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**BASELINE POLYCHLORINATED BIPHENYLS (PCBS) ON
THE PAJARITO PLATEAU, NORTHERN NEW MEXICO**

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ABSTRACT: Polychlorinated biphenyls (PCBs) are persistent organic compounds and are ubiquitous on a global scale. The development of a low-level analytical method (1668A) provides estimations of PCB concentrations on the order of 10 pg/L revealing PCBs in environments once thought of as pristine including high latitude arctic and remote marine environments. Los Alamos National Laboratory (the Laboratory) is addressing contamination at sites under a new Individual Permit (IP) for storm water discharge. Historically, most of the sites in the permit received no PCB releases; however, some of the sites do have PCB contamination associated with release or storage. Because the target action limits of the IP are very low (640 pg/L), it is important to understand what baseline PCB concentrations are in the surrounding environment in order to guide sound environmental management decisions. In 2009, the Laboratory initiated a baseline PCB monitoring study to estimate the range of PCBs in storm water runoff in areas not affected by Laboratory processes or urban Los Alamos townsite. Reference watersheds were identified north of the Laboratory and Los Alamos townsite in similar terrain at roughly the same altitude and climatic regime. Locations were identified at and upstream of the western boundary of the Laboratory as well. Storm water monitoring was conducted from 2009 through 2010. Thirty-seven samples were collected using automated storm water samplers and analyzed for PCBs by method 1668A. Numerous results exceed the New Mexico Administrative Code, Limited Aquatic Life Human Health - Organism Only criteria of 640 pg/L. Preliminary estimation of the upper threshold limit (UTL), when all samples are pooled, exceeds the 14,000 pg/L Wildlife Habitat criteria as well. Final results will be discussed and a conceptual model presented accounting for the observed concentrations and spatial variability.