**Supplementary Information**

**A. 1 sampling methods**

The set-up of the sampling procedure that consists of 4 peristaltic pumps which were connected to a set of plastic tubes, was similar to that described by Lane et al. (2003) The detection limit of the O₂ sensor is 0.3 µmol L⁻¹ whereas the analytical error was smaller than 0.5%.

In addition to the *in-situ* measurements, samples for laboratory based analysis of major cations and anions, and stable isotopes of nitrate (δ15N, δ18O) were field-filtered with a 0.22 µm syringe filter, stored in PE vails and frozen prior to analysis. Samples for isotope analysis of ammonium (δ¹⁵N) were filtered with a 0.45µm directly into 250 ml PP bottles leaving a small head space. Subsequently ammonium-free concentrated H₂SO₄ was added to achieve a pH value ≤2.

Duplicate lake water samples for concentration and isotopic composition analysis of methane were collected in 120 mL glass bottles, allowing an overflow of three times the volume of the bottle in order to ensure that air bubbles were not trapped within the sample. Water samples were then fixed with 20µl NaOH 10M to stop microbial activity and immediately sealed with a butyl rubber stopper. Zn-acetate was added to precipitate potentially occurring H₂S in the form of ZnS, in order to avoid interference during the subsequent gas analyses.

Samples for molecular-biological investigations were collected in 2L sterile glass bottles and filtered in the laboratory with a 0.45 µm filter for DNA extraction. Afterwards samples were frozen at -80°C prior to analysis.

**A.2 methane concentrations**

Methane concentrations were measured using a static equilibration headspace method as described by Kampbell et al. (2006). Briefly, 20 mL of the 120 mL of the water sample (capped bottles) was replaced by synthetic air (80% N₂, 20% O₂) followed by outgassing of the dissolved gases from the water sample into the headspace for 2 h at 30ºC. Afterwards, headspace gas was analyzed using a TRACE™ 1300 gas chromatograph with flame ionization detection, GC-FID (Thermo Fisher Scientific Inc, MA, USA). Measurements were performed three times. Values presented in the study correspond to the mean value of these measurements (average coefficient of variance: 0.0012 mmol L⁻¹).

**A. 3 Stable isotopes of ammonium**

Dissolved NH₄⁺ is converted into NH₃ by raising the pH and subsequently the gas is trapped as (NH₄)₂SO₄ on a small strip of polypropylene previously saturated with NaHSO₄. The filter is then combusted in a EA-IRMS (Elemental Analyzer - isotope ratio mass spectrometry) system along with a full suite of Reference Materials (IAEA N₂: +20.3‰, ISL KNO₃: -1.32‰, USGS 40: -4.5‰, USGS 41: +47.6‰). The EA converts total nitrogen in a solid sample into N₂ gas. The IRMS is capable of detecting ion beams with mass/charge from N₂ (m/z 28 = ¹⁴N¹⁴N, m/z 29 = ¹⁴N¹⁵N, and m/z 30 = ¹⁵N¹⁵N). δ¹⁵N and δ¹⁸O values are calculated by the instrument software (ISODAT 3.88).

1. **Model development**

**B.1** **Calculation of turbulent diffusion coefficient for the Fohnsee lake, Germany.** The turbulent diffusion coefficient in the water column was calculated using the buoyancy frequency ( as described in equation 4. The coefficient is calculated using the empirical approximation reported by Hondzo and Heinz (Hondzo and Stefan, 1993)

 (1)

Where is the surface area of the lake in km² (0.2119)

