Long-Term Permafrost and Groundwater Monitoring Program for the Tailing Impoundment Five-Year Permafrost and Groundwater Data Analysis 2007 – 2011

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1.0 INTRODUCTION

This Five-Year Permafrost and Groundwater Data Analysis Report for the Long-Term Permafrost and Groundwater Monitoring Program (Monitoring Program) for the Tailing Impoundment was prepared by AMEC Environment and Infrastructure (AMEC) for Teck Alaska, Incorporated (Teck). This report represents the second five-year analysis of permafrost and groundwater data collected as part of the ongoing Monitoring Program performed as part of the Groundwater Supplemental Environmental Project (SEP) for the Red Dog Mine. Activities associated with the Groundwater SEP are outlined in Appendix B (Groundwater Monitoring Statement of Work [SOW]) of the Consent Decree between Cominco Alaska Incorporated (now TCAK) and the United States Environmental Protection Agency (EPA), entered on November 25, 1997 (U.S. v. Cominco Alaska Incorporated, Civil Action A97-267CV).

The second Five-Year Data Analysis Report has been developed in accordance with the Long-Term Permafrost and Groundwater Monitoring Plan for the Tailing Impoundment (WMCI, 2001a), as approved by EPA on January 11, 2002. The Plan describes the basis of the Monitoring Program for the site, which was developed based on detailed characterization and analysis of permafrost and groundwater conditions in the vicinity of tailing impoundment. The detailed characterization of site conditions was based on the SEP performed at the mine between 1995 and 2001. The first Five-Year Data Analysis Report was prepared in 2007, and presented data collected during the period 2002 and 2006 (Geomatrix, 2007). This report provides an updated assessment of permafrost and groundwater conditions at the Red Dog site based on data collected during the period 2007 to 2011. Plume maps and chemical cross sections for these seven COCs were previously submitted to the U.S. Environmental Protection Agency (EPA) in the 2010 Annual Performance Evaluation (PE) Report, Volume 2, dated April 6, 2011 (AMEC Geomatrix and ERM, 2011), and in earlier annual reports for the BPOU.

1.1 Site Background

The Red Dog Mine is located in northwestern Alaska near the southwestern end of DeLong Mountains of the Western Brooks Range. The Red Dog Mine consists of an open pit mine for the extraction of metal-bearing ore, an ore milling and concentration facility, and an approximately 300 acre tailing impoundment that receives mine drainage from the open pit area and other areas of mining activity, as well as natural surface runoff from precipitation, and process waters from the milling operation. The general location of the mine is shown on Figures 1.1 and 1.2. A general layout of site facilities is shown on Figure 1.3.

The tailing impoundment was recognized as having the potential to affect both permafrost and groundwater in one or more adjacent drainages. The Groundwater SEP was included as a key component of the Consent Decree with EPA, and was intended to provide for development and installation of a system to monitor and predict certain specific potential effects of the tailing impoundment on permafrost and groundwater in the area of influence. Because of the important relationship between the presence of permafrost and the groundwater flow regime, the SEP included data collection for both permafrost and groundwater parameters.

1.2 Groundwater SEP

The development of the groundwater monitoring system as part of the Groundwater SEP was accomplished through a three-phase iterative process (as set forth in Appendix B of the Consent Decree) that included the following:

- Development and installation of a groundwater monitoring system that meets all performance standards set forth in Section III of Appendix B of the Consent Decree,
- Development of a long-term groundwater monitoring plan that meets the requirements set forth in Section IV.C of Appendix B of the Consent Decree, and
- Development of a long-term operation and maintenance plan that will assure the continued effectiveness of the groundwater monitoring system
- The groundwater SEP was performed in three phases, as follows:

Phase I - Preliminary hydrogeologic and permafrost characterization. This phase was completed between 1995 and 1997, and included installation of 26 thermistors and 17 shallow and deep piezometers. Results provided for a basic understanding of permafrost and groundwater flow conditions at the site (WMCI, 1997).

Phase II - Detailed assessment of permafrost conditions and the hydraulic integrity of the tailing impoundment. This Phase was completed between 1997 and 1999, and included installation of 8 additional thermistors and 27 additional piezometers. Results included a detailed thermal model of the permafrost and a general conceptualization of both shallow and subpermafrost groundwater flow (WMCI, 1999)

Phase III - Investigations to supplement Phase II results and to provide data for subsequent specification of a long-term permafrost and groundwater monitoring program for the tailing impoundment. This Phase was completed between 1999 and 2001, and included installation of one replacement piezometer and 6 temporary piezometers within the tailing material. Results included a detailed conceptual model of subpermafrost groundwater conditions, along with a detailed understanding of potential vertical flow from the impoundment (WMCI, 2001b).

Results of the SEP were used to develop a detailed understanding of permafrost and groundwater conditions in the vicinity of the tailing impoundment, and are summarized in Section 2.1. Detailed discussion of these results is found in the Phase I, II, and III Reports, and the Long-Term Permafrost and Groundwater Monitoring Plan (WMCI, 2001a).

1.3 Key Elements of the Monitoring Program

The Monitoring Program has been developed based on SEP results, and consists of the following:

- Quarterly monitoring of 15 key background and dam area thermistors to assess currently observed trends in temperature changes in the permafrost;
- Quarterly monitoring of 9 key background and dam area piezometers to assess currently observed water levels and gradients;
- Ongoing data handling and management;
- Annual data reports to the EPA; and
- Assessment of subsurface trends and conditions every five years, including an evaluation of the requirement to update the thermal and numerical flow model developed as part of the SEP.

The first Five-Year Data Analysis Report was completed in 2007 and summarized permafrost and groundwater monitoring data collected for the period 2002 through 2006 (Geomatrix, 2007). The report noted no significant changes in water elevation and ground temperature trends observed during development of the SEP. The report noted some minor changes in the observed warming trends in permafrost in the dam area, where ground temperatures at depth exhibited a cooling trend similar to trends observed in other locations in Alaska. The Report included minor changes to the data collection program in terms of replacing certain thermistors that had been impacted by mining activities.

The second Five-Year Data Analysis Report is presented here, and pertains to data collected from the period 2007 through 2011.

1.4 Objective of the Five-Year Data Analysis

The provisions of the Long-Term Monitoring Plan call for an assessment of observed permafrost and groundwater trends on a five year basis. The requirements for the five-year assessment as outlined in the Plan include:

- A general summary of all data collected as part of the monitoring program during the five-year period, including an update of all thermistor plots and piezometer hydrographs.
- An assessment of permafrost conditions at the site, including an updated analysis of the observed background warming trend, an updated analysis of subsurface temperatures beneath the dam in the absent permafrost zone, and an assessment of permafrost conditions in the overburden stockpile. These assessments will focus on whether the trends identified during the SEP are continuing, or if the currently observed trends and conditions have changed during the five-year monitoring period.
- If data and analysis associated with permafrost conditions warrant, the thermal model developed as part the SEP may be updated. This model update may include new model

calibrations and/or updates of the predicted long-term permafrost conditions beneath the impoundment.

- An assessment of shallow groundwater flow conditions in the dam area, focusing on the seepage collection system. Water level fluctuations, along with horizontal and vertical gradients within dam underdrain, seepage collection wells, and the seepage collection dam will be reviewed and the system's ongoing ability to contain impoundment seepage will be assessed.
- An assessment of subpermafrost groundwater levels will be made, focusing on any deviations from the trends observed during the SEP. An assessment will be made as to whether subpermafrost groundwater conditions remain similar to the SEP characterization, or if water level fluctuations suggest changing flow conditions (i.e., potential occurrence of vertical flow between the impoundment and the subpermafrost system), or different system characteristics than those identified during the SEP.
- If data and analysis associated with shallow or subpermafrost groundwater conditions warrant, the groundwater flow model developed during Phase III may be updated to include new calibrations or updated predictions of long-term groundwater flow in the vicinity of the impoundment.
- Based on the review of permafrost and groundwater conditions in the vicinity of the impoundment, an assessment will be made of the overall monitoring program, including monitoring installations, data collection schedule, and QA/QC program. Modifications to the Plan, if warranted, may be proposed as part of the five-year analysis. A reduction in the monitoring plan may be appropriate in some areas if the currently observed trends do not show any change.

The five-year permafrost and groundwater data analysis has been developed based on these guidelines as described in this report. Section 2 of this Report presents a summary of conclusions related to the initial characterization and analysis of permafrost and groundwater conditions from the initial SEP, along with monitoring objectives and a summary of data collection activities performed during 2007 through 2011. An assessment of current permafrost conditions based on a review of recent data is provided in Section 3, while an assessment of current groundwater conditions is provided in Section 4. A discussion of data Quality Assurance and Quality Control (QA/QC) and system operations and maintenance is provided in Section 5. Recommendations for ongoing monitoring at Red Dog, including modifications to the current program, are provided in Section 6.

2.0 SUMMARY OF PREVIOUS ANALYSIS AND MONITORING

This section presents a summary of results from the initial SEP program and the first Five-Year Analysis Report, along with the general data objectives for the long-term monitoring program and a summary of data collection activities under the program.

2.1 Results of the SEP Program

Characterization activities and analysis performed based on data collected between 1991 and 2001 resulted in an overall detailed understanding of permafrost and groundwater flow conditions within the vicinity of the tailing impoundment. Key findings from the SEP that form the basis of the long-term permafrost and groundwater monitoring program are summarized as follows:

- Shallow groundwater flow within the near-surface active layer is minimal in areas away from mine facilities. The only area with any significant active-layer flow is directly underneath the tailing dam and within the dam seepage collection system.
- Permafrost aggradation into the overburden stockpile south of the impoundment has resulted in a shallow flow divide that precludes water from the tailing impoundment from flowing southward into the Bons Creek drainage.
- The detailed thermal model developed during Phase II of the SEP indicated that both climatic-induced warming and thermal impact from the tailing impoundment are affecting subsurface temperatures at the site. Thermal impact from water within the impoundment has resulted in a zone where permafrost is absent. The maximum predicted width of this zone is approximately 315 m, extending on either side of original streambed of the South Fork of Red Dog Creek. It is considered likely that the zone extends upgradient from the dam along the original streambed to approximately one half the distance between the dam and the drainage divide with Bons Creek, based on interpreted initial thermal conditions below the original streambed.
- Water level fluctuations observed within the subpermafrost system are suggestive of unique aquifer mechanics, resulting in a condition of high tidal efficiency and the transfer of surface loads to the fluid within the system. SEP evaluations have lead to the development of a detailed conceptual model for subpermafrost groundwater at the site:
  - Groundwater currently within the subpermafrost system was primarily recharged to the system in the past, when permafrost was discontinuous or prior to permafrost formation. Significant current recharge to the system does not occur, and waters within the subpermafrost are isolated from surface recharge.
  - Water level fluctuations observed in the subpermafrost system are a function of changes in surface loading. The subpermafrost system has a high tidal potential, meaning that surface loads are transmitted through the rigid rock and are borne almost entirely by the fluid. Because of the tightly confined nature of the groundwater system, these fluctuations do not result in lateral or vertical groundwater flow. Any flow that does occur would be highly local and isolated within local fracture sets.
  - Geologic conditions dominated by fractures and faulting act to create a subpermafrost groundwater system with virtually no site scale flow. Some isolated local scale flow occurs within discontinuous fractures and fault-bounded bedrock zones.

- Discharge from the subpermafrost groundwater system is likely highly localized in areas away from the site, along stream courses and/or where seeps are observed.

- Groundwater modeling performed as part of Phase III of the SEP indicates that, even under the most conservative assumptions, virtually all flow from the impoundment is captured within the dam seepage collection system, and that no significant vertical flow from the impoundment to the subpermafrost system can occur.
- Model results also indicate that no changes to the basic flow system will occur due to currently envisioned long-term operational and closure scenarios for the impoundment.

These results were presented in the Phase I, II, and III reports (WMCI, 1997, 1999, and 2001b) and form the basis for development of the long-term permafrost and groundwater monitoring system. EPA approved the Long-Term Permafrost and Groundwater Monitoring Plan in January 2002. Permafrost and groundwater data have been collected under the program since 2002.

2.2 Results of the First Five-Year Analysis Report

The first Five-Year Analysis was conducted in spring, 2007 to review the previous five years of groundwater and permafrost data (Geomatrix, 2007). Conclusions from the analysis included:

- Background permafrost temperatures show continued warming in most site thermistors, consistent with permafrost observations across Alaska. Some installations showed that shallow temperatures are leveling off or even cooling slightly, which was also consistent with other observations across Alaska.
- Permafrost temperatures in the dam area showed similar cooling at similar depths as the background data, indicating that no significant additional thermal impacts from site activities were occurring in this area.
- Permafrost temperatures in the overburden stockpile showed significant cooling areas where exothermic reactions were previously observed. Permafrost degradation in these areas had abated, and stable temperatures were observed in the stockpile.
- Groundwater levels in the dam area continued to show that shallow flow is collected in the seepage collection system.
- Subpermafrost groundwater levels in the dam area appeared to have become isolated from direct surface loading effects from the tailing pond due to development of the tailing beach which has moved the free water surface away from the dam face. Lateral and vertical hydraulic gradients in this area have not changed, indicating that no significant changes to subpermafrost conditions had occurred in this area.
- Background subpermafrost groundwater levels remained stable or increased slightly.
- Updated numerical models of subsurface thermal conditions and groundwater flow were not considered warranted, as no significant changes to permafrost or groundwater conditions were noted.

Minor changes to the monitoring program were proposed during the first Five-Year Analysis, consisting primarily of the replacement of certain thermistors that had been impacted by mining activities with nearby installations.

2.3 Permafrost and Groundwater Data Objectives

The results from the SEP program and the first five-year assessment continue to guide data collection and analysis activities. These objectives are described in the following sections.

2.3.1 Permafrost and Groundwater Data Objectives

Thermal modeling of the tailing impoundment performed during Phase II of the SEP indicated that both long-term climatic changes and thermal impacts from the tailing pond have an effect on observed subsurface temperatures. Specifically, temperatures at depth were shown increase significantly between 1995 and 2001, both within background permafrost and in the zone beneath the impoundment where permafrost is absent. Temperature monitoring since 2001 has shown a mix of continued warming, stable temperatures, and periods of cooling at depth that have also been consistent other areas of Alaska and thus representative of long-term climatic influences. Therefore, long-term monitoring of subsurface temperatures is focused on collecting data sufficient to allow a continuing assessment of the subsurface temperature trends.

General data objectives for permafrost monitoring can be summarized as follows:

Background Areas
Areas outside the thermal impact of the impoundment showed a strong warming trend at depth during the initial SEP program. The general objective of long-term monitoring of background permafrost conditions is to continue to follow subsurface temperature trends, and to periodically assess whether the observed permafrost trends could impact seepage from the tailing impoundment.

Tailing Dam and Absent Permafrost Zone
Areas directly beneath the dam, along the original stream course of the South Fork of Red Dog Creek, showed higher pre-mining permafrost temperatures as a result of the natural flow of the creek (Phase II Report, WMCI, 1999). However, subsurface temperatures in this area have also been impacted by the relatively warm waters within the impoundment. The waters within the impoundment were found to average approximately 5 ºC warmer than the background air temperature. Therefore, subsurface temperatures directly beneath the dam were measured as warming at a faster rate than those in background areas during the late 1990s. This warming resulted in a zone where permafrost is absent beneath the impoundment. Temperature monitoring since 2001 within the zone of absent permafrost has shown a mix of continued warming, stable temperatures, and periods of cooling at depth that have also been consistent other areas of Alaska and thus representative of long-term climatic influences. The general objective of long-term monitoring of subsurface temperatures in the tailing dam area is to continue to assess ongoing trends in subsurface temperature, and to periodically assess the extent of the zone of absent permafrost beneath the dam.

Overburden Stockpile

Temperature data within the overburden stockpile show that permafrost has aggraded into the fill material, potentially resulting in a shallow flow divide between the impoundment and the Bons Creek drainage. This divide likely prevents impoundment waters from flowing into the Bons Creek drainage. Thermistors within the stockpile show various temperature responses, with some cooling and some warming. The general objective of long-term monitoring within the overburden stockpile is to follow the warming or cooling trends and to periodically assess permafrost conditions within the stockpile.

2.3.2 Groundwater Level Monitoring

Data and analyses developed as part of the SEP demonstrated that virtually all shallow flow originating from the tailing impoundment is collected within the dam seepage collection system, and that no vertical flow is occurring between the impoundment and the subpermafrost system. Because the SEP analysis did not indicate that any seepage pathways existed from the tailing impoundment, groundwater monitoring has not focused on seepage pathways, but rather on assessing any changes over time from observed conditions. The focus of monitoring of the groundwater system has therefore be based on monitoring water level changes over time as a means to assess potential changes from current conditions.

General data objectives for groundwater level monitoring can be summarized as follows:

Background Active Layer Groundwater Flow

Analyses presented in the Phase II report (WMCI, 1999) showed that no significant groundwater flow within the thin, near-surface active layer is occurring in areas away from the impoundment. Therefore, no long-term monitoring has been performed for the active layer away from the dam area. However, active layer temperature conditions have been monitored as part of the thermal monitoring program, allowing for observation of any changes in temperature that would indicate increased groundwater flow in the shallow active layer.

Active Layer Groundwater Flow within the Dam Area

Shallow groundwater flow in the dam area is dominated by the seepage collection system, including the dam underdrain, the seepage pond, and the seepage collection dam. Groundwater elevations in the 1995 – 2000 period showed that the dam underdrain was collecting all waters seeping from the impoundment. This assessment was based on data that showed upward vertical gradients within the underdrain, the elevation of the collection wells versus the seepage pond elevation, and the elevation of shallow groundwater within the seepage dam fill. These trends were shown to have continued between 2002 and 2006. The general objective of long-term monitoring of shallow flow within the tailing dam area is to chart water level changes over time to assess whether any changes occur in the relative horizontal and vertical flow gradients within the system.

Background Subpermafrost Groundwater System

The subpermafrost groundwater system is basically a no-flow system, with groundwater held in a tightly confined condition within horizontally and vertically isolated fractures. The confined nature of the system shows the condition of high tidal efficiency, where any variation in surface loading is transmitted to groundwater pressures within the system, resulting in an instantaneous and complete water level response to the surface load.

This unique aquifer mechanism results in a condition where an isolated flow system that does not receive recharge still has relatively large water level fluctuations. These water level fluctuations can be correlated to specific surface loading changes, as described in the Phase III Report (WMCI, 2001b). The general objective of monitoring background water level conditions within the subpermafrost is to chart water level fluctuations over time to assess the correlation with surface loading conditions, and to chart long-term fluctuations in subpermafrost groundwater.

Subpermafrost Groundwater Beneath the Dam Area

Subpermafrost groundwater conditions beneath the dam are the same as those noted for background conditions, with isolated groundwater within a tidally efficient aquifer system. However, key vertical and horizontal gradients are noted in the dam area that provide confirmation that no vertical flow is occurring from the impoundment into deep groundwater, even though there is a zone where permafrost is absent. The general objective of monitoring subpermafrost groundwater levels beneath the dam is to chart water level fluctuations and horizontal and vertical gradients both within the subpermafrost system and between shallow and deep groundwater. These data are used to assess correlations of water levels with surface loading conditions, continued hydraulic gradient directions, and to note any changes to conditions beneath the dam.

2.4 Data Collection Activities

Permafrost and groundwater data have been collected during the 2007 through 2011 period as described in the Long-Term Monitoring Plan (WMCI, 2001a). The locations of all thermistor and piezometers measured as part of the Plan are shown on Figure 2.1. Annual reports summarizing data collection activities have been provided to EPA for the 2002 through 2010 period (Geomatrix Consultants, 2003, 2004, 2005, 2006, AMEC Geomatrix, 2009, 2010, 2011). The first Five-Year Analysis Report was prepared in 2007 (Geomatrix, 2007). Data collected during 2011 are summarized in Appendix A.

Subsurface temperature measurements from the 15 thermistors that are part of the Long-Term Monitoring Program are summarized on both a trumpet diagram and graphs showing temperature changes over time at each depth. These plots were originally developed during Phase II of the SEP (WMCI, 1999) and have been updated and reported on an annual basis. Plots showing the entire period of record are included in Appendix B. These plots form the basis of the assessment of current permafrost conditions presented in Section 3.0.

Groundwater level measurements from the 9 piezometers that are part of the Long-Term Monitoring Program are summarized on hydrographs showing water level fluctuations over time. These plots are updated and reported annually. Plots showing the entire period of record are included in Appendix C. These plots form the basis for the assessment of current groundwater conditions presented in Section 4.0.

The temperature plots and hydrographs represent a summary of all the data collected as part of the SEP, including all data collected during the last five years. Section 5.0 of this report discusses issues related to the current status of instrumentation used to collect both subsurface temperature and water level data.

3.0 ASSESSMENT OF CLIMATIC AND PERMAFROST CONDITIONS

Subsurface temperature conditions are measured in 15 thermistors (Figure 2.1) that monitor both background permafrost conditions and conditions within the dam, tailing impoundment, and overburden stockpile areas. Data and assessments presented in the initial SEP indicated that the permafrost in the vicinity of Red Dog mine showed a strong warming trend similar to the general warming of permafrost observed across Alaska. A numerical model of subsurface thermal conditions was developed during Phase II, which indicated that the observed warming at depth within the permafrost was primarily a result of warming air temperatures in the vicinity of Red Dog.

Assessments provided in the first Five-Year Report indicated that some subsurface temperatures at depth had stabilized and begun to show a cooling trend, while other temperatures continued on the warming trend observed during the late 1990s. These trends were also shown to be consistent with trends observed across Alaska as a result of climatic conditions. Permafrost and climate conditions observed at the mine over the last five years are discussed in the following sections.

3.1 Long Term Air Temperatures

Climate conditions at the Red Dog mine are monitored at a meteorological station located near the mine airport in the Bons Creek drainage. Climate data have been collected at the station beginning in 1992 and include air temperatures, precipitation, and evaporation. Annual average air temperatures (i.e. the average of daily air temperatures over the year) are generally increasing at Red Dog in a similar fashion to air temperature warming observed throughout Alaska.

Figure 3.1 presents a graph of long-term annual average air temperatures for the Red Dog site. Data prior to 1992 were developed based on a correlation with temperatures measured at the Kotzebue Weather Service Office (WSO) since 1950 developed during Phase II of the SEP (WMCI, 1999). The graph shows that temperatures generally increased in a dramatic step-wise fashion around 1976/1977. This step-wise increase is consistent with air temperatures measured throughout Alaska (Osterkamp and Romanovsky, 1999, Hartmann and Wendler, 2003, Osterkamp, 2007).

The mean annual air temperature estimated for Red Dog between 1950 and 1976 is approximately -6.7 °C. The mean annual air temperature after 1976 at Red Dog has increased from -5.1 °C as reported in the original SEP (1977 through 1998, WMC, 199) to -4.7 °C. This represents a relatively short-term rise in air temperatures in the vicinity of Red Dog of approximately 2 °C. Recent increases in mean annual air temperatures have been seen throughout the Arctic region north of 60°N Latitude and are amplified by a factor of two or more relative to lower latitudes (Arctic Report Card, NOAA, 2011). This phenomenon is known as the

Arctic Amplification (Overland, et. al, 2011) and is primarily a consequence of increased summer sea ice loss and northward transport of heat by the atmosphere and ocean.

The mean annual air temperature based on actual measured values at Red Dog between 1992 and 2006 is approximately -4.56 °C. Figure 3.2 presents a graph showing measured air temperatures from 1992 through 2011. A trend line based on linear regression has been added to the graph and shows an increasing slope at approximately 0.045 °C/year. In general, temperatures have been steadily increasing since the early to mid 1990ss. During 2007 through 2011, three of the five years have had annual average air temperatures above the mean, with a maximum of -3.3°C in 2004. These temperatures indicate that air temperatures at Red Dog are generally consistent with the long-term warming trends noted throughout Alaska (Romanovsky, et. al, 2011).

3.2 Permafrost

Subsurface temperature measurements for the past five years have been reviewed in relation to the trends observed and reported in the original SEP in 2001 and the first Five-Year Analysis Report in 2007. The locations of thermistors measured as part of the Long-Term Monitoring Program are shown in Figure 2.1. All subsurface temperature data are presented graphically in Appendix A. Recently observed trends are summarized on Table 3.1. An assessment of various observed trends are discussed in the following sections.

