram (mg/kg) were left in place. The area was backfilled and pavement was placed over the contamination. In 1990, 11 soil borings were advanced and three (3) monitoring wells installed. Soil contamination was found up to 2300 mg/kg diesel-range organics and 1900 mg/kg gasoline-range organics. Groundwater sample results in MW-3 showed a concentration of 7.2 micrograms per liter (ug/L) benzene. In June 1992, a vapor extraction system was installed near the Gas/Oil shed and operated seasonally in 1992, 1993, and 1994. During the systems period of operation, groundwater samples were collected from the three (3) wells near the shed and a fourth well between the shed and the drinking water well. All analytical results were non-detect with the exception of one result in MW-3 of 3.2 ug/L benzene in June 1994. The vapor extraction system was decommissioned in 1995.

In 1994, nine (9) underground storage tanks were removed from the Kenai Lake Work Center Camp and replaced with aboveground storage tanks. Contamination was found in four (4) of the excavations, specifically those located at the Office, Carpenter's Shop, Warehouse, and the Equipment Storage buildings.

Three (3) samples were collected from the excavation floor at the Office building at a depth of 8 feet bgs; the highest sample result was 510 milligram per kilogram diesel-range organics. Four (4) samples were collected from the excavation floor at the Carpentry Shop at a depth of 15 feet bgs; the highest sample result was 2300 mg/kg diesel-range organics. Analytical samples collected at the limits of the excavation of the Warehouse tank showed a highest detected concentration of 43 mg/kg diesel-range organics. Two (2) samples were collected from the excavation floor at the Equipment Storage building at a depth of 15 feet bgs with a highest detected concentration of 770 mg/kg diesel-range organics. In total, 265 cubic yards of contaminated soil were excavated and stockpiled on site prior to being treated at CleanSoils, Inc. in Anchorage. Additional contaminated soil was not able to be excavated at any of these locations due to the possibility of compromising the structural integrity of the adjacent buildings.

An additional four (4) groundwater monitoring wells (MW-5 – MW-8) were installed in 1994, all at depths of 30-35 feet bgs. Groundwater samples collected from wells MW-5 – MW-8 in 1994 were all non-detect for gasoline-range organics, benzene, ethylbenzene, toluene, and xylenes. Also, in 1995, 12 soil borings were advanced around the buildings to depths ranging from 15-25 feet bgs to try and determine the extent of contamination. Analytical results for diesel-range organics were non-detect from all borings.

In May 2006, samples were collected from each of the eight (8) groundwater monitoring wells and sent to a laboratory for analysis for gasoline-range organics, diesel-range organics, residual-range organics, benzene, ethylbenzene, toluene, and xylenes. All of the analytical results were non-detect.

Evaluation of Current and Future Risk

Currently there are no completed human or ecological exposure pathways at this site. Ingestion and dermal contact are not considered complete as the contaminated soil is at depth below clean fill and/or asphalt. Migration to groundwater/use of groundwater as drinking water is a

complete pathway; however groundwater sampling has shown that the limited isolated pockets of contaminated soil are not causing a detectable concentration of petroleum hydrocarbons to migrate to the groundwater.

Future human and ecological exposure pathways are complete only if the buildings and/or asphalt are removed and the soil is excavated.

Requirements for Closure

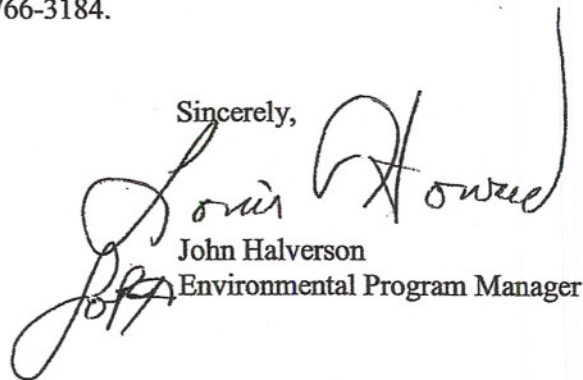
A small volume of petroleum-contaminated soil was discovered on July 14, 2006 while Forest Service contractors were excavating for installing footings during the construction of the new Incident Command Multi-purpose Administration Building. This area of contamination is likely to be from a leaking fuel tank at a former building at this location. The contaminated soil has been excavated and placed on a liner. Samples were collected from the excavation as well as from the stockpiled soil and sent to the laboratory for analysis.

Soil containing concentrations of diesel-range organics exceeding the department's default cleanup levels remains on site. The groundwater at the site is used for drinking water; however the drinking water well is located upgradient from the contaminated soil. Samples collected from the eight (8) monitoring wells on-site were non-detect for all petroleum hydrocarbon constituents.

The department requires the following submittals prior to approving a conditional closure: 1) documentation that the Forest Service has included an administrative site control on its geographic information system (GIS) land status database noting the presence of the contaminated soil and that future excavation/disposal of the soil must be coordinated with and approved by the department; and 2) a report with sample locations and results from the recent removal and documentation of the treatment or disposal of the stockpiled petroleum contaminated soil. Treatment or disposal of contaminated soil must be done under prior department approval. Following the submittal and approval of these documents, the department will issue a conditional closure letter for this site.

If you have any questions about this site, please do not hesitate to contact me at 269-7545 or Anne Marie Palmieri, of my staff, at 766-3184.

Sincerely,



John Halverson
Environmental Program Manager