Table B. Data used for the calculation

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ***Month*** | ***Depth(m)*** | ***Temperature (C°)***  | ***ρz (kg m⁻³)***  | ***N²(s)*** |  ***¹⁴N******(m²s⁻¹)*** |  ***¹⁵N******(m²s⁻¹)*** |
| June | 17 | 5.7 | 999.846 |  |  |  |
| 22 | 5.5 | 999.877 | 0.00006 | 4.35\*10⁻⁶ | 4.291\*10⁻⁶ |
|  |  |  |  |  |  |  |
| June(2) | 10 | 6.3 | 999.717 |  |  |  |
| 23 | 5.5 | 999.877 | 0.00012 | 3.11\*10⁻⁶ | 3.072\*10⁻⁶ |
|  |  |  |  |  |  |  |
| July | 11 | 6.4 | 999.690 |  |  |  |
| 23 | 5.6 | 999.862 | 0.00014 | 2.89\*10⁻⁶ | 2.849\*10⁻⁶ |
|  |  |  |  |  |  |  |
| August | 12 | 6.4 | 999.690 |  |  |  |
| 23 | 5.6 | 999.862 | 0.00015 | 2.77\*10⁻⁶ | 2.728\*10⁻⁶ |
|  |  |  |  |  |  |  |
| September | 12 | 6.75 | 999.583 |  |  |  |
| 23 | 5.8 | 999.828 | 0.00022 | 2.32\*10⁻⁶ | 2.287\*10⁻⁶ |

**B.2 development of transient diffusion model for ammonium isotopes**

The 15N/14N isotope ratio of can be calculated incorporating both ¹⁵N and ¹⁴N description into equation 1 as follows:

Where the term is the isotope ratio reference of N₂ in air ( ¹⁵ (Mariotti 1983), and the term above represents the changes of the concentrations of both isotopic species ¹⁵N and ¹⁴N in depth and time, which are calculated solving the differential equations 2 and 3.

Equations 2 and 3 were solved numerically using the pdepe solver within Matlab R2019b and successively incorporated in equation 4.

Temporally varying boundary condition depths were considered to represent the vertical movement of the oxycline observed at lake Fohnsee throughout the observation period. Depth boundaries were defined for each month depending on the depth where dissolved oxygen (DO) was no longer detected.

The ammonium concentrations that were measured at the lake bottom in a water depth of 22 and 23 m depending on the sampled month was set as the lower boundary condition. No additional fluxes at the upper boundary were considered.

Initial δ¹⁵N-NH₄⁺ in was assumed to be 28‰, which corresponds to the average signature of the remaining ammonium in the water column at the beginning of June, and thus, it considers the rest enriched NH₄⁺ in the water column from the previous months.

For the 1D diffusion model a constant ammonium input (Cₒ= 0.12 mmolL⁻¹) corresponding to the NH₄⁺ concentration measured at the lake bottom (Z=23) was assumed as lower boundary, no-flux boundary conditions were implemented at the upper boundary and the initial ammonium concentration throughout the system is zero.

The final time for each simulation ( was set to the date of the sampling campaign, where corresponds to the time where we observed anaerobic conditions in the water column and a well-defined thermocline as it has been previously documented (15 of March; Pena et al, pers. comm), and assumed , therefore, that the anaerobic water column from this point was not affected by advective mixing.

None of the described parameters were used for fitting the model results with the observed data. This was done with the intention to evaluate, if the observed stable isotopes and concentrations of ammonium could be explained theoretically only by diffusive transport without microbial degradation (anammox), the movement of the oxycline and the mixing of the previously available ammonium in the water column with the newly formed ammonium in the sediment.

1. **Methane isotopes and concentrations**

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Fig. S1 Depth profiles of Methane (crosses) concentrations, and δ¹³C (filled circles) for April (a), June 5th (b), June 18th (c), July (d), August (e), September (f) 2019 at Fohnsee. Horizontal dashed lines represents the depth below which dissolved oxygen was below detection (< 0.3 µmol L⁻¹)

1. **Enrichment factors for ¹⁵N-NH₄⁺**

To test whether anaerobic ammonium oxidation was predominant, we calculated stable isotope enrichment factors for anammox from the data from samples obtained in April, June and September using a closed system approach i.e closed-system Rayleigh model (Mariotti et al., 1981) as follows:

where is the isotope enrichment factor associated with the microbial consumption of the reactant, is the unreacted portion of the substrate described by the relation ,and and are the isotopic ratios of the substrate before alteration (index 0) and at a given time t (index *i*), respectively.

For July and August, no relationship was observed between the decrease in the ammonium concentrations and the increase of δ¹⁵N-NH₄⁺ making a robust calculation of enrichment factors impossible (R<0.6).

 was -4.3‰, which is similar to in the water column reported by Wenk et al. (2014) for anaerobic ammonium oxidation in lake Lugano. However, values could be affected to a low efflux-to-uptake ratio, overprinting by effects from micro-aerobic nitrification (Wenk et al. 2014), and other physical processes such as diffusion and convection instead of only microbial degradation. Thus, the use of alone fell short for identifying anaerobic ammonium oxidation.