3.2.1 Background Conditions

Background permafrost temperatures are monitored across the site in various areas at thermistors T-95-005, T-95-009, T-96-012, and T-96-015. In general, two distinct trends are evident in the background data. The long-term warming trend observed during the late 1990's has continued in most boreholes. In addition temperatures that were observed to have stabilized or cool between 2001 and 2006 at depths of approximately 70 to 85 feet have returned to a warming trend.

Figures 3.3 and 3.4 illustrate the long-term warming trend that has occurred in within background thermistors over approximately the last 15 years. Figure 3.5 presents temperatures at depths of approximately 85 feet and 100 feet measured in thermistor T-96-015. As shown on the graph, temperatures at these general depths have increased by approximately 0.2 °. This warming trend is generally consistent with warming observed in other continuous permafrost regions in Alaska (Romanovsky, et. al, 2011). For example, Figure 3.6 shows long-term temperature profiles at various locations across Alaska at depths of 20 meters (67 feet). Temperatures show a long term warming since the late 1980s.

The first Five-Year Report noted that some temperatures at shallower depths showed temperatures that leveled off or cooled slightly at the end of the 1990s and in the early 2000s. Figure 3.7 presents a graph of temperatures measured in T-96-012 at depths of 69 and 84 feet. Temperatures at these depths warmed between 1996 and 2000, leveled off or cooled slightly between 2000 and 2005, and have returned to a warming trend in the last five years. This trend is also observed at a depth of 71 feet below the original ground surface under the tailings dam in the zone of absent permafrost (T-97-030), as shown in Figure 3.8. These temperature trends are consistent with those measured across Alaska, as shown on Figure 3.6 (Romanovsky, et. al, 2011).

In general, long-term warming of air temperatures has resulted in overall warming of the permafrost in the vicinity of the mine. Areas where subsurface temperatures leveled off or cooled slightly, and have returned to warming are likely influenced by a complex set of factors that include snow depth, terrain, slope, vegetation, and variations in soil and rock type. These factors influence the subsurface thermal regime at various time scales and result in complex interactions that influence heat flow at both the surface and at depths. Because site activities do not appear to be significantly influencing background permafrost conditions at Red Dog (i.e. temperature changes are consistent with those observed across Alaska), detailed analysis of the influence of the affect of complicated surface factors on the background subsurface thermal regime is not deemed necessary at this time.

3.2.2 Dam Area

Subsurface temperatures in the dam area are influenced by the presence of the dam and the potential thermal impact of the impoundment and water seeping into the collection system. The general subsurface temperature trends in the vicinity of the dam are similar to those noted in background thermistors. Thermistors T-97-029 and T-97-030 show consistent temperature trends as background thermistors, with temperatures stabilizing in the early to mid 2000s followed by warming in the last five years. Figure 3.8 shows temperatures within the zone of absent permafrost as measured in T-97-030 at depth of 71 and 84 feet, respectively. These temperatures, although not in permafrost, are consistent with background conditions and indicate that there is currently not a significant additional thermal impact from the dam or dam construction activities.

3.2.3 Overburden Stockpile

During the SEP, a number of thermistors were installed into and below the overburden stockpile to assess permafrost conditions related to potential flow through the pile from the impoundment into the Bons Creek drainage. Characterization and analysis of conditions measured in the stockpile between 1996 and 2000 indicated that while some warming of the permafrost had occurred as a result of exothermic chemical reactions within isolated areas of the stockpile, permafrost was aggrading into the material in most areas.

Temperature measurements within the overburden stockpile collected between 2007 and 2011 show that the previously observed cooling trend in the area where chemical reactions were taking place are continuing. Figure 3.9 show that temperatures measured in T-96-021 at a depth of 25 feet have cooled over 20°C between 1997 and 2011, with generally. Figure 3.10 shows temperatures at the top of the permafrost, which indicate that permafrost degradation in this area has generally abated. In general, temperatures within the stockpile permafrost have remained stable or in some instances cooled, as shown in Figure 3.11.

As noted in Section 2.3.1, the general objective of monitoring permafrost conditions within the overburden stockpile has been related to the potential groundwater divide between the tailing pond and the Bons Creek drainage. A dam has been installed at the toe of the overburden stockpile within the tailing impoundment drainage as a primary control on potential seepage from the tailing pond toward the Bons Creek drainage. Thermistors and piezometers installed within the dam footprint are routinely monitored as part of the Red Dog mine permit monitoring program to assess the ongoing integrity of the back dam, and to ensure no seepage is occurring. Monitoring of subsurface temperatures will continue as part of the SEP to track trends in the stockpile to identify any changes that would be indicative of potential seepage.

3.3 Summary

Permafrost conditions at Red Dog have, in general, have not changed significantly over the last five years. Subsurface temperatures in background areas have continued to follow trends consistent with those observed across Alaska, with continued warming at depth. Based on these observations, it has been determined that updating the numerical thermal model of the site is not warranted. Permafrost conditions will continue to be monitored as part of ongoing mine activities and the need for additional predictive modeling will be re-assessed in the next five-year analysis report.

4.0 ASSESSMENT OF GROUNDWATER CONDITIONS

Groundwater levels are measured in 9 piezometers across the site that monitor conditions within the shallow flow system near the dam and in subpermafrost groundwater (Figure 2.1). Analyses presented in the SEP reports showed that there was no significant active layer flow in areas away from the dam and that all shallow flow in the dam was captured by the seepage collection system. In addition, subpermafrost groundwater was shown to have virtually no site-scale flow as it is tightly held within laterally and vertically isolated fractures, and that no vertical flow occurred within the zone of active permafrost. All water levels measured as part of the SEP are presented graphically in Appendix C. A summary of observed water level trends is presented in Table 4.1. An assessment of currently observed groundwater conditions are provided in the following sections.

4.1 Shallow Groundwater Conditions in the Dam Area

Shallow groundwater flow in the tailing dam area is dominated by the seepage collection system. Water level data collected in late 1990s and assessments of water level fluctuations and hydraulic gradients led to the conclusion that all subsurface flow in the vicinity of the tailing dam is being collected within the seepage collection system (Phase II of the SEP, WMC, 1999). The seepage collection system consists of a rock drain underneath the main tailing dam that discharges seepage flows into three perforated pumpback chambers each with a vertical turbine pump. The collection system also includes a small dam and pond that capture flows to be pumped back to the main tailing pond.

Installation of monitoring well SPP-97-002 in the seepage collection dam in 1997 was designed to monitor long-term water levels and hydraulic gradients within the seepage collection dam. Hydraulic gradients measured at the time demonstrated that groundwater flow was focused toward the central pump chamber within the seepage pump-back system. The pump intake is located at a lower elevation (~ 776 ft amsl) than measured in both upgradient (P-97-028, ~ 805 ft amsl) and downgradient (SPP-97-002, ~ 784 ft amsl) piezometers. Given that the central pump generally pumps water on a continuous basis, and that it pumps at high flow rates, it was concluded that no hydraulic gradient existed through the seepage collection system that could result in groundwater flow not captured by the system. Based on these gradients, the long-term objective of the SEP groundwater monitoring program is to monitoring for potential changes in hydraulic gradients in the vicinity of the pond toward the central pump chamber.

URS Consultants performed a detailed evaluation of the current physical state and operations of the dam underdrain, seepage collection pond and pumpback system (URS, 2011). URS noted that while the rock drain remains "free draining" into the pump chambers, oxidation and precipitation of ferrous iron in seepage waters have resulted in cementation of rocks near the surface within the rock bench surrounding the pump chambers. The presence of cemented rocks, or ferricrete, has resulted in some buildup of hydraulic heads upgradient of the pump chambers within the dam underdrain. However, presence of ferricrete has not impacted the ability of the seepage collection system to collect all seepage flows (URS, 2011).

AMEC has reviewed all water levels collected as part of the groundwater monitoring program for the last five years any changes that would suggest changes in hydraulic gradients that would be indicative of changes in the seepage collection system. Water levels measured in piezometers P-08A and P-08B have consistently showed an upward gradient into the dam underdrain as shown on Figure 4.1. This is important as it indicates that any water moving in native materials under the drain (P-08B) is flowing upward into the drain. Hydraulic head within the native material are consistently higher by over 2 feet, indicating continued discharge from native ground into the drain. In addition, water levels measured in the seepage collection dam (SPP-97-002, Figure 4.2) have consistently remained stable at a level above the seepage collection pump intake levels, indicating that no flow through the seepage collection dam can occur. Based on these consistently measured trends, shallow groundwater flow in the dam area continues to be collected within the dam underdrain.

Previous SEP Reports (WMC, 1999 and 2001, Geomatrix 2007) and the URS evaluation (URS, 2011) have shown that water levels within the underdrain (as measured in P-08A for the SEP) are a function of the interaction between pond levels, drain flow, and background precipitation conditions. Water levels have generally risen as the pond level has increased. In addition, some of the net increase in piezometer levels has been attributed to the buildup of cementation of the rock bench area (URS, 2011). Water levels within the vicinity of underdrain continue to show response to seasonal precipitation. As shown on the hydrograph for P-97-028 (Figure 4.3), higher water levels are generally noted during the late summer months when the active layer is at its thickest and precipitation is also high.

4.2 Subpermafrost Groundwater in the Dam Area

Subpermafrost groundwater levels in the dam area were shown in the SEP Phase III report to generally respond to changes in surface loading due to the high tidal efficiency of the aquifer (WMCI, 2001b). This analysis was based on reviewing water levels recorded at one minute intervals over a period of almost one year. Water level changes in P-96-010 and P-97-020 are generally expected to respond to changes in tailing pond levels.

During the first Five-Year Analysis Report, it was noted that water levels observed in P-97-020 had increased in the early 200s but then declined by almost 20 feet in 2006. The increases and decreases in water levels were interpreted to be related to changes in surface loading in the dam area related to the buildup of a tailings beach on the upstream face of the tailing dam and to dam construction activities. Water level fluctuations in P-97-020 are shown on Figure 4.4. As shown on the graph, water levels remained relatively lower between 2006 and 2008, and apparently increased in late 2008 to levels slightly higher than the observed 2004 peak. Figure 4.5 shows that water levels have remained stable in P-96-10 downstream of the tailing dam.

Instrumentation in the main tailing dam have been modified during dam construction activities occurring between 2008 and 2011 as additional lifts have been added to raise the height of the dam. In general, additional cable has been spliced onto the cable connecting the transducer within P-97-020 to the surface connection. It is likely that variations in readings are a result of both modifications to the instrument cable and ongoing construction activities in the dam area. Variations in surface loading from changes in increasing water levels in the tailing pond and dam underdrain may also have affected piezometer readings from P-97-020. This results in general uncertainty in piezometer readings related to the observed large, short-term jumps in water level, as these jumps may be a result of instrument modification and not an accurate measure of actual groundwater conditions.

4.3 Background Subpermafrost Groundwater Conditions

Background subpermafrost groundwater levels are monitored in piezometers P-96-012, P-96-013, and P-96-015, as shown on Figure 4.6. Water levels in P-96-015 have remained stable over time, while water levels in P-96-012 and P-96-013 have shown generally increasing water levels since approximately 2000, with the rate of water level increases generally slowing in the last five years. Possible explanations for this observed increase in water levels include:

- Increased surface loadings from a general rise in tailing pond levels, although P-96-012 is located at some distance from the pond.
- The near-surface cooling observed in this area has resulted in a slightly thinner active layer and thus there is a potential for more shallow ice development in this area.
- Drift in instrument readings due to aging of the instruments.

The observed rise in water levels is generally minor and not considered representative of a significant change in background subpermafrost groundwater conditions.

4.4 Background Subpermafrost Groundwater Conditions

Changes were observed in some water levels and in the nature of water level fluctuations. In general, these changes were minor and are not considered reflective of significant changes in groundwater conditions at the site. However, changes in both water level conditions (such as minor increases in background subpermafrost levels) and the pattern of fluctuations will continue to be monitored and reviewed on a periodic basis.

Based on the assessment of groundwater levels described in this section, no updates to the numerical groundwater flow developed in Phase II (WMCI, 1999) are deemed warranted at this time.

5.0 DATA QA/QC AND SYSTEM OPERATION AND MAINTENANCE

This section describes the general data quality assurance program and current operational condition of the monitoring system.

5.1 Data QA/QC

General QA/QC measurements for the Monitoring Program are described in the Section 3.0 of the Monitoring Plan (WMCI, 2001). In general, periodic duplicate measurements of thermistor resistances and piezometer readings are made to ensure that similar data are collected using different equipment (thermistors) or by different operators of the same equipment (piezometers and thermistors). Procedures have been developed to ensure appropriate collection of QA/QC measurements from thermistors and piezometers included in the Monitoring Program. For data collected during 2007 through 2011, duplicate measurements were made on both installations used for the Monitoring Program and for other installations monitored as part of mine operations.

5.1.1 Thermistor Data QA/QC

QA/QC measurements from thermistors consist of duplicate measurements using the T5KMUK datalogger system to ensure readings are repeatable, and by using the Dryden Switchbox/Fluke Multimeter system (single, hand measurements) to compare with the automated datalogger system. Thermistors QA/QC readings were generally collected quarterly throughout the monitoring period. Subsurface temperature data collected using the datalogger system and the hand-held Multimeter were compared graphically and reported in the annual data reports (AMEC Geomatrix, 2008, 2009, 2010, and 2011). Thermistor QA/QC data for 2011 is included in Appendix A. In general, data collected using either method results in similar readings, although some variation is noted. Variations in thermistor readings are generally evaluated by comparing the resultant temperatures with previously collected temperatures and trends. Data that clearly lie outside of the expected temperature range are not used for analysis purposes.

5.1.2 Piezometer Data QA/QC

QA/QC measurements from piezometers consist of duplicate measurements by different operators of vibrating wire transducer readings using the GEOKON readout box, and depth to water measurements using the manual water level indicator. Duplicate readings from the transducers are included both on field data sheets and in the electronic files provided to AMEC from the mine. Duplicate measurements collected during the monitoring period have been presented in the annual data reports (AMEC Geomatrix, 2008, 2009, 2010, and 2011). Duplicate measurements for 2011 are included in Appendix A. Duplicate measurements collected from both transducers and depth to water measurements were essential the same as the original measurement in all instances. Note that SPP-97-002 is the only piezometer requiring depth to water measurement, and thus all duplicate depth to water measurements were taken from this piezometer.

In addition to duplicate readings, many of the dam area piezometers included in the Monitoring Program are also monitored monthly as part of mine operations. Monthly data provides for additional measurements over the required quarterly data. These data provide for additional QA/QC checks on equipment and measurements, and have been reviewed as part of ongoing data collection activities.

5.2 System Operation and Maintenance

A key consideration in ongoing operation of the permafrost and groundwater monitoring system is the use of a consistent data collection methodology and periodic equipment checks. After many years of usage, some equipment is showing signs of wear. The following sections discuss the current status of monitoring installations.

5.2.1 Monitoring Locations

In the first Five-Year Report, three thermistor locations were modified from the original SEP monitoring program. These include replacing thermistor T-95-004 with T-05-061, T-96-020 with T-97-028, and T-95-007 with T-95-009. The thermistors currently monitored as part of the SEP monitoring program remain accessible and are generally functional. No modifications to the thermistor monitoring system are proposed as this time.

5.2.2 Thermistor System Maintenance

The overall condition of the thermistor system is generally good. As noted in the first Five-Year Report, resistance readings from some individual thermistors (YSI 44034 equivalent) indicated that some of the thermistors in older installations are malfunctioning. Teck has worked with the thermistor manufacturer (Dryden Instruments) to improve the overall performance of the thermistors through cleaning of the surface connections and adding new connections where feasible.

Table 5.1 provides a summary of thermistor nodes providing functional data readings for all the thermistors. As shown on the table, nine thermistors showed some improvement in the number of nodes providing data, three thermistors showed a similar number of working nodes, while three thermistors showed a decrease in the number of working nodes. Teck is currently reviewing methods and equipment for potential replacement of existing thermistors to improve the number of subsurface temperature readings.

5.2.3 Piezometer System Maintenance

Vibrating wire transducers are read using a GEOKON GK-403 Readout instrument. The instrument is checked prior to each use. All transducers set in piezometers appear to be functioning well, and no data deficiencies were noted. No modifications to the piezometer monitoring program are proposed at this time.

6.0 SUMMARY AND RECOMMENDATIONS

Results from this five-year assessment of permafrost and groundwater data can be summarized as follows:

- Background permafrost temperatures show continued warming in most site thermistors, consistent with permafrost observations across Alaska.
- Permafrost temperatures in the dam area show similar trends at similar depths as the background data, indicating that no significant additional thermal impacts from site activities are occurring in this area.
- Permafrost temperatures in the overburden stockpile continue to show significant cooling areas where exothermic reactions were previously observed. Permafrost degradation in these areas has abated, and stable temperatures are observed in the stockpile.
- Groundwater levels in the dam area continue to show that shallow flow is collected in the seepage collection system.
- Subpermafrost groundwater levels in the dam area appear to have been affected by both modifications to the instrumentation and changes in surface loading from general increases in water level in the tailing dam underdrain. However, lateral and vertical gradients in the dam area have remained stable and have not significantly changed. No changes in hydraulic conditions are indicated.
- Background subpermafrost groundwater levels have remained stable or have increased slightly. The minor increases in water levels may be due to a variety of causes, but are not considered representative of significant changes in subpermafrost groundwater conditions.
- Updated numerical models of subsurface thermal conditions and groundwater flow are not considered warranted at this time, as no significant changes to permafrost or groundwater conditions were noted.

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TABLES

TABLE 3.1

SUMMARY OF OBSERVED SUBSURFACE TEMPERATURE TRENDS

Thermistor	Data Objective	Trend as Noted in 2007	Trend in 2007 to 2011
Red Dog Creek			
T-96-015	Monitors background permafrost temperatures downgradient of dam with Red Dog Creek Alluvium	Increasing temperatures to depths of up to 100 ft	Generally increasing temperatures throughout entire depth of boring (200 feet). Minor increases at depth.
Dam Area			
T-05-061	Monitors background permafrost temperatures in dam area	Replacement thermistor for T-95-004, which showed general increases in temperatures at depths up to 200 ft.	Generally stable temperatures through 2010, with increasing temperatures in 2011 at depths to 56 ft.
T-95-005	Monitors background permafrost temperatures in dam area	Continued warming at deptht	Intermittent nodal readings at depths to 200 ft. General warming trend to depths over 300 ft.
T-96-010	Monitors permafrost temperatures in seepage dam area	Temperatures at depths 50 to 75 ft stabilized and may be cooling, intermittent nodal readings	Intermittent nodal readings at depths to 200 ft. Generally stable temperatures at depths, with some evidence of cooling at depths below permafrost.
T-97-028	Monitors subsurface temperatures within zone where permafrost is absent	Replacement thermistor for T-96-020. Temperatures stabilized or cooling at shallower depths	Temperatures stable to depths of 100 ft. General warming trend observed at depths greater than 100 ft.
T-97-029	Monitors permafrost temperatures along toe of dam	Increasing temperatures to depths of up to 200 feet – intermittent nodal readings.	Increasing temperatures at depths up to 200ft – improved nodal readings at shallow depths show continued warming trends.
Tailing Impoundment			
T-95-009	Monitors background permafrost temperatures near tailing impoundment	Replacement thermistor for T-95-007. Steady increase in temperatures at depths up to 200 ft	Increasing temperatures at depths up to 250 ft.

TABLE 3.1

SUMMARY OF OBSERVED SUBSURFACE TEMPERATURE TRENDS (CONTINUED)

Thermistor	Data Objective	Trend as Noted in 2007	Trend in 2007 to 2011
Overburden Stockpile			
T-95-008	Monitors subsurface temperatures within overburden stockpile	Temperatures at depths to 50 ft stabilized and cooling, continued warming at greater depths	Temperatures at depths to 50 ft cooling, rate of temperature increase has declined at depths below 50 ft.
T-96-013	Monitors subsurface temperatures within overburden stockpile	Temperatures within fill cooling, temperatures at depth continuing to increase	General warming trend in temperatures at depth.
T-96-021	Monitors subsurface temperatures within overburden stockpile	Temperatures within fill show significant cooling in last few years, permafrost degradation has abated	Temperatures within fill continue to show cooling, rate of temperature increase has declined at depth
T-96-022	Monitors subsurface temperatures within overburden stockpile	Temperatures within fill have stabilized and may be cooling, continued warming at greater depths	Increasing temperatures within fill at depths to 35 ft, generally stable temperatures to depths of 75 ft, increasing temperature trend at depths below 75 ft
T-96-023	Monitors subsurface temperatures within overburden stockpile	Temperatures within fill have stabilized and may be cooling, continued warming at greater depths	Temperatures within fill have generally remained stable, continued warming at greater depths. Uncertain nodal readings in 2011
Bons Creek			
T-96-012	Monitors background permafrost temperatures along Bons Creek	Temperatures at depths 50 to 85 ft stabilized and may be cooling, continued warming at depth.	Temperatures at depths 50 to 85 ft have begun to warm after period of cooling, continued warming at depth. Intermittent nodal readings
T-96-012S	Monitors shallow subsurface temperatures along Bons Creek	Temperatures stabilized and may be cooling to total depth of 55 feet	Generally stable temperatures to depth of boring (55 ft). Intermittent nodal readings

TABLE 4.1

SUMMARY OF OBSERVED WATER LEVEL TRENDS

Piezometer	Data Objective	Long-Term Assessment	Trend in 2007 to 2011 Data
Red Dog Creek			
P-96-015	Monitors subpermafrost water levels along Red Dog Creek	Expected to remain around present stable water level	Generally stable water levels over time.
Dam Area			
P-08A	Monitors shallow water levels within dam drain area	Responds with pond level, shows upward gradient to P-08B	Water levels influenced by pond stage and drain flow volumes. Water level generally stable over last few years
P-08B	Monitors shallow water levels within dam drain area	Responds with pond level, shows downward gradient to P-08A	Water levels influenced by pond stage and drain flow volumes, continued upward gradient toward P-08A indicates discharge into dam underdrain. Minor increases in water levels over time due to increased pond levels and potentially buildup of ferracrete near seepage collection pumps.
P-96-010	Monitors subpermafrost groundwater within dam area	Expected to remain around present water level	Relatively stable water levels observed. Continued gradient toward P-97-020
P-97-020	Monitors subpermafrost groundwater in area where permafrost is absent	Expected to remain around present water level, shows gradient from P-96-010	Water levels may be influenced by instrument modifications, pond stage, and tailing beach, general increase in water levels in recent years due to instrument issues and pond level increases
P-97-028	Monitors shallow water levels downgradient of dam toe	Water level needed to assess seepage collection system	Water levels influenced by seasonal active layer flows, with high levels at the end of summer and lower levels during winter and spring
SPP-97-002	Monitors shallow water levels in seepage dam area	Expected to remain around present water level, shows upward gradient from P-96-010	Water levels stable over time

TABLE 4.1

SUMMARY OF OBSERVED WATER LEVEL TRENDS (CONTINUED)

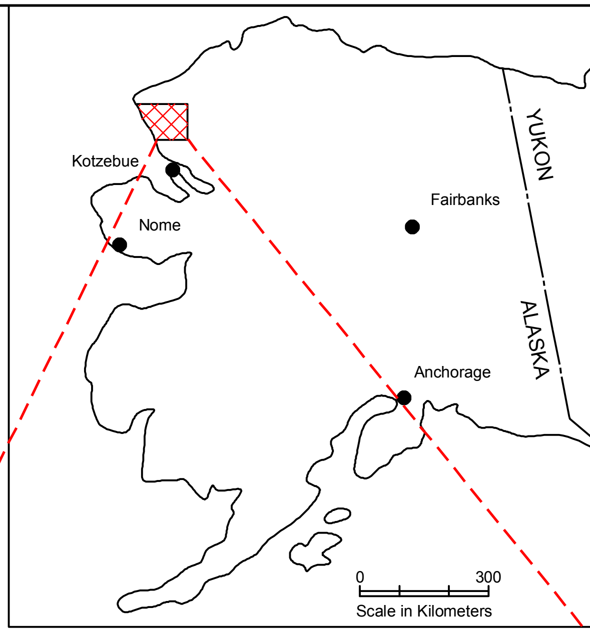
Piezometer	Data Objective	Long-Term Assessment	Trend in 2007 to 2011 Data
Overburden Stockpile			
P-96-013	Monitors subpermafrost water levels in Overburden Stockpile area	Shows strong seasonal fluctuations, expected to remain around present water level	Water levels show seasonal trends wit h generally stable levels in last few years
Bons Creek			
P-97-012	Monitors subpermafrost water levels along Bons Creek	Shows strong seasonal fluctuations, expected to remain around present water level	General increase in overall water levels with strong seasonal trends

