24 October 2018 Reference No. 18110616-002-Rev0

Doug Ramsey, VP Sustainability and Environmental Affairs
Carmacks Mining Corp.
1120 - 1095 W. Pender St.
Vancouver, BC V6E 2M6

2018 ANNUAL INSPECTION OF THE CARMACKS COPPER PROJECT, CARMACKS, YUKON

Dear Mr. Ramsey:

1.0 INTRODUCTION

This letter summarises the observations made during the 2018 annual inspection of the Carmacks Copper Project site. The inspection was carried out by Golder Associates Ltd. (Golder) for Carmacks Mining Corp. (Carmacks Mining) to fulfil the requirements of Section 16.1 of the Quartz Mining License (QML-0007) for the site. The work was carried out in accordance with Golder's proposal 18110616-001-Rev0-1000, dated October 9, 2018, and approved by Carmacks Mining in an email dated October 10, 2018.

The purpose of the inspection was to evaluate the condition and stability of the existing facilities in the area of the proposed mine. The existing facilities at the site comprise a mine exploration camp, which was vacant at the time of the inspection, access roads, and minor drainage structures. Golder also inspected the area of proposed mine development. The proposed mine infrastructure, as described in the approved QML, dated April 15, 2009, includes a heap leach facility, water management ponds, an open pit, a waste rock storage area, a processing plant and related facilities, ore preparation facilities, ore stockpiles, and water diversion structures.

2.0 OBSERVATIONS

2.1 Overview

The inspection was carried out by Mr. Dale Heffernan of Golder, in the company of Mr. Doug Ramsey of Carmacks Mining on October 13, 2018. The inspection focused on the existing site infrastructure and a review of the general site conditions. Photographs of the site at the time of the inspection are presented in Attachment 2. Data collected from thermistors, between 2007 and 2017, are presented in Attachment 3.

The project is in the advanced exploration stage. The only infrastructure on site at the time of inspection was the exploration camp and access roads to the proposed open pit mine area and other areas of the property. The access roads were developed to provide access for exploration and investigation activities.

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The site development required to support operations has not started yet. Therefore, there is no stability concern associated with the undeveloped facilities and no maintenance is required. No permanent water diversion structures are in place. There are, however, temporary water management structures (i.e., ditches and sediment catch basins) in place that are appropriate for the exploration stage of the property. We recommend that these diversion structures continue to be inspected annually and that ongoing maintenance be conducted, as deemed necessary.

2.2 Exploration Camp Area

In previous years, inspections of the camp area have noted the presence of cracking, most likely resulting from thaw induced settlement beneath and adjacent to core storage racks. During the current inspection, only one crack was observed in the vicinity of the core storage racks (Photograph 1). In general, the appearance of cracks in the core storage rack area was consistent with the 2017 inspection. There appears to have been some infilling of cracks observed during previous inspections. The area is also characterised by the regrowth of vegetation around the core racks and a general decrease in the magnitude of settlements occurring with time. As in previous years, settlement in this area does not represent a safety concern and the inspection did not indicate erosion of sediments from the pad area into the surrounding natural area.

There are two heated buildings, the core shack and geology office, located adjacent to the core storage racks (Photograph 2). The tanks, valves and hosing were in a satisfactory condition, at the time of inspection. Liners have been placed beneath each tank to act as secondary containment for potential leaks and were also in a satisfactory condition.

The slope behind the camp (Photographs 3 and 4) is stable and does not pose a safety concern for the camp structures or current operations. There is minor ravelling of small sections of the slope, but these are not impacting camp safety nor would they represent a risk for workers on the project. Some regrowth of vegetation was observed in the camp area.

2.3 Proposed Heap Leach Facility Area

The inspection included the area of the 2009 proposed heap leach facility and associated water management pond. Site preparation in these areas has been limited to clearing of trees and topsoil. This portion of the site also includes several access roads and drilling platforms previously used for exploration and investigation activities.

Since the initial clearing in 1997 and 1998, regrowth of vegetation has been occurring in the area. Small coniferous trees are established throughout this area. Erosion and sediment control measures in this area were initially installed in September 2008 and further maintained in September 2009 and August 2010. The sediment control measures include ditches and berms to divert water into sediment catch basins, silt fences, and vegetated areas to break up flow and reduce the potential for erosion. There continues to be some minor erosion of sediments along the access roads, however, this appears to be attenuating as vegetation growth on the access roads increases (Photograph 5).

Clearing and drilling activities were carried out in 2015 and 2017 at a location down slope of the proposed heap leach facility, near the proposed water management pond (Photograph 6). Regrowth of vegetation, primarily volunteer species of grass, has mitigated loss of sediment from the former drill pads and is suitably rehabilitating.

Further downstream, within the floodplain of Williams Creek, silt fences have been installed and the area seeded where sediment from previous site erosion accumulated (Photographs 7 and 8). Grass seed was applied in 2009 to promote the re-establishment of vegetation and to further stabilize sediment. The approach was noted to be generally effective in 2011 and 2012, but with limited regrowth attributed to periodic pooling of water. The area was also re-vegetated with woody plants (willow cuttings), and these plants are now well established. Volunteer species of grass and woody plants are performing very well. There was no evidence of sediment movement, indicating that re-vegetation has been effective in minimizing erosion. Silt fencing surrounding these areas is now overgrown and there is no evidence of sediment movement through the area. Silt fences are typically a temporary measure and could be removed if no further disturbance is expected upgradient.

2.4 Proposed Open Pit Area

The area proposed for the open pit mine was inspected. The slopes of the trenches excavated as part of the effort to obtain bulk samples during exploration activities were observed to be in satisfactory condition (Photograph 9). There was no observed slumping or failures of the trenches and the slopes facilitate egress for wildlife. Several of the closed drill pads were inspected and there did not appear to be any erosion noted from these areas that would require attention.

2.5 Proposed Waste Rock Storage Facility Area

The 2009 proposed waste rock storage area was inspected. The waste rock storage area is tree covered and the drill pads and access roads in the area are re-vegetating by volunteer species to the extent that access on foot is now difficult.

2.6 Fuel Storage Area

The existing fuel storage area was inspected. It comprises a bunded and lined basin constructed to contain any spilled fuel and currently a few dozen drums of diesel fuel. After several days of rain, prior to the inspection, approximately 0.3 m of water had accumulated in the basin (Photograph 10). The bund is less than 3 m in height and the basin capacity is less than 10,000 m^3; therefore, the fuel storage area is appropriately permitted under the QML without need for a water license (Yukon Environment Dam Guide).

In the 2017 inspection, it was noted that an animal damaged the liner in a few locations (Photograph 11). The damage is still visible and the liner should be repaired. The fuel drums have since been organized in a manner to allow wildlife egress from the basin. There is some vegetation growth along the top of the containment berms and within the lined basin. There is one small shrub that is growing on the soil within the bermed area. There is the potential that the roots of the shrub penetrate through the liner. At the time when repairs to the liner are made, the shrub should be removed, the area inspected and repaired, if required.