Fig. S 2 Calculation of apparent nitrogen isotope enrichment factor (E) for ammonium (closed system approach) observed for April (crosses), June (plus signs) and September (asterisk)

1. Data

Table S 1. Collected chemical and isotope data in the water column of Lake Fohnsee during the sampling campaigns. n.d refers to concentration values under the detection limit. Blank spaces were left where measurements were not conducted or where the results did not meet the quality standards.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Date** | **Depth (m)** | **O₂ (mmolL⁻¹)** | **NO₃⁻ (mmolL⁻¹)** | **SO₄²⁻ (mmolL⁻¹)** | **NH₄⁺ (mmolL⁻¹)** | **CH₄ (mmolL⁻¹)** | **δ¹³C-CH₄ ‰**  | **δ¹⁵N-NO₃⁻ ‰** | **δ¹⁸O-NO₃⁻ ‰** | **δ¹⁵N-NH₄⁺ ‰** |
| 16.04.2019 | 8 | 0.30531 | 0.10562 | 0.09760 | 0.01273 |  |  | 8.06 | 2.38 |   |
| 16.04.2019 | 9 | 0.26969 | 0.10463 | 0.09776 | 0.01608 | n.d |  |  |  |   |
| 16.04.2019 | 10 | 0.24563 | 0.10424 | 0.09833 | 0.01729 | n.d |  | 8.12 | 2.55 |   |
| 16.04.2019 | 11 | 0.22375 | 0.10438 | 0.09782 | 0.01717 | n.d |  | 8.03 | 2.43 |   |
| 16.04.2019 | 12 | 0.21094 | 0.10346 | 0.09849 | 0.01897 | n.d |  |  |  |   |
| 16.04.2019 | 13 | 0.20906 | 0.10307 | 0.09843 | 0.01956 | n.d |  | 8.00 | 2.58 |   |
| 16.04.2019 | 14 | 0.19750 | 0.10254 | 0.09840 | 0.01966 | n.d |  | 7.66 | 2.34 |   |
| 16.04.2019 | 15 | 0.18281 | 0.10205 | 0.09845 | 0.02013 | n.d |  | 7.64 | 2.29 |   |
| 16.04.2019 | 16 | 0.17156 | 0.10004 | 0.09855 | 0.02051 | n.d |  | 7.46 | 2.55 |   |
| 16.04.2019 | 17 | 0.16188 | 0.09527 | 0.09848 | 0.02225 | n.d |  | 7.38 | 2.40 |   |
| 16.04.2019 | 18 | 0.14594 | 0.09345 | 0.09881 | 0.02239 | n.d |  | 6.33 | 3.06 |   |
| 16.04.2019 | 19 | 0.13406 | 0.09221 | 0.09888 | 0.02564 | n.d |  | 6.18 | 2.20 | 18.8 |
| 16.04.2019 | 19.5 |  | 0.09099 | 0.09847 | 0.02351 | n.d |  | 6.18 | 2.34 |   |
| 16.04.2019 | 20 | 0.11438 | 0.09147 | 0.09884 | 0.02445 | n.d |  | 6.15 | 2.35 | 18 |
| 16.04.2019 | 20.5 |  | 0.08194 | 0.09815 | 0.02753 | n.d |  | 6.08 | 2.46 |   |
| 16.04.2019 | 21 | 0.08906 | 0.07972 | 0.09813 | 0.02894 | n.d |  | 6.06 | 2.59 | 13.2 |
| 16.04.2019 | 21.5 |  | 0.07494 | 0.09796 | 0.03142 | n.d |  | 6.11 | 2.84 |   |
| 16.04.2019 | 22 | 0.07469 | 0.07273 | 0.09804 | 0.03258 | n.d |  | 6.16 | 3.09 | 14.3 |
| 16.04.2019 | 22.5 |  | 0.07019 | 0.09724 | 0.03399 | 0.00027 |  | 6.22 | 3.52 |   |