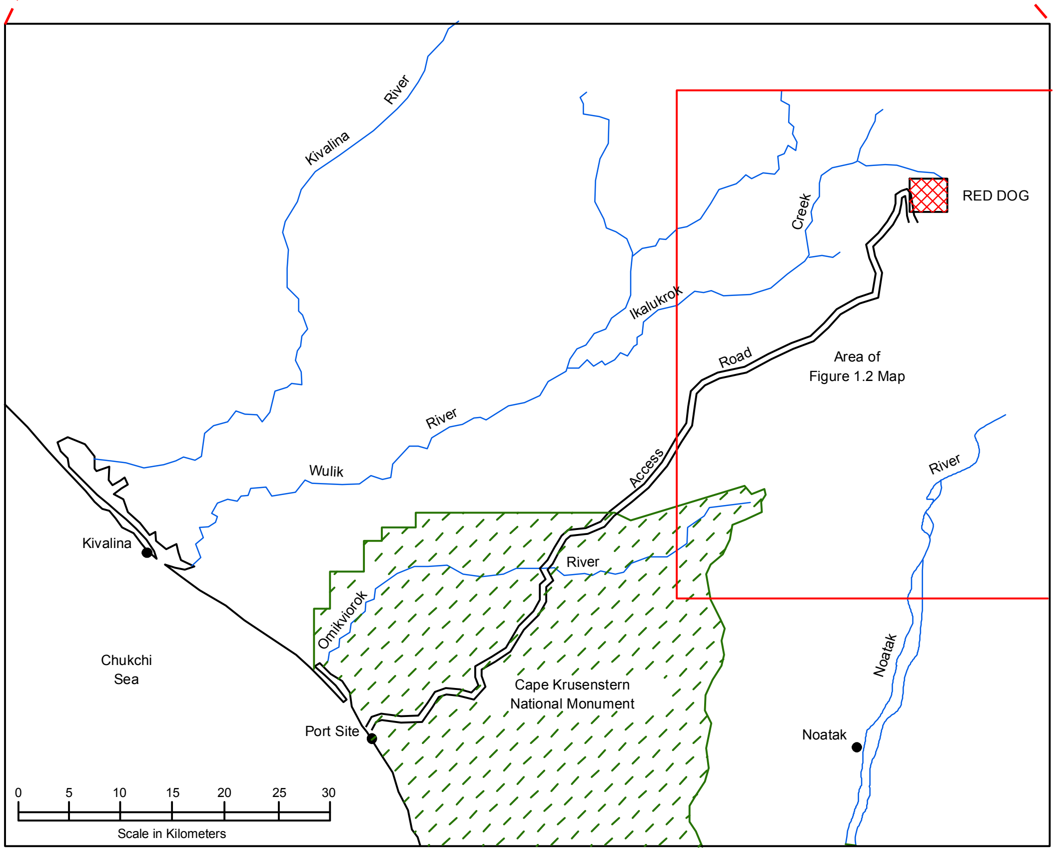
Figure 5.1 Summary of Functional Thermistor Nodes

Thermistor Name	Total Number of Nodes	Average Number of Node Failures 2005-2006	Average Number of Node Failures 2007-2012	Average Number of Working Nodes 2007-2011
T-05-061	6	NA	0	6
T-96-015	14	3	1	13
T-96-021	24	6	3	21
T-97-030	24	8	3	21
T-97-028	24	NA	3	21
T-95-008 #2	24	5	4	20
T-96-013	24	5	4	20
T-96-023	24	7	4	20
T-96-022	24	7	7	17
T-95-009	24	NA	7	17
T-97-029	24	17	11	13
T-96-010	24	11	12	12
T-95-005	24	16	13	11
T-96-012S	24	2	17	7
T-96-012	24	5	19	5

NA - Not Applicable

FIGURES



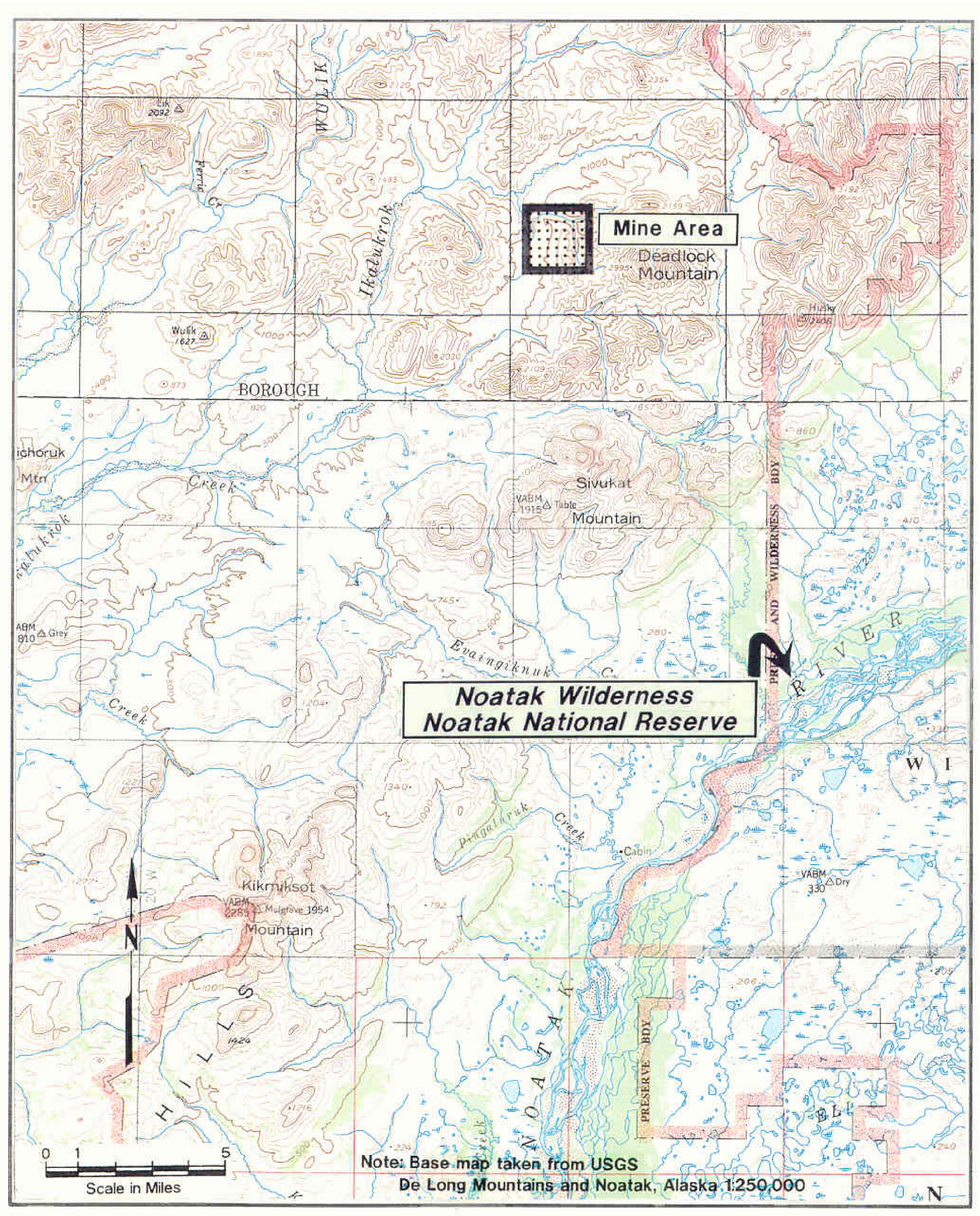


amec

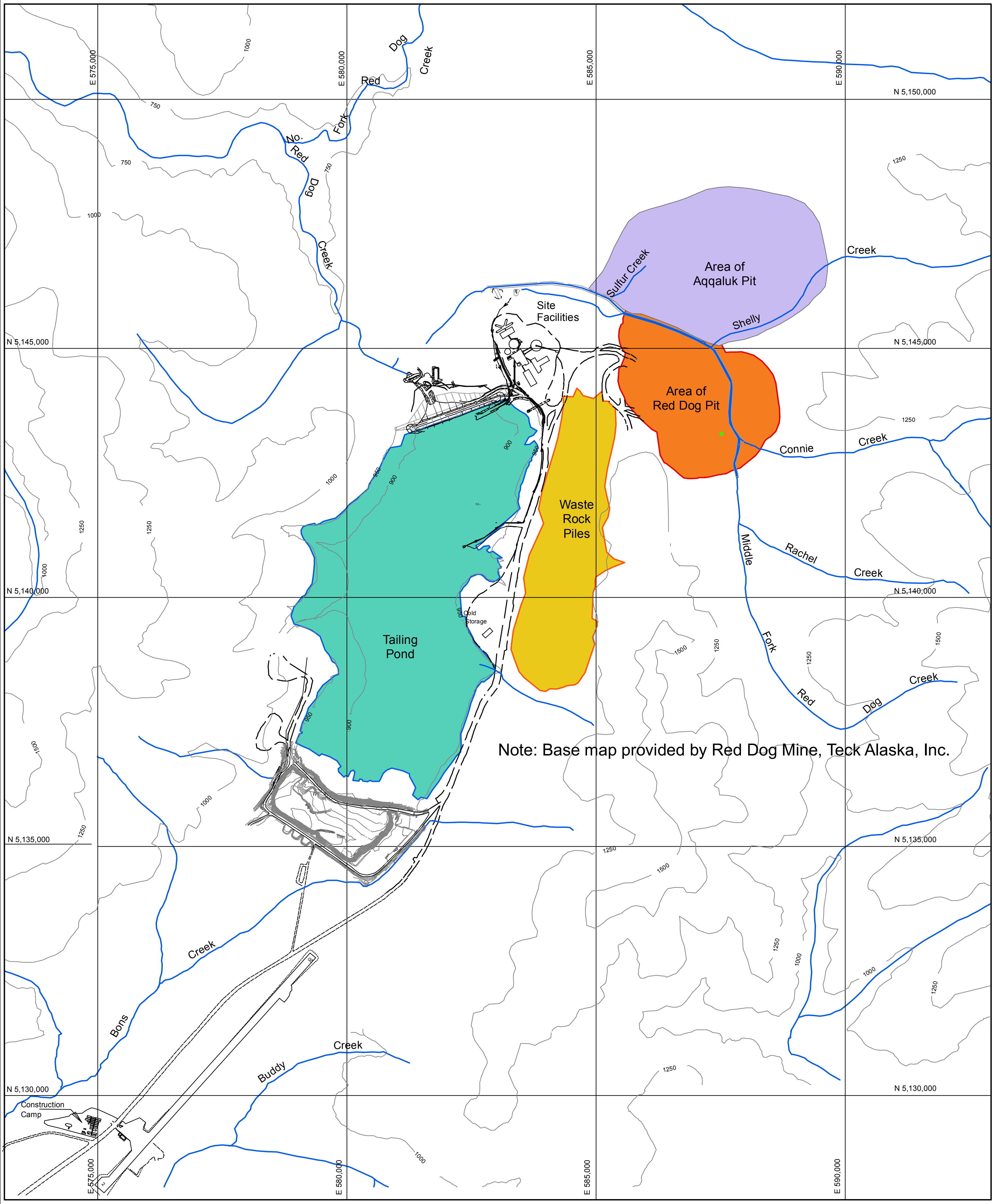
GENERAL LOCATION MAP
Red Dog Mine
Alaska

Project No.
7753

Figure
1.1



amec	MAP SHOWING REGIONAL SETTING Red Dog Mine Alaska	Project No. 7753
		Figure 1.2

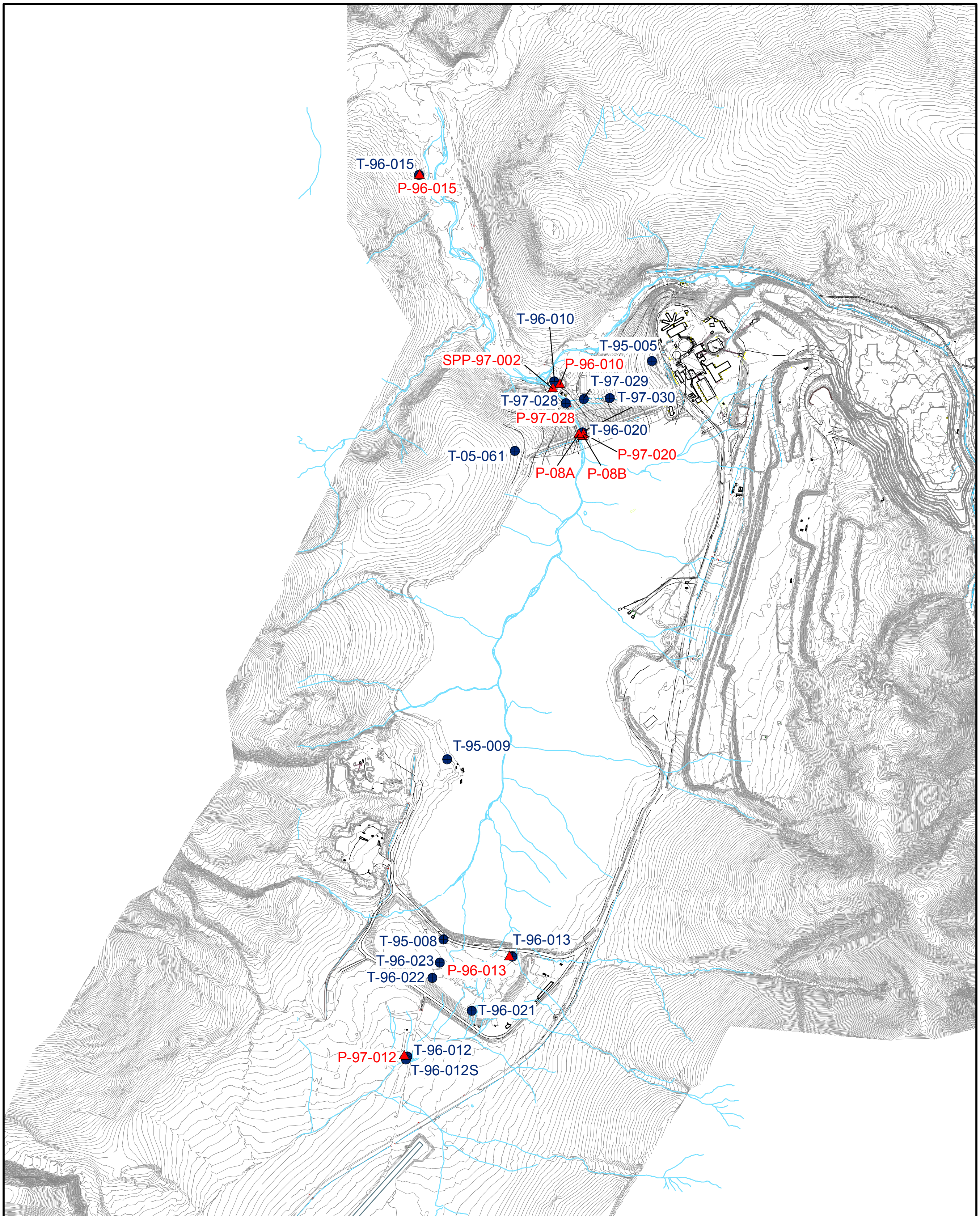


Note: Base map provided by Red Dog Mine, Teck Alaska, Inc.

LAYOUT OF SITE FACILITIES
Red Dog Mine
Alaska

amec

Project No.	Figure
7753	1.3



Explanation

T-95-005

Long-term thermistor monitoring location

P-97-020

Long-term piezometer monitoring location

N

500 0 500 1,000 1,500 2,000 Feet

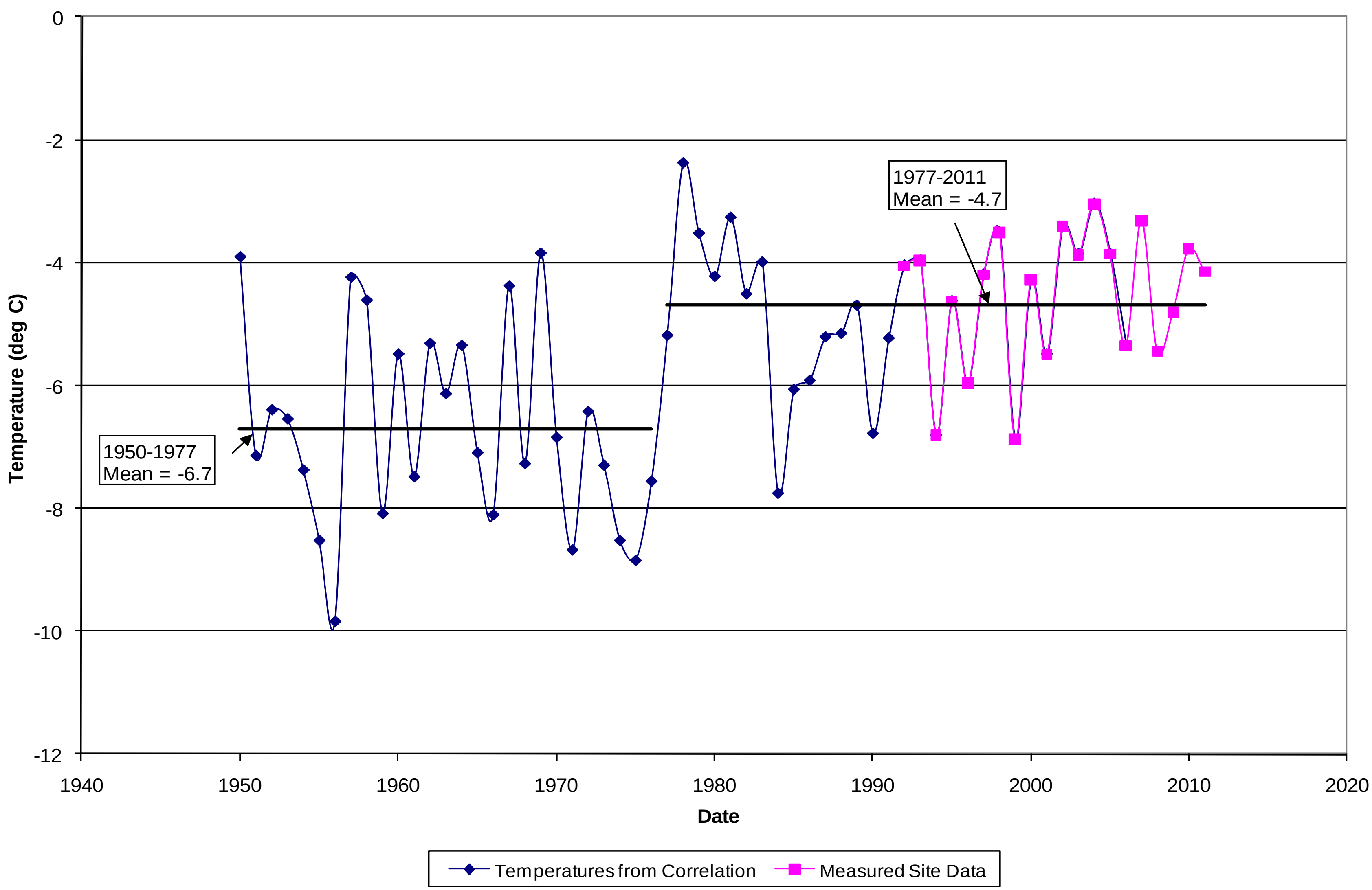
Note: Base map provided by Red Dog Mine, Teck Alaska, Inc.

LONG-TERM THERMISTOR AND PIEZOMETER LOCATIONS

Red Dog Mine

Alaska

Project No.	Figure
7753	2.1

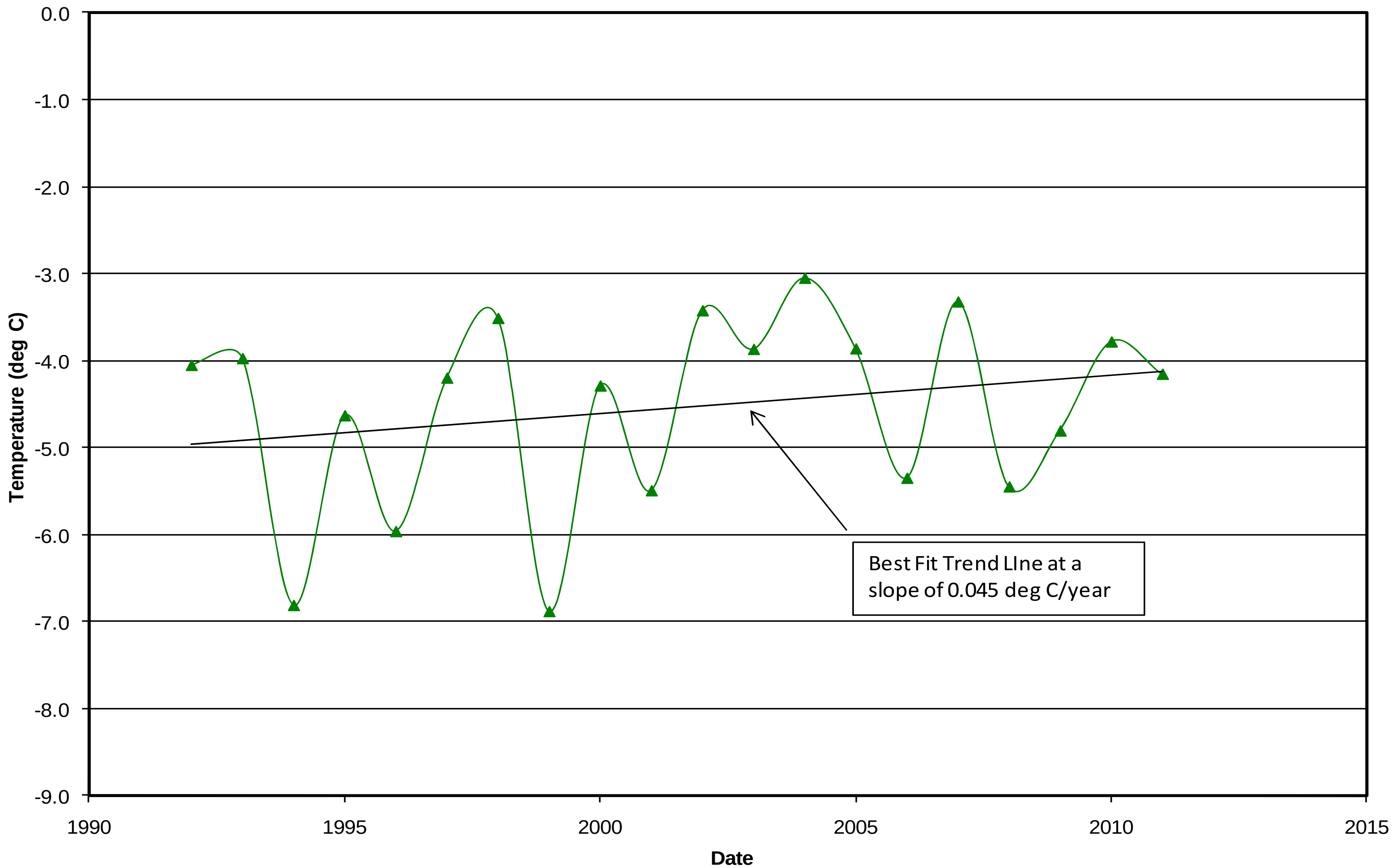


ESTIMATED AND MEASURED ANNUAL AVERAGE AIR TEMPERATURES – 1950-2011
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

amec

Project No. 7753

Figure **3-1**



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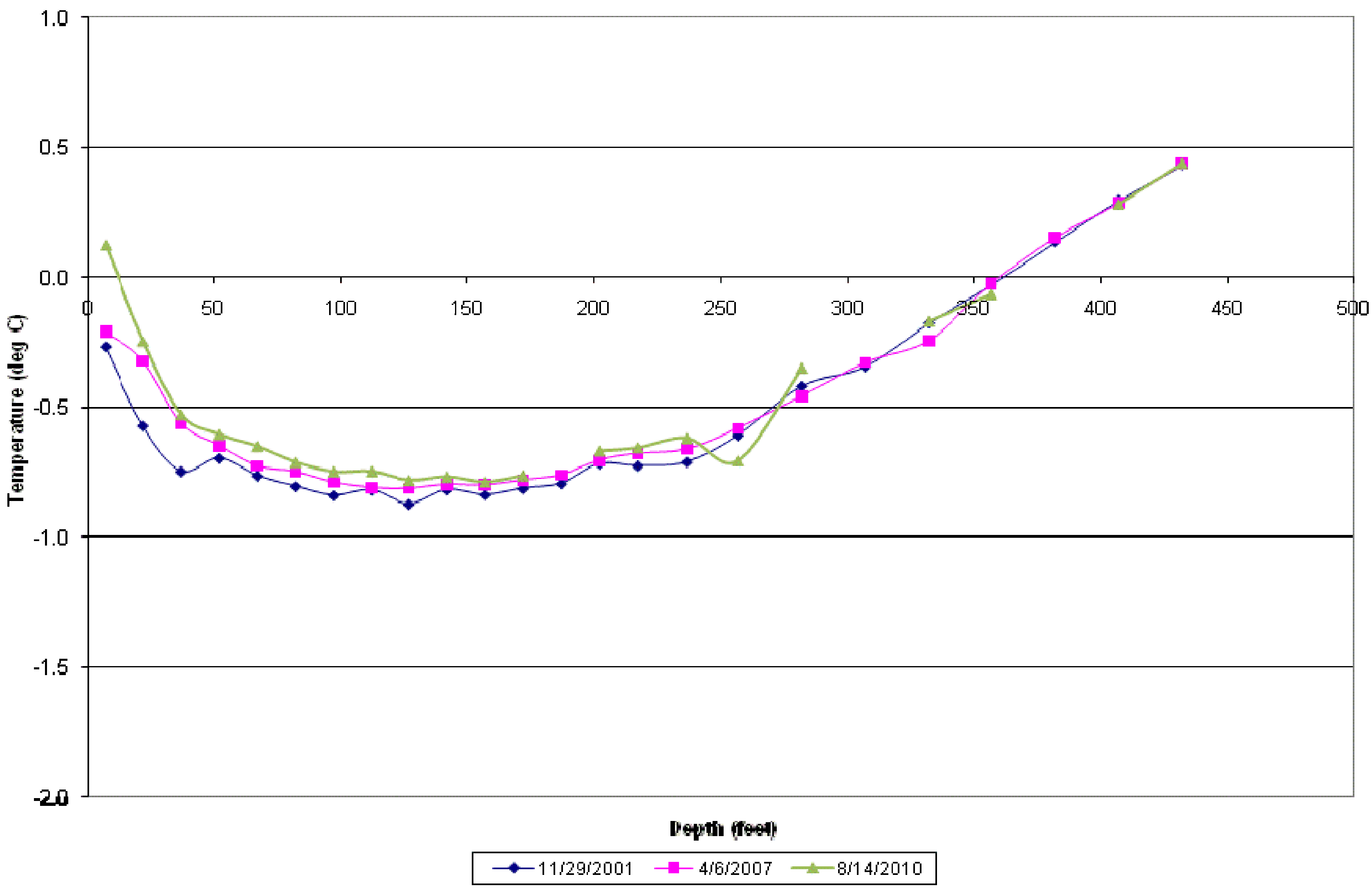
MEASURED ANNUAL AVERAGE AIR TEMPERATURES – 1992-2011
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

