부서	대상 장비(기기코드)	공지 성능	공지 주기
지구환경 연구부	유도결합 플라즈마 시스템 (ICP System, AI11)	• Sensitivity : > 50 V /ppm • Accuracy : < ±0.2‰	연 2회 (1월, 7월)
	안정동위원소 질량분석기 (SIRMS, AI21)	• Standard Deviation: O : ± ≤ 0.20 ‰, H : ± ≤ 1‰	연 2회 (1월, 7월)
	환경방사능측정 시스템 (ERMS, AI31)	• Efficiency Variation : < 5 % (@352keV) • Resolution at 352 keV : < 1.3 keV	연 2회 (1월, 7월)
	열이온화 질량분석기 (TIMS, AI51)	• Abundance sensitivity <2ppm at m/z 237 with respect to ^{238}U • External precision $^{87}Sr/^{86}Sr$ < 5ppm 1RSD of NIST SRM987	연 2회 (1월, 7월)
	다검출기 불활성기체 질량분석시스템 (SVMS, AI71)	• ^{40}Ar blank : < 8 fAmp • Mass resolution: > 200	연 2회 (1월, 7월)
	OSL 자동측정장비 (OSL, AI72)	• Beta source dose rate: Gy/s	연 4회 (3월, 6월, 9월, 12월)
	글로우방전 질량분석기 (GD-MS, AI74)	• Detection Limit: <10ppb • Resolution: 10,000	연 2회 (1월, 7월)
	초고분해능 이차이온질량분석기 (SHRIMP, GT-01)	• Mass Resolution of $^{238}U^{16}O$ in high U-bearing zircon: > 5,000 • ^{206}Pb Sensitivity (cps/ppm/nA) in standard zircon of SL13: > 12	연 12회 (매월)
		• External precision for U-Pb zircon dating (using two standard zircons): < 2%	연 2회 (1월, 7월)
	레이저삭박 다검출기 유도결합플라즈마 질량분석기 (LA-MC-ICPMS, GT-03)	• Abundance sensitivity at mass 237: < 1ppm • Accuracy : external precision of standard zircons (91500, Plesovice) < 2%	연 2회 (1월, 7월)

분석지원장비 상태 보고서

Code (기기코드)	Instrument (장비명)
AI11	ICP System (유도결합 플라즈마 시스템)

Report Date (일시)	2018.07.03

Sensitivity	Accuracy
Under repair	Under repair

분석지원장비 상태 보고서

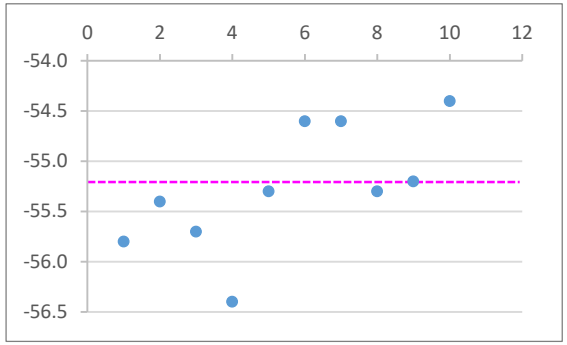
Code (기기코드)	Instrument (장비명)
AI21	Stable Isotope Ratio Mass Spectrometer (안정동위원소 질량분석기)

Report Date (일시)	2018.07.03

Standard Material (W-32593)

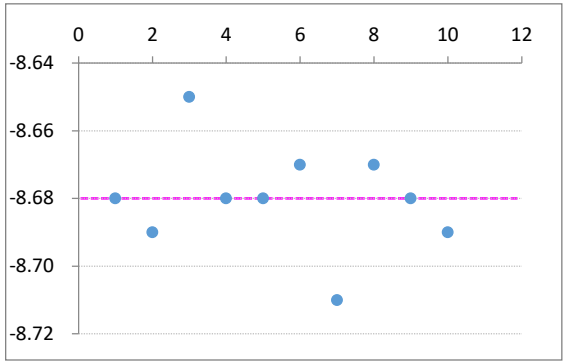
$\delta^{2}H_{VSMOW}$ = -55.2 ‰ (SD: ≤ ± 1.0 ‰)

