tered at a depth of 105.9 m. These flux calculations from the Upper Fremont Glacier analyses are the first for bomb-produced ^{36}Cl in ice from a mid-latitude glacier in North America.

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^{14}C ANALYSIS ON THE SINR MINI-CYCLOTRON AMS

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Since the completion of the first phase of the minicyclotron AMS in 1993, the facility SMCAMS has been steadily operated and greatly improved. To put this facility into practical use, endeavors in three areas have been made. The home-designed multi-sample device for the vertical Cs sputter negative ion source has been assembled on the injector of the minicyclotron and has been working routinely. The "slow" alternate acceleration of ^{12}C, ^{13}C and ^{14}C has also preceded, and has showed that the read-out of the three kinds of particles is reproducible, which implies machine performance is stable. Five new power supplies for "fast" alternate acceleration have been delivered to our laboratory, but haven't been tested yet. In the meantime, we spent a lot of energy in increasing the ^{14}C counts to >5 cps from 1–1.5 cps for modern samples made from sugar by finely adjusting the machine, redesigning the accelerating electrodes, improving the vacuum and further suppressing secondary electron and X-ray interference to the micro-channel plate detector. We are feeling confident of further increasing the ^{14}C counts to well above 10 cps, if some tested techniques (such as a buncher) can be applied and some explored problems can be solved.

Since early this year, the ^{14}C analysis has proceeded on this facility, and the optimum method of ^{14}C analysis on the SMCAMS has been explored arising from the different ^{14}C analysis principle between tandem AMS and minicyclotron AMS. In this paper, improvements of the facility will be summarized, the results of ^{14}C measurements will be presented and analysis principle will be described. Finally, the potentials of this facility will be highlighted.