Project No. 7753

Figure 3-2



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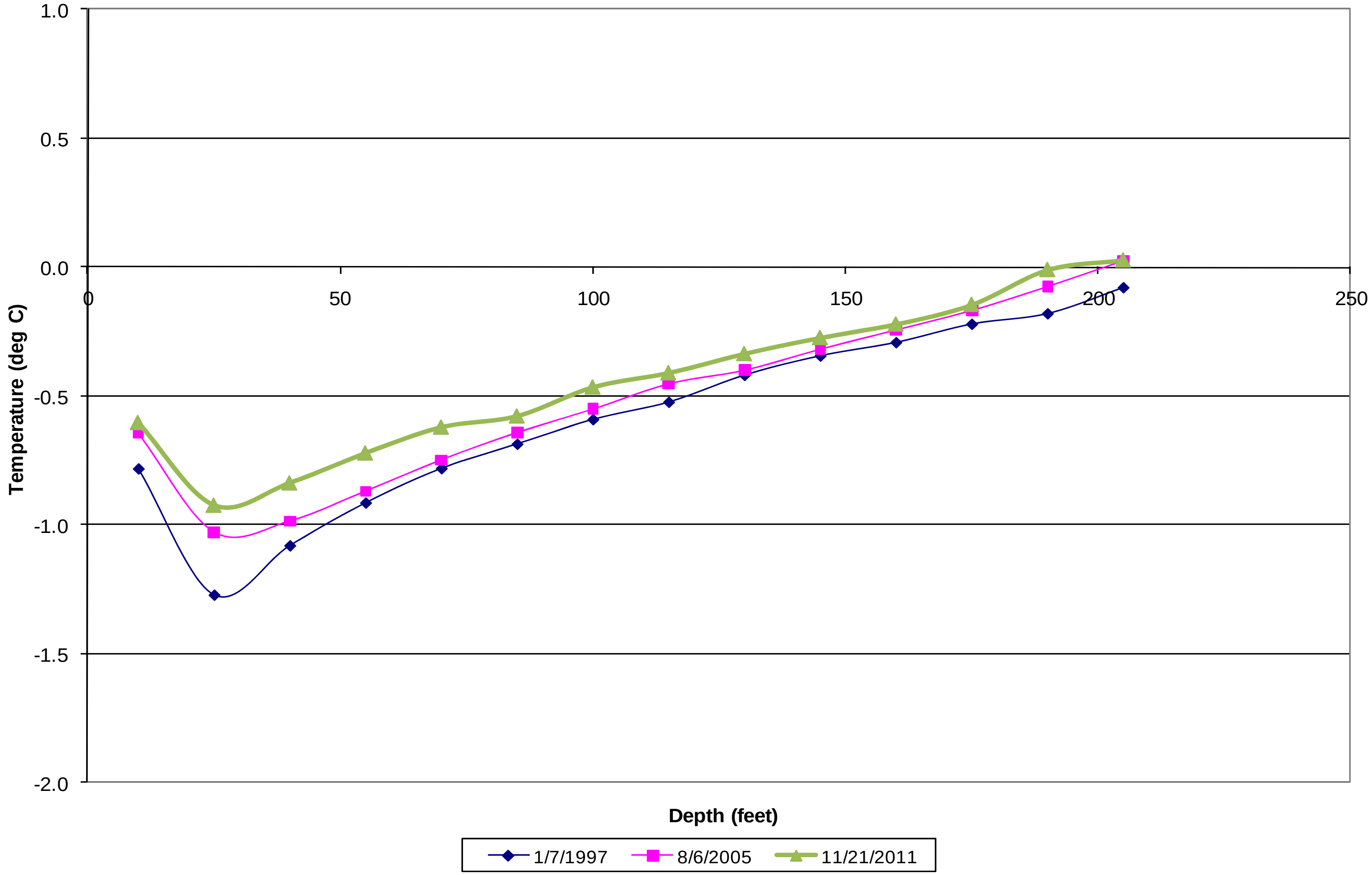
TEMPERATURE DEPTH PLOT SHOWING LONG-TERM WARMING – T-95-009
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

Project No. 7753

Figure 3-3



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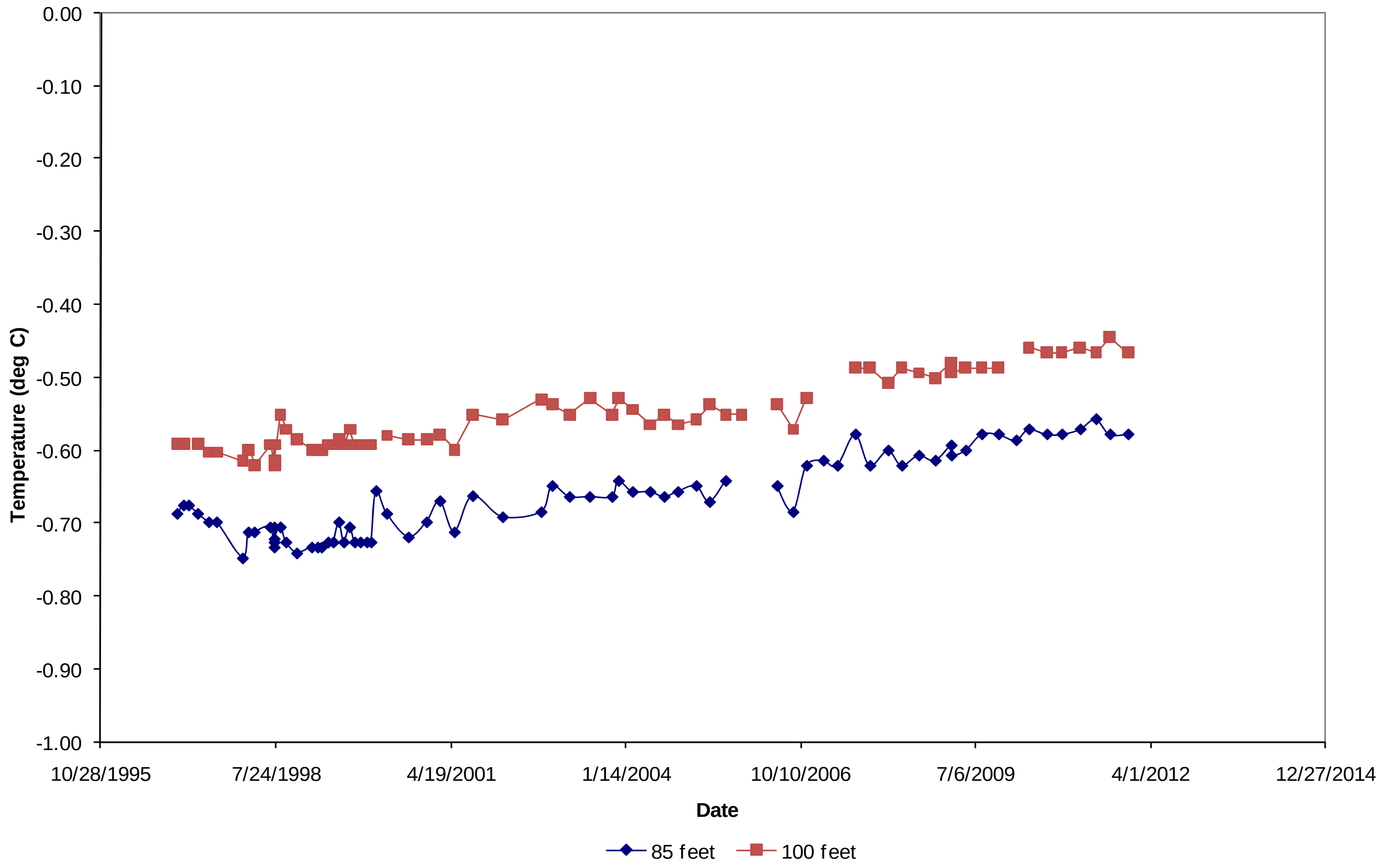
TEMPERATURE DEPTH PLOT SHOWING LONG-TERM WARMING – T-96-015
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

Project No. 7753

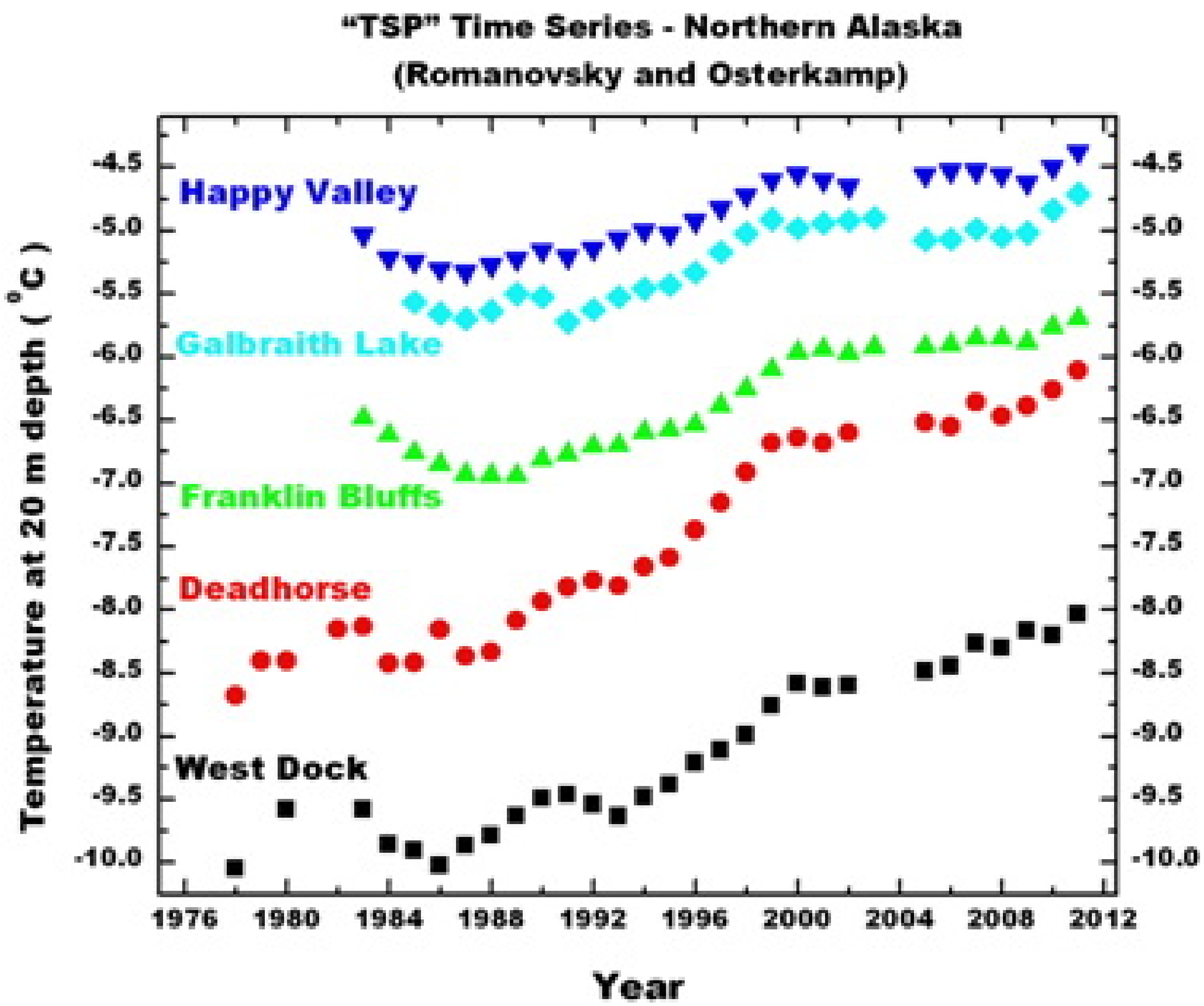
Figure **3-4**



LONG TERM WARMING AT DEPTH – T-96-015
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

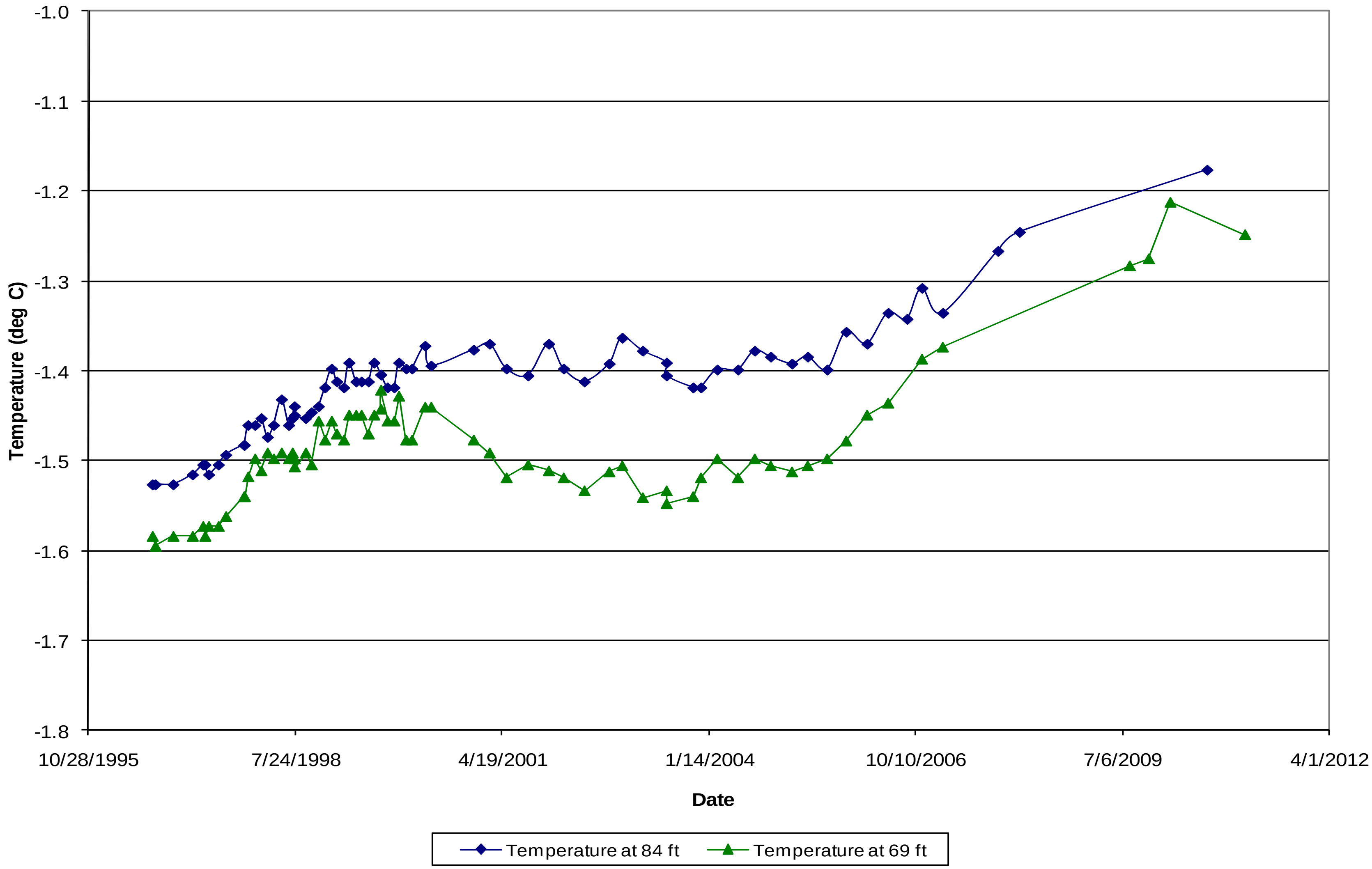
Project No. 7753

Figure 3-5



Source: NOAA, 2011

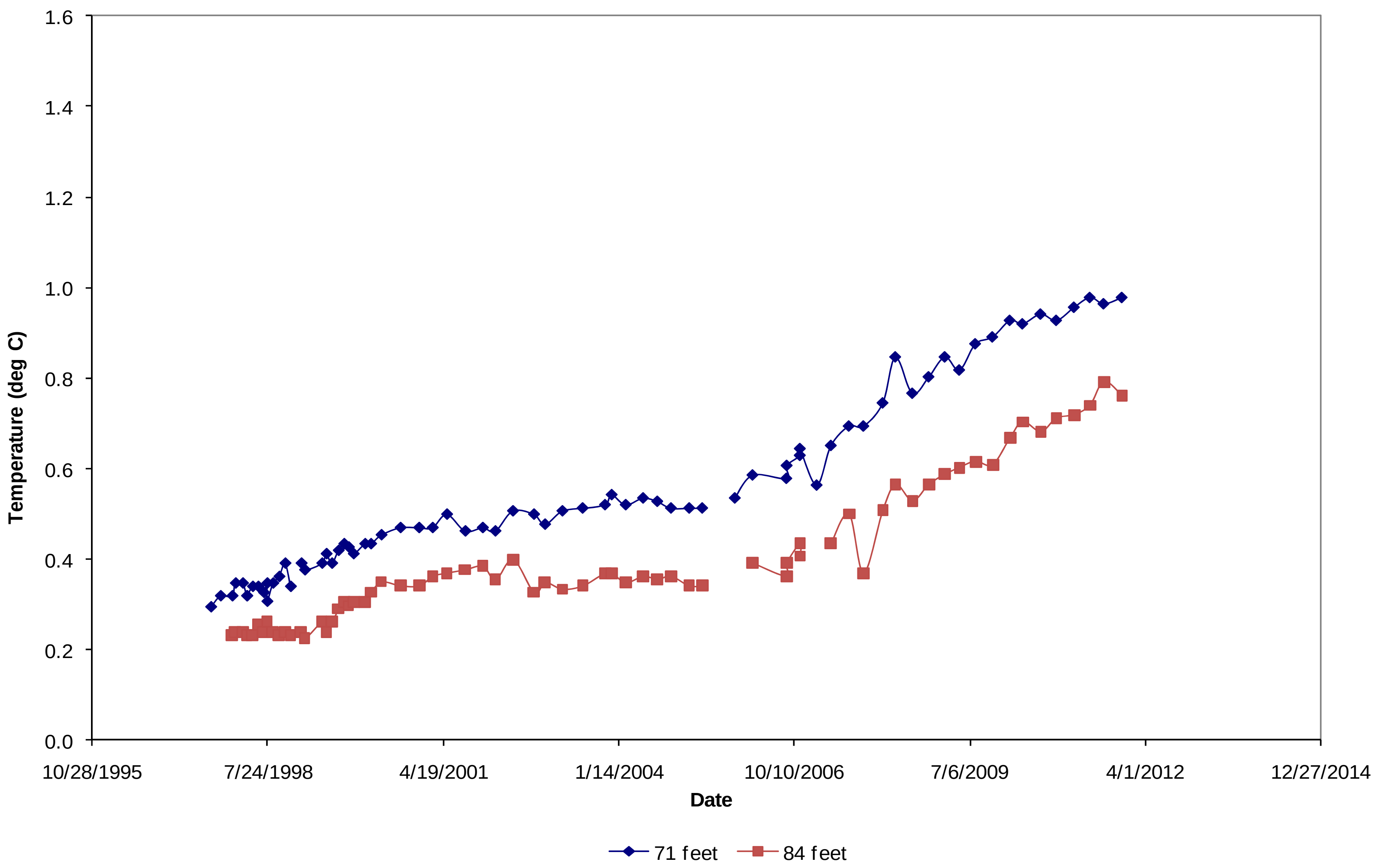
amec	PERMAFROST TEMPERATURES ACROSS ALASKA Five Year Analysis Report – 2007 - 2011 Red Dog Mine	Project No. 7753 Figure **3-6**



LONG TERM WARMING AT DEPTH – T-96-012
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