N	Sample	Corrected
1	W-32593	-55.8
2	W-32593	-55.4
3	W-32593	-55.7
4	W-32593	-56.4
5	W-32593	-55.3
6	W-32593	-54.6
7	W-32593	-54.6
8	W-32593	-55.3
9	W-32593	-55.2
10	W-32593	-54.4
	SD	0.62



$\delta^{18}O_{VSMOW}$ = -8.68 ‰ (SD: ≤ ± 0.20 ‰)

N	Sample	Corrected
1	W-32593	-8.68
2	W-32593	-8.69
3	W-32593	-8.65
4	W-32593	-8.68
5	W-32593	-8.68
6	W-32593	-8.67
7	W-32593	-8.71
8	W-32593	-8.67
9	W-32593	-8.68
10	W-32593	-8.69
	SD	0.02

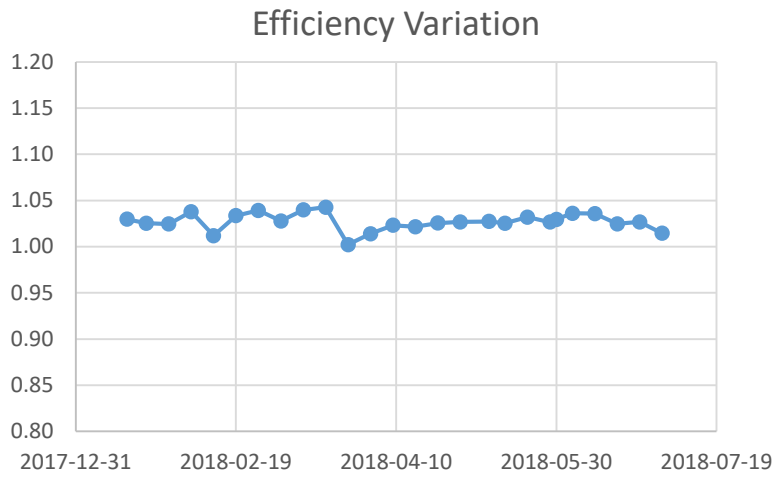


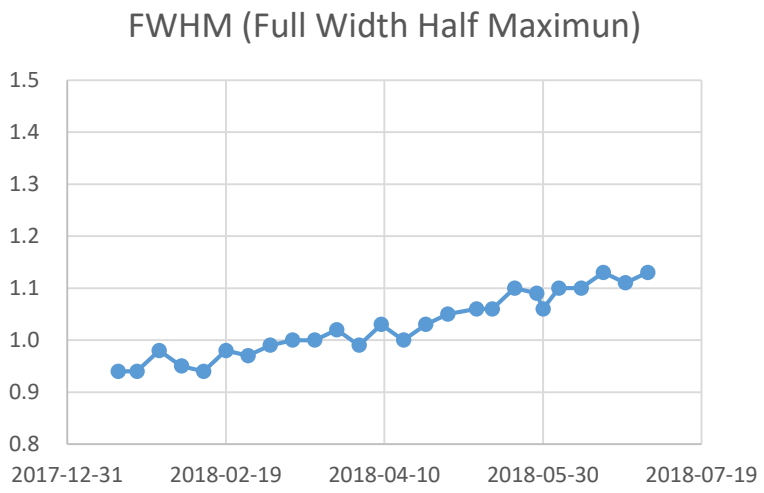
분석지원장비 상태 보고서

Code (기기코드)	Instrument (장비명)
AI31	Environmental Radioactivity Measurement System (환경방사능측정시스템)

Report Date (일시)	2018.07.03

측정효율변화 (@352 keV)	분해능 (Resolution)



