## Description and Conclusion of the Study

The condition of the Viennese soil should be evaluated by a statistical evaluation of results of soil analyses performed in 1999 (n=177). The main interest was laid on the results of PAH and HC analyses, but also on the heavy metal concentrations in the soil up to a depth of 2 m.

These analysis results were characterised by minimum and maximum concentrations, mean values and median concentrations of PAH, HC and HM. Additionally the concentration of benzo(a)pyrene (as toxicological important parameter) was used for the description of the soil conditions.
Results gained by this evaluation were compared to guidelines and laws of German and Austrian provenience.

In order to enlarge the data sample of heavy metal analyses the comparability of the analysis method was tested by an analysis of soil samples analysed by the MA22 in 1995 resulting in consistent results. This fact enables the use of data of other laboratories, if the same procedure of sample preparation (DEV S7) is used.
Additionally the influence of four different drying methods for soil samples on the results of PAH analysis was examined. The inconsistency of the results show the inability to compare values analysed by other laboratories without knowing the way of sample preparation, which is not normalised by law.

Concluding, the valuation by the used relevant laws and guidelines result in different classifications of the soil condition, depending on the used parameters. Especially in PAH-evaluation different parameters are used. Dr. med Eikmann and Prof. Dr. Kloke („Nutzungs- und schutzgutbezogenen Orientierungswerten für Schadstoffe in Böden“) use the amount of benzo(a)pyrene for the classification, the Bund-Länder Arbeitsgemeinschaft Abfall (LAGA) and also the German Bundes-Bodenschutz- und Altlastenverordnung use the analysis of 16 PAH (EPA) and additionally the parameters naphthalene and benzo(a)pyrene for the classification, whereas according to the Austrian Deponieverordnung 6 PAH (DIN) have to be analysed. Thus in consequence of the guideline values by Eikmann/Kloke, LAGA and also the German Bundes-Bodenschutz- und Altlastenverordnung the majority of the samples analysed could be used for multifunctional purposes.
In contrary, according to the Austrian Deponieverordnung approximately 50 % of the samples have to be placed at waste disposal facilities with higher security standards than soil disposal facilities.

The situation concerning the HC concentrations is similar. High HC concentrations mostly are caused by particles of asphalt, which uses to be inert and immobile. According to the German guidelines and law the re-use of most of the material would be possible, but is not allowed by the Austrian Deponieverordnung.

The height of the results of the heavy metal analyses are not exceeding limiting values of any publication mentioned. The contamination of the only parameter which has turned out to be a problem in former years, lead, has been reduced by it‘s substitution in fuel.

In general, Viennese soil shows no contamination with PAH, HC and heavy metals in alarming heights and most of the soil, which has to be deposited nowadays at Baurestmassendeponien or Reststoff-Massenabfalldeponien could be re-used or placed at soil disposal facilities.