| 16.04.2019 | 23 | 0.02844 | 0.06285 | 0.09581 | 0.03808 | 0.00091 |   | 6.67 | 3.70 |   |
| 05.06.2019 | 8 | 0.26563 | 0.08950 | 0.09187 | 0.03454 | n.d |  | 6.72 | 2.30 |   |
| 05.06.2019 | 9 | 0.17500 | 0.09085 | 0.09197 | 0.03609 | n.d |  | 6.34 | 2.09 |   |
| 05.06.2019 | 10 | 0.15000 | 0.09670 | 0.09203 | 0.03349 | n.d |  | 5.43 | 1.48 | 29.1 |
| 05.06.2019 | 11 | 0.13750 | 0.09832 | 0.09156 | 0.03660 | n.d |  | 5.07 | 1.17 |   |
| 05.06.2019 | 12 | 0.12063 | 0.09653 | 0.09056 | 0.03066 | n.d |  | 4.99 | 1.09 | 42.4 |
| 05.06.2019 | 13 | 0.09625 | 0.10034 | 0.09037 | 0.02956 | n.d |  | 5.50 | 0.89 |   |
| 05.06.2019 | 14 | 0.07656 | 0.10633 | 0.09118 | 0.02736 | n.d |  | 6.86 | 0.69 | 46.2 |
| 05.06.2019 | 15 | 0.05750 | 0.10624 | 0.09237 | 0.02643 | 0.00042 |  | 7.11 | 0.61 |   |
| 05.06.2019 | 16 | 0.03656 | 0.09944 | 0.09046 | 0.01300 | 0.00034 | -62.27 | 6.79 | 0.99 | 31.2 |
| 05.06.2019 | 17 | 0.00625 | 0.09022 | 0.08999 | 0.02908 | 0.00052 | -70.01 | 7.18 | 1.69 | 37.5 |
| 05.06.2019 | 18 | 0.00219 | 0.08136 | 0.08999 | 0.03553 | 0.00175 | -73.25 | 7.79 | 2.60 | 27.5 |
| 05.06.2019 | 18.5 | n.d | 0.07740 | 0.08939 | 0.03507 | 0.00340 | -77.74 | 8.09 | 2.94 |   |
| 05.06.2019 | 19 | n.d | 0.07333 | 0.08907 | 0.03627 | 0.00554 | -78.57 | 8.43 | 3.49 | 25.06 |
| 05.06.2019 | 19.5 | n.d | 0.06251 | 0.08888 | 0.04074 | 0.00979 | -79.23 | 9.47 | 4.49 |   |
| 05.06.2019 | 20 | n.d | 0.06272 | 0.08861 | 0.04121 | 0.00906 | -79.34 | 9.37 | 4.35 | 19.97 |
| 05.06.2019 | 20.5 | n.d | 0.04588 | 0.08807 | 0.04733 | 0.01384 | -80.28 | 11.59 | 5.70 |   |
| 05.06.2019 | 21 | n.d | 0.04546 | 0.08786 | 0.04985 | 0.01921 | -80.00 | 11.72 | 5.73 | 18.02 |
| 05.06.2019 | 21.5 | n.d | 0.02153 | 0.08690 | 0.06330 | 0.02340 | -80.74 | 15.81 | 5.88 |   |
| 05.06.2019 | 22 | n.d | 0.02888 | 0.08702 | 0.06003 | 0.02095 | -81.09 | 14.52 | 6.26 | 17.22 |
| 05.06.2019 | 22.5 | n.d | 0.01514 | 0.08618 | 0.06764 | 0.03203 | -81.03 | 17.31 | 5.94 |   |
| 05.06.2019 | 23 | n.d | 0.02239 | 0.08638 | 0.06348 | 0.02890 | -80.70 | 15.37 | 10.02 | 14.72 |
| 18.06.2019 | 8 | 0.15781 | 0.09039 | 0.09072 | n.d | n.d | n.d | 6.61 | 1.92 |   |
| 18.06.2019 | 9 | 0.11625 | 0.09191 | 0.09037 | n.d | n.d | n.d | 6.02 | 1.68 |   |
| 18.06.2019 | 10 | 0.09125 | 0.09396 | 0.09066 | n.d | n.d | n.d | 5.88 | 1.27 |   |