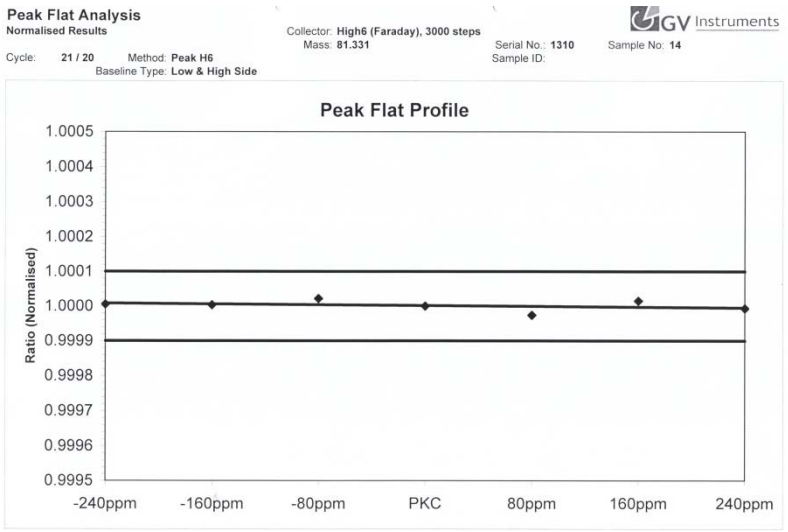


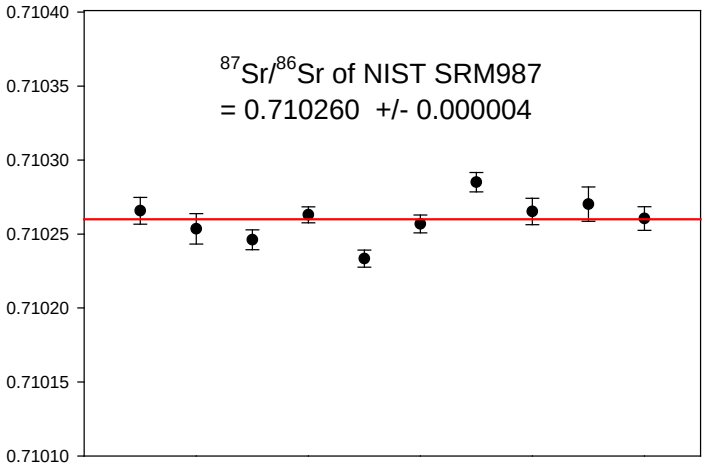
분석지원장비 상태 보고서

Code (기기코드)	Instrument (장비명)
AI51	Thermal Ionization Mass Spectrometer (열이온화질량분석기)

Report Date (일시)	2018.07.02

Peak Plat profile (<240ppm at H6 with respect to ^{82}Sr)	Accuracy (Calibrator : External precision $^{87}Sr/^{86}Sr$ < 5ppm 1 RSD of NIST SRM987)



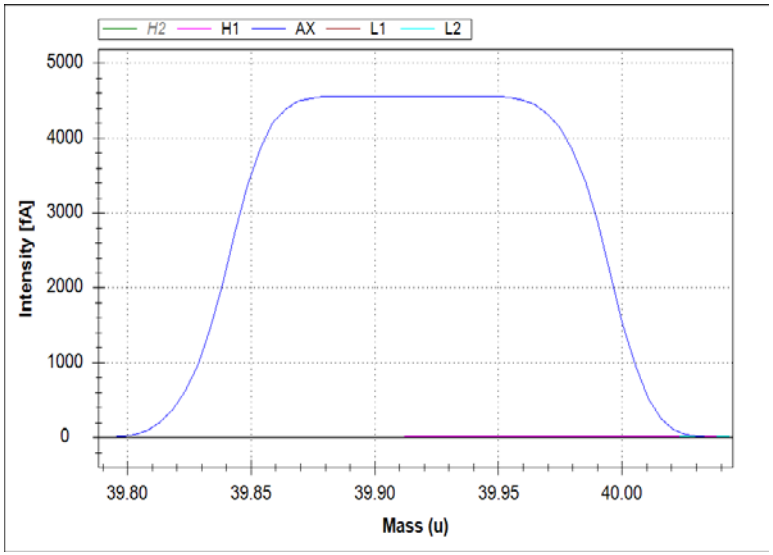


분석지원장비 상태 보고서

Code (기기코드)	Instrument (장비명)
AI71	Multi-collector static vacuum mass spectrometer (다검출기 비활성기체 질량분석기)