2.7 Site Access Roads

The main access road to the north of the proposed waste rock storage area was observed to be in good condition with only minor erosion observed. Damage to the road near North Williams Creek noted in the 2017 inspection report have since been repaired (Photograph 12). The North Williams Creek culvert has undergone some crushing and has accumulated some sediment (Photographs 13 and 14). However, the culvert remains adequate to accommodate the relatively minor flows observed at of the inspection. There is no visual evidence to indicate that erosion is occurring near the culvert. The access road should be inspected annually and ongoing maintenance of drainage features and erosion management should be anticipated.

The ford road crossing installed at Williams Creek in 2013 continues to function as intended (Photograph 15). The rockfill in the ford is well-graded and there is no indication of movement of finer materials. Ponded water was observed on the upstream side of the road, with flow across the road. It is possible that a large rainfall event could result in erosion. We therefore recommended that the ford continue to be inspected annually and maintenance be carried out, if required. The ford is appropriate for the current status of the project. However, prior to site development, it is recommended that the crossing is to be upgraded.

The access road crossing at Merrice Creek includes a single-span bridge (Photographs 16 and 17). Following recommendations in the July 2014 inspection memorandum, the bridge was extended by approximately 3 m and seated 1 to 2 m on the abutments. Approximately 3 m of steel was welded to the existing span, bridge decking was replaced and extended, and the approaches were re-graded to the bridge deck elevation.

At the time of the inspection there was a large beaver dam downstream of the bridge which had caused higher than normal water levels in Merrice Creek, for the time of year. The bridge was observed to be in a satisfactory condition and is securely anchored at each of the abutments. The right (or southern) abutment is steep sided and there is evidence that erosion may be continuing to occur at this location under high-flow conditions. The bridge should be monitored annually and following large rainfall events. In the event that erosion begins to compromise the stability of the abutment, consideration should be given to the installation of erosion protection at this location.

3.0 THERMISTOR DATA

Thermistor monitoring data, through 2017 demonstrate that clearing of the Heap Leach Facility area in 1997, promoted thawing of the discontinuous permafrost. However, in recent years that progress has been lost due to vegetation regrowth. Based on thermistor monitoring from 2007 to 2017, shown in Attachment 3, the Heap Leach Facility area would need to be re-cleared to facilitate thawing. Further monitoring would be initiated prior to any planned clearing of the heap pad area.

In general, thermistors BH-01-07, BH-03-07 and BH-06-07, located at the heap leach site, have continued to show a gradual year-on-year decrease in temperatures at depths greater than 5 to 7 m, depending on location. Similar trends are also apparent in BH-12 07, BH-18-07 and BH-29-07, located within the proposed waste rock storage area. The remaining thermistors indicate little or no permafrost, over the depth monitored, and in general show a warming trend. Note the monitoring depth varies by location.

The project is located in an area of discontinuous permafrost, which is relatively warm. Based on site data, where permafrost exists, the mean annual temperature ranges from about -0.4 to -2°C, below a depth of 10 m. This is evident from the thermistor plots, which can be interpreted to estimate the active thaw layer and permafrost, where present. The thermistor plots indicate the presence of permafrost at the following locations:

- BH-01-07, BH-03-07 and BH-06-07 to the south and west of the proposed heap leach facility area, where the active thaw layer is approximately 5 to 7 m thick with permafrost below.
- BH-12-07, BH-18-07 and BH-29-07 within the proposed waste rock storage area, where the active thaw layer varies from approximately 5 to 8 m thick with permafrost below.

No permafrost has been observed at thermistors BH-13-07, BH-23-07, and BH-26-07 over the monitored depths of 18.3 m, 15.0 m, and 12.0 m, respectively. These instruments are within the proposed Heap Leach Facility area. Permafrost may exist below the depth monitored.

4.0 RECOMMENDATIONS

The inspection of the Carmacks Copper Project site was completed on October 13, 2018. Based on the inspection the following recommendations are provided:

- The beaver dam located downstream of the Merrice Creek crossing should be dismantled.
- Water crossings, including the bridge abutments at Merrice Creek, should continue to be inspected annually and following major rainfall events. Maintenance should be carried out, as required to maintain the functionality and safety of these crossings.
- The damage to the liner at the fuel storage area should be repaired.

Golder understands that Carmacks Mining plan to implement the recommendations above, prior to the 2019 annual inspection.

5.0 CLOSURE

We draw your attention to the "Important Information and Limitations of this Report" included as Attachment 1, which form an integral part of this document. We trust that this letter satisfies your requirements. However, please do not hesitate to contact us should you have any queries or require any further information.

Yours very truly,

Golder Associates Ltd.

PROFESSIONAL ENGINEER YUKON TERRITORY DALE R. HEFFERNAN

PROFESSIONAL ENGINEER YUKON TERRITORY F.C. ESFORD Oct 25/18

Dale Heffernan, PEng
Geotechnical Engineer

Fiona Esford, PEng
Associate, Senior Geotechnical Engineer

DH/FS/asd

Attachments: Attachment 1 – Important Information and Limitations of this Report
Attachment 2 – Photographs
Attachment 3 – Thermistor Plots

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PERMIT TO PRACTICE
GOLDER ASSOCIATES LTD.
SIGNATURE
Date 25 October 2018
PERMIT NUMBER PP024
Association of Professional Engineers of Yukon

ATTACHMENT 1

Important Information and Limitations of this Report

Standard of Care: Golder Associates Ltd. (Golder) has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practising under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

Basis and Use of the Report: This report has been prepared for the specific site, design objective, development and purpose described to Golder by the Client. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location. Any change of site conditions, purpose, development plans or if the project is not initiated within eighteen months of the date of the report may alter the validity of the report. Golder can not be responsible for use of this report, or portions thereof, unless Golder is requested to review and, if necessary, revise the report.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the client, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as all electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges that electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client cannot rely upon the electronic media versions of Golder's report or other work products.

The report is of a summary nature and is not intended to stand alone without reference to the instructions given to Golder by the Client, communications between Golder and the Client, and to any other reports prepared by Golder for the Client relative to the specific site described in the report. In order to properly understand the suggestions, recommendations and opinions expressed in this report, reference must be made to the whole of the report. Golder can not be responsible for use of portions of the report without reference to the entire report.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project. The extent and detail of investigations, including the number of test holes, necessary to determine all of the relevant conditions which may affect construction costs would normally be greater than has been carried out for design purposes. Contractors bidding on, or undertaking the work, should rely on their own investigations, as well as their own interpretations of the factual data presented in the report, as to how subsurface conditions may affect their work, including but not limited to proposed construction techniques, schedule, safety and equipment capabilities.

Soil, Rock and Groundwater Conditions: Classification and identification of soils, rocks, and geologic units have been based on commonly accepted methods employed in the practice of geotechnical engineering and related disciplines. Classification and identification of the type and condition of these materials or units involves judgment, and boundaries between different soil, rock or geologic types or units may be transitional rather than abrupt. Accordingly, Golder does not warrant or guarantee the exactness of the descriptions.

