

Lab #: 809443 Job #: 49367 IS-65777 Co. Job#:
Sample Name: NDCS-MPC-WS-1 Co. Lab#:
Company: EERC - Energy & Environmental Research
API/Well:
Container: 1 Liter Plastic Bottle
Field/Site Name: North Dakota CarbonSafe (NDCS)
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 11/09/2021 8:30 Date Received: 11/17/2021 Date Reported: 1/24/2022

δD of water ----- -118.2 ‰ relative to VSMOW
 $\delta^{18}O$ of water ----- -14.48 ‰ relative to VSMOW
Tritium content of water ----- 2.57 ± 0.17 TU
 $\delta^{13}C$ of DIC ----- -11.5 ‰ relative to VPDB
 ^{14}C content of DIC ----- 62.4 ± 0.2 percent modern carbon
 $\delta^{15}N$ of nitrate ----- na
 $\delta^{18}O$ of nitrate ----- na
 $\delta^{34}S$ of sulfate ----- na
 $\delta^{18}O$ of sulfate ----- na
Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 809444 Job #: 49367 IS-65777 Co. Job#:
Sample Name: NDCS-MPC-WS-2 Co. Lab#:
Company: EERC - Energy & Environmental Research
API/Well:
Container: 1 Liter Plastic Bottle
Field/Site Name: North Dakota CarbonSafe (NDCS)
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 11/09/2021 10:30 Date Received: 11/17/2021 Date Reported: 1/24/2022

δD of water ----- -123.1 ‰ relative to VSMOW
 $\delta^{18}O$ of water ----- -15.42 ‰ relative to VSMOW
Tritium content of water ----- 2.93 ± 0.26 TU
 $\delta^{13}C$ of DIC ----- -10.0 ‰ relative to VPDB
 ^{14}C content of DIC ----- 52.9 ± 0.2 percent modern carbon
 $\delta^{15}N$ of nitrate ----- na
 $\delta^{18}O$ of nitrate ----- na
 $\delta^{34}S$ of sulfate ----- na
 $\delta^{18}O$ of sulfate ----- na
Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 809445 Job #: 49367 IS-65777 Co. Job#:
Sample Name: NDCS-W1686 Co. Lab#:
Company: EERC - Energy & Environmental Research
API/Well:
Container: 1 Liter Plastic Bottle
Field/Site Name: North Dakota CarbonSafe (NDCS)
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 11/09/2021 13:30 Date Received: 11/17/2021 Date Reported: 1/24/2022

δ D of water ----- -120.8 ‰ relative to VSMOW
 δ^{18} O of water ----- -16.08 ‰ relative to VSMOW
Tritium content of water ----- 3.74 ± 0.28 TU
 δ^{13} C of DIC ----- -11.9 ‰ relative to VPDB
 14 C content of DIC ----- 53.3 ± 0.2 percent modern carbon
 δ^{15} N of nitrate ----- na
 δ^{18} O of nitrate ----- na
 δ^{34} S of sulfate ----- na
 δ^{18} O of sulfate ----- na
Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 809446 Job #: 49367 IS-65777 Co. Job#:
Sample Name: NDCS-W217 Co. Lab#:
Company: EERC - Energy & Environmental Research
API/Well:
Container: 1 Liter Plastic Bottle
Field/Site Name: North Dakota CarbonSafe (NDCS)
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 11/09/2021 15:00 Date Received: 11/17/2021 Date Reported: 1/24/2022

δ D of water ----- -118.4 ‰ relative to VSMOW
 δ^{18} O of water ----- -14.86 ‰ relative to VSMOW
Tritium content of water ----- < 0.47 TU
 δ^{13} C of DIC ----- -9.0 ‰ relative to VPDB
 14 C content of DIC ----- 1.5 ± 0.0 percent modern carbon
 δ^{15} N of nitrate ----- na
 δ^{18} O of nitrate ----- na
 δ^{34} S of sulfate ----- na
 δ^{18} O of sulfate ----- na
Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 809447 Job #: 49367 IS-65777 Co. Job#:
Sample Name: NDCS-MPC-WS-1 Dup Co. Lab#:
Company: EERC - Energy & Environmental Research
API/Well:
Container: 1 Liter Plastic Bottle
Field/Site Name: North Dakota CarbonSafe (NDCS)
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 11/09/2021 9:30 Date Received: 11/17/2021 Date Reported: 1/24/2022