Report Date (일시)	2018.07.02

Mass Resolution (at ^{40}Ar)



Mass resolution : 210

Blank

Run script	Full-system blank	Spectrometer	KBSI	Heating device	Photon Chrome CO2
Time	9:52:49 AM	Cleanup	60/40	Fraction to ms	0
Date	7/2/2018				

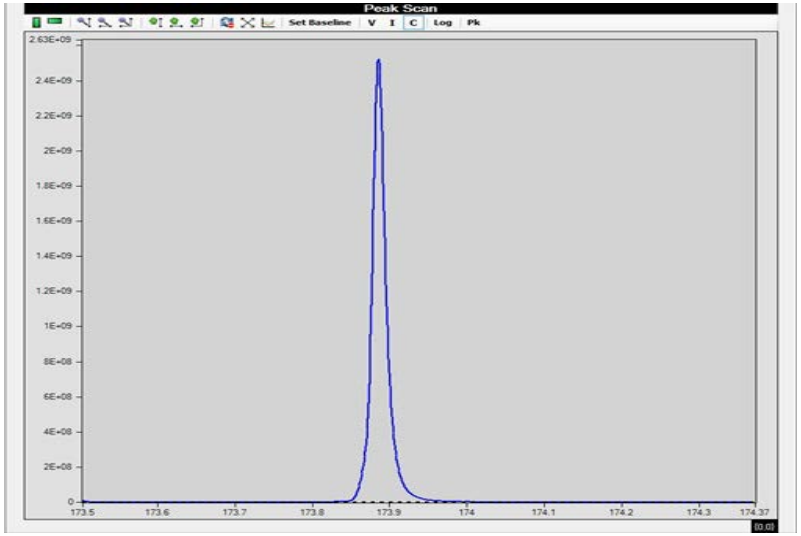
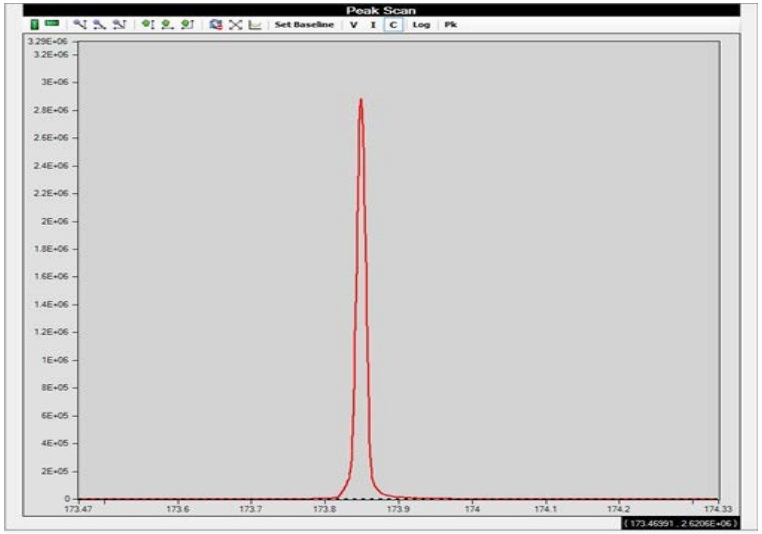
Isotopes	Signal	±1 s.d.	% s.d.	Det	Moles	CC (stp)	Signal/min.	Fit
Ar40	4.025500	± 0.042000	1.04%	H1	1.34e-16	2.99e-12	1.7e-1	L
Ar39	-0.129500	± 0.055000	42.47%	AX	4.30e-18	9.63e-14	2.7e-2	L
Ar38	-0.173600	± 0.052000	29.95%	L1	5.76e-18	1.29e-13	-1.4e-1	L
Ar37	-0.146300	± 0.047000	32.13%	L2	4.86e-18	1.09e-13	1.1e-1	L
Ar36	0.014740	± 0.001100	7.46%	CDD	4.89e-19	1.10e-14	1.5e-3	P
H1 Baseline	0.098128	± 0.053000	54.01%	H1				L
Ar40/Ar39	-31.1	± -13.2	42.48%					
Ar40/Ar38	-23.2	± -7.0	29.97%					
Ar40/Ar37	-27.5	± -8.8	32.14%					
Ar40/Ar36	273.1	± 20.6	7.54%					