Special risks occur whenever engineering or related disciplines are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain subsurface conditions. The environmental, geologic, geotechnical, geochemical and hydrogeologic conditions that Golder interprets to exist between and beyond sampling points may differ from those that actually exist. In addition to soil variability, fill of variable physical and chemical composition can be present over portions of the site or on adjacent properties. **The professional services retained for this project include only the geotechnical aspects of the subsurface conditions at the site, unless otherwise specifically stated and identified in the report.** The presence or implication(s) of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources are outside the terms of reference for this project and have not been investigated or addressed.

Soil and groundwater conditions shown in the factual data and described in the report are the observed conditions at the time of their determination or measurement. Unless otherwise noted, those conditions form the basis of the recommendations in the report. Groundwater conditions may vary between and beyond reported locations and can be affected by annual, seasonal and meteorological conditions. The condition of the soil, rock and groundwater may be significantly altered by construction activities (traffic, excavation, groundwater level lowering, pile driving, blasting, etc.) on the site or on adjacent sites. Excavation may expose the soils to changes due to wetting, drying or frost. Unless otherwise indicated the soil must be protected from these changes during construction.

Sample Disposal: Golder will dispose of all uncontaminated soil and/or rock samples 90 days following issue of this report or, upon written request of the Client, will store uncontaminated samples and materials at the Client's expense. In the event that actual contaminated soils, fills or groundwater are encountered or are inferred to be present, all contaminated samples shall remain the property and responsibility of the Client for proper disposal.

Follow-Up and Construction Services: All details of the design were not known at the time of submission of Golder's report. Golder should be retained to review the final design, project plans and documents prior to construction, to confirm that they are consistent with the intent of Golder's report.

During construction, Golder should be retained to perform sufficient and timely observations of encountered conditions to confirm and document that the subsurface conditions do not materially differ from those interpreted conditions considered in the preparation of Golder's report and to confirm and document that construction activities do not adversely affect the suggestions, recommendations and opinions contained in Golder's report. Adequate field review, observation and testing during construction are necessary for Golder to be able to provide letters of assurance, in accordance with the requirements of many regulatory authorities. In cases where this recommendation is not followed, Golder's responsibility is limited to interpreting accurately the information encountered at the borehole locations, at the time of their initial determination or measurement during the preparation of the Report.

Changed Conditions and Drainage: Where conditions encountered at the site differ significantly from those anticipated in this report, either due to natural variability of subsurface conditions or construction activities, it is a condition of this report that Golder be notified of any changes and be provided with an opportunity to review or revise the recommendations within this report. Recognition of changed soil and rock conditions requires experience and it is recommended that Golder be employed to visit the site with sufficient frequency to detect if conditions have changed significantly.

Drainage of subsurface water is commonly required either for temporary or permanent installations for the project. Improper design or construction of drainage or dewatering can have serious consequences. Golder takes no responsibility for the effects of drainage unless specifically involved in the detailed design and construction monitoring of the system.

ATTACHMENT 2

Photographs

Photograph 1: Crack beneath core storage rack

Photograph 2: Core storage racks

Photograph 3: Cut-slope behind camp geology office and core shack

Photograph 4: Cut-slope behind the camp geology office and core logging shack

Photograph 5: Vegetation regrowth on access roads

Photograph 6: Vegetation regrowth in 2015 drilling area and proposed water management pond area

Photograph 7: 2017 drilling area and vegetation regrowth in Williams Creek floodplain

Photograph 8: Vegetation growth around sediment fencing

Photograph 9: Exploration trench at the Discovery outcrop

Photograph 10: Lined basin at fuel storage area

Photograph 11: Liner damage at fuel storage area

Photograph 12: Road near North Williams Creek

Photograph 13: Culvert inlet beneath road at North Williams Creek

Photograph 14: Culvert outlet beneath road at North Williams Creek

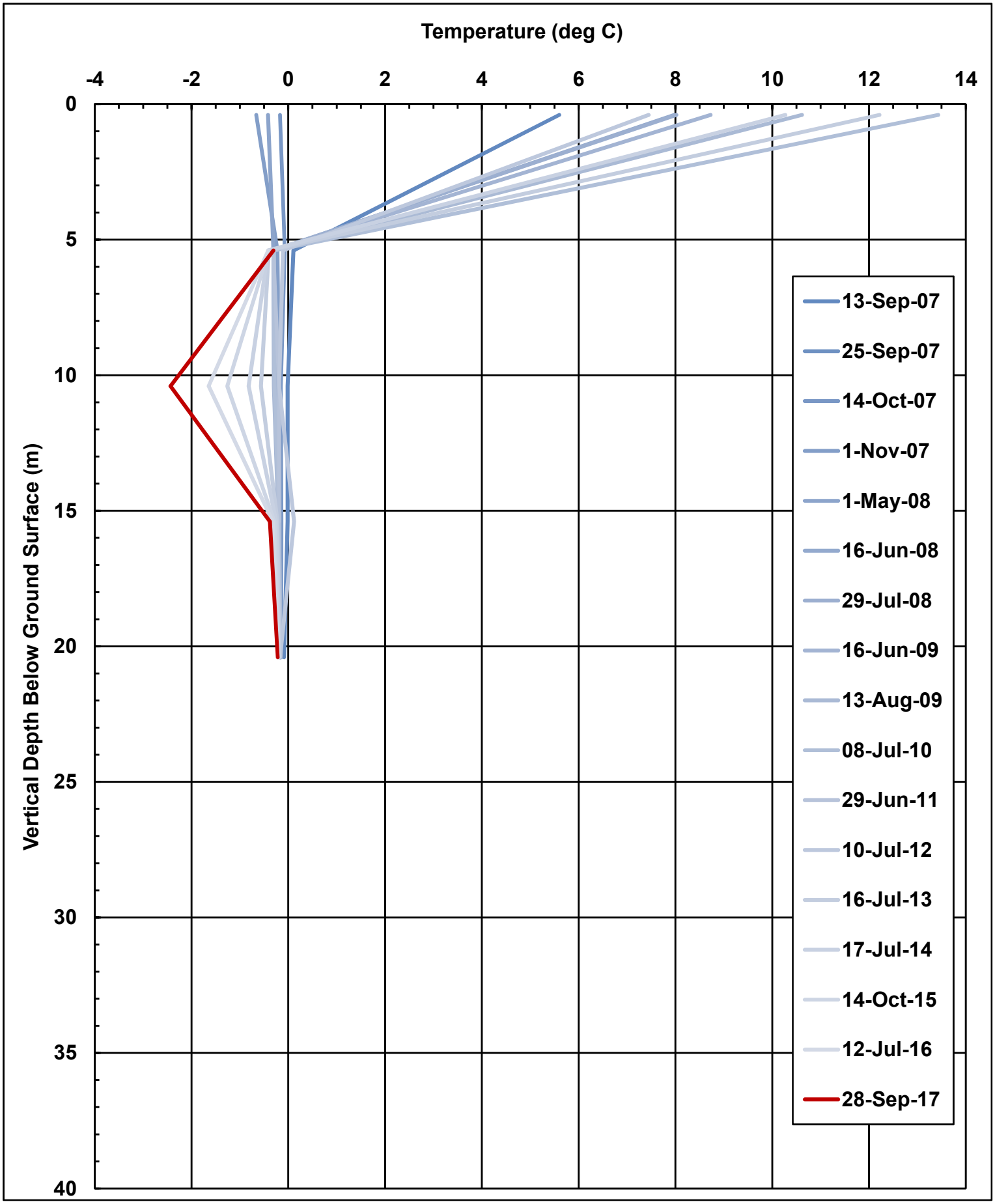
Photograph 15: Williams Creek ford crossing