| 18.06.2019 | 11 | 0.08313 | 0.10071 | 0.09078 | n.d | n.d | n.d | 5.97 | 1.01 |   |
| 18.06.2019 | 12 | 0.06438 | 0.10207 | 0.09071 | n.d | n.d | n.d | 6.40 | 0.89 |   |
| 18.06.2019 | 13 | 0.04938 | 0.10533 | 0.09069 | n.d | n.d | n.d | 7.30 | 0.83 |   |
| 18.06.2019 | 14 | 0.03313 | 0.10556 | 0.09089 | n.d | n.d | n.d | 7.73 | 0.63 |   |
| 18.06.2019 | 15 | 0.01313 | 0.10230 | 0.09013 | n.d | n.d | n.d | 7.63 | 0.85 |   |
| 18.06.2019 | 15.5 | 0.00469 | 0.00000 | 0.00000 | n.d | n.d | n.d |  |  |   |
| 18.06.2019 | 16 | 0.00250 | 0.09404 | 0.09088 | n.d | 0.00025 | -67.72 | 8.45 | 2.48 |   |
| 18.06.2019 | 16.5 | 0.00156 | 0.08546 | 0.09024 | n.d | 0.00395 | -61.76 | 9.13 | 2.95 |   |
| 18.06.2019 | 17 | n.d | 0.07822 | 0.08980 | 0.02609 | 0.00278 | -73.84 | 9.99 | 4.25 | 25.1 |
| 18.06.2019 | 17.5 | n.d | 0.07749 | 0.09030 | 0.02659 | 0.00994 | -74.34 | 10.10 | 4.09 |   |
| 18.06.2019 | 18 | n.d | 0.07767 | 0.09012 | 0.02687 | 0.01906 | -74.99 | 10.02 | 3.82 | 24.3 |
| 18.06.2019 | 18.5 | n.d | 0.07394 | 0.08976 | 0.02821 | 0.00954 | -74.28 | 10.27 | 4.37 |   |
| 18.06.2019 | 19 | n.d | 0.05643 | 0.08914 | 0.03952 | 0.02340 | -83.73 | 12.33 | 5.70 | 19.1 |
| 18.06.2019 | 19.5 | n.d | 0.05598 | 0.08906 | 0.03957 | 0.02117 | -79.06 | 12.42 | 6.07 |   |
| 18.06.2019 | 20 | n.d | 0.04638 | 0.08830 | 0.04589 | 0.02214 | -80.68 | 13.73 | 6.87 | 16.8 |
| 18.06.2019 | 20.5 | n.d | 0.03829 | 0.08827 | 0.05096 | 0.03877 | -81.39 | 15.05 | 7.65 |   |
| 18.06.2019 | 21 | n.d | 0.03240 | 0.08780 | 0.04809 | 0.02228 | -79.19 | 16.21 | 8.50 | 15.9 |
| 18.06.2019 | 22 | n.d | 0.00938 | 0.08641 | 0.07053 | 0.04573 | -80.24 | 24.53 | 12.28 | 13.7 |
| 18.06.2019 | 23 | n.d | 0.00142 | 0.08581 | 0.07643 | 0.03940 | -80.60 | 34.07 | 8.77 | 13.6 |
| 18.06.2019 | 23.5 | n.d |   |   |   |   |   |   |   |   |
| 25.07.2019 | 8 | 0.06813 | 0.10034 | 0.09353 | n.d | 0.00011 |  | 6.89 | 1.32 |   |
| 25.07.2019 | 9 | 0.03688 | 0.10180 | 0.09339 | n.d | 0.00012 |  | 7.18 | 1.22 |   |
| 25.07.2019 | 10 | 0.00469 | 0.09359 | 0.09340 | n.d | 0.00025 |  | 8.54 | 2.08 |   |
| 25.07.2019 | 11 | 0.00063 | 0.08357 | 0.09338 | 0.01099 | 0.00372 |  | 9.91 | 3.12 |   |
| 25.07.2019 | 11.5 | n.d | 0.08396 | 0.09313 | 0.01325 |  |  |  |  |   |
| 25.07.2019 | 12 | n.d | 0.08753 | 0.09397 | 0.01218 | 0.00529 |  | 10.01 | 3.07 |   |