^{40}Ar blank = 4.0 fAmp

분석지원장비 상태 보고서

Code (기기코드)	Instrument (장비명)
AI74	Glow discharge mass spectrometer (고분해능 글로우방전 질량분석기)

Report Date (일시)	2018.07.02

Sensitivity : 2.5 X 10^9 cps Detection limits : < 0.5 ppb	Resolution(m/Δm) 173.99887/0.015 = 11600
	

분석지원장비 상태 보고서

Code (기기코드)	Instrument (장비명)
GT01	Sensitive High Resolution Ion MicroProbe (고분해능 이차이온 질량분석기)

Report Date (일시)	2018.07.03	^{206}Pb Sensitivity (cps/ppm/nA) in standard zircon of SL13: > 12	24.6

Mass Resolution of $^{238}U^{16}O$ in high U-bearing zircon: > 5,000	External precision for U-Pb zircon dating (using two standard zircons) : < 2%
Under repair	Under repair

분석지원장비 상태 보고서

Code (기기코드)	Instrument (장비명)
GT03	Laser Ablation Multi-Collector Inductively Coupled Plasma Mass Spectrometer (레이저삭박 다검출기 유도결합 플라즈마질량분석기)

Report Date (일시)	2018.07.02

Abundance sensitivity
(Calibrator : Abundance sensitivity <1ppm at m/z 237 with respect to ^{238}U)

Nu Plasma II Isotope Analysis Results

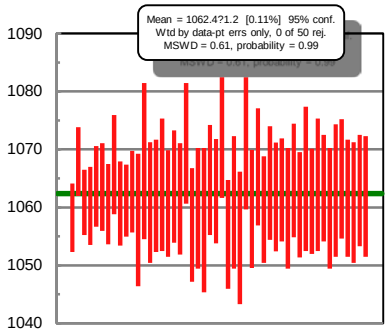
Date and Time: 2 July 2017 (15:05)
Sample Name: SRM112a-1(250ppb) abundance sensitity with filters
Analysis Method File: C:\Nu Plasma II\Analyses\Standard Analyses\Abundance Sens ICO (U nat).nrf
Data File: C:\Nu Plasma II\Results\Data_2245.csv

Tau Correction invoked

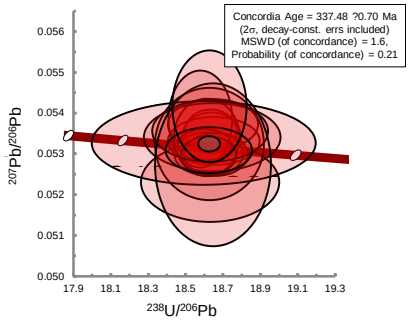
Axial Mass(es) used: 245.317 248.490

Block Number: 1	Mean	StdErr	Num Measurements
Abundance Sensitivity (ppm)	8.709718E-01	3.58E-03	19 out of 20
234 U Intensity (Volts)	6.415416E-04	5.03E-06	18 out of 20
237 U Intensity (Volts)	7.104617E-06	3.28E-08	19 out of 20
234 U Intensity (Cps)	1.779161E+04	6.43E+01	18 out of 20
237 U Intensity (Cps)	6.871796E+02	2.05E+00	19 out of 20

Accuracy
(Calibrator : External precision of standard zircons(91500, Plesovice) < 2%)



standard 91500 zircon
(mean = 1062.4 ± 1.2)



standard Plesovice zircon
(concordia age = 337.48 ± 0.70)