Photograph 16: Bridge crossing at Merrice Creek – downstream side

Photograph 17: Bridge crossing at Merrice Creek – upstream side

ATTACHMENT 3

Thermistor Plots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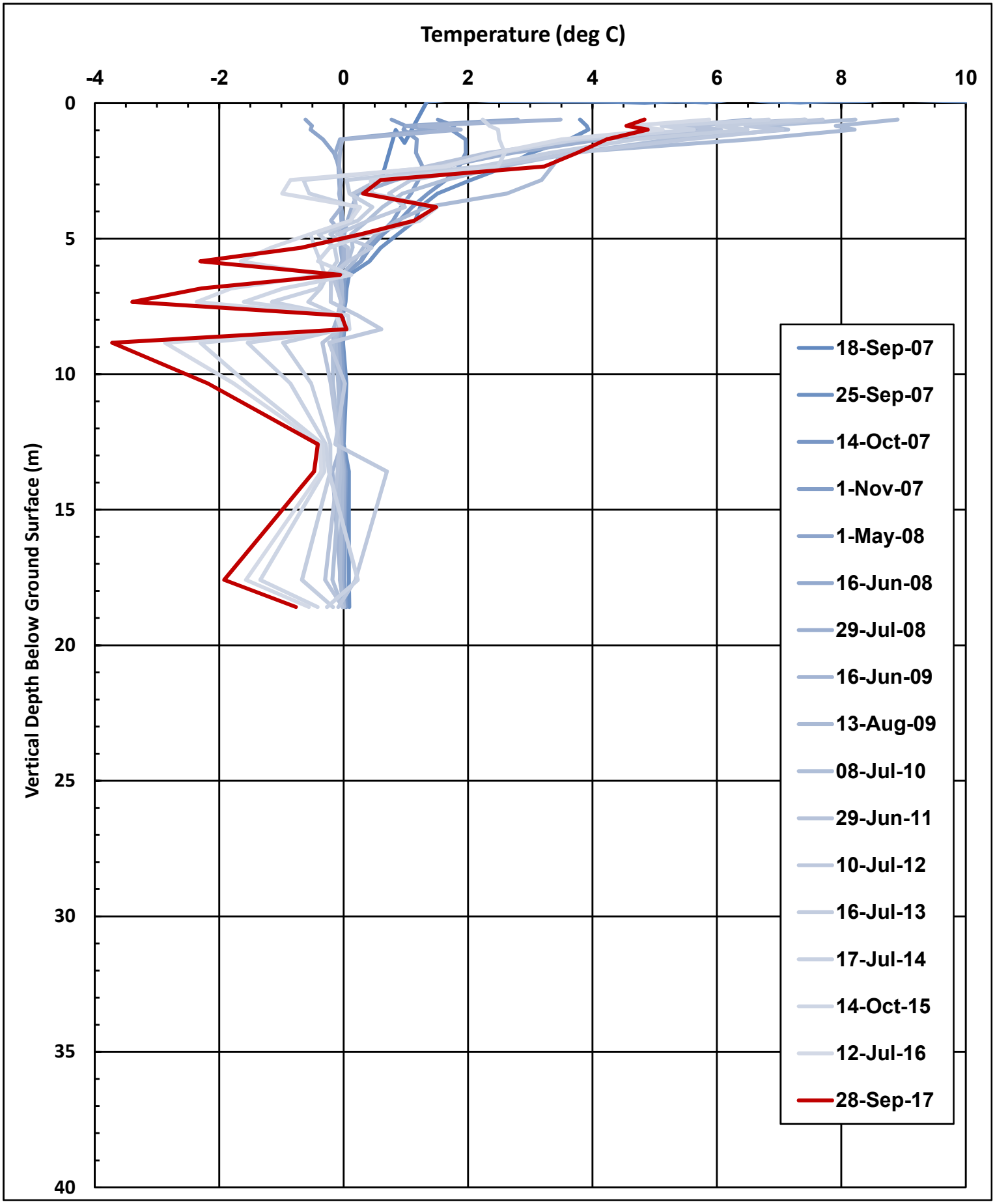