δD of water ----- -118.4 ‰ relative to VSMOW
 $\delta^{18}O$ of water ----- -14.45 ‰ relative to VSMOW
Tritium content of water ----- 2.71 ± 0.24 TU
 $\delta^{13}C$ of DIC ----- -11.5 ‰ relative to VPDB
 ^{14}C content of DIC ----- 62.8 ± 0.2 percent modern carbon
 $\delta^{15}N$ of nitrate ----- na
 $\delta^{18}O$ of nitrate ----- na
 $\delta^{34}S$ of sulfate ----- na
 $\delta^{18}O$ of sulfate ----- na
Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 809448 Job #: 49367 IS-65777 Co. Job#:
Sample Name: NDCS-W395 Co. Lab#:
Company: EERC - Energy & Environmental Research
API/Well:
Container: 1 Liter Plastic Bottle
Field/Site Name: North Dakota CarbonSafe (NDCS)
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 11/09/2021 16:00 Date Received: 11/17/2021 Date Reported: 1/24/2022

δ D of water ----- -119.7 ‰ relative to VSMOW
 δ^{18} O of water ----- -15.04 ‰ relative to VSMOW
Tritium content of water ----- < 0.43 TU
 δ^{13} C of DIC ----- -11.1 ‰ relative to VPDB
 14 C content of DIC ----- 0.5 ± 0.0 percent modern carbon
 δ^{15} N of nitrate ----- na
 δ^{18} O of nitrate ----- na
 δ^{34} S of sulfate ----- na
 δ^{18} O of sulfate ----- na
Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 809449 Job #: 49367 IS-65777 Co. Job#:
Sample Name: NDCS-W269 Co. Lab#:
Company: EERC - Energy & Environmental Research
API/Well:
Container: 1 Liter Plastic Bottle
Field/Site Name: North Dakota CarbonSafe (NDCS)
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 11/10/2021 9:00 Date Received: 11/17/2021 Date Reported: 1/24/2022

δD of water ----- -128.1 ‰ relative to VSMOW
 $\delta^{18}O$ of water ----- -16.63 ‰ relative to VSMOW
Tritium content of water ----- 0.92 ± 0.21 TU
 $\delta^{13}C$ of DIC ----- -10.9 ‰ relative to VPDB
 ^{14}C content of DIC ----- 58.6 ± 0.2 percent modern carbon
 $\delta^{15}N$ of nitrate ----- na
 $\delta^{18}O$ of nitrate ----- na
 $\delta^{34}S$ of sulfate ----- na
 $\delta^{18}O$ of sulfate ----- na
Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 809450 Job #: 49367 IS-65777 Co. Job#:
Sample Name: NDCS-W478 Co. Lab#:
Company: EERC - Energy & Environmental Research
API/Well:
Container: 1 Liter Plastic Bottle
Field/Site Name: North Dakota CarbonSafe (NDCS)
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 11/10/2021 11:00 Date Received: 11/17/2021 Date Reported: 1/24/2022

δ D of water ----- -130.7 ‰ relative to VSMOW

$\delta^{18}\text{O}$ of water ----- -16.94 ‰ relative to VSMOW

Tritium content of water ----- < 0.37 TU

$\delta^{13}\text{C}$ of DIC ----- -8.9 ‰ relative to VPDB

^{14}C content of DIC ----- < 0.4 percent modern carbon

$\delta^{15}\text{N}$ of nitrate ----- na

$\delta^{18}\text{O}$ of nitrate ----- na

$\delta^{34}\text{S}$ of sulfate ----- na

$\delta^{18}\text{O}$ of sulfate ----- na

Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 809451 Job #: 49367 IS-65777 Co. Job#:
Sample Name: NDCS-W468 Co. Lab#:
Company: EERC - Energy & Environmental Research
API/Well:
Container: 1 Liter Plastic Bottle
Field/Site Name: North Dakota CarbonSafe (NDCS)
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 11/10/2021 10:00 Date Received: 11/17/2021 Date Reported: 1/24/2022

