It was found that to conduct a records audit an inspector needed an extensive background in chemical production of the chemicals in question. Frequently, judgements had to be made that required detailed knowledge of both the specific processes involved and of standard production practices. Therefore, examination of records should be done by an experienced chemical engineer with special training in auditing records of the chemicals in question.

With respect to the actual results from this NTI, the records audit indicated that the recorded production of DMMP was consistent with the recorded TMP available for use. There was no indication that TMP or DMMP had been diverted to undeclared products or otherwise unaccounted for. The recorded production and consumption were essentially the same as the declared production within the 1 per cent error limits allowed in measuring the weight of feedstock and products.

6. Sample analysis

The NTI demonstrated that sample taking, sample preparation and shipment and sample analysis require considerable planning and expertise to accomplish. The facility agreement should specify what samples will be taken and the precise sampling locations. The agreement must also provide for some optional or random sampling of the vessels interconnected with the declared reactors to ensure the inspection is not totally predictable and allows for some surprises. Planning for tamper-proof, safe packaging and shipment of samples to the Technical Secretariat's laboratory under both the State party and international laws must be standardized and well thought out to avoid problems.

Wipe samples and soil samples around the declared facility were found to be good "checks" to determine what other chemical constituents might be present. Wipe samples around pumps and on the adjacent walls and beams were taken to analyse for Schedule [1] or other Schedule [2] chemical components.

Samples from various points of the waste treatment system were also taken and analysed for indications of prohibited or undeclared chemicals.

Once the samples are obtained, a continuous chain of custody must be maintained until they are analysed. Tamper-indicating seals should be applied and the samples must be properly labelled. A log must be maintained to identify the samples' sources. A coded numbering system should also be utilized to protect the identity of the producer once the samples have left the site.

Discussions with representatives of both government and civil industry have led to the conclusion that samples should be analysed off-site in the Technical Secretariat's laboratory to obtain the most precise and quantitative results. This does not preclude the use of the inspected facility's analytical capability for establishing quick results, perhaps to aid in performing material balances. However, if the local lab is utilized, its capability must be verified with the use of certified standard chemicals which should be brought by the inspection team. Based on the initial visit and the facility agreement, such limited analysis could be planned. To verify this capability, an experienced analytical chemist would be required as part of the inspection team.