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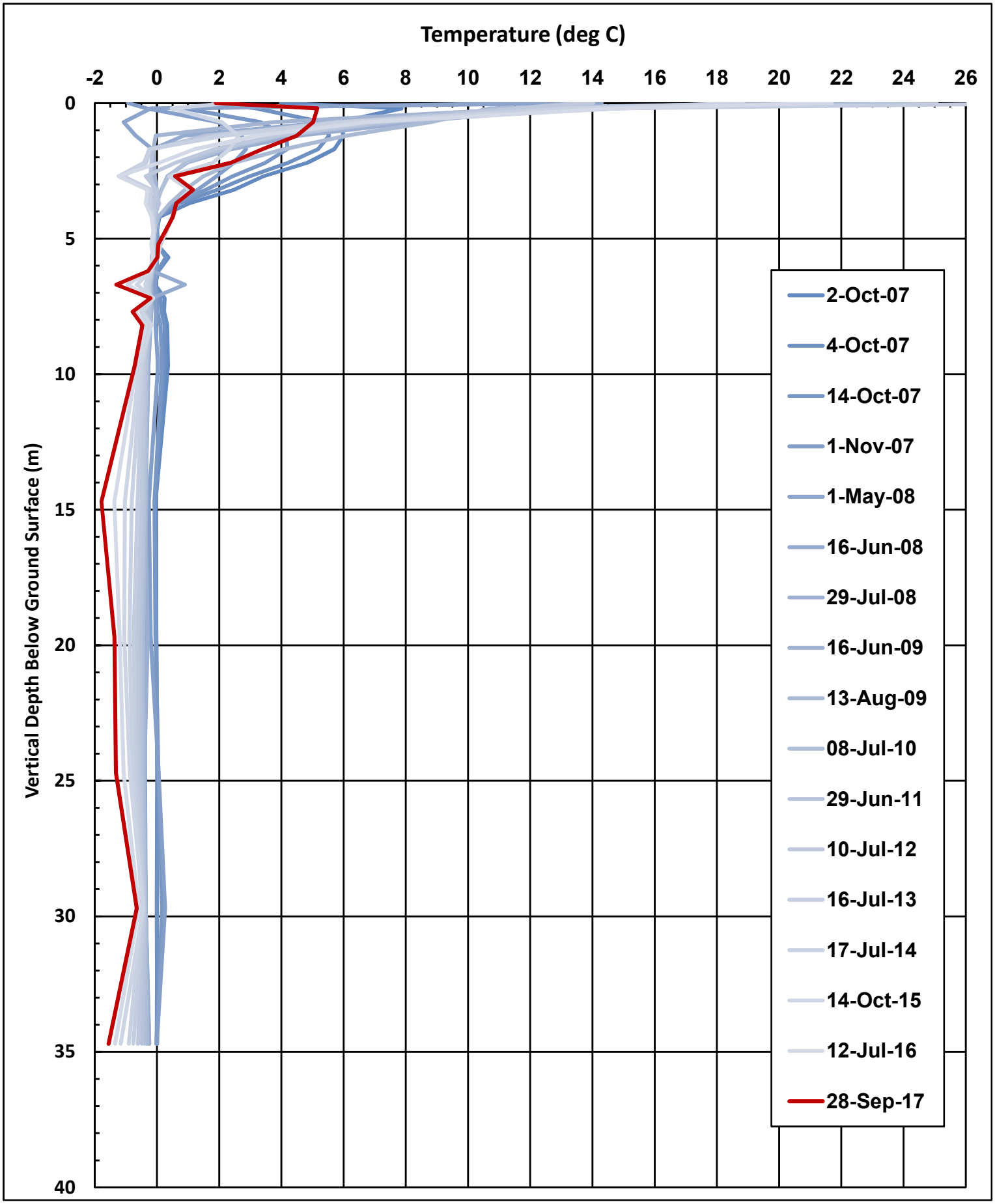
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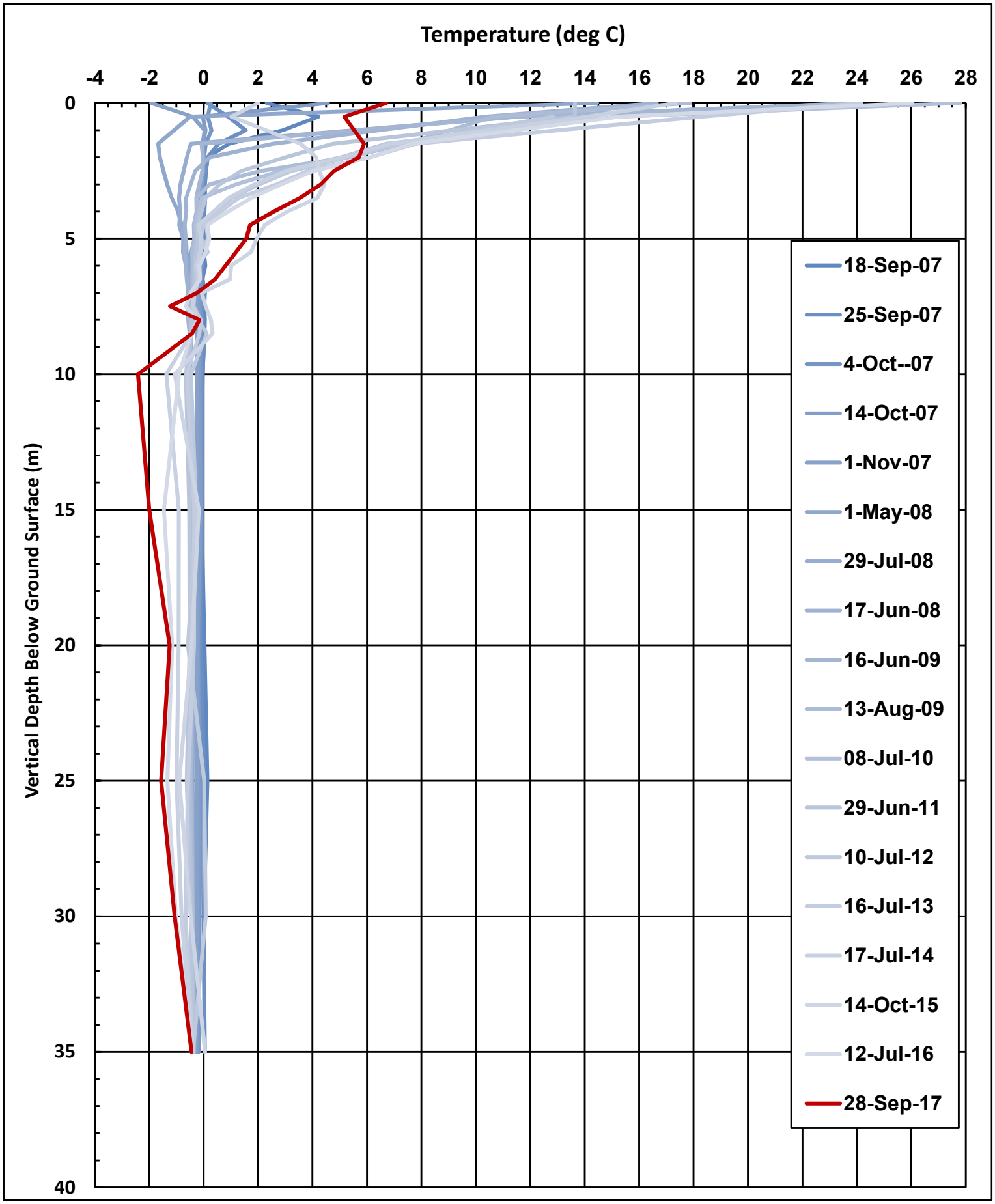
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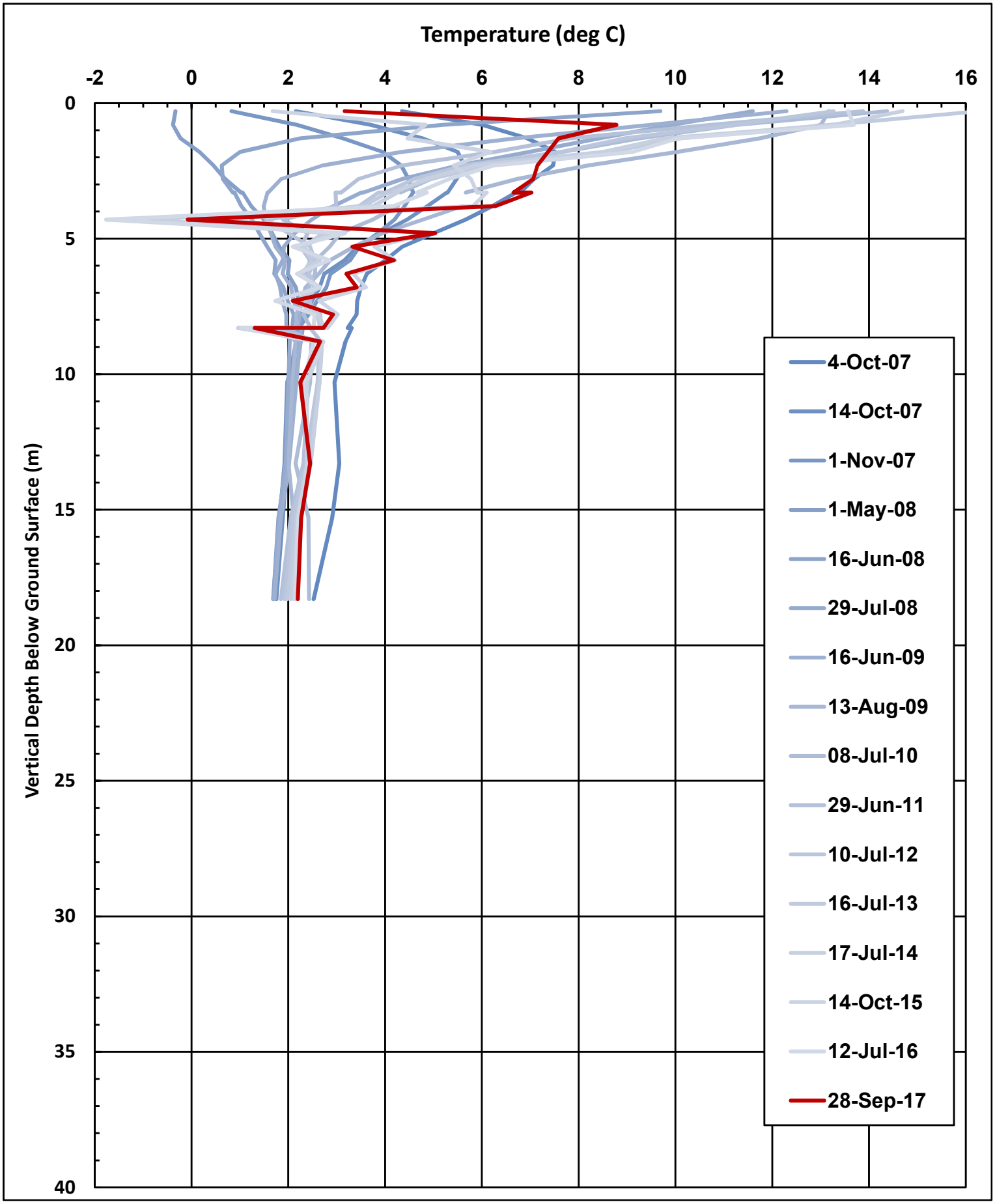