δ D of water ----- -142.3 ‰ relative to VSMOW
 δ^{18} O of water ----- -18.82 ‰ relative to VSMOW
Tritium content of water ----- < 0.45 TU
 δ^{13} C of DIC ----- -4.3 ‰ relative to VPDB
 14 C content of DIC ----- 9.7 ± 0.1 percent modern carbon
 δ^{15} N of nitrate ----- na
 δ^{18} O of nitrate ----- na
 δ^{34} S of sulfate ----- na
 δ^{18} O of sulfate ----- na
Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 809452 Job #: 49367 IS-65777 Co. Job#:
Sample Name: NDCS-W424 Co. Lab#:
Company: EERC - Energy & Environmental Research
API/Well:
Container: 1 Liter Plastic Bottle
Field/Site Name: North Dakota CarbonSafe (NDCS)
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 11/10/2021 14:30 Date Received: 11/17/2021 Date Reported: 1/24/2022

δ D of water ----- -122.0 ‰ relative to VSMOW
 δ^{18} O of water ----- -15.48 ‰ relative to VSMOW
Tritium content of water ----- < 0.45 TU
 δ^{13} C of DIC ----- -15.1 ‰ relative to VPDB
 14 C content of DIC ----- 1.0 ± 0.0 percent modern carbon
 δ^{15} N of nitrate ----- na
 δ^{18} O of nitrate ----- na
 δ^{34} S of sulfate ----- na
 δ^{18} O of sulfate ----- na
Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 809453 Job #: 49367 IS-65777 Co. Job#:
Sample Name: NDCS-W471 Co. Lab#:
Company: EERC - Energy & Environmental Research
API/Well:
Container: 1 Liter Plastic Bottle
Field/Site Name: North Dakota CarbonSafe (NDCS)
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 11/10/2021 15:30 Date Received: 11/17/2021 Date Reported: 1/24/2022

δ D of water ----- -121.3 ‰ relative to VSMOW

$\delta^{18}\text{O}$ of water ----- -15.34 ‰ relative to VSMOW

Tritium content of water ----- < 0.50 TU

$\delta^{13}\text{C}$ of DIC ----- -12.0 ‰ relative to VPDB

^{14}C content of DIC ----- < 0.4 percent modern carbon

$\delta^{15}\text{N}$ of nitrate ----- na

$\delta^{18}\text{O}$ of nitrate ----- na

$\delta^{34}\text{S}$ of sulfate ----- na

$\delta^{18}\text{O}$ of sulfate ----- na

Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 809454 Job #: 49367 IS-65777 Co. Job#:
Sample Name: NDCS-W510 Co. Lab#:
Company: EERC - Energy & Environmental Research
API/Well:
Container: 1 Liter Plastic Bottle
Field/Site Name: North Dakota CarbonSafe (NDCS)
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 11/11/2021 9:00 Date Received: 11/17/2021 Date Reported: 1/24/2022

δ D of water ----- -129.9 ‰ relative to VSMOW

$\delta^{18}\text{O}$ of water ----- -16.67 ‰ relative to VSMOW

Tritium content of water ----- < 0.47 TU

$\delta^{13}\text{C}$ of DIC ----- -15.6 ‰ relative to VPDB

^{14}C content of DIC ----- < 0.4 percent modern carbon

$\delta^{15}\text{N}$ of nitrate ----- na

$\delta^{18}\text{O}$ of nitrate ----- na

$\delta^{34}\text{S}$ of sulfate ----- na

$\delta^{18}\text{O}$ of sulfate ----- na

Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water

Lab #: 809455 Job #: 49367 IS-65777 Co. Job#:
Sample Name: Center Well Co. Lab#:
Company: EERC - Energy & Environmental Research
API/Well:
Container: 1 Liter Plastic Bottle
Field/Site Name: EERC
Location:
Formation/Depth:
Sampling Point:
Date Sampled: 11/15/2021 13:00 Date Received: 11/17/2021 Date Reported: 1/24/2022

δD of water ----- -120.2 ‰ relative to VSMOW

$\delta^{18}O$ of water ----- -15.10 ‰ relative to VSMOW

Tritium content of water ----- < 0.47 TU

$\delta^{13}C$ of DIC ----- -8.1 ‰ relative to VPDB

^{14}C content of DIC ----- < 0.4 percent modern carbon

$\delta^{15}N$ of nitrate ----- na

$\delta^{18}O$ of nitrate ----- na

$\delta^{34}S$ of sulfate ----- na

$\delta^{18}O$ of sulfate ----- na

Vacuum Distilled? * ----- No

Remarks:

nd = not detected. na = not analyzed.

*Indicates if vacuum distillation was utilized for hydrogen and oxygen isotopic analysis of water