

## Nitrate nutrient analyser data series at the northern North Sea site

### Principal Investigator

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### Data Originator

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Three nitrate NAS nutrient analysers were deployed at the main mooring site A, on the surface (Rig I), mid-water column (Rig J1) and near-bed (Rig J2) environmental moorings respectively, for the duration of the northern North Sea experiment. The instruments on Rig J1 and J2 failed to record any valid data. Only the time-series recorded by the instrument deployed on Rig I was therefore included in the PROVCESS data set. A silicate NAS nutrient analyser from the Southampton Oceanographic Centre was also deployed on Rig J2 and has been documented separately ([nns\\_snas](#)).

This report contains the qualifying documentation and header information associated with the following data series extracted from the BODC database:

Series Reference	Data Type	Latitude deg min	Longitude deg min	Start Date yyyy/mm/dd	Sea Floor Depth m	Sensor Depth m
541914	PC	59 19.4 N	001 00.6 E	1998/09/09	111.0	1.0

where Data Type PC = Hydrography time series at depth

Parameter	Unit	Parameter code	Comments
Nitrate + nitrite	$\mu\text{mol l}^{-1}$	NTRZNS01	none

The following single character qualifying flags may be associated with one or more individual parameters within a data cycle:

Flag	Description
	Unqualified
<	Below detection limit
>	In excess of quoted value
B	Beginning of CTD Down/Up Cast
D	Thermometric depth
E	End of CTD Down/Up Cast
K	Uncertain/suspect value
L	Improbable value - originator's quality control
M	Improbable value - BODC quality control
N	Null value
O	Improbable value - user quality control
P	Trace/calm
Q	Indeterminate
R	Replacement value
S	Estimated value
T	Interpolated value
U	Uncalibrated
W	Control value
X	Excessive difference

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**INFORMATION FOR BODC SERIES REF. NO. 541914**

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Time Series Inventory Number : 10501

Start Time : 09 Sep 1998 1008 GMT  
End Time : 26 Oct 1998 1408 GMT

Latitude : 59deg 19.4min N  
Longitude : 001deg 00.6min E

Nominal Cycle Interval : 7200.0 secs

Sensor Depth : 1.00m  
Sea Floor Depth : 111.00m

Positional Uncertainty : 0.1 to 0.5 n.miles  
Sea Floor Datum : Instantaneous  
Sensor Depth Datum : Sea floor reference  
Disposition of Sensors : Sensor fixed, measurements made at fixed depths

Project : Provess

Data Category : Hydrography time series at depth  
Instrument Type : In-situ nutrient analyser  
Instrument Mounting : Subsurface mooring - surface buoyancy  
Originator Laboratory : Proudman Oceanographic Lab., Bidston, UK  
Originator's Identifier : nas1714\_798

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Additional information stored with the data:

Data processing carried out at the Dunstaffnage Marine Laboratory, Oban, UK: instrument voltages were corrected for blank readings and converted to absorption according to the formula:

$$[\text{Absorbance}] = \log_{10}([\text{blank voltage}]/[\text{sample voltage}])$$

Absorption readings were then converted to concentrations by calibration against calibration samples from an on-board standard taken every 6 samples during the deployment according to the formula:

$$[\text{Concentration, } \mu\text{M}] = [\text{sample absorbance}]/([\text{standard absorbance}] * [\text{standard concentration, } \mu\text{M}])$$

The on-board standard concentration was 10  $\mu\text{M}$  of nitrite.

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The following additional documents apply to this series:

[63428](#); General Data Screening carried out by BODC

[79983](#); NAS-2E in situ Nutrient Analyser

Data Activity Document: [77568](#)

Project Document : [77554](#)

## **PARAMETERS**

Parameter : AADYAA01 (TIME)  
Description : Day number  
Method : Computation  
Units : Days (1760/01/01 = day 0)

Parameter : AAFDZZ01 (TIME)  
Description : Day fraction (GMT)  
Method : Computation  
Units : Days

Parameters AADY/AAFD are usually supplied as date and time (GMT).

Parameter : NTRZNS01 (CNPS)  
Description : Nitrate + nitrite (in-situ)  
Method : NAS in-situ analyser  
Units : Micromoles/litre