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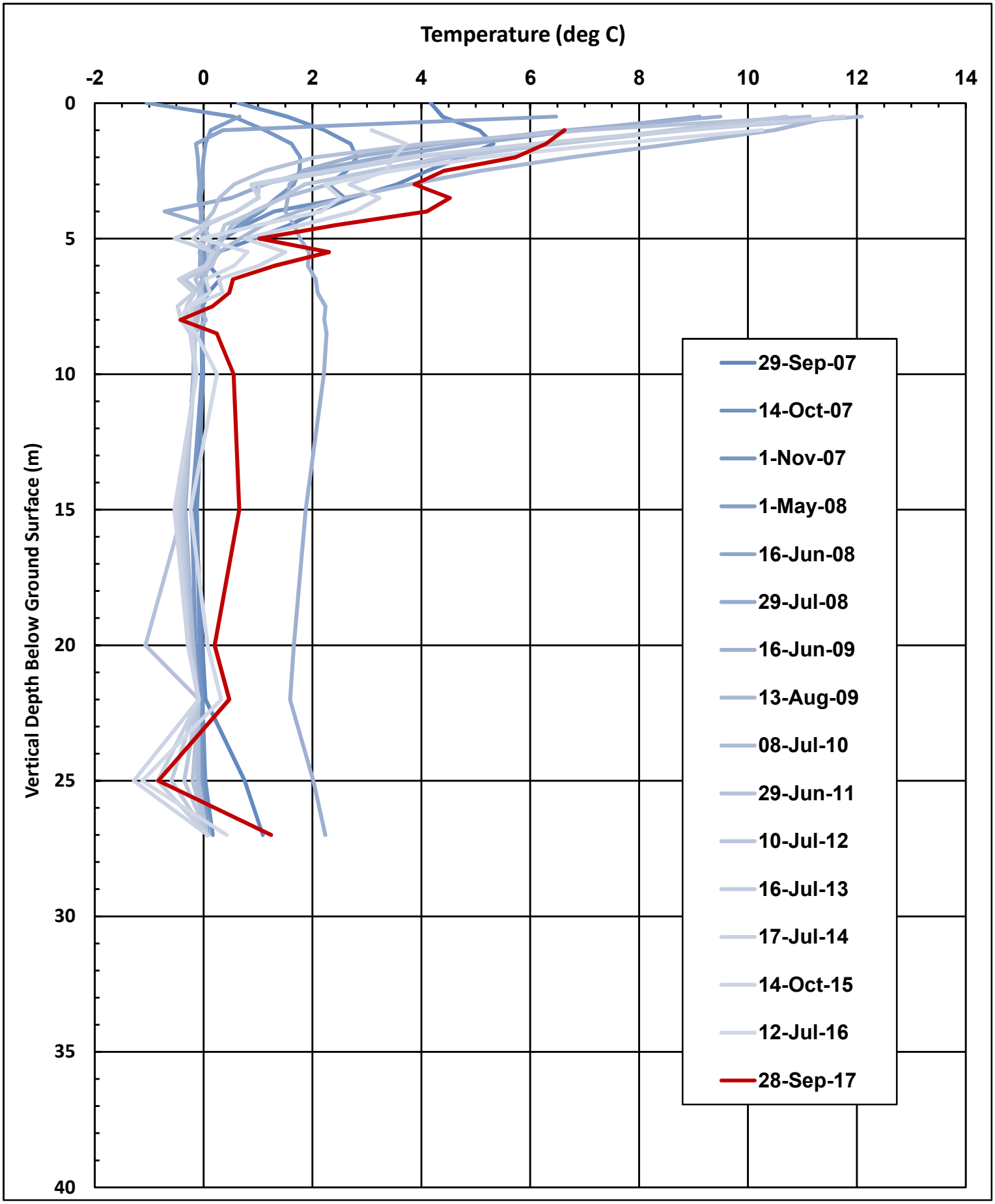
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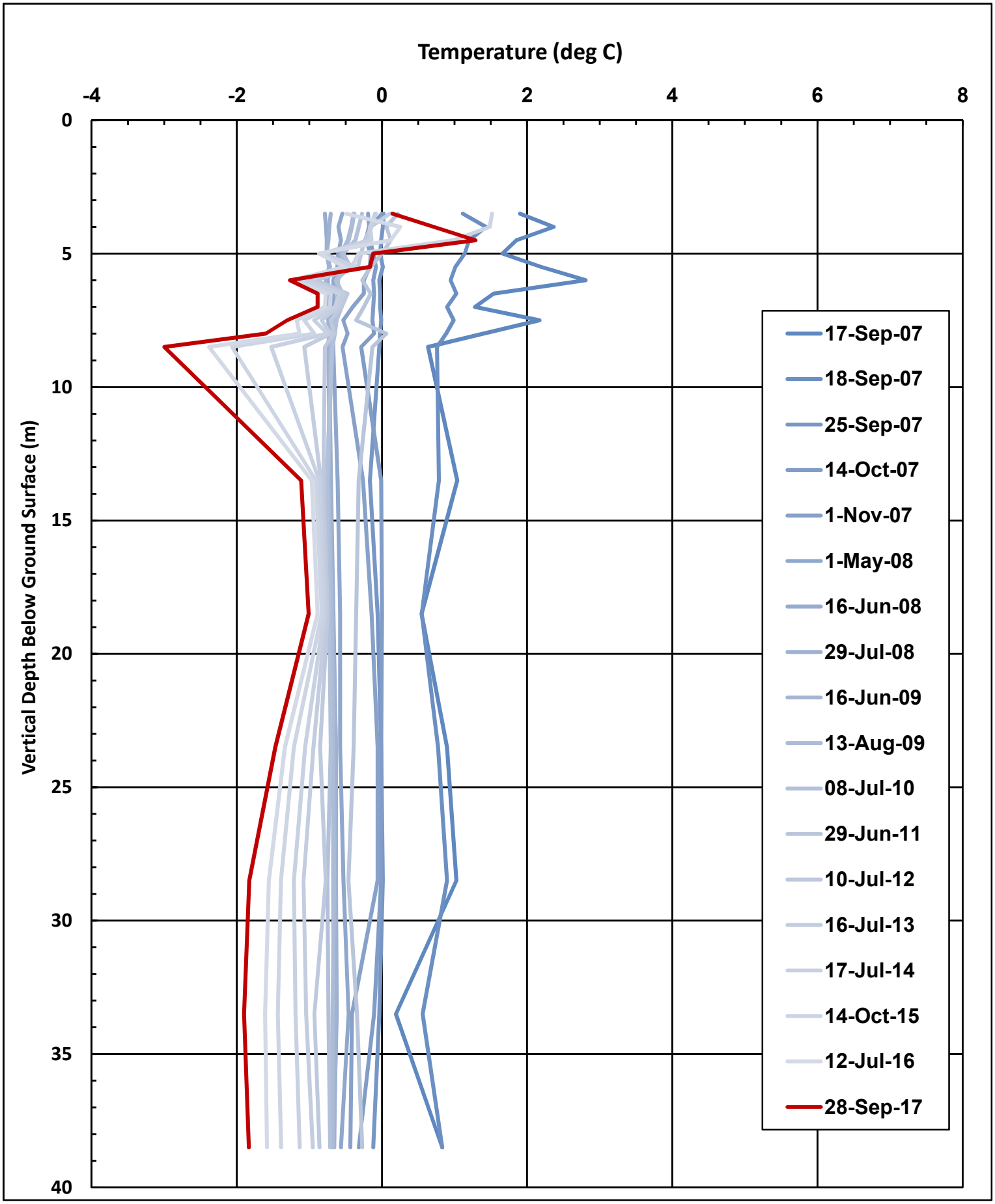
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