Project No. 7753

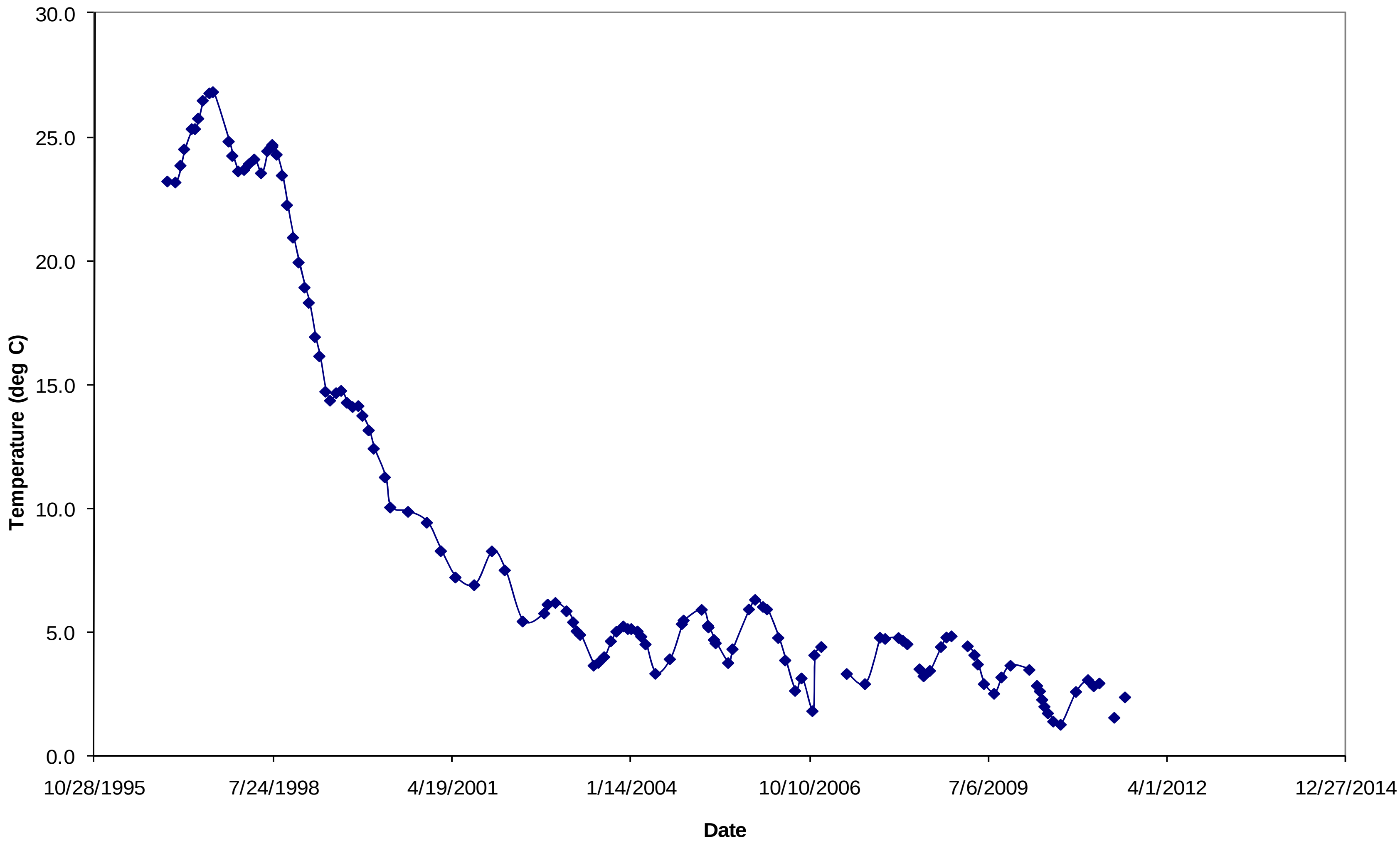
Figure 3-7



LONG TERM WARMING AT DEPTH – T-97-030
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

Project No. 7753

Figure **3-8**



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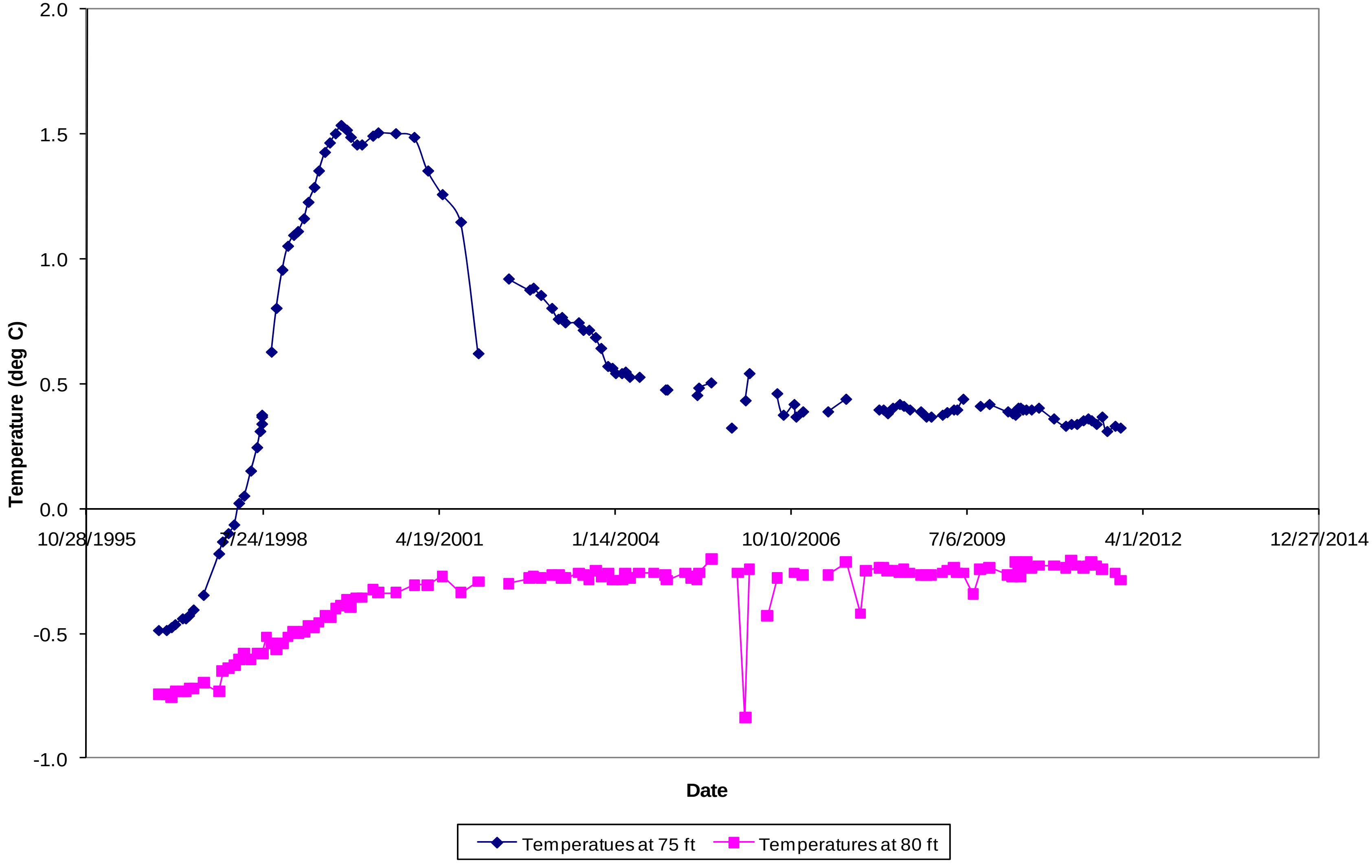
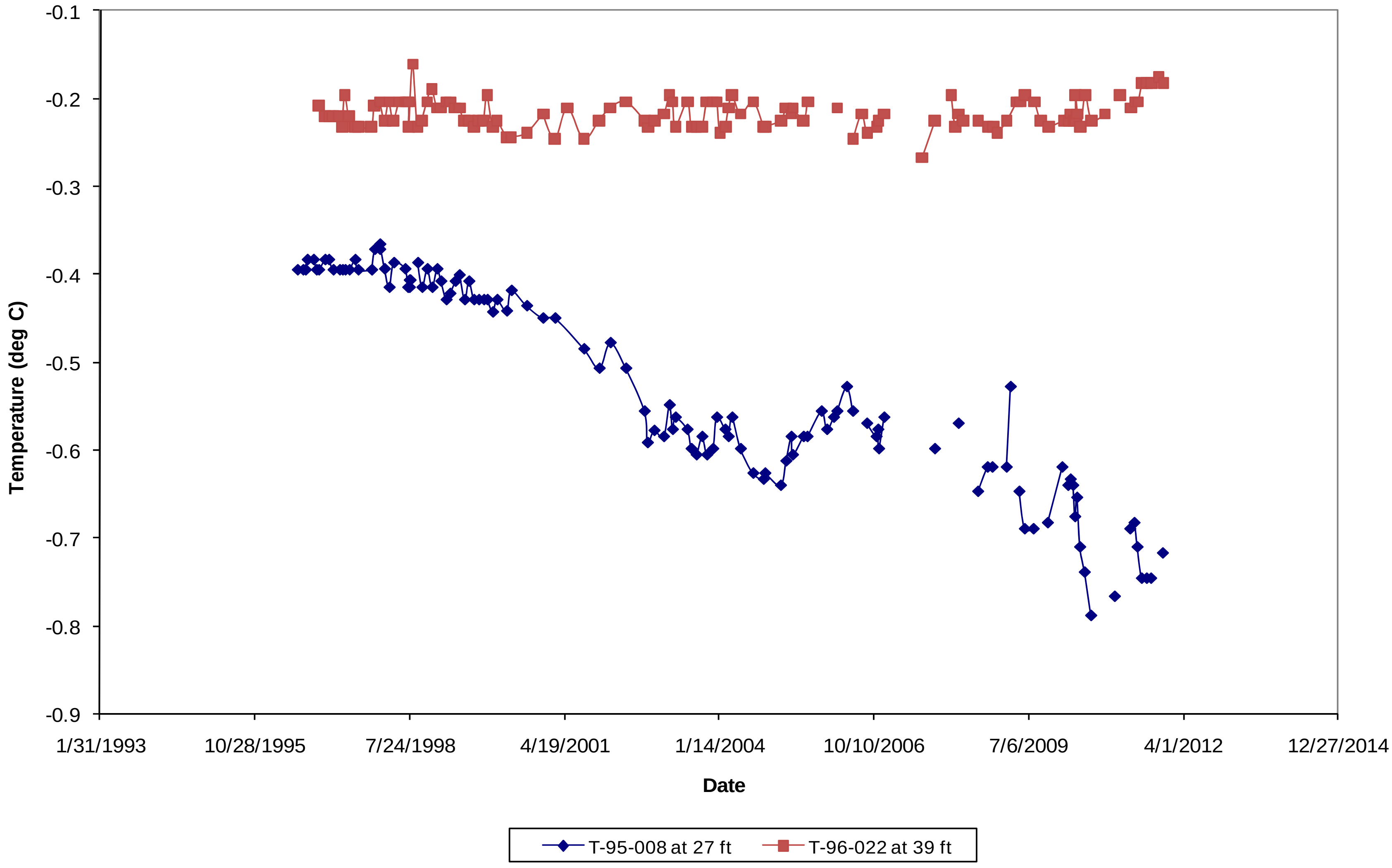
SUBSURFACE COOLING IN T-96-021 AT A DEPTH OF 25 FEET
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

Project No. 7753

Figure 3-9



	SUBSURFACE TEMPERATURES IN T-96-021 AT DEPTHS OF 75 AND 80 FEET Five Year Analysis Report – 2007 - 2011 Red Dog Mine	Project No. 7753 Figure **3-10**

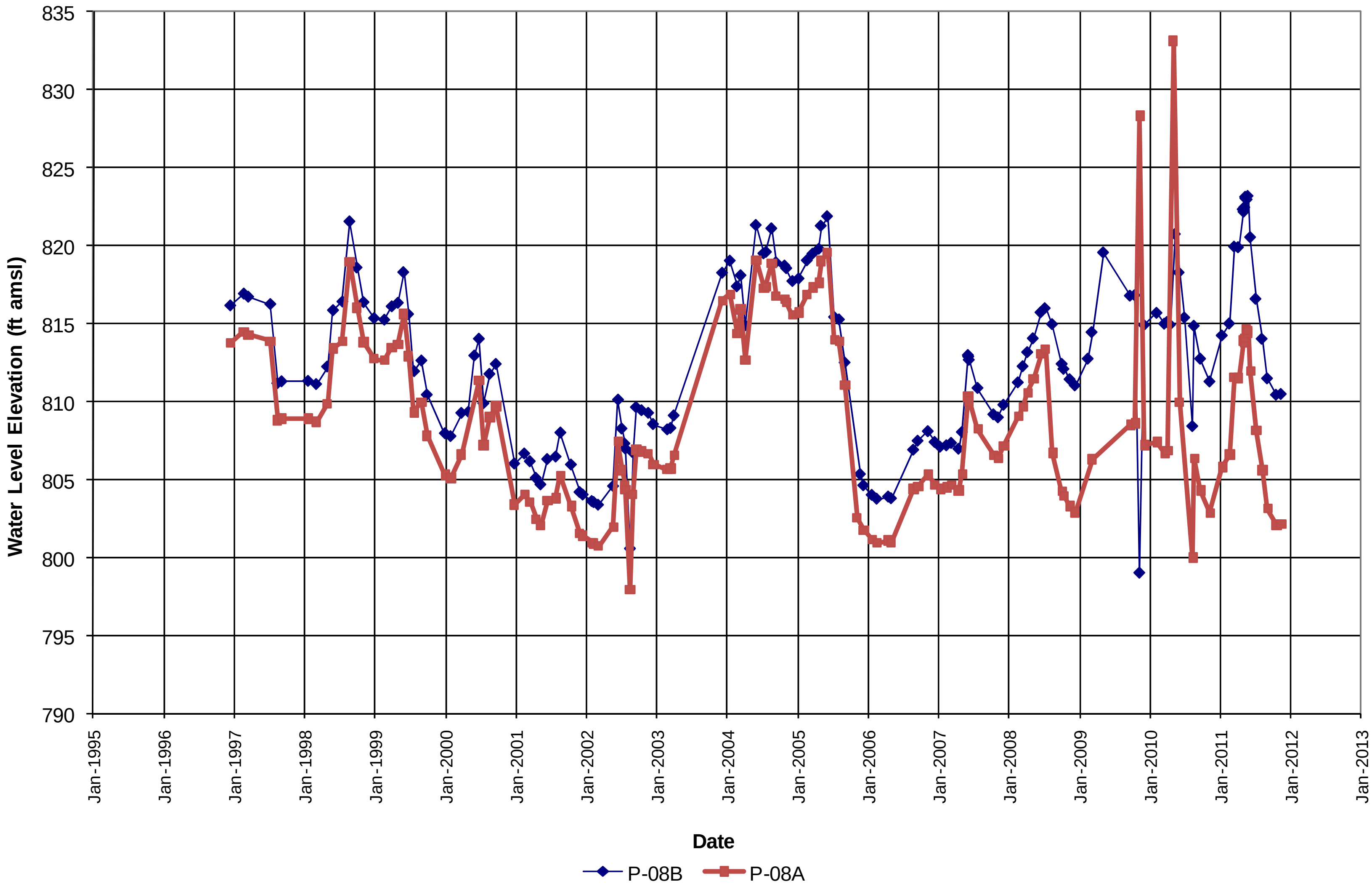


amec

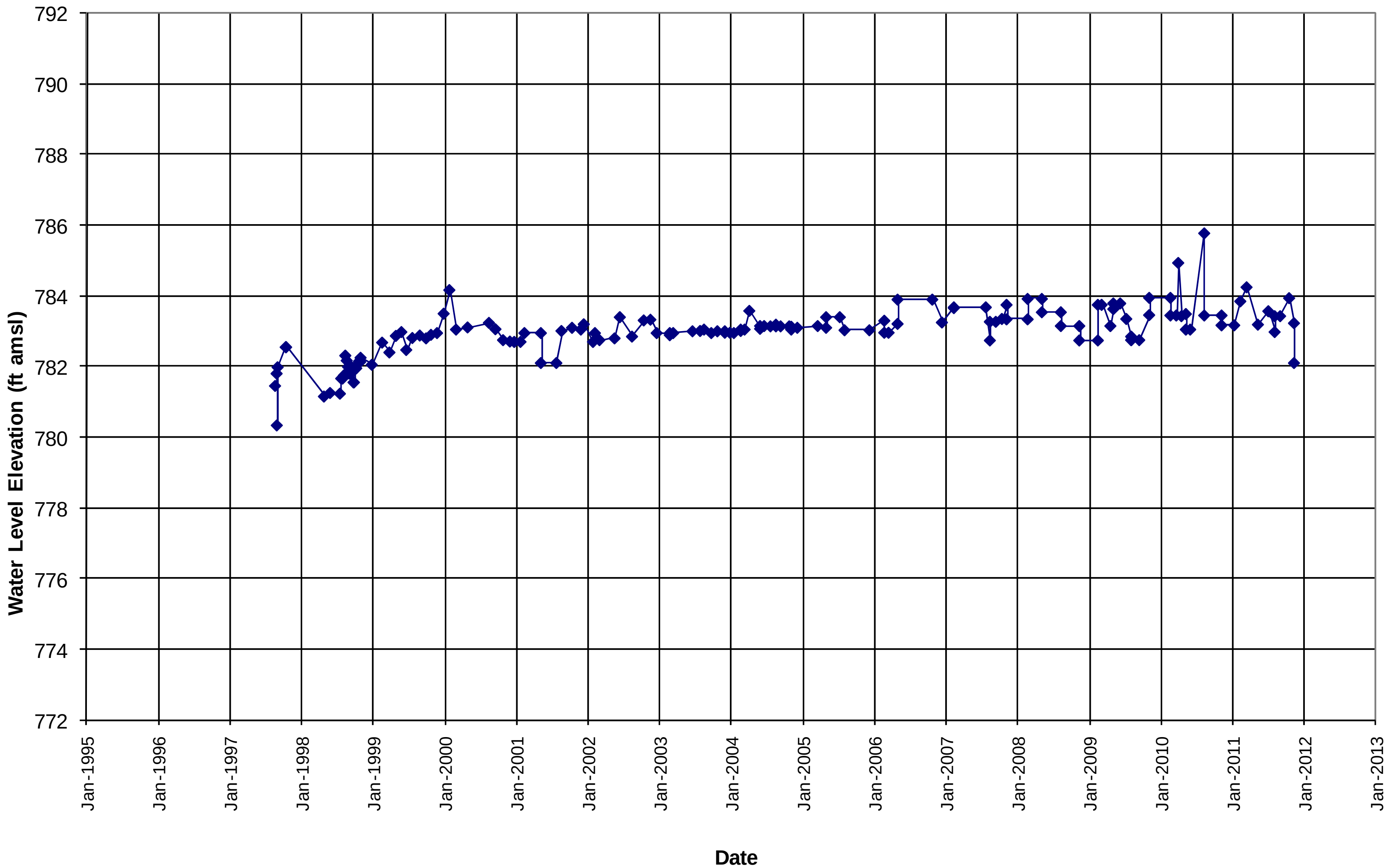
STABLE AND COOLING TEMPERATURES WITHIN THE OVERBURDEN STOCKPILE
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

Project No. 7753

Figure 3-11



amec	WATER LEVELS IN MAIN DAM UNDERDRAIN Five Year Analysis Report – 2007 - 2011 Red Dog Mine	Project No. 7753 Figure **4-1**



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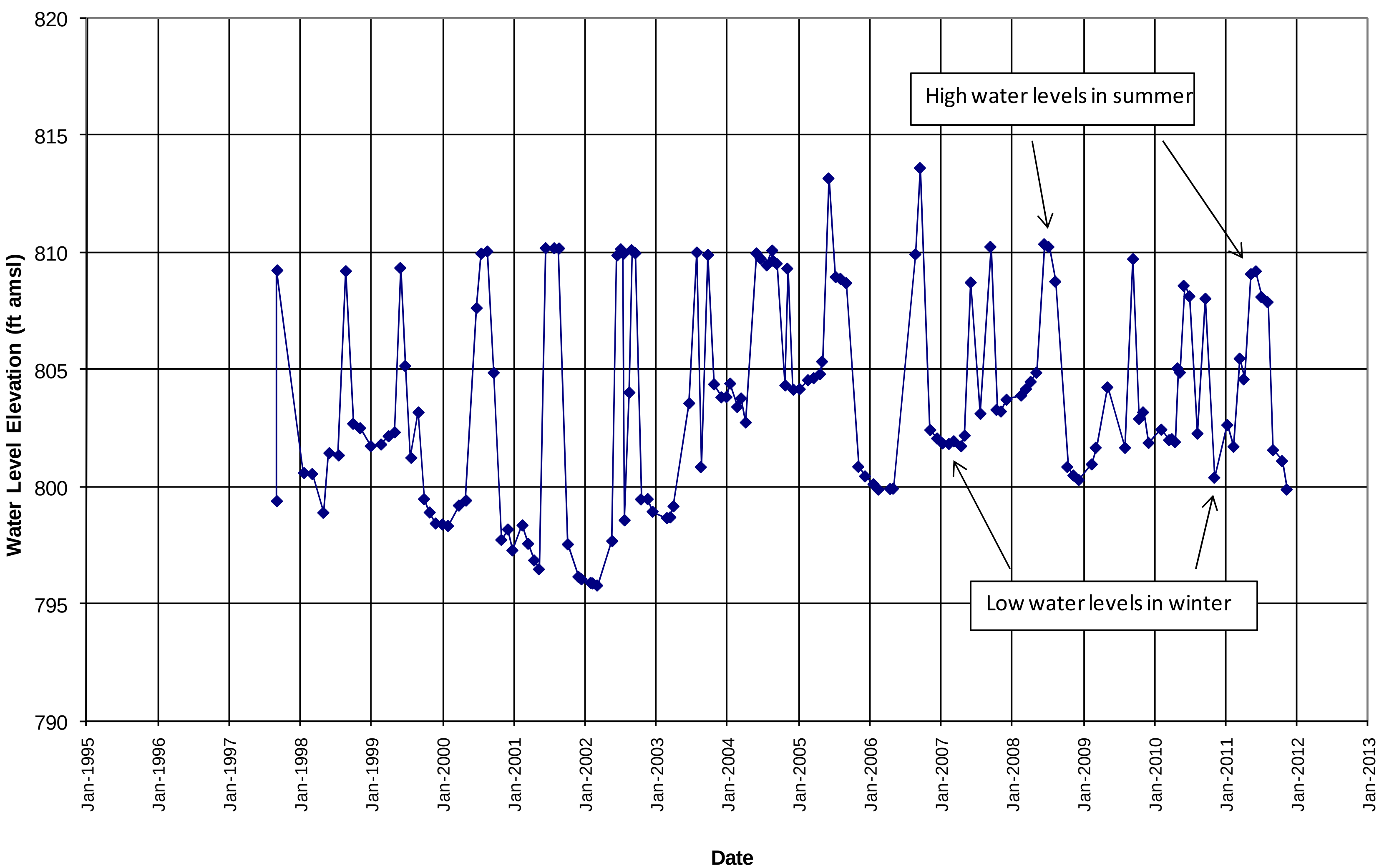
WATER LEVELS IN SEEPAGE COLLECTION DAM – SPP-97-002
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

