State of Oregon
Department of Environmental Quality Memorandum

Date: December 22, 2009

To: Mount Hood Chemical File, ECSI #81

From: Jim Orr, DEQ Project Manager

Subject: Project Status

Project Background
The Former Mount Hood Chemical Warehouse (Mt. Hood) facility is located at 4444 NW Yeon Avenue in Portland. Mt. Hood packaged and distributed commercial cleaning products from 1973 until they relocated in 2008. The Mt. Hood facility was identified by an environmental investigation in February 2007 as a source of soil and shallow groundwater contaminated by chlorinated solvents.

Mt. Hood entered into a letter agreement with the Oregon Department of Environmental Quality (DEQ) Voluntary Cleanup Program on October 30, 2008. At the initiation of DEQ oversight, a plan was developed to identify and evaluate recent and historic sources of contamination, identify all chemicals of interest (COIs), and evaluate how these chemicals were released to the environment. Initial sample analyses focused on volatile organic compounds (VOCs), petroleum hydrocarbons, metals, polychlorinated biphenyls, and metals. Chlorinated VOCs have been characterized in groundwater beneath the site extending down-gradient to off-site properties to the northwest. The full off site extent of VOCs in groundwater is not yet known. Site screening indicated that only chlorinated VOCs were a significant COI for the site with Trichloroethene (TCE) as the most significant risk due to the vapor intrusion pathway for building occupants. Sub-slab vapor samples collected inside the warehouse indicated detections of TCE significantly exceeding risk screening levels for vapor intrusion.

Solvent Plume Pilot Testing and Remediation
In May of 2009 several phases of pilot testing were performed to characterize conditions within the solvent source area and to evaluate possible treatment technologies. Pilot testing included air sparging with dual phase vapor extraction and soil vapor extraction (SVE) above the water table and beneath the building floor. Air sparging treatment was determined to not be an effective treatment method. SVE within the unsaturated zone below the building floor and hydrogen release compound injection to the saturated zone were selected as the most favorable remedial treatment options.

DEQ approved an interim remedial action measure (IRAM) to address the main source-area impacts and vapor intrusion risk. The IRAM was performed under Oregon Revised Statue 465.260(3) that allows a remedial action necessary to protect public health without formal public notice and comment. The IRAM system was implemented beginning in November 2009. The treatment system consists of an in-situ injection of hydrogen release compound to the saturated zone in order to promote natural degradation of VOCs in groundwater and a source-area horizontal SVE collection system beneath portions of the building floor to remove residual VOCs from soil and soil vapor from below the warehouse floor.

Current Site Conditions
Additional groundwater and soil vapor monitoring for VOCs will be performed to evaluate offsite contamination risks. The ongoing risk to site workers from solvent impacts from VOC vapor intrusion is being addressed within the warehouse by groundwater treatment and sub-slab vapor collection. Recent monitoring of sub-slab vapor VOC concentrations and negative subsurface vapor pressures in the remediation area indicate that there is no significant risk to site workers while the extraction system is operating. Continued monitoring of VOCs in subsurface soil vapors and groundwater will determine if the IRAM treatment is effective and may be selected as the final remedy for the site.