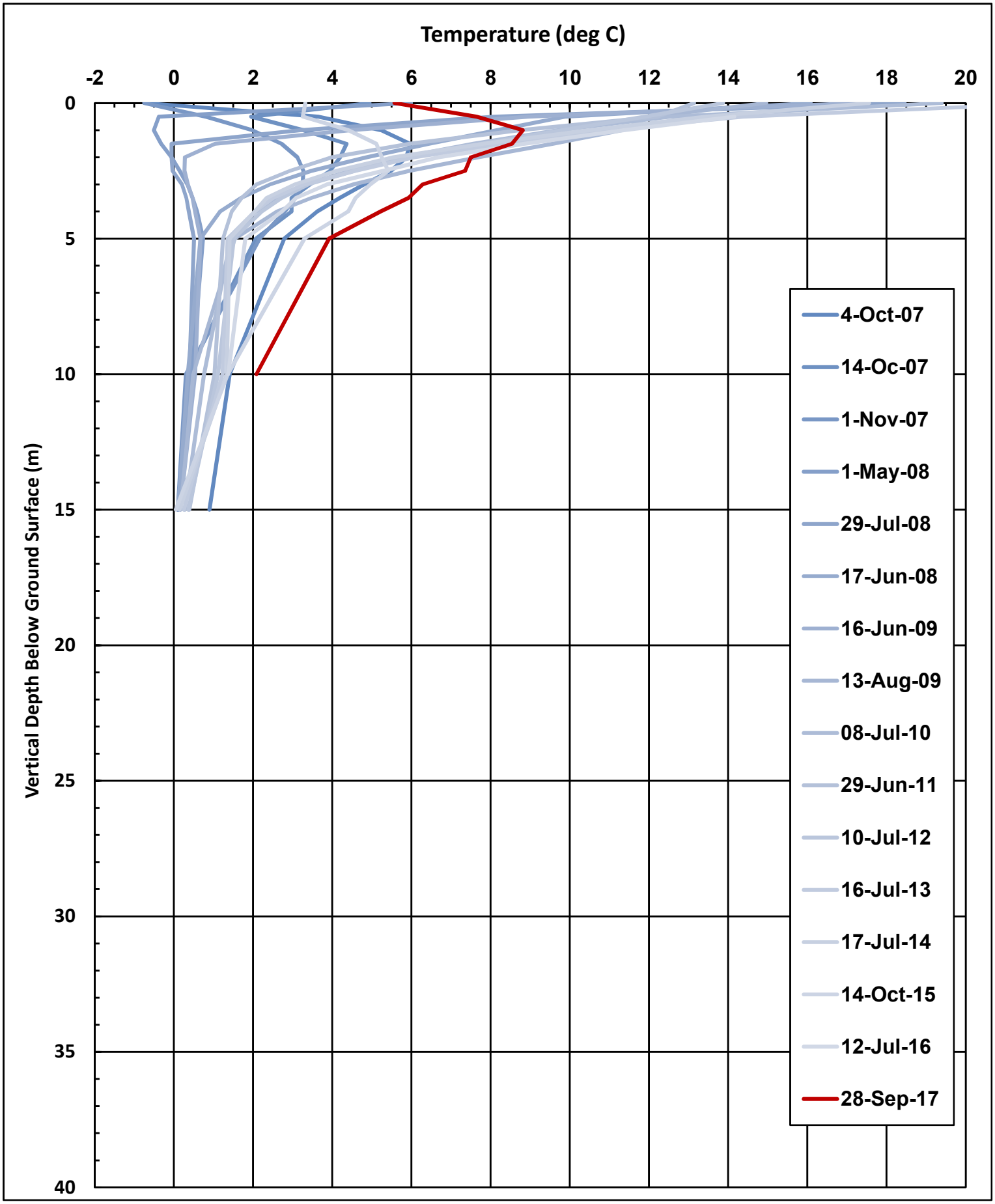
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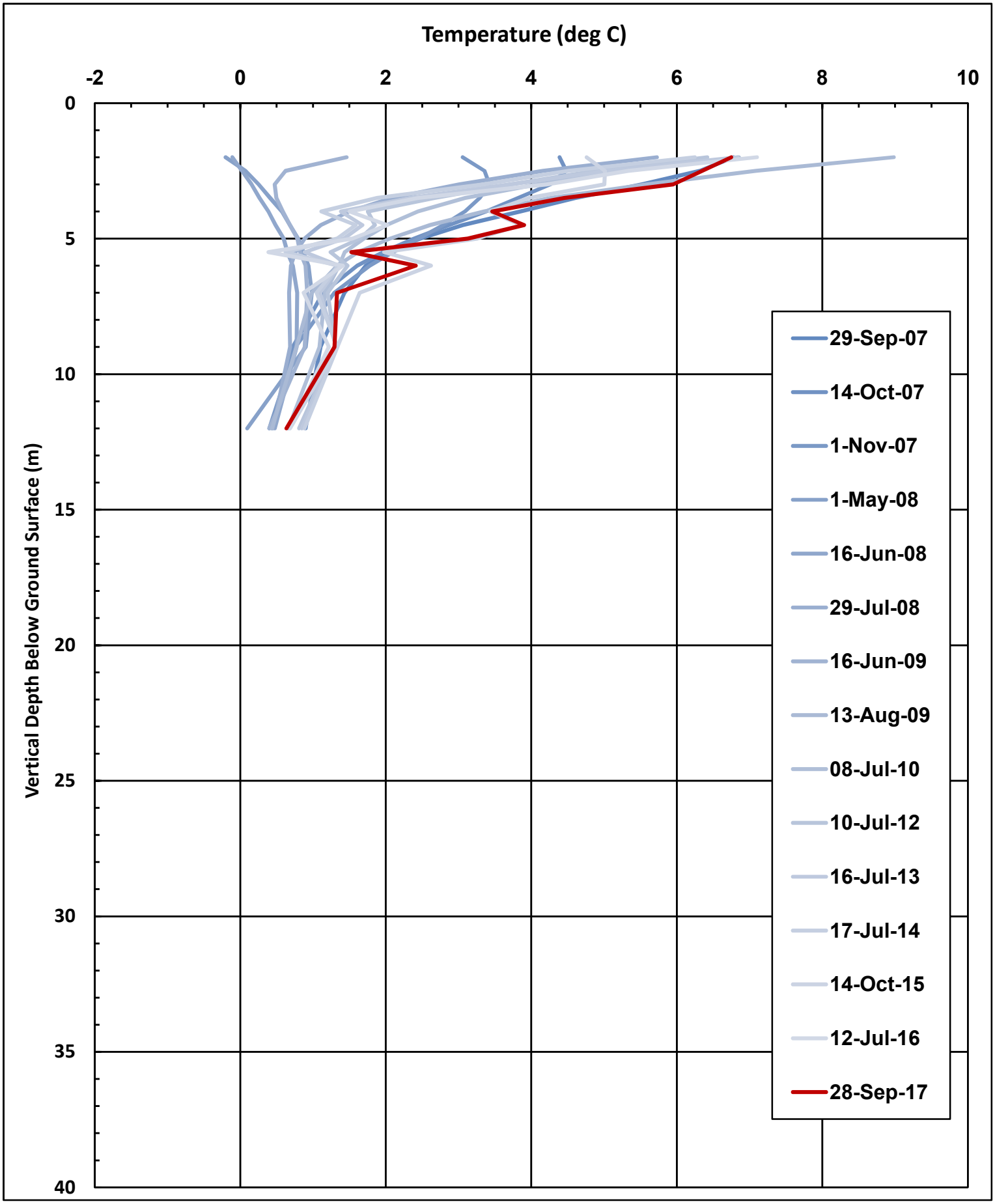
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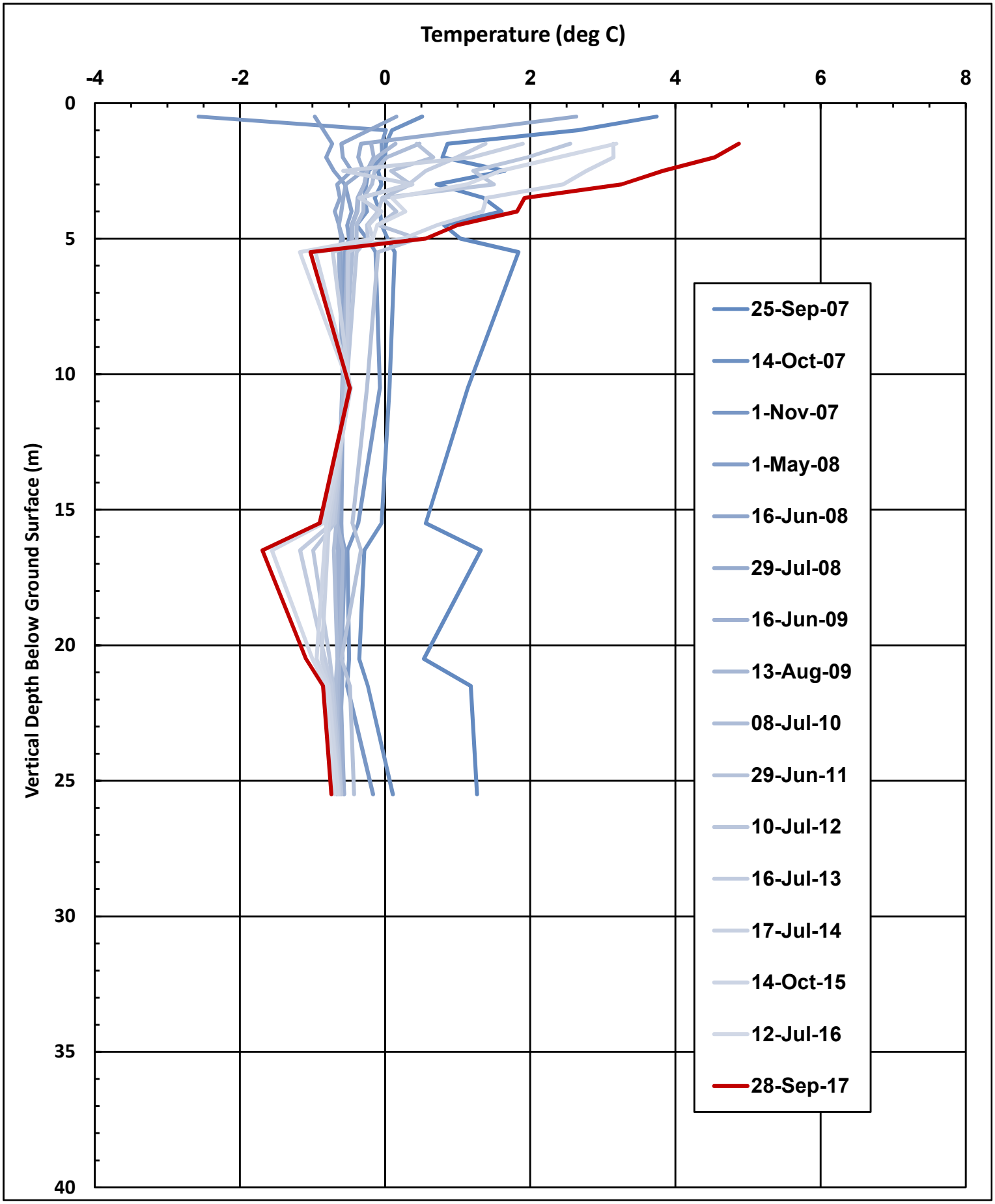
12-Jul-16
28-Sep-17


Temperature (deg C)
-4
-2
0
2
4
6
8
0
5
10
15
20
25
30
35
40
Vertical Depth Below Ground Surface (m)
25-Sep-07
14-Oct-07
1-Nov-07
1-May-08
16-Jun-08
29-Jul-08
16-Jun-09
13-Aug-09
08-Jul-10
29-Jun-11
10-Jul-12
16-Jul-13
17-Jul-14
14-Oct-15
12-Jul-16
28-Sep-17