Project No. 7753

Figure **4-2**

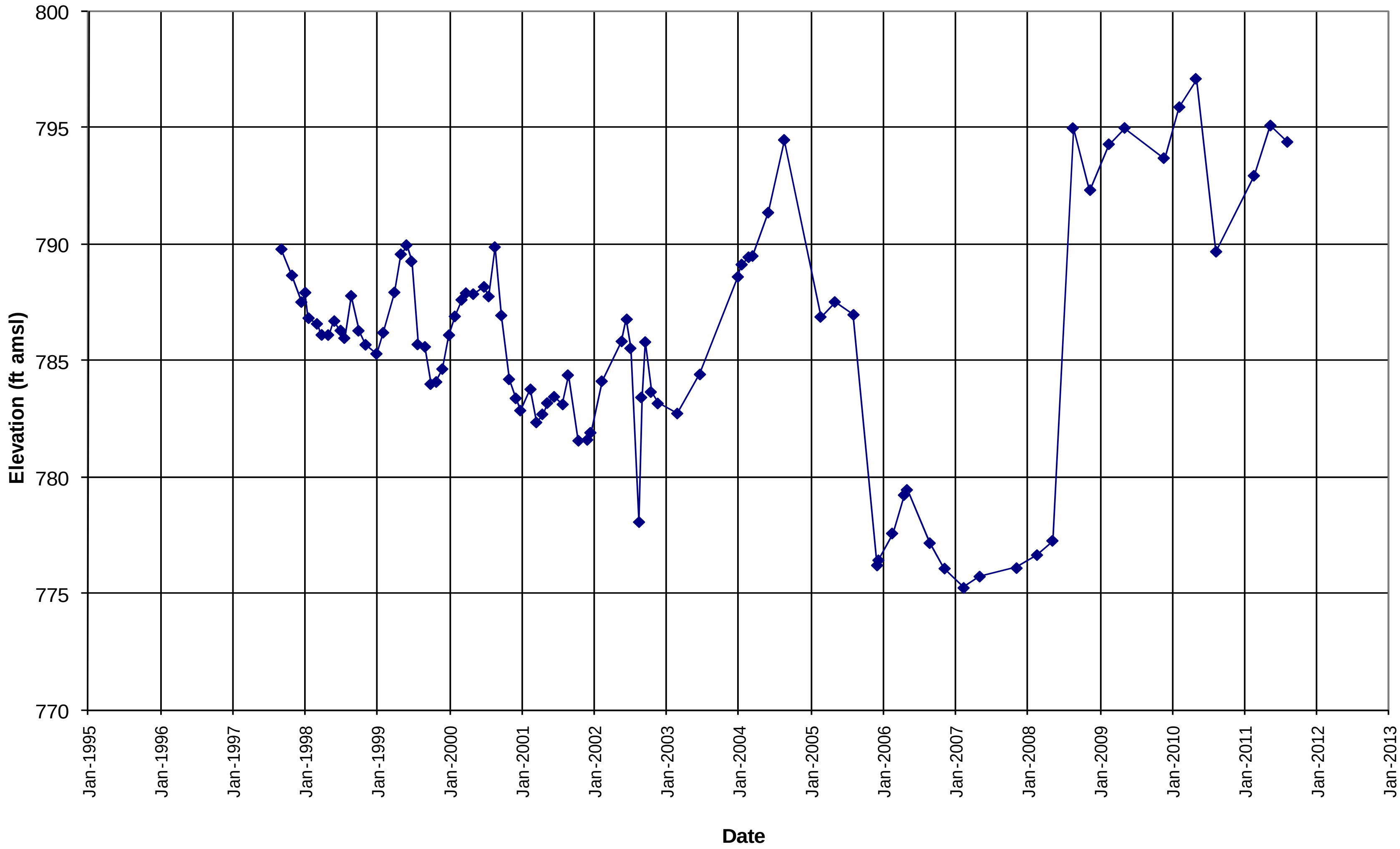


amec

WATER LEVELS IN SHALLOW GROUNDWATER AT TOE OF MAIN DAM – P-97-028
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

Project No. 7753

Figure **4-3**

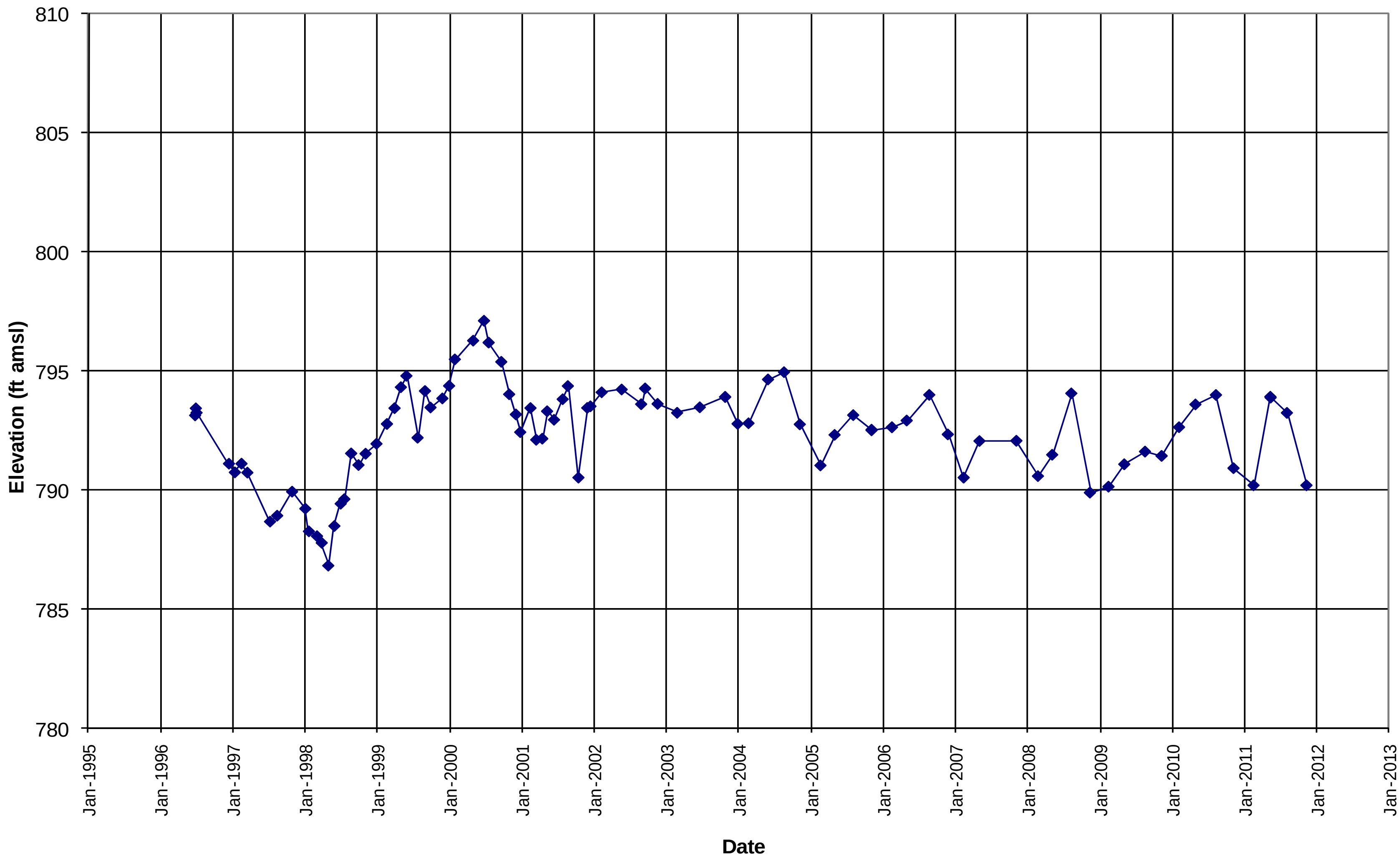


amec

WATER LEVELS IN P-97-020
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

Project No. 7753

Figure **4-4**

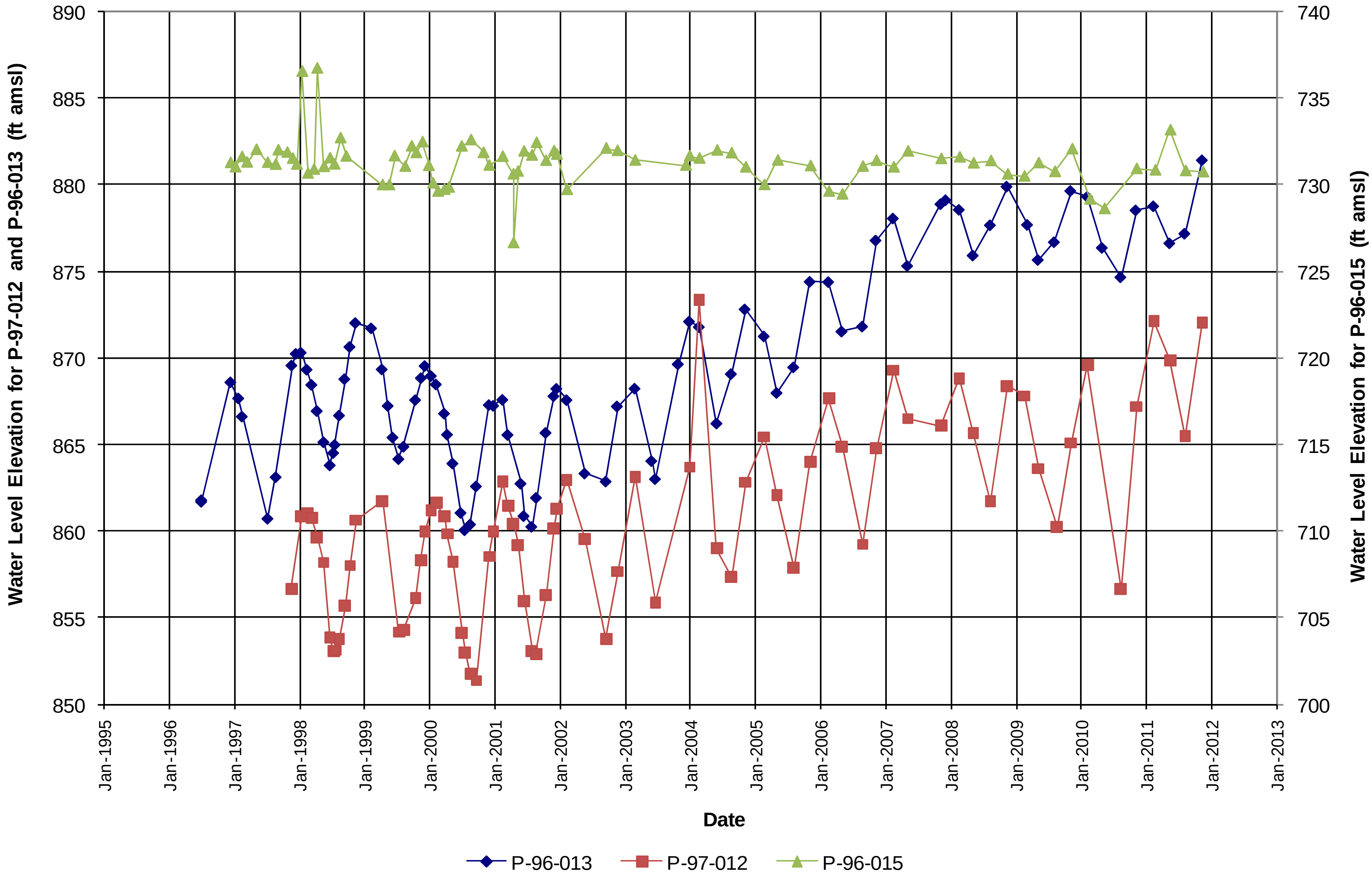


amec

WATER LEVELS IN P-96-010
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

Project No. 7753

Figure 4-5



amec

WATER LEVELS IN BACKGROUND SUBPERMAFROST GROUNDWATER
Five Year Analysis Report – 2007 - 2011
Red Dog Mine

Project No. 7753

Figure 4-6

APPENDIX A

2011 Thermistor and Piezometer Data

TABLE A.1

SUMMARY OF THERMISTOR DATA COLLECTION DURING 2011

Thermistor	General Location	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
T-96-015	Red Dog Creek	2/21/2011	5/22/2011	8/10/2011	11/21/2011
T-05-061*	Dam area	2/15/2011	5/23/2011	8/09/2011	11/22/2011
T-95-005	Dam area	2/21/2011	5/23/2011	8/10/2011	11/21/2011
T-96-010	Dam area	2/26/2011	5/23/2011	8/09/20110	11/21/2011
T-97-028*	Dam area	3/01/2011	5/23/2011	8/09/2011	11/22/2011
T-97-029	Dam area	3/01/2011	5/23/2011	8/09/2011	11/21/2011
T-97-030	Dam area	2/21/2011	5/23/2011	8/09/2011	11/21/2011
T-95-009*	Tailing Impoundment	2/16/2011	5/22/2011	8/10/2011	11/21/2011
T-95-008	Overburden Stockpile	2/15/2011	5/22/2011	8/09/2011	11/21/2011
T-96-013	Overburden Stockpile	2/15/2011	5/24/2011	8/09/2011	11/21/2011
T-96-021	Overburden Stockpile	2/15/2011	5/22/2011	8/09/2011	11/21/2011
T-96-022	Overburden Stockpile	2/15/2011	5/22/2011	8/09/2011	11/21/2011
T-96-023	Overburden Stockpile	2/26/2011	5/30/2011	8/09/2011	11/21/2011
T-96-012	Bons Creek	2/15/2011	5/22/2011	8/09/2011	11/21/2011
T-96-012S	Bons Creek	NM	NM	NM	NM

NM = Not Measured – Thermistor not measured due to access issues
* = Alternative Monitoring Locations from Geomatrix, 2007

TABLE A.2

SUMMARY OF PIEZOMETER DATA COLLECTION DURING 2010

Piezometer	General Location	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
P-96-015	Red Dog Creek	2/21/2011	5/17/2011	8/10/2011	11/16/2011
P-08A	Dam Area	2/21/2011	5/17/2011	8/09/2011	11/16/2011
P-08B	Dam Area	2/21/2011	5/17/2011	8/09/2011	11/16/2011
P-96-010	Dam Area	2/21/2011	5/17/2011	8/09/2011	11/16/2011
P-97-020	Dam Area	2/21/2011	5/16/2011	8/09/2011	NM
P-97-028	Dam Area	2/15/2011	5/16/2011	8/09/2011	11/15/2011
SPP-97-002	Dam Area	2/15/2011	5/16/2011	8/09/2011	11/16/2011
P-96-013	Overburden Stockpile	2/15/2011	5/17/2011	8/09/2011	11/15/2011
P-97-012	Bons Creek	2/15/2011	5/17/2011	8/09/2011	11/15/2011

NM = Not Measured due to access issues

SiteID	Num Therm	Date/Time	pt-01	pt-02	pt-03	pt-04	pt-05	pt-06	pt-07	pt-08	pt-09	pt-10	pt-11	pt-12	pt-13	pt-14	pt-15	pt-16	pt-17	pt-18	pt-19	pt-20	pt-21	pt-22	pt-23	pt-24
T00-52	24	5/5/2011, 15:23	17.314	16.311	16.204	16.08	38.205	18.731	16.186	16.186	16.293	16.365	16.454	16.49	16.472	16.544	16.562	16.544	16.562	16.617	16.635	16.653	16.653	16.617	16.671	16.671
T00-52	24	5/26/2011, 15:35	16.382	16.311	16.24	16.08	38.545	18.77	16.204	16.204	16.293	16.4	16.436	16.49	16.454	16.544	16.562	16.58	16.58	16.599	16.635	16.635	16.689	16.635	16.671	16.653
T04-55	24	5/5/2011, 15:36	16.49	16.816	16.382	16.382	16.4	16.293	16.293	16.275	16.133	16.222	16.204	16.24	16.186	16.222	16.222	16.204	16.347	16.257	16.365	16.347	16.4	16.418	16.4	16.472
T04-55	24	5/26/2011, 15:43	10.311	16.382	16.365	16.365	16.4	16.311	16.311	16.275	16.151	16.24	16.222	16.222	16.204	16.24	16.222	16.222	16.329	16.257	16.365	16.347	16.418	16.418	16.382	16.472
T04-56	24	5/5/2011, 15:30	16.798	17.184	16.49	16.311	16.347	16.186	16.275	16.257	16.168	16.186	16.257	16.257	16.311	16.311	16.365	16.4	16.365	16.418	16.508	16.472	16.436	16.49	16.562	16.526
T04-56	24	5/26/2011, 15:41	9.648	16.436	16.49	16.347	16.347	16.186	16.275	16.257	16.186	16.204	16.257	16.275	16.311	16.311	16.347	16.4	16.365	16.4	16.508	16.472	16.472	16.508	16.58	16.526
T04-59D	12	5/5/2011, 15:16	16.4	16.418	16.508	16.526	16.544	16.508	16.454	16.4	16.347	16.293	16.222	16.186												
T04-59D	12	5/26/2011, 15:28	16.394	16.43	16.52	16.52	16.538	16.502	16.43	16.377	16.341	16.287	16.198	16.198												
T04-59S	12	5/5/2011, 15:15	15.921	15.382	14.905	14.488	14.571	14.737	14.973	15.125	15.416	15.572	15.659	16.044												
T04-59S	12	5/26/2011, 15:27	15.827	15.497	15.086	14.648	14.582	14.599	14.849	15.035	15.342	15.514	15.566	16.003												
T04-60D	12	5/5/2011, 15:09	15.705	15.845	15.933	16.038	16.021	16.074	16.074	15.74	15.95	15.018	15.342	15.205												
T04-60D	12	5/26/2011, 15:23	15.693	15.833	15.921	16.044	16.027	16.062	16.062	15.746	15.956	15.04	15.365	15.211												
T04-60S	12	5/5/2011, 15:08	15.171	15.775	14.317	14.089	14.285	14.582	14.883	15.103	15.308	15.393	15.428	15.635												
T04-60S	12	5/26/2011, 15:22	7.561	13.674	14.939	14.621	14.306	14.471	14.771	15.024	15.245	15.348	15.416	15.624												
T05-61	6	2/15/2011, 16:55	19.101	16.883	17.27	17.796	18.082	18.179																		
T05-61	6	5/23/2011, 4:17	18.457	17.936	17.426	17.651	17.917	18.108																		
T05-61	6	8/9/2011, 15:07	13.226	17.03	17.476	17.664	17.834	18.025																		
T05-61	6	11/22/2011, 14:17	16.293	16.472	17.073	17.538	17.765	17.974																		
T05-62	10	2/16/2011, 10:13	32.242	13.975	13.258	13.273	13.226	13.242	13.305	13.478	13.637	13.894														
T05-62	10	5/23/2011, 2:21	10.942	13.472	13.631	13.679	13.695	13.456	13.393	13.441	13.631	13.904														
T05-62	10	8/9/2011, 15:40	9.249	12.125	12.853	12.853	12.899	13.273	13.431	13.494	13.653	13.926														
T05-62	10	11/22/2011, 11:11	61.093	14.973	13.153	13.168	13.09	13.059	13.168	13.436	13.642	13.948														
T05-63	8	2/19/2011, 11:02	16.263	13.362	12.986	13.488	14.034	14.559	15.012	15.474																
T05-63	8	2/19/2011, 11:03	16.24	13.341	12.981	13.483	14.012	14.554	15.007	15.468																
T05-63	8	2/19/2011, 11:03	16.234	13.336	12.977	13.478	14.024	14.532	15.018	15.445																
T05-63	8	2/19/2011, 11:03	16.245	13.33	13.002	13.472	14.034	14.543	15.012	15.456																
T05-63	8	5/23/2011, 5:43	16.418	14.455	13.722	13.77	14.11	14.537	14.99	15.434																
T05-63	8	8/10/2011, 9:48	11.555	13.515	13.642	13.706	14.077	14.537	14.973	15.416																
T05-63	8	11/22/2011, 11:02	13.584	12.299	12.816	13.441	13.953	14.443	14.877	15.336																
T05-64	7	2/16/2011, 11:29	16.544	16.981	17.184	17.333	17.426	17.407	17.463																	
T05-64	7	2/19/2011, 11:07	16.538	16.993	17.178	17.345	17.401	17.42	17.457																	
T05-64	7	5/23/2011, 5:47	16.4	16.981	17.166	17.314	17.37	17.426	17.463																	
T05-64	7	8/10/2011, 9:45	16.629	17.012	17.178	17.289	17.382	17.382	17.42																	
T05-64	7	11/21/2011, 15:38	16.52	16.993	17.159	17.289	17.364	17.401	17.438																	
T05-65	8	1/15/2011, 12:00	14.246	13.472	14.377	15.595	16.55	16.496	16.823	-453.1																
T05-65	8	3/19/2011, 9:22	15.086	14.334	14.648	15.549	16.448	16.502	16.792	-451																
T05-65	8	8/10/2011, 9:53	-16.19	-15.54	-15.79	-15.82	-17.68	-14.98	-14.58	-73.52																
T05-65	8	11/21/2011, 15:43	-16.11	6274.8	-16.1	-16.06	-15.94	16.719	16.629	278.58																
T05-66	8	2/16/2011, 11:25	20.412	16.737	17.03	17.308	17.382	17.476	17.401	17.401																
T05-66	8	5/23/2011, 5:50	17.407	16.853	17.11	17.295	17.351	17.463	17.426	17.426																
T05-66	8	8/10/2011, 9:56	-11.2	-15.17	-13.78	-14.23	-13.21	17.42	17.401	17.382																
T05-66	8	11/21/2011, 15:35	20.377	16.454	17	17.295	17.37	17.463	17.407	17.426																
T05-67	8	2/19/2011, 11:12	16.305	15.986	16.251	16.359	16.502	16.665	16.737	16.756																
T05-67	8	5/22/2011, 4:26	16.568	16.335	16.388	16.478	16.605	16.713	16.768	16.768																
T05-67	8	8/10/2011, 10:17	13.931	16.062	16.4	16.329	16.347	16.707	16.744	16.762																
T05-67	8	11/21/2011, 15:34	15.342	15.445	16.127	16.466	16.592	16.701	16.737	16.737																
T06-69	11	2/21/2011, 14:18	19.128	17.314	16.599	16.472	16.418	16.311	16.347	16.454	16.49	16.436	16.329													
T06-69	11	5/22/2011, 5:13	16.08	16.963	16.871	16.744	16.508	16.347	16.365	16.472	16.472	16.4	16.329													
T06-69	11	8/10/2011, 8:57	11.496	12.981	14.587	15.974	16.382	16.365	16.4	16.454	16.472	16.418	16.329													
T06-69	11	11/21/2011, 15:08	20.899	16.341	15.88	15.688	15.583	15.67	15.933	16.234	16.394	16.377	16.305													
T06-71	12	5/5/2011, 14:55	16.823	19.927	17.564	16.46	16.514	16.514	16.55	16.55	16.695	16.713	16.659	16.732												
T06-71	12	5/5/2011, 14:55	16.816	19.92	17.538	16.436	16.508	16.526	16.544	16.562	16.707	16.689	16.671	16.707												
T06-71	12	5/26/2011, 15:09	7.225	17.607	17.626	16.538	16.377	16.484	16.538	16.538	16.665	16.701	16.665	16.719												
T07-75D	12	5/5/2011, 15:18	16.234	16.074	16.003	16.021	15.933	15.705	15.635	15.445	15.308	15.188	15.035	14.849												
T07-75D	12	5/26/2011, 15:29	16.263	16.103	15.997	16.033	15.944	15.734	15.664	15.456	15.319	15.182	15.029	14.843												
T07-75S	12	5/5/2011, 15:18	-14.77	13.899	14.671	15.416	15.851	16.151	16.508	16.544	16.544	16.599	16.562	16.436												
T07-75S	12	5/26/2011, 15:30	-15.38	14.637	14.571	14.855	15.485	15.991	16.418	16.544	16.526	16.599	16.562	16.472												
T07-76D	12	5/5/2011, 15:25	16.311	16.133	16.062	16.027	15.833	15.746	15.537	15.451	15.33	15.125	15.074	14.838												
T07-76D	12	5/5/2011, 15:26	16.347	16.115	16.044	16.027	15.851	15.746	15.52	15.434	15.33	15.108	15.057	14.838												
T07-76D	12	5/26/2011, 15:37	16.323	16.127	16.056	16.021	15.827	15.723	15.549	15.428	15.325	15.12	15.069	14.816												
T07-76S	12	5/5/2011, 15:26	16.311	15.676	16.133	16.382	16.454	16.562	16.617	16.599	16.544	16.562	16.49	16.436												
T07-76S	12	5/26/2011, 15:38	16.311	15.728	16.097	16.382	16.472	16.58	16.635	16.599	16.526	16.562	16.49	16.436												
T95-4	24	2/21/2011, 14:28	14.99	15.416	15.956	16.275	16.472	16.798	17.036	17.203	17.426	17.333	17.37	17.37	17.37	17.295	17.203	17.129	16.944	16.816	16.635	16.544	16.275	132467	15.903	132467
T95-4	24	5/23/2011, 4:30	16.027	15.572	15.868	16.186	16.454	16.762	17	17.184	17.407	17.295	17.351	17.37	17.351	17.277	17.203	17.11	16.963	16.835	16.653	16.526	16.257	132467	15.921	-17.76
T95-4	24	8/9/2011, 15:11	15.382	15.711	15.868	16.186	16.454	16.762	16.981	17.147	17.389	17.277	17.351	17.351	17.351	17.277	17.184	17.129	16.926	16.835	16.653	16.508	16.257	132467	15.921	-47.23

