operating time register, and audible “rate fault” alarm. In that patent, accuracy is achieved by using a timing circuit coupled with a mechanical bellows.

[0012] U.S. Pat. No. 6,216,548 illustrates a control system flow chart for an air sampling device for use in a controlled environment. In particular, the patent discloses a controller logic that involves turning on a pump, checking pressure, monitoring sampling time, drawing air into the sampler, shutting off the pump, and checking for leaks in the lines. The patent also teaches using a purge system for purging the lines and associated air particulate sampler using a purge gas such as nitrogen gas. In that patent, air sampling only occurs at one location (e.g., a processing chamber for semiconductor devices).

SUMMARY OF THE INVENTION

[0012a] According to a first aspect of the present invention, there is provided a system for tracking one or more subjects, the system comprising:

one or more subjects configured to collect air contaminants when disposed in an air sampling device, each of the one or more subjects comprising an identification tag encoded with identification information identifying the each subject;

an identification reader configured to decode the identification information encoded within the identification tag of a scanned one of the one or more identification tags;

one or more air flow switches configured to measure a rate of air flow through the one of more air sampling devices; and

a computer configured to receive and store the decoded identification information from the identification reader and the rate of air flow through the one of more air sampling devices.

[0012b] According to a second aspect of the present invention, there is provided a system for sampling air in a controlled environment, the system comprising:

one or more air sampling devices disposed in a controlled environment;

a vacuum source;

a controller connected to the vacuum source configured to be in separate air flow communication with the one or more air sampling devices via one or more respective vacuum air tubes, the controller comprising a manifold configured to separately control an actual rate of air flow from the one or more air sampling devices to the vacuum source via each of the one or

more respective vacuum air tubes to selectively direct air flow from each of the one or more respective vacuum air tubes to the vacuum source;

one or more subjects configured to collect air contaminants in the controlled environment, each of the one or more subjects comprising an identification tag encoded with identification information identifying the each subject;

a mobile identification reader configured to decode the identification information encoded within the identification tag of a scanned one of the one or more identification tags;

one or more air flow switches each disposed between the vacuum source and one of the one or more air sampling devices, each of the one or more air flow switches configured to measure the rate of air flow through one of the respective vacuum air tubes; and

a computer configured to:

receive and store the decoded identification information from the identification reader; and

receive and store the rate of air flow through the respective vacuum air tubes.

[0013] There is provided a system for tracking one or more subjects. The system includes one or more subjects configured to collect air contaminants. Each of the one or more subjects includes an identification tag encoded with identification information identifying the each subject and other information regarding the each subject. The system further includes an identification reader configured to decode the identification information encoded within the identification tag of a scanned one of the one or more identification tags. A computer receives and stores the decoded identification information from the identification reader in a record in a database. The barcode scanner may be further configured to transmit location information identifying the location of the scanned one of the one or more identification tags. The location information is logged by the computer with the decoded identification information.

[0014] There is provided a system for sampling air at a plurality of locations in a controlled environment. The system includes one or more air sampling devices, a vacuum source, a controller connected to the vacuum source, one or more subjects configured to collect air contaminants in the controlled environment, an identification reader, and a computer configured to receive data from the