

Sample Treatment Report

Date Printed: 21-Jan-04

R: 28401/1

Job: 28565

NZA Number: 0

Submitter: Naoko Kitada

Sample ID: GRI 3005

Description: Clay

Details: Sample consisted of light grey lumps of dried clay. Microscopic exam revealed lumps of fine sediment. Removed a fine colourless fibre. Broke up for further exam. Removed more fibres with tweezers. No other contaminants visible. Ground in mortar and pestle. Treated with acid / alkali / acid process. Dried in vacuum oven.

Comments:

Fraction dated: Treated clay

Stored: remainder

Accelerator Mass Spectrometry Result

Sample R 28401/1
Description Clay
Sample ID GRI 3005
Submitter Naoko Kitada
Geo-Research Institute, Osaka Soil Test Laboratory

Laboratory Code	NZA 18905
Date measured	20-Jan-04
$\delta^{13}\text{C}$	-29.3 ‰
* Radiocarbon Age	27200 ± 230 BP
$\delta^{14}\text{C}$	-966.7 ± 1 ‰
$\Delta^{14}\text{C}$	-966.4 ± 1 ‰
** Per cent modern	3.36 ± 0.1

Job No. 28803

Issued 21/01/2004

P.M. Chambers

- * Reported age is the conventional radiocarbon age before present (BP)
- ** Per cent modern means absolute per cent modern relative to the NBS oxalic acid standard, (HOxI) corrected for decay since 1950.

Age, $\Delta^{14}\text{C}$, $\delta^{14}\text{C}$ and absolute per cent modern are as defined by Stuiver and Polach, Radiocarbon 19:355-363 (1977)

The reported errors comprise statistical errors in sample and standard determinations, combined in quadrature with a system error component that is based on the analysis of an ongoing series of measurements on oxalic acid secondary standard. For the present result the system error component is conservatively estimated as 0.18% (= ± 14 radiocarbon years).

Sample Treatment Report

Date Printed: 20-Jan-04

R: 28401/2

Job: 28566

NZA Number: 18888

Submitter: Naoko Kitada

Sample ID: GRI 3006

Description: Clay

Details: Sample consisted of medium grey lumps of dried clay. Microscopic exam revealed very fine clay. Removed one colourless thread. No other contaminants visible. Ground in mortar and pestle, treated with acid / alkali / acid process. Dried in vacuum oven.

Comments:

Fraction dated: Treated clay

Stored: remainder

Accelerator Mass Spectrometry Result

Sample R 28401/2
Description Clay
Sample ID GRI 3006
Submitter Naoko Kitada
Geo-Research Institute, Osaka Soil Test Laboratory

Laboratory Code	NZA 18888
Date measured	23-Dec-03
$\delta^{13}\text{C}$	-25.7 ‰
* Radiocarbon Age	26610 ± 230 BP
$\delta^{14}\text{C}$	-963.9 ± 1 ‰
$\Delta^{14}\text{C}$	-963.8 ± 1 ‰
** Per cent modern	3.62 ± 0.1

Job No. 28566

Issued 23/12/2003



* Reported age is the conventional radiocarbon age before present (BP)

** Per cent modern means absolute per cent modern relative to the NBS oxalic acid standard, (HOxI) corrected for decay since 1950.

Age, $\Delta^{14}\text{C}$, $\delta^{14}\text{C}$ and absolute per cent modern are as defined by Stuiver and Polach, Radiocarbon 19:355-363 (1977)

The reported errors comprise statistical errors in sample and standard determinations, combined in quadrature with a system error component that is based on the analysis of an ongoing series of measurements on oxalic acid secondary standard. For the present result the system error component is conservatively estimated as 0.18% (= ± 14 radiocarbon years).

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Radiocarbon Dating Laboratory



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Report on Radiocarbon Age Determination for Wk-

14284

Submitter D Chambers
Submitter's Code R28465/2 GRI3012
Site & Location , New Zealand
Sample Material Soil, organics
Physical Pretreatment Visible contaminants removed. Sample crushed.
Chemical Pretreatment Washed in hot 10% HCl, rinsed and treated with hot 1% NaOH. The NaOH insoluble fraction was treated with hot 10% HCl, filtered, rinsed and dried.

$\delta^{14}\text{C}$	-512.9 ± 4.3	‰
$\delta^{13}\text{C}$	-25.0 ± 0.2	‰
D^{14}C	-512.9 ± 4.3	‰
% Modern	48.7 ± 0.4	%
Result	5779 \pm 71 BP	

Comments

16/2/04

- Result is *Conventional Age or % Modern* as per Stuiver and Polach, 1977, Radiocarbon 19, 355-363. This is based on the Libby half-life of 5568 yr with correction for isotopic fractionation applied. This age is normally quoted in publications and must include the appropriate error term and Wk number.
- Quoted errors are 1 standard deviation due to counting statistics multiplied by an experimentally determined Laboratory Error Multiplier of 1.
- The isotopic fractionation, $\delta^{13}\text{C}$, is expressed as ‰ wrt PDB.
- Results are reported as % Modern when the conventional age is younger than 200 yr BP.

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Report on Radiocarbon Age Determination for Wk-

14283

Submitter D Chambers
Submitter's Code R28465/1 GRI3011
Site & Location , New Zealand
Sample Material Soil, organics
Physical Pretreatment Visible contaminants removed. Sample crushed.
Chemical Pretreatment Washed in hot 10% HCl, rinsed and treated with hot 1% NaOH. The NaOH insoluble fraction was treated with hot 10% HCl, filtered, rinsed and dried.

$\delta^{14}\text{C}$	-409.6 ± 3.0	‰
$\delta^{13}\text{C}$	-25.8 ± 0.2	‰
D^{14}C	-408.7 ± 3.0	‰
% Modern	59.1 ± 0.3	%
Result	4220 ± 42 BP	

Comments

16/2/04

- Result is *Conventional Age or % Modern* as per Stuiver and Polach, 1977, Radiocarbon 19, 355-363. This is based on the Libby half-life of 5568 yr with correction for isotopic fractionation applied. This age is normally quoted in publications and must include the appropriate error term and Wk number.
- Quoted errors are 1 standard deviation due to counting statistics multiplied by an experimentally determined Laboratory Error Multiplier of 1.
- The isotopic fractionation, $\delta^{13}\text{C}$, is expressed as ‰ wrt PDB.
- Results are reported as % Modern when the conventional age is younger than 200 yr BP.