T95-4	24	11/22/2011, 14:22	132467	15.33	15.833	16.186	16.436	16.744	16.963	17.129	17.37	17.295	17.351	17.351	17.333	5488.4	17.184	17.11	44134	132467	132467	16.526	16.293	132467	15.939	-9.849
T95-5	24	2/21/2011, 14:47	-214.3	-376.6	-352.8	-17.55	-52.69	-129	183.8	-458.3	2979	132467	33092	-51.67	-259.5	16.944	16.871	16.78	132467	16.562	16.436	16.257	16.133	15.921	15.798	25.74
T95-5	24	5/23/2011, 6:08	-149.2	-811.8	-62.11	-37	-174.7	-333.7	-780.8	-92.09	-238.1	-2849	132515	-54.04	-45.79	16.951	16.877	16.786	132515	16.587	16.442	16.281	16.121	15.962	16.015	15.56
T95-5	24	8/10/2011, 14:38	-920.5	-16524	-132.4	775.29	-168.6	-720.2	132419	-3198	-400.5	6938.7	-1525	303.83	-85.08	16.92	16.847	16.792	132419	16.574	16.43	16.251	16.145	15.95	15.792	15.618
T95-5	24	11/21/2011, 15:53	839.66	-13.01	-14.62	-14.07	-15.7	-15.8	-14.64	-15.9	-15.66	-15.88	-15.78	17.451	-14.14	16.914	16.877	16.768	132515	16.568	16.442	16.263	16.139	15.944	15.804	15.612
T95-7	24	2/16/2011, 10:44	16.908	16.871	16.853	16.853	-29.77	-22.04	-811.5	132467	-839.3	-2728	-25.41	-19.79	132467	132467	132467	132467	132467	132467	-7761	132467	132467	132467	132467	132467
T95-7	24	5/22/2011, 3:45	16.908	16.89	17.055	16.853	19.369	16.689	28.403	-22.74	18.224	24.299	17.501	15.974	132467	132467	132467	132467	132467	132467	132467	132467	132467	132467	132467	132467
T95-8	24	1/14/2011, 18:16	-26.56	-63.87	16.981	17.614	16.944	17	16.981	16.963	17.184	17.073	17.092	17.036	17.073	17.129	17.11	17.129	17.166	-20.84	17.147	17.221	17.203	17.203	17.24	17.295
T95-8	24	2/15/2011, 16:40	20.147	17	-27.44	21.689	17.092	17.036	16.963	16.963	-19.02	-25.03	17.092	17.055	17.055	17.129	17.129	17.147	17.147	-28.15	17.166	17.203	17.184	17.203	17.258	17.295
T95-8	24	4/24/2011, 16:01	20.49	22.707	16.914	19.075	16.987	17.358	16.969	-94.84	-59.17	-23.09	17.079	17.061	17.061	17.135	17.153	17.135	17.135	17.153	17.172	17.19	17.19	17.19	17.265	17.283
T95-8	24	5/22/2011, 3:31	18.515	-57.91	16.908	16.963	-17.14	17.055	16.981	-2252	-48.89	-9431	17.073	17.036	17.129	17.129	17.129	17.129	17.166	17.129	17.166	17.203	17.166	17.203	17.258	17.295
T95-8	24	6/10/2011, 13:53	17.358	-20.07	16.932	17.79	-270.2	26.813	16.987	-356.3	-41.15	-22.27	17.061	17.061	17.061	17.135	17.135	17.135	17.153	17.135	17.172	17.209	17.209	17.209	17.265	17.302
T95-8	24	7/8/2011, 10:34	14.956	17.184	16.963	16.944	17.092	17	16.963	251.98	55.574	17.073	17.073	17.055	17.055	17.129	17.11	17.129	17.129	17.129	17.166	17.184	17.203	17.184	17.258	17.295
T95-8	24	8/9/2011, 14:56	13.835	17.036	16.963	17.036	-18.55	32.475	17.018	17.055	-31.47	17.073	17.073	17.036	17.073	17.11	17.129	17.129	17.147	17.147	17.166	17.184	17.184	17.184	17.24	17.295
T95-8	24	9/6/2011, 15:21	13.77	17.073	16.963	16.981	16.944	-42.93	18.418	16.963	39.08	17.184	17.073	17.018	17.055	17.129	17.129	17.147	17.129	17.129	17.166	17.203	17.184	17.184	17.258	17.277
T95-8	24	10/22/2011, 11:31	16.133	16.908	-9.684	16.944	17.092	16.981	16.981	-11.27	-11.04	17.055	17.092	17.055	17.055	17.11	17.11	17.129	17.147	17.11	17.147	17.184	17.184	17.184	17.258	17.277
T95-8	24	11/21/2011, 14:42	16.792	16.865	16.938	16.938	-9.668	-14.85	16.957	17.702	18.724	17.067	17.067	17.03	17.03	17.104	17.122	17.122	17.141	17.141	17.159	17.178	17.159	17.178	17.252	17.289
T95-9	24	2/16/2011, 10:44	-4534	-95.14	-6274	16.829	-728.8	-4534	16.938	16.938	16.938	16.957	-18.04	17.178	132419	132419	132419	132419	132419	132419	132419	132419	132419	132419	132419	132419
T95-9	24	5/22/2011, 3:45	16.412	16.538	16.701	16.847	16.829	16.902	-28.84	18.179	16.957	16.957	17.178	17.308	132419	132419	132419	132419	132419	132419	132419	132419	132419	132419	132419	132419
T95-9	24	8/10/2011, 15:03	-21.94	16.52	16.701	16.792	16.829	16.883	-22.19	16.938	17.03	16.938	17.159	-95.51	132419	132419	132419	132419	132419	132419	132419	132419	132419	132419	132419	132419
T95-9	24	11/21/2011, 14:52	15.693	16.526	17.129	16.798	16.835	-8.675	-9.5	16.926	16.944	17.055	17	16.908	132467	132467	132467	132467	132467	132467	132467	132467	132467	132467	132467	132467
T96-10	24	2/26/2011, 10:20	19.376	-1206	24.674	-53.21	16.371	-37.77	-43.16	-41.11	-100.7	-56	-43.86	-24.87	3123.5	132515	132515	132515	132515	132515	132515	132515	132515	132515	132515	132515
T96-10	24	5/23/2011, 2:31	17.777	-32.81	-32.33	-8245	-43.61	-123.6	-20.81	-70.81	-77.67	-1887	-3198	-132.4	-22.1	16.162	17.364	15.308	15.29	16.162	14.95	14.665	14.749	14.917	21.902	15.549
T96-10	24	8/9/2011, 17:18	15.239	-34.22	22.305	33080	-62.74	-186.2	-179.5	-170.1	-1018	-296.3	-323.7	-124.2	-41.16	16.198	17.401	15.325	15.273	16.198	14.984	-19.89	14.799	14.934	22.103	14.466
T96-10	24	11/21/2011, 16:33	15.728	-14.54	35.357	-15.95	-11.36	-13.97	-14.54	-15.37	-15.19	132467	-15.73	-14.31	-12.93	16.222	17.463	-9.742	15.279	16.24	14.956	14.521	14.771	14.905	22.245	14.471
T96-12	24	2/15/2011, 16:21	16.605	17.246	-45.24	-31.3	17.358	-31.73	-307.5	-163.1	-52.44	-26477	-215.8	66241	17.172	33104	-1711	-4876	-205.6	-26477	26.945	16.442	132515	22.96	30.668	21.325
T96-12	24	5/22/2011, 2:57	17.153	30.788	-27.23	1916.8	-26.49	-52.6	45.793	-179.7	132515	33104	-54.27	14695	17.172	-623.8	9435.3	33.947	-48.85	-210.4	16.55	16.442	132515	19.497	22.299	-10163
T96-12	24	8/9/2011, 14:24	16.798	-23.89	-26.2	-61.75	-45.36	-118.9	-50.98	132467	132467	18.359	23.915	-5728	17.166	-29.13	12013	-314.5	16.835	-3365	16.562	16.418	132467	26.306	-105.2	33092
T96-12	24	11/21/2011, 14:06	16.43	17.085	-12.87	-15.96	-13.63	-15.91	-12.41	-16.14	132419	-10.08	-12.99	18889	17.141	-10.73	-12.96	-15.63	16.865	132419	16.574	16.412	132419	24.681	668.46	132419
T96-13	24	1/14/2011, 18:18	17.054	16.062	16.044	-22.56	16.798	16.926	16.981	17.073	17.184	17.221	17.295	17.332	17.576	17.538	17.463	17.276	17.276	-30.41	17.5	16.908	22.379	16.671	17.444	16.418
T96-13	24	2/15/2011, 16:36	17.432	-17.26	16.05	-25.54	16.841	16.969	17.024	17.488	17.209	17.227	17.302	17.358	17.62	17.771	17.488	17.302	17.32	-18.79	17.526	-31.15	16.859	16.713	16.605	-57.5
T96-13	24	3/19/2011, 10:02	17.892	16.216	16.056	16.92	16.829	16.957	17.03	17.104	17.215	17.234	17.308	17.383	17.645	17.589	17.476	17.289	17.327	17.141	17.57	16.939	16.829	16.719	16.665	-49.68
T96-13	24	4/24/2011, 15:41	17.993	16.293	16.062	16.653	16.816	16.944	17.018	17.092	17.203	17.24	17.314	17.333	18.418	17.576	-35.56	17.314	17.295	132467	17.557	16.926	16.835	16.707	-134.7	-1319
T96-13	24	5/24/2011, 4:10	16.653	16.347	16.097	16.635	16.835	16.963	17.018	17.092	17.184	17.24	17.314	17.351	17.841	17.576	17.482	17.295	17.295	17.11	17.576	16.926	16.835	16.707	16.617	16.472
T96-13	24	6/10/2011, 13:58	16.18	16.394	16.092	16.611	16.829	16.957	16.993	17.085	17.196	17.233	17.308	17.345	17.834	17.57	17.987	18.665	17.289	17.104	17.551	16.902	16.829	16.701	16.592	16.43
T96-13	24	7/8/2011, 10:15	14.241	16.49	16.097	16.635	16.835	16.944	17.018	17.073	17.203	17.24	17.314	17.351	17.632	17.576	17.482	17.277	17.314	17.129	17.595	16.908	16.835	16.707	16.617	16.436
T96-13	24	8/9/2011, 14:35	12.185	16.448	16.056	16.611	16.81	16.938	17.012	17.067	17.196	17.233	17.308	17.326	17.626	17.588	17.476	17.289	17.308	17.104	17.588	16.92	16.81	16.701	16.592	16.412
T96-13	24	9/6/2011, 14:55	11.981	16.168	16.08	16.617	16.835	16.926	17.018	17.092	17.203	17.24	17.314	17.333	17.632	17.576	17.538	17.295	17.295	17.11	17.595	16.926	16.835	16.707	-17.05	66217
T96-13	24	10/22/2011, 11:27	14.643	15.63	16.068	16.641	16.823	16.951	17.024	17.079	17.209	17.227	17.302	17.358	17.696	17.601	17.488	17.302	17.302	17.135	17.62	16.914	16.823	16.695	16.587	16.424
T96-13	24	11/21/2011, 14:14	15.606	15.537	16.027	16.635	16.816	16.963	17.018	17.073	17.166	17.24	17.295	17.333	17.67	17.595	17.538	17.314	17.314	17.129	17.651	16.926	16.835	16.707	16.599	16.418
T96-13s	24	1/14/2011, 18:19	40.095	37.757	-59.72	26.803	22.929	-23.13	20.524	18.869	18.301	17.614	17.036	16.653	16.454	16.744	16.133	16.027	-31.07	17.24	15.868	132467	15.798	-77.06	-22.17	-28.18
T96-13s	24	2/15/2011, 16:36	31.754	33.245	53.69	-3454	28.098	23.464	21.014	19.51	18.711	18.012	17.389	16.981	16.707	-18.1	16.725	16.222	-45.5	-41.88	16.009	132467	15.921	-28.12	-30.8	18.224
T96-13s	24	3/19/2011, 10:03	22.929	26.047	-67.72	27.824	-78.71	23.091	33.835	20.189	-31.35	18.515	17.841	17.351	16.981	16.635	-32.19	16.365	16.853	16.275	16.151	132467	16.027	15.956	15.956	-36.84
T96-13s	24	4/24/2011, 15:41	8.48	10.17	152.91	18.606	31.835	20.223	20.37	21.725	-32.3	18.489	17.929	17.513	17.104	16.756	22.395	16.412	16.502	-57.64	16.234	132419	16.127	16.109	18.025	15.986
T96-13s	24	4/24/2011, 15:42	8.496	10.16	153.74	18.632	-31.14	20.231	20.377	23.677	31.941	18.476	17.936	17.501	17.11	16.744	22.336	16.436	16.49	-58.71	16.24	132467	16.133	16.08	18.012	15.991
T96-13s	24	5/24/2011, 4:11	11.847	10.713	-85.74	10.051	9.862	9.795	-90.11	-15.62	-16.56	16.58	16.617	16.653	16.635	16.544	16.526	16.454	-16.54	-16.72	16.293	132467	16.186	20.928	16.08	16.062
T96-13s	24	6/10/2011, 13:57	5.081	5.038	132467	4.704	6.146	8.146	132467	12.536	-15.27	15.279	16.097	16.4	16.49	16.508	16.562	16.436	16.744	16.365	16.311	132467	16.222	16.168	-18.86	16.08
T96-13s	24	7/8/2011, 10:15	4.912	5.968	132467	5.913	6.496	8.196	9.755	10.895	-129.8	13.137	14.159	15.007	15.763	16.275	16.436	16.418	16.725	16.4	16.329	132467	16.257	16.204	17.614	16.133
T96-13s	24	8/9/2011, 14:35	9.449	9.37	132467	9.227	-11.81	10.187	10.671	10.966	-18.26	11.701	12.144	12.704	13.278	13.803	14.273	14.604	-26.07	15.245	15.468	132467	15.781	15.939	-17.16	16.009
T96-13s	24	9/6/2011, 14:55	-13.45	11.37	132515	10.899	11.155	11.778	132515	-23.56	11.428	11.632	11.955	12.329	12.77	13.409	13.52	13.791	-7331	14.427	14.659	132515	15.114	15.302	16.174	15.526
T96-13s	24	10/22/2011, 11:27	34.255	36.828	36.756	34.524	27.542	-10.24	17.067	16.756	15.48	14.984	14.582	14.334	14.186	14.056	14.024	14.007	-11.44	14.154	14.235	132419	14.499	14.632	-10.32	14.849
T96-13s	24	11/21/2011, 14:14	68.207	68.437	132515	132515	49.866	31.273	-9.44	-9.4	17.19	16.103	15.56	15.267	15.046	14.86	14.709	14.643	132515	14.626	14.593	132515	14.693	14.709	-13.6	132515
T96-15	14	2/21/2011, 15:01	16.847	17.159	17.03	16.993	16.883	16.81	16.756	16.647	16.611	16.592	16.484	16.412	16.359	16.305										
T96-15	14	5/22/2011, 16:52	17.203	17.11	17.036	16.981	16.871	16.798	16.762	16.653	16.617	16.58	16.508	16.418	16.365	16.293										
T96-15	14	8/10/2011, 9:29	17.073	17.129	17.036	17	16.89	16.816	16.744	16.653	16.599	16.58	16.49	16.436	16.347	16.293										
T96-15	14	11/21/2011, 16:11	16.835	17.092	17.036	16.981	16.871	16.816	16.762	16.653	16.599	16.58	16.49	16.436	16.347	16.311										
T96-19	24	5/5/2011, 14:41	18.34	18.379	-35.95	18.574	18.849	18.79	18.889	18.81	18.77	18.711	18.711	18.652	18.554	18.398	18.34	18.205	18.012	-35.7	17.86	17.595	17.389	17.258	17.129	17
T96-19	24	5/26/2011, 11:06	18.353	18.353	-19.8	18.567	18.842	18.763	18.842	18.783	18.763	18.724	18.665	18.626	18.528	18.372	18.333	18.159	18.025	17.91	17.739	17.607	17.382	17.252	17.104	17.012
T96-21	24	1/14/2011, 18:21	132467	19.248	16.222	14.471	13.803	13.948	13.754	13.579	13.579	14.192	13.948	14.339	14.804	15.485	15.606	16.027	16.544	16.689	16.78	16.908	16.963	17.036	17.129	17.129
T96-21	24	2/15/2011, 16:32	132419	21.266	16.665	-26.14	16.323	14.121	15.222	-14.84	13.51	-67.77	14.056	14.665	14.816	15.29	17.968	16.021	16.52	16.665	16.774	16.902	16.957	16.993	17.049	17.215
T96-21	24	3/19/2011, 10:01	132419	20.985	-48.42	15.069	14.056	14.04	13.669	13.542	13.415	25.781	13.862	14.285	14.749	15.29	15.583	16.021	16.538	16.683	16.774	16.883	16.957	17.012	17.049	17.104
T96-21	24	4/24/2011, 15:38	132467	19.248	-286.9	20.064	14.306	17.576	-25.08	13.404	13.388	-36.37	13.883	14.339	14.804	15.279	15.589	16.009	16.544	16.689	16.762	16.89	16.963	17.018	17.073	-24.91
T96-21	24	5/22/2011, 3:11	132419	13.717	-17.51	-15.67	14.699	-15.67	-33.03	13.526	13.478	-14.15	13.959	-19.97	14.799	15.256	15.583	16.003	16.538	16.683	16.756	16.883	16.957	16.993	17.049	17.141
T96-21	24	6/10/2011, 14:02	132467	9.984	-134.7	15.781	14.872	15.057	-70.52	13.642	13.547	-26.3	13.996	14.754	14.821	15.296	15.589	16.009	16.526	16.689	16.762	16.89	16.963	17	17.184	17.463
T96-21	24	7/8/2011, 10:18	132419	8.874	-101.8	19.809	14.648	-18.68	-102.9	14.549	13.621	15.862	14.04	16.629	14.849	15.308	15.583	16.021	16.538	16.665	16.774	16.902	16.957	17.012	17.049	-41.82
T96-21	24	8/9/2011, 14:39	132515	10.549	11.255	-5490	13.759	14.443	14.018	13.808	13.727	-13.96	14.034	-18.67	14.877	15.319	15.612	15.997	16.55	16.695	16.75	16.896	16.932	16.987	-19.51	17.135