| 25.07.2019 | 12.5 | n.d | 0.08510 | 0.09333 | 0.01362 |  |  | 9.97 | 2.48 |   |
| 25.07.2019 | 13 | n.d | 0.08584 | 0.09331 | 0.01286 | 0.00280 | -69.46 | 9.98 | 2.45 |   |
| 25.07.2019 | 13.5 | n.d | 0.08741 | 0.09359 | 0.01154 | 0.00434 | -73.33 | 10.90 | 3.13 |   |
| 25.07.2019 | 14 | n.d | 0.08541 | 0.09320 | 0.01086 | 0.00374 | -73.91 | 10.73 | 3.10 |   |
| 25.07.2019 | 14.5 | n.d | 0.08478 | 0.09322 | 0.02107 | 0.00459 | -76.09 | 13.24 | 5.17 |   |
| 25.07.2019 | 15 | n.d | 0.07623 | 0.09272 | 0.02005 | 0.00734 | -78.02 | 12.25 | 4.28 | 18.06 |
| 25.07.2019 | 15.5 | n.d | 0.06888 | 0.09202 | 0.01181 | 0.01564 | -79.41 | 10.13 | 3.14 |   |
| 25.07.2019 | 16 | n.d | 0.06822 | 0.09228 | 0.02399 | 0.01617 | -79.08 | 13.53 | 5.39 | 15.97 |
| 25.07.2019 | 16.5 | n.d |  |  |  | 0.02086 | -80.29 |  |  |   |
| 25.07.2019 | 17 | n.d | 0.05269 | 0.09172 | 0.03217 | 0.02747 | -80.38 | 16.16 | 7.35 | 19.94 |
| 25.07.2019 | 18 | n.d | 0.04533 | 0.09179 | 0.03747 | 0.04088 | -80.00 | 18.03 | 8.86 | 20.97 |
| 25.07.2019 | 19 | n.d | 0.03330 | 0.09144 | 0.04552 | 0.03756 | -80.58 | 20.55 | 9.71 | 17.41 |
| 25.07.2019 | 20 | n.d | 0.01642 | 0.09092 | 0.05687 | 0.05491 | -80.90 | 25.48 | 13.76 | 19.63 |
| 25.07.2019 | 21 | n.d | 0.00164 | 0.08966 | 0.06892 | 0.05738 | -80.94 |  |  | 19.49 |
| 25.07.2019 | 22 | n.d | n.d | 0.08084 | 0.08551 | 0.13807 | -80.75 |  |  | 17.24 |
| 25.07.2019 | 23 | n.d | 0.00430 | 0.07108 | 0.09354 | 0.15318 | -80.55 |   |   | 11.11 |
| 13.08.2019 | 8 | 0.02563 | 0.09623 | 0.09403 | 0.00000 | 0.00024 |  | 7.05 | 1.10 |   |
| 13.08.2019 | 9 | 0.00219 | 0.09409 | 0.09395 | 0.00000 | 0.00044 |  | 7.90 | 1.50 |   |
| 13.08.2019 | 9.5 | 0.00094 | 0.08422 | 0.09390 | 0.00000 | 0.00067 |  | 10.21 | 2.38 |   |
| 13.08.2019 | 10 | n.d | 0.08016 | 0.09384 | 0.01239 | 0.00133 |  | 11.05 | 3.17 |   |
| 13.08.2019 | 10.5 | n.d | 0.07223 | 0.09323 | 0.01701 | 0.00489 |  | 12.77 | 4.08 |   |
| 13.08.2019 | 11 | n.d | 0.07635 | 0.09385 | 0.01399 | 0.00217 |  | 11.87 | 3.81 | 16.14 |
| 13.08.2019 | 11.5 | n.d | 0.07623 | 0.09407 | 0.01457 | 0.00458 |  | 12.02 | 3.78 |   |
| 13.08.2019 | 12 | n.d | 0.07678 | 0.09375 | 0.01375 | 0.00343 | -73.32 | 11.85 | 3.85 | 16.05 |
| 13.08.2019 | 12.5 | n.d | 0.07529 | 0.09380 | 0.01552 | 0.00516 | -76.52 | 12.28 | 4.25 |   |
| 13.08.2019 | 13 | n.d | 0.07489 | 0.09377 | 0.01441 | 0.00500 | -76.29 | 12.40 | 4.61 | 14.92 |
