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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Date: December 29, 2016

Subject: Pollution Report Initial/Final
Lake George PCBs Site
Lake George/Park County/CO

To: Site File

From: Joyce Ackerman, OSC
8EPR-ER

ABSTRACT

Site #:	A8M6	Response Authority:	CERCLA
NPL Status:	non-NPL	Response Type:	Removal Assessment
Action Memo Date:	N/A	Start Date:	3/7/2016
Removal Mob. Date:	N/A	Removal Compl. Date:	N/A

1. Introduction

1.1 Background

On March 2, 2016, the United States Forest Service contacted EPA Region 8 to request collaboration on investigating the possible source and extent of PCBs detected in a groundwater well. The Forest Service has the Lake George Work Center on the Pike San Isabel National Forest at 140 Trail Creek Road in the town of Lake George, Park County, Colorado. The Work Center has a groundwater well which had been used in the past as a source of drinking water for the Forest Service workers. During a sampling event in 2011, PCBs were detected in the groundwater well. The Work Center is bordered by private property on three sides, and the Forest Service requested EPA assistance in the event that the Forest Service's jurisdiction would not extend to private land for an investigation.

Forest Service personnel believe the Work Center well was drilled in the 1960s, and the well is approximately 158 feet deep. It was used as drinking water for a period of time, then discontinued in the 1990s after radium was discovered in the well. Another source of water (a "spring box") was then used as potable water until it dried up. In 2011, the Forest Service anticipated putting the well back in use and took a sample from the well to be analyzed for a large suite of analytes. The sample showed a detection of 73 ppb of PCBs (Aroclor 1254) but no detections of other potential contaminants. The EPA

Maximum Contaminant Level (MCL) for PCBs in drinking water is 0.5 ppb. The Forest Service abandoned plans to re-use the well for drinking water and initiated an investigation regarding the PCB detection. The well was re-sampled several times to confirm whether PCBs were truly present and the samples continued to show detections of PCBs above the MCL.

The Forest Service installed three shallow groundwater monitoring wells in 2014 to confirm groundwater direction as well as to investigate if PCBs were flowing toward the drinking water well from an upgradient source, such as a historical landfill. There were no detections of PCBs in the monitoring wells. The drinking water well is in a vault slightly below ground level, and the vault contained some debris such as sawdust and fibers. A sample was taken from this debris next to the well head, and the sample showed the presence of PCBs at a low level. A pump and treat effort was conducted in August 2014 with the goal of purging the well of any contaminated sediment that might be causing the groundwater samples to have detections of PCBs. After the pump and treat effort, the detections of PCBs fell to trace levels, but a sample taken in December 2015 showed much higher levels, 520 ppb of PCBs. The Forest Service determined that further investigatory actions should be initiated pursuant to CERCLA, which included (but was not limited to) conducting a PA (Preliminary Assessment) and requesting assistance from the EPA Emergency Response Program.

1.2 Site Evaluation

It was known that there were private drinking water wells on properties near the Work Center. The Forest Service worked with the County to identify ownership of nearby parcels. EPA believed, based on the monitoring well information, topography, and hydrology, that groundwater from the Work Center would generally flow south and southwest toward the surface water body of Lake George. EPA sent letters to property owners in those areas believed to be immediately downgradient of the Work Center well to offer sampling of any drinking water wells.

The sampling event on March 28, 2016, was conducted by EPA's START contractor and included four private wells, the Work Center well, and one of the three shallow monitoring wells (the other two wells were determined to have obstructions and could not be sampled). Samples were analyzed for PCBs, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs). A private well in the northwest direction from the Work Center was included in the sampling event for a background sample. The non-profit group, Coalition for the Upper South Platte (CUSP), which has an office in the town of Lake George, assisted EPA with outreach to the private property owners regarding the sampling event.

There were no detections of PCBs, VOCs, or SVOCs in the private well samples, nor in the one shallow monitoring well sample. The Work Center well had a detection of PCBs (Aroclor 1254) of 19.2 ppb. No VOCs or SVOCs were detected in the Work Center well.

During the sampling event, water chemistry parameters were analyzed in the various samples. This data was assessed as well as geologic information for the area. The START contractor concluded that groundwater flow in the area trends toward the southwest with some local variability ranging from west to south, which was consistent with the determination made at the initiation of EPA's investigation to target properties south and southwest of the Work Center well.

2. Current Activities

During EPA's sampling event, the only detection of any kind was PCBs for one specific Aroclor in the Work Center well, which was consistent with previous sampling events. Due to the low solubility of PCBs this strongly suggests the source of contamination was on Forest Service property, in or near the Work Center well.

PCBs by themselves are not normally very mobile in groundwater absent a "carrier" such as a solvent, e.g., VOCs or SVOCs. No VOCs or SVOCs were detected in the Work Center well during the various sampling events. PCBs have a very low solubility in water, so do not tend to dissolve readily. They are heavier than water, known as "dense non-aqueous phase liquids (DNAPLs). PCBs by themselves would be expected to adsorb onto soil or sediment particles.

One possibility for the source of PCBs may be a former pump used in the well. According to EPA personnel, submersible pumps manufactured prior to 1979 commonly had PCB-containing capacitors with very high PCB concentrations up to 100 percent PCBs. The capacitor in the pump could leak and contaminate the well. The released PCBs would then settle at the bottom of the well and contaminate sediments at the bottom of the well.

The role of the EPA Emergency Response Program in this investigation was to assist in assessing private properties immediately downgradient of the Work Center well. The sampling event showed that the wells sampled had no detections of PCBs, and the Emergency Response Program's activities are now concluded. The Forest Service continued their CERCLA process to further investigate the source of contamination.