9. RECOMMENDATIONS

To provide decision makers with the information necessary to evaluate the alternatives available to reduce or remove the potential risk to receptors, it is recommended that a FS be performed. The FS should evaluate a range of possible remedial actions, such as excavation, fencing, access restriction, etc., and the associated costs. It is also recommended that the FS employ a streamlined remedial alternatives evaluation process based on most likely land use assumptions. The intent of this strategy is to accelerate site-specific analysis of remedies by focusing the FS efforts to appropriate remedies that have been evaluated at other sites with operational histories similar to LL 1.

The future land uses and controls envisioned for the LL 1 AOC should be determined prior to selection of the path forward for the site. Establishment of the most likely scenario(s) will allow decision makers the initial information necessary to determine the correct remedial action, such as source removal, land use controls, and/or continued monitoring, to achieve the central objective of the remediation process—protection of human health and the environment. The envisioned future use of a parcel of land is an important consideration in determining the extent of remediation necessary to achieve the required protectiveness. For example, the On-Site Resident scenario versus the National Guard scenario influences how much cleanup is needed to lower the risk to protective levels. Establishment of land use will also allow for streamlined evaluation of remedies and will be necessary for documentation in a Record of Decision and attendant Land Use Controls Assurance Plan.

It is noted that areas with the same projected land use within LL 1 (and at other melt-pour lines at RVAAP) will incorporate the same RGOs into remedial alternative development. Also, the FS should integrate surface water systems and recognize the connection of surface water exit pathways among the four adjacent major melt-pour lines (LL 1 through LL 4), as well as LL 12. The FS should apply results of the ecological field truthing effort at the WBG (pending agreement by Ohio EPA) to remedial goal development for LL 1 to the extent practicable.

Key data uncertainties have been identified in the RI to help guide any future sampling efforts. Details of additional nature and extent assessment, as needed to fill any remaining data gaps in order to evaluate remedial alternatives, are deferred to the FS planning stage. The following components may be necessary for a thorough FS evaluation:

1. Definitive establishment of aggregate boundaries, if an aggregate-by-aggregate remediation process is considered most feasible by decisions makers. Such a delineation would allow

    - prioritization of areas presenting higher potential risk versus lowest potential risk;

    - selection of cleanup actions and exit strategies per aggregate and/or per building area in each aggregate, (e.g., it is anticipated that cleanup of Water Tower area soil could be accomplished by removal, whereas remediation of a process area aggregate may require an alternate approach); and

    - elimination of certain areas from additional investigation or further action, such as portions of the perimeter AOC aggregate, thus reducing the footprint of the AOC.

2. Additional groundwater sampling data for determination of any trends in groundwater contamination. Such information would help to validate the fate and transport modeling predictions and the likelihood of future groundwater contaminant migration. As such, a characterization monitoring plan

for AOC groundwater is recommended. This should not be considered as a long-term monitoring action, but rather as the establishment of a data set for baseline conditions.

3. The installation of one or more "sentry" wells is recommended at a location downgradient of the melt-pour complex (Buildings CB-4/-4A and CA-6/-6A). Potentiometric mapping indicates an eastward-directed gradient from this area. One or more wells located east to southeast of LL1mw-083 and LL1mw-084, similar in position to LL1mw-067 (i.e., to the east and outside of the fence), would serve to monitor groundwater conditions impacted by this area of significant surface soil contamination.

4. Although little evidence of vertical migration exists, the assessment of deep groundwater at the site has not been performed and is considered a potential data gap, particularly in the former production area. Characterization of deep groundwater may be necessary, if such data are required in order to achieve remedial action objectives identified in the FS stage.

5. Collection of characterization data for the areas between aggregates for PAH and PCB extent. This information may be critical in determining areas and volumes for removal of hot spots. The data collection could be performed prior to removal design or performed as confirmatory sampling following removal. Additionally, information regarding PCBs from point sources and investigation at LLs 2, 3, and 4 should be evaluated to help identify or fill potential data gaps related to these classes of compounds. Potential metals in paint sources should also be profiled.

6. Lack of groundwater data from well LL1mw-063 (dry during both the 1999 and 2000 sampling events) is a potential data gap with respect to source area characterization. It is recommended that this well be sampled (under wet season conditions) to fill this potential data gap.

7. Sediment in drainage ditches was characterized to a depth of 0.5 ft. Characterization of deeper sediment in drainage conveyances/ponds is a potential data gap and additional sampling at deeper intervals may be necessary as part of an FS phase to fully evaluate remedial alternatives.