| 13.08.2019 | 13.5 | n.d | 0.07238 | 0.09371 | 0.01711 | 0.00657 | -77.94 | 13.08 | 4.55 |   |
| 13.08.2019 | 14 | n.d | 0.07072 | 0.09355 | 0.01662 | 0.00653 | -78.48 | 13.35 | 4.81 | 15.85 |
| 13.08.2019 | 14.5 | n.d | 0.06477 | 0.09287 | 0.02229 | 0.00858 | -78.97 | 14.50 | 5.59 |   |
| 13.08.2019 | 15 | n.d | 0.06251 | 0.09285 | 0.02226 | 0.00967 | -79.78 | 15.17 | 6.14 | 13.67 |
| 13.08.2019 | 15.5 | n.d | 0.06233 | 0.09265 | 0.04030 | 0.00905 | -79.57 | 15.22 | 6.60 |   |
| 13.08.2019 | 16 | n.d | 0.05072 | 0.09192 | 0.02816 | 0.02140 | -78.71 | 17.68 | 8.45 | 15.7 |
| 13.08.2019 | 16.5 | n.d | 0.04924 | 0.09222 | 0.02967 | 0.01719 | -80.38 | 17.82 | 8.49 |   |
| 13.08.2019 | 17 | n.d | 0.04032 | 0.09181 | 0.03441 | 0.02610 | -80.59 | 20.65 | 10.48 | 15.17 |
| 13.08.2019 | 17.5 | n.d | 0.04307 | 0.09182 | 0.03261 | 0.01516 | -80.52 | 19.81 | 10.53 |   |
| 13.08.2019 | 18 | n.d | 0.03105 | 0.09182 | 0.03816 | 0.03535 | -80.19 | 22.94 | 11.78 | 14.93 |
| 13.08.2019 | 18.5 | n.d | 0.03171 | 0.09164 | 0.03867 | 0.00906 | -80.69 | 23.13 | 12.17 |   |
| 13.08.2019 | 19 | n.d | 0.01325 | 0.09030 | 0.05097 | 0.04451 | -80.51 | 29.94 | 18.60 | 16.17 |
| 13.08.2019 | 19.5 | n.d | 0.01835 | 0.08803 | 0.05065 | 0.05330 | -80.58 | 24.96 | 13.65 |   |
| 13.08.2019 | 20 | n.d | 0.00640 | 0.08666 | 0.06533 | 0.05777 | -80.44 | 28.03 | 18.18 | 17.1 |
| 13.08.2019 | 20.5 | n.d | n.d | 0.08644 | 0.06502 | 0.05797 | -80.34 |  |  |   |
| 13.08.2019 | 21 | n.d | n.d | 0.08024 | 0.07809 | 0.05277 | -80.46 |  |  | 15.57 |
| 13.08.2019 | 21.5 | n.d | 0.00433 | 0.08021 | 0.07837 | 0.06745 | -80.37 |  |  |   |
| 13.08.2019 | 22 | n.d | 0.00508 | 0.07111 | 0.09300 | 0.07232 | -80.19 |  |  | 15.79 |
| 13.08.2019 | 22.5 | n.d | 0.01038 | 0.07530 | 0.09416 | 0.09345 | -80.35 |  |  |   |
| 13.08.2019 | 23 | n.d | n.d | 0.06739 | 0.09807 | 0.12065 | -80.36 |   |   | 14.53 |
| 25.09.2019 | 8 | 0.01069 | 0.06500 | 0.09282 | 0.00000 | n.d |  | 12.72 | 5.52 |   |
| 25.09.2019 | 9 | 0.00803 | 0.05209 | 0.09306 | 0.01629 |  |  | 18.24 | 8.13 |   |
| 25.09.2019 | 9.5 | n.d | 0.05372 | 0.09332 | 0.01521 | n.d |  | 18.15 | 8.15 |   |
| 25.09.2019 | 10 | n.d | 0.05363 | 0.09263 | 0.02803 | 0.00286 |  | 18.18 | 9.11 | 15.06 |
| 25.09.2019 | 10.5 | n.d | 0.05290 | 0.09269 | 0.02055 | 0.00671 |  | 18.25 | 9.46 |   |
| 25.09.2019 | 11 | n.d | 0.05113 | 0.09225 | 0.02605 | 0.01737 |  | 18.27 | 8.59 |   |
| 25.09.2019 | 11.5 | n.d | 0.05039 | 0.09207 | 0.02169 | 0.01733 |  | 18.60 | 9.00 |   |
| 25.09.2019 | 12 | n.d | 0.04980 | 0.09238 | 0.02226 | 0.02184 |  | 18.65 | 8.54 | 13.03 |
| 25.09.2019 | 12.5 | n.d | 0.04964 | 0.09203 | 0.02507 | 0.01952 | -64.75 | 18.91 | 8.58 |   |
| 25.09.2019 | 13 | n.d | 0.04923 | 0.09185 | 0.02558 | 0.02623 | -68.46 | 19.13 | 8.95 | 12.7 |
| 25.09.2019 | 13.5 | n.d | 0.04983 | 0.09191 | 0.02381 | 0.02056 | -76.71 | 19.25 | 9.29 |   |
| 25.09.2019 | 14 | n.d | 0.05334 | 0.09278 | 0.02269 | 0.01262 | -77.32 | 19.29 | 10.45 | 14.18 |
| 25.09.2019 | 14.5 | n.d | 0.05020 | 0.09276 | 0.02385 | 0.01426 | -76.98 | 19.36 | 9.75 |   |
| 25.09.2019 | 15 | n.d | 0.04553 | 0.09178 | 0.04698 | 0.01921 | -75.43 | 21.16 | 12.54 | 14.37 |
| 25.09.2019 | 15.5 | n.d | 0.04408 | 0.09168 | 0.03249 |  | -73.87 | 21.65 | 13.31 |   |
| 25.09.2019 | 16 | n.d | 0.03579 | 0.09208 | 0.03635 | 0.02913 | -71.15 | 23.65 | 15.73 | 13.61 |
| 25.09.2019 | 16.5 | n.d | 0.02612 | 0.09112 | 0.04376 | 0.03129 | -79.29 | 25.65 | 16.99 |   |
| 25.09.2019 | 17 | n.d | 0.02345 | 0.09138 | 0.04595 | 0.04204 | -75.89 | 27.02 | 17.98 | 12.79 |
| 25.09.2019 | 17.5 | n.d | 0.01806 | 0.09156 | 0.05105 | 0.04030 | -78.35 | 28.37 | 20.37 |   |
| 25.09.2019 | 18 | n.d | 0.01751 | 0.09142 | 0.04976 | 0.04329 | -80.52 | 28.81 | 19.81 | 13.01 |
| 25.09.2019 | 18.5 | n.d | 0.00806 | 0.09131 | 0.05749 | 0.06071 | -77.82 | 34.11 | 23.23 |   |
| 25.09.2019 | 19 | n.d | 0.00488 | 0.09149 | 0.06225 | 0.04996 | -76.52 | 41.00 | 27.42 |   |
| 25.09.2019 | 19.5 | n.d | 0.00000 | 0.08845 | 0.07404 | 0.06087 | -78.24 |  |  |   |
| 25.09.2019 | 20 | n.d | 0.00000 | 0.08212 | 0.07768 | 0.09247 | -79.96 |  |  | 11.45 |
| 25.09.2019 | 20.5 | n.d | 0.00000 | 0.06875 | 0.09344 | 0.11401 |  |  |  |   |
| 25.09.2019 | 21 | n.d | 0.00000 | 0.07183 | 0.11472 | 0.09133 | -79.67 |  |  | 10.21 |
| 25.09.2019 | 21.5 | n.d | 0.00000 | 0.05919 | 0.11510 | 0.14355 | -79.86 |  |  |   |
| 25.09.2019 | 22 | n.d | 0.00000 | 0.05776 | 0.11481 | 0.10335 | -79.78 |  |  | 9.61 |
| 25.09.2019 | 22.5 | n.d | 0.00000 | 0.05468 | 0.12808 | 0.10997 | -79.16 |  |  |   |
| 25.09.2019 | 23 | n.d | 0.00000 | 0.05939 | 0.10189 | 0.10331 | -79.92 |   |   | 10.21 |