T96-21	24	9/6/2011, 14:59	132467	-11.2	-105.2	-56.04	13.121	-206.8	-850.9	42.006	13.819	-167.1	14.159	14.521	14.922	15.348	15.641	16.044	-156.3	16.689	16.762	-32.47	16.963	17.018	-126.7	132467
T96-21	24	10/22/2011, 10:56	132467	17.822	132467	-9.472	12.842	-10.24	-15.92	-8.684	13.883	-12.57	14.241	14.571	14.939	15.365	15.641	16.027	16.562	16.671	16.78	17.129	16.926	17	17.295	17.129
T96-21	24	11/21/2011, 14:18	132515	-10.43	132515	-12.32	13.095	-16.17	132515	-16.15	13.808	132515	14.131	14.493	14.928	15.37	15.647	16.033	16.587	16.677	16.768	-8.855	16.951	17.006	-10.29	17.172
T96-22	24	1/14/2011, 18:22	37.906	18.928	132467	26467	34.604	-19.59	-30.21	-60.5	20.546	-42.21	16.671	16.835	16.816	16.908	132467	17	17.092	17.092	17.166	17.184	-23.06	17.277	-182.4	17.333
T96-22	24	2/15/2011, 16:30	32.274	-26.01	132419	6590.2	15.393	-21.35	-19.24	-18.72	16.52	26.846	16.829	19.483	16.792	16.865	132419	16.993	17.067	17.085	17.141	17.178	17.196	17.27	-136.3	17.308
T96-22	24	3/19/2011, 9:59	24.324	69.968	132467	132467	15.659	-17.93	16.4	19.248	17.221	58.968	16.653	16.78	16.798	16.89	132467	16.981	17.092	17.092	17.147	17.184	17.24	17.407	-80.6	17.314
T96-22	24	4/24/2011, 15:36	10.137	19.295	132515	15.962	-129.2	-16.91	16.015	-27.21	16.532	-73.84	16.659	16.786	16.804	16.896	132515	17.006	17.098	17.153	17.172	-71.35	17.339	17.414	-25.34	17.32
T96-22	24	5/22/2011, 3:14	12.445	15.974	132467	16.027	31.445	16.689	15.903	-24.66	16.526	44.374	16.653	16.78	16.816	16.89	132467	17	17.092	17.092	17.166	17.184	17.203	17.258	-33.5	17.314
T96-22	24	6/10/2011, 14:07	4.829	11.41	132467	16.097	-35.77	-33.24	16.044	-36.09	16.526	35.81	16.653	16.871	16.816	16.871	132467	16.963	17.092	17.092	17.147	18.185	17.203	17.277	-214.3	17.314
T96-22	24	7/8/2011, 10:20	4.652	10.338	132467	16.027	-29.56	132467	132467	-277.9	16.508	16530	16.653	16.798	16.798	16.89	132467	16.981	17.092	17.073	17.166	17.184	17.203	-23.3	-66.82	17.314
T96-22	24	8/9/2011, 14:42	9.436	11.122	132467	14.788	-37.24	-76.34	-259.5	-164.5	16.508	-159.1	16.744	16.798	16.816	16.89	132467	16.981	17.073	17.092	17.166	17.166	17.632	17.277	-38.05	17.314
T96-22	24	9/6/2011, 15:02	10.462	11.467	132467	-15.93	-21.38	132467	132467	-389.6	16.508	-21.64	-18.63	-17.14	16.816	16.89	132467	17	17.073	17.092	17.166	-13246	17.333	17.277	-64.15	17.314
T96-22	24	10/22/2011, 10:59	39.259	16.574	132419	13.749	-10.51	15.171	132419	132419	16.502	-10.21	16.647	16.792	16.792	16.865	132419	16.975	17.067	17.085	17.141	17.159	-8.515	17.252	168.34	17.308
T96-22	24	11/21/2011, 14:23	82.769	19.088	132467	14.143	14.554	15.159	15.624	66217	16.508	17.147	16.653	16.762	16.798	16.871	132467	16.981	17.092	17.073	17.184	17.166	17.258	17.277	-14.75	17.295
T96-23	24	1/15/2011, 15:36	132467	132467	17.651	16.418	16.329	16.436	16.454	16.562	16.562	16.617	16.689	16.78	16.871	16.944	17.018	17.092	17.073	17.147	17.203	17.258	17.184	17.24	17.333	17.389
T96-23	24	2/26/2011, 10:00	132467	132467	17.936	16.49	16.472	16.508	16.436	16.562	16.58	16.617	16.689	16.78	16.89	16.944	17.018	17.092	17.11	17.147	17.203	17.258	17.166	17.24	17.314	17.407
T96-23	24	3/19/2011, 9:57	132419	132419	18.333	16.52	16.484	16.52	16.43	16.538	16.556	16.592	16.683	16.792	16.865	16.957	17.012	17.085	17.104	17.122	17.196	17.233	17.159	17.233	17.308	17.401
T96-23	24	4/30/2011, 13:25	-1834	2377.6	16.442	16.299	16.371	16.263	16.05	16.228	16.263	16.335	16.335	16.568	16.587	16.859	16.987	17.098	16.951	17.153	17.19	17.246	17.098	17.116	17.265	17.116
T96-23	24	5/30/2011, 15:16	132467	132467	8.813	9.555	10.769	10.601	16.275	16.454	16.454	15.903	16.454	16.454	16.4	16.382	16.689	17	-15.41	17	17.184	17.036	17.036	17.221	17.314	17.389
T96-23	24	6/10/2011, 14:10	132467	132467	9.161	13.835	14.905	15.176	15.33	15.693	15.746	15.868	16.133	16.689	16.725	16.908	16.853	17.036	16.871	16.908	17.203	16.944	17.018	17.221	17.277	17.389
T96-23	24	7/8/2011, 10:23	132467	132467	10.283	13.835	14.905	15.159	15.348	15.659	15.728	15.851	16.151	16.78	16.871	16.944	16.944	17.073	17.11	17.073	17.221	17.184	17.018	17.221	17.314	17.389
T96-23	24	8/9/2011, 14:46	132467	132467	10.559	13.996	14.804	15.176	15.33	15.693	15.728	15.868	16.222	16.816	16.871	16.908	16.963	17.092	17	17.036	17.203	17.221	16.963	17.073	17.314	17.314
T96-23	24	9/6/2011, 15:05	132467	132467	11.759	13.722	14.637	15.091	15.279	15.624	15.693	15.833	16.186	16.78	16.871	16.926	16.926	17.036	17.092	17.018	17.203	17.221	16.944	17.221	17.314	17.37
T96-23	24	10/22/2011, 11:05	132515	132515	15.98	14.928	15.216	15.491	15.682	15.962	16.015	16.015	16.424	16.786	16.877	16.969	16.987	17.098	16.768	17.061	17.227	17.246	16.914	17.227	17.32	17.395
T96-23	24	11/21/2011, 14:37	132515	132515	16.496	15.405	15.664	15.856	15.98	16.21	16.281	16.388	16.587	16.804	16.877	16.969	17.043	17.098	17.098	17.098	17.227	17.227	17.116	17.227	17.302	17.414
T96-24	24	1/14/2011, 18:24	39.506	40.095	37.205	18.476	15.125	13.515	13.013	13.294	13.754	14.159	14.521	15.007	15.624	16.24	16.617	16.689	16.762	132467	16.798	17.708	16.762	16.816	-19.81	16.835
T96-24	24	2/15/2011, 16:27	-34.45	31.929	31.804	19.933	15.653	13.878	13.195	13.32	13.685	14.04	14.433	14.934	15.583	-19.04	16.611	16.756	16.756	132419	16.774	-35.9	16.756	16.829	-32.87	16.829
T96-24	24	3/19/2011, 9:55	22.156	23.067	24.936	20.293	16.027	14.175	13.388	14.061	13.674	13.996	14.372	14.872	15.554	16.222	16.617	16.689	16.78	132467	16.78	77.793	16.762	16.835	16.835	16.835
T96-24	24	4/24/2011, 15:33	9.341	8.874	14.334	18.862	16.287	14.4	13.542	13.51	13.669	13.943	14.301	14.816	15.514	16.162	16.592	16.683	16.756	132419	16.774	17.233	16.737	16.938	16.829	16.829
T96-24	24	5/22/2011, 3:22	11.828	12.095	12.215	16.829	16.198	14.499	13.637	13.558	13.685	13.717	14.137	14.565	15.273	16.109	16.611	16.665	16.756	132419	16.774	16.774	16.756	16.829	16.829	16.81
T96-24	24	6/10/2011, 14:16	6.111	5.409	5.302	11.507	15.445	15.137	14.599	14.137	13.605	13.352	13.605	14.268	15.273	16.056	16.611	16.683	16.756	132419	17.27	16.774	16.756	16.81	16.829	16.81
T96-24	24	7/8/2011, 10:28	4.806	4.558	4.995	10.088	13.008	14.416	14.383	13.991	13.669	13.653	13.846	14.285	15.188	16.021	16.592	16.683	16.756	132419	16.774	-17.75	16.737	16.847	16.829	16.829
T96-24	24	8/9/2011, 14:50	10.273	9.852	9.678	10.205	11.399	13.111	13.84	13.872	13.759	13.84	14.05	14.476	15.233	15.98	16.605	16.695	16.786	132515	16.786	16.804	16.768	16.841	16.841	16.841
T96-24	24	9/6/2011, 15:13	10.932	11.088	10.903	10.581	11.017	12.243	13.209	13.636	13.78	13.942	14.153	14.498	15.256	15.968	16.611	16.701	16.792	132564	16.811	16.792	16.738	16.884	16.847	16.847
T96-24	24	10/22/2011, 11:17	31.58	33.42	35.509	15.769	12.51	12.059	12.556	13.173	13.679	14.034	14.312	14.626	15.302	15.98	16.568	16.695	16.768	132515	16.804	16.804	16.75	-11.26	16.823	16.841
T96-24	24	11/21/2011, 14:27	68.005	70.658	69.236	18.391	13.669	12.608	12.608	13.07	13.574	13.959	14.268	14.699	15.342	15.986	16.574	16.665	16.737	132419	16.829	-10.87	16.737	16.81	16.81	16.81
T97-28	24	3/1/2011, 11:15	18.711	14.208	-28.48	13.357	13.404	13.357	13.294	13.278	13.373	13.452	13.61	14.045	-22.56	14.372	14.687	14.99	15.262	15.313	15.434	15.485	15.589	132467	15.485	15.503
T97-28	24	5/23/2011, 3:00	12.055	13.357	13.31	13.594	13.674	13.819	13.658	13.515	13.42	13.452	-117.2	15.606	14.143	14.405	14.671	14.99	15.313	15.313	15.434	15.851	15.589	132467	15.485	15.503
T97-28	24	8/9/2011, 15:41	10.266	-14.78	12.577	12.791	12.654	12.73	13.023	13.289	13.462	13.542	-15.27	-26.06	-34.18	14.383	-22.17	16.038	15.222	15.29	15.48	15.48	15.531	132419	18.922	-22.69
T97-28	24	11/22/2011, 11:09	26.254	14.973	-9.033	13.168	13.184	13.948	13.044	13.075	13.184	13.31	-11.71	18.224	-7.898	14.389	-10.39	-8.081	15.228	15.485	15.434	15.921	15.572	132467	15.451	19.858
T97-29	24	3/1/2011, 11:17	19.612	16.508	16.365	17.538	16.347	-63.25	-3199	16.454	-88.76	-27.74	-20.99	-18.08	-1603	16.472	18.379	-57.11	17.258	16.599	-20.41	-130.2	-244.2	15.886	24.911	-27.41
T97-29	24	5/23/2011, 2:50	14.175	16.635	-18.92	21.557	16.4	16.436	-23.27	16.472	16.454	16.472	16.454	16.49	-22.63	-21.12	17.389	-80.7	22.066	-23.44	-26.04	-67.05	-211.2	16.798	30.958	23.324
T97-29	24	8/9/2011, 15:38	10.807	13.086	-19.83	16.305	16.341	16.341	16.341	16.359	16.448	16.466	17.513	16.484	16.502	16.466	18.645	-499.5	44.625	-54.57	44.491	-566.9	-232.5	-96.63	-74.65	-28
T97-29	24	11/21/2011, 16:52	24.705	15.359	-9.03	-9.575	16.021	16.234	16.484	16.466	16.43	16.448	20.349	16.611	16.502	16.394	17.178	-10.83	19.061	-8.744	-11.66	-14.83	-15.08	-11.5	-10.01	15.915
T97-30	24	2/21/2011, 14:51	17.538	16.027	15.746	15.589	15.676	15.503	15.52	15.503	15.468	15.537	15.693	15.728	18.282	15.956	15.903	15.903	15.833	15.851	15.781	15.746	15.711	15.659	15.52	15.348
T97-30	24	5/23/2011, 2:54	16.981	16.24	15.939	15.693	15.711	15.503	15.503	15.485	15.485	15.52	15.676	15.693	17.314	15.956	15.886	15.903	15.816	15.833	15.798	15.746	15.711	15.676	15.52	15.348
T97-30	24	8/9/2011, 15:30	12.669	15.705	15.986	15.81	15.792	15.566	15.514	15.497	15.445	15.531	15.635	15.688	17.494	15.95	15.862	15.88	15.81	15.827	15.775	15.723	15.688	15.653	15.514	15.342
T97-30	24	11/21/2011, 16:53	15.763	15.194	14.888	15.194	15.503	15.485	15.503	15.503	15.503	15.52	15.659	15.676	21.932	15.939	15.868	15.886	15.816	15.833	15.781	15.746	15.711	15.641	15.503	15.33

Piezometer Monitoring Data: 3/2/2011

Date of Reading	Site Name	Week #	Time	Temp (C)	Switch	Reading
2/15/2011						
	P-09A	4	15:16	3.6	B	8815.3
	P-09B	4	15:16	3.3	B	8412.5
	P-10A	4	15:16	4.1	B	8882.5
	P-10B	4	15:16	3.9	B	8406.2
	P-96-013	2	17:26	0.4	B	6885.5
	P-97-012	2	17:09	0.2	B	6250.7
	P-97-028	4	15:16	4	B	7501.9
	P-97-029	4	15:16	0.1	B	8767.7
	P-97-031	4	15:16	1.8	B	10717.3
	T-DamBaro		15:15	-9.3	B	4860.3
2/16/2011						
	P-05-62		11:01	4.2	B	8085.4
	RDC-P1	3	10:47	-0.2	B	9763.6
	RDC-P2	3	10:46	-5.1	B	99999999
	RDC-P3	3	10:46	0.1	B	9325.9
	RDC-P4	3	10:46	18.1	B	9341.8
	RDC-P5	3	10:45	99999	B	9549.8
	RDC-P6	3	10:45	0.2	B	9527.1
	RDC-P7	3	10:46	0	B	9175.1
	T-DamBaro		0:00	-10.7	B	4949.6

Piezometer Monitoring Data: 3/2/2011

Date of Reading	Site Name	Week #	Time	Temp (C)	Switch	Reading
2/21/2011						
	P-05-69		15:43	0	B	8828.8
	P-06-074		15:22	4.1	B	8456.4
	P-08A	4	15:24	4	B	8924.8
	P-08B	4	15:24	3.2	B	8551.4
	P-11	4	15:20	3.6	B	9237.6
	P-12A	4	15:27	1.5	B	8639.3
	P-12B	4	15:29	-0.2	B	9145.5
	P-13	4	15:31	3.1	B	8807.8
	P-14A	4	15:34	0.4	B	8728
	P-96-010	4	18:12	0.7	B	8483
	P-97-012	2	15:51	0.6	B	7547.6
	P-97-020	4	15:26	1.8	B	7449.3
	P-97-030	4	15:41	1.2	B	8493.1
	T-DamBaro		15:45	-17	B	5182.6
2/28/2011						
	P-06-070		15:13	0.1	B	8407.6
	P-06-072		15:09	0	B	7967.9
	P-06-073		15:11	0.7	B	8187.9
	P-06-71		15:05	-0.3	B	8467.4
	P-97-019	3	14:54	0.6	B	7382.3
	T-DamBaro		16:49	-6	B	5415.5

Piezometer Monitoring Data: 2/3/2012

Date of Reading	Site Name	Week #	Time	Temp (C)	Switch	Reading
5/3/2011						
	P-05-62		16:18	3.3	B	7993.6
	P-06-074		16:25	3	B	7850.9
	P-08A	4	16:31	2.9	B	8792.6
	P-08B	4	16:33	3.1	B	8406.4
	P-09A	4	16:13	2.9	B	8586.1
	P-09B	4	16:13	3.2	B	8287.9
	P-10A	4	16:13	3.1	B	8771.4
	P-10B	4	16:13	3.8	B	8312.9
	T-DamBaro		16:12	7.7	B	4972.3
5/5/2011						
	P-06-070		14:54	0.3	B	7823.8
	P-06-070		14:54	0.3	B	7823.8
	P-06-072		14:56	0	B	7606.1
	P-06-072		14:56	0	B	7606.1
	P-06-073		14:58	0.6	B	7896.4
	P-06-073		14:58	0.6	B	7896.4
	P-06-71		14:53	-0.3	B	8056.5
	P-06-71		14:53	-0.3	B	8056.5
	P-07-75		15:15	1.7	B	6227.7
	P-07-75		15:15	1.7	B	6227.7
	P-07-76		15:23	0.8	B	6966.1
	P-07-76		15:23	0.8	B	6966.1
	P-97-019	3	14:40	0.6	B	7387.5
	P-97-019	3	14:40	0.6	B	7387.5
	P-99-036	3	15:59	0.9	B	7438.1
	P-99-036	3	15:59	0.9	B	7438.1
	T-DamBaro		14:29	3.9	B	8316.3
	T-DamBaro		14:29	3.9	B	8316.3

Piezometer Monitoring Data: 2/3/2012

Date of Reading	Site Name	Week #	Time	Temp (C)	Switch	Reading
5/7/2011						
	P-05-62		9:42	3.3	B	7994.7
	P-06-074		9:51	3.1	B	7856
	P-08A	4	9:54	3	B	8794.8
	P-08B	4	9:55	3.1	B	8408.8
	P-09A	4	9:38	2.9	B	8588.9
	P-09B	4	9:39	3.2	B	8290.2
	P-10A	4	9:39	3.2	B	8773.2
	P-10B	4	9:39	3.8	B	8315.1
	T-DamBaro		9:38	-9.5	B	5007.4
5/11/2011						
	P-05-62		9:48	3.3	B	7982.4
	P-06-074		10:12	3.1	B	7777.9
	P-08A	4	10:14	3	B	8779.5
	P-08B	4	10:15	3	B	8392.6
	P-09A	4	9:44	2.9	B	8572.5
	P-09B	4	9:44	3.2	B	8276.4
	P-10A	4	9:45	3.2	B	8759.3
	P-10B	4	9:45	3.8	B	8302.2
	T-DamBaro		9:43	-5.1	B	5315.1

Piezometer Monitoring Data: 2/3/2012

Date of Reading	Site Name	Week #	Time	Temp (C)	Switch	Reading
5/16/2011						
	P-05-62		5:58	3.4	B	7989.5
	P-06-070		8:54	0.1	B	7490.4
	P-06-072		8:57	0	B	7278.9
	P-06-073		9:00	0.6	B	7633
	P-06-074		6:49	5.3	B	7634.6
	P-06-074		6:49	5.3	B	7634.6
	P-06-71		8:53	-0.3	B	7837.7
	P-07-76		8:38	0.8	B	6968.2
	P-08A	4	6:46	3	B	8786.2
	P-08A	4	6:46	3	B	8786.2
	P-08B	4	6:46	3.1	B	8398.6
	P-08B	4	6:46	3.1	B	8398.6
	P-09A	4	5:52	3	B	8578.5
	P-09B	4	5:53	3.2	B	8276.2
	P-10A	4	5:53	3.2	B	8765.3
	P-10B	4	5:53	3.8	B	8304.6
	P-12A	4	6:42	2.6	B	8642.8
	P-12B	4	6:43	-0.3	B	9077.1
	P-13	4	6:41	3.1	B	8742.7
	P-14A	4	6:35	0.4	B	8748
	P-97-019	3	7:49	0.6	B	7388.7
	P-97-020	4	6:45	1.6	B	7440.1
	P-97-028	4	5:53	4.3	B	6979.9
	P-97-029	4	5:53	0	B	8321.5
	P-97-030	4	6:02	1.1	B	8119.5
	P-97-031	4	5:53	2.4	B	10672.7
	P-99-036	3	10:56	1	B	7448.3
	T-DamBaro		2:03	-4.6	B	4716.3

Piezometer Monitoring Data: 2/3/2012

Date of Reading	Site Name	Week #	Time	Temp (C)	Switch	Reading
	T-DamBaro		2:03	-4.6	B	4716.3
	T-DamBaro		2:03	-4.6	B	4716.3
	T-DamBaro		5:52	-4.6	B	4716.3

Piezometer Monitoring Data: 2/3/2012

Date of Reading	Site Name	Week #	Time	Temp (C)	Switch	Reading
5/17/2011						
	P-05-62		9:22	3.5	B	7987.7
	P-05-63		3:49	3.4	B	8636.8
	P-05-63		3:49	3.4	B	8636.8
	P-05-65		3:58	1.7	B	8356.8
	P-05-65		3:58	1.7	B	8356.8
	P-05-67		3:44	0	B	8567.4
	P-05-67		3:44	0	B	8567.4
	P-05-69		4:10	-0.3	B	8839.2
	P-05-69		4:10	-0.3	B	8839.2
	P-06-074		9:30	4.3	B	7650.3
	P-08A	4	9:35	3.1	B	8784.1
	P-08B	4	9:34	3.1	B	8396.1
	P-09A	4	9:19	3	B	8576.5
	P-09B	4	9:19	3.3	B	8274
	P-10A	4	9:20	3.3	B	8764.1
	P-10B	4	9:20	3.8	B	8302.6
	P-11	4	2:16	3.5	B	9248.2
	P-11	4	2:16	3.5	B	9248.2
	P-96-010	4	20:42	0.6	B	8459.9
	P-96-010	4	20:42	0.6	B	8459.9
	P-96-013	2	3:28	0.3	B	6899.8
	P-96-013	2	3:28	0.3	B	6899.8
	P-96-015	3	4:23	0.5	B	7536.9
	P-96-015	3	4:23	0.5	B	7536.9
	P-97-012	2	3:19	0	B	6264.4
	P-97-012	2	3:19	0	B	6264.4
	RDC-P1	3	1:50	-0.3	B	9628.5
	RDC-P1	3	1:50	-0.3	B	9628.5

Piezometer Monitoring Data: 2/3/2012

Date of Reading	Site Name	Week #	Time	Temp (C)	Switch	Reading
	RDC-P2	3	1:51	0.3	B	9742.1
	RDC-P2	3	1:51	0.3	B	9742.1
	RDC-P3	3	1:52	0.7	B	9192.1
	RDC-P3	3	1:52	0.7	B	9192.1
	RDC-P5	3	1:52	-0.2	B	9518.2
	RDC-P5	3	1:52	-0.2	B	9518.2
	RDC-P6	3	1:53	0.1	B	9393.2
	RDC-P6	3	1:53	0.1	B	9393.2
	RDC-P7	3	1:53	1	B	9051.2
	RDC-P7	3	1:53	1	B	9051.2
	T-DamBaro		2:03	3.5	B	4803.7
	T-DamBaro		2:03	3.5	B	4803.7
	T-DamBaro		9:19	2.8	B	4844
5/19/2011						
	P-96-010	4	6:47	0.7	B	8458.4
	RDC-P4	3	6:43	0	B	9210.4
	RDC-P4	3	6:42	0	B	9210.4
	T-DamBaro		6:49	0.2	B	4984.7
5/23/2011						
	P-05-62		15:40	3.6	B	7980.3
	P-06-074		15:46	5.3	B	7553.5
	P-08A	4	15:49	3.2	B	8779.4
	P-08B	4	15:50	3.1	B	8389.4
	P-09A	4	15:37	3.1	B	8569.4
	P-09B	4	15:34	3.3	B	8262.9
	P-10A	4	15:35	3.5	B	8757.2
	P-10B	4	15:35	3.8	B	8293.8
	T-DamBaro		15:32	26.2	B	5077.8

Piezometer Monitoring Data: 2/3/2012

Date of Reading	Site Name	Week #	Time	Temp (C)	Switch	Reading
5/26/2011						
	P-06-070		15:10	0	B	7481
	P-06-072		15:12	0	B	7252.6
	P-06-073		15:15	0.6	B	7589
	P-06-71		15:09	-0.3	B	7826.2
	P-07-75		15:29	1.7	B	6226.6
	P-07-76		15:37	0.8	B	6968.2
	P-97-019	3	11:02	0.6	B	7388.8
	P-99-036	3	14:54	0.9	B	7452.5
	T-DamBaro		10:51	13.1	B	4914.7
5/28/2011						
	P-05-62		13:23	3.8	B	7983
	P-06-074		13:30	4.2	B	7524.1
	P-08A	4	13:33	3.4	B	8776.4
	P-08B	4	13:34	3.1	B	8385.4
	P-09A	4	15:22	3.1	B	8566.9
	P-09B	4	13:17	3.3	B	8260
	P-10A	4	13:17	3.7	B	8758.2
	P-10B	4	13:17	3.8	B	8301.7
	T-DamBaro		13:14	21.2	B	5060.9

Piezometer Monitoring Data: 8/13/2011

Date of Reading **8/9/2011**	**Site Name**	**Week #**	**Time**	**Temp (C)**	**Switch**	**Reading**
	P-05-62		15:37	4.7	B	8120.1
	P-05-69		15:34	6.7	B	8831.7
	P-06-074		15:12	4.3	B	8284.6
	P-08A	4	15:14	4	B	8945.6
	P-08B	4	15:14	3.1	B	8574.2
	P-09A	4	15:39	3.4	B	8736.1
	P-09B	4	15:40	3.2	B	8393.9
	P-10A	4	15:40	4.7	B	8864.6
	P-10B	4	15:40	3.7	B	8366.7
	P-11	4	15:10	3.5	B	9240
	P-12A	4	15:17	3.1	B	8636.6
	P-12B	4	15:17	-0.3	B	9165.2
	P-13	4	15:20	3.1	B	8814.5
	P-14A	4	15:21	0.9	B	8741.5
	P-96-010	4	17:13	0.7	B	8461.7
	P-96-013	2	14:30	0.3	B	6893.2
	P-97-012	2	14:23	0.1	B	6287.7
	P-97-020	4	15:15	1.6	B	7440.6
	P-97-028	4	15:40	11	B	7024.8
	P-97-029	4	15:40	0.1	B	8523.4
	P-97-030	4	15:24	1.1	B	8010.7
	P-97-031	4	15:40	2.1	B	10248.8
	T-DamBaro		15:39	12.3	B	5093.1

Piezometer Monitoring Data: 11/18/2011

Date of Reading **11/15/2011**	Site Name	Week #	Time	Temp (C)	Switch	Reading
	P-05-62		17:43	4.2	B	8179.7
	P-05-69		17:57	1	B	8825.5
	P-09A	4	17:39	3.4	B	8814.3
	P-09B	4	17:39	3.3	B	8461.2
	P-10A	4	17:39	4.1	B	8931
	P-10B	4	17:39	4	B	8428.9
	P-96-013	2	16:01	0.3	B	6864
	P-97-012	2	16:29	0.1	B	6246.8
	P-97-028	4	17:39	4.8	B	7583.7
	P-97-029	4	17:40	0.3	B	8787.6
	P-97-030	4	18:34	1.1	B	8195.7
	P-97-031	4	17:40	1.8	B	10292.2
	T-DamBaro		17:39	-11.3	B	5304.5

Piezometer Monitoring Data: 11/18/2011

Date of Reading 11/16/2011	Site Name	Week #	Time	Temp (C)	Switch	Reading
	P-05-63		11:42	3.8	B	8695.4
	P-05-65		17:23	4.5	B	8580.3
	P-05-67		15:34	0.5	B	8607.2
	P-06-074		17:40	4.8	B	8430.1
	P-08A	4	17:44	4.2	B	9002.6
	P-08B	4	17:46	3.3	B	8638.4
	P-11	4	17:39	3.5	B	9229.6
	P-12A	4	17:52	2.5	B	8629.4
	P-12B	4	17:52	-0.2	B	9279.8
	P-13	4	17:54	3.1	B	8793.2
	P-14A	4	17:57	1.1	B	8690.5
	P-96-010	4	11:15	0.7	B	8480.7
	P-96-015	3	16:52	0.5	B	7546.4
	RDC-P1	3	10:39	-0.1	B	9722.7
	RDC-P2	3	10:40	1.7	B	9729.8
	RDC-P3	3	10:40	1.1	B	9285.1
	RDC-P4	3	10:40	0.8	B	9297.6
	RDC-P5	3	10:42	0	B	9538.5
	RDC-P6	3	10:42	0	B	9486.2
	RDC-P7	3	10:43	0.3	B	9136
	T-DamBaro		11:03	-20	B	5379

Quarterly Thermistor Readings

File Name (TM mm dd yy): TM021511

Read By: DJS/AW

Date: 2-15-11

Well	Location	# of nodes	Comments	Time
FWDAM - T1	Fresh Water Dam	12		16:20
FWDAM - T3	Fresh Water Dam	15		
FWDAM - T4	Fresh Water Dam	17		
FWDAM - T5	Fresh Water Dam	12		
FWDAM - T6	Fresh Water Dam	12		
FWDAM - T7	Fresh Water Dam	11		
* **T95 - 9**	Landfill Site	24	2-16-11	10:44
* **~~T95-07~~** T95-98	Landfill Site	24		10:44
* **T-95-008**	Overburden Dump	24		16:38
* **T96 - 12**	Overburden Dump	24		16:27
* **T96 - 12s**	Overburden Dump	24	No Connector	16:27
* **T-96-013**	Overburden Dump	24		16:36
T-96-013S	Overburden Dump	24		16:36
* **T-96-021**	Overburden Dump	24		16:34
* **T-96-022**	Overburden Dump	24		16:32
* **T-96-023**	Overburden Dump	24	Buried 2/26/11	10:00
T-96-024	Overburden Dump	24		16:30
T 06 - 69	Back Dam	11	2/21/11	14:18
T98 - 33	MM Laydown Yard	10	2-16-11	09:18
T98 - 34	MM Laydown Yard	7	2-16-11	09:12
T98 - 35	MM Laydown Yard	7	2-16-11	09:10

Well	Location	Depth to H20	Comments	Time
SPP97 - 1	Seepage Pond		Burried in Snow	
* **SPP97 - 2**	Seepage Pond			
SPP97 - 2	Seepage Pond	20.7		11:21

Dangerous area

Measure to top of steel casing to 0.01' precision. Take QA/QC reading within 5 minutes of first reading with a different operator. QA/QC reading is only required once per year. Do it in July.

*** = location to perform a QAQC**

Red Dog Environmental

Teck

File: 6.30.50

Qualtrax\Red Dog Document Control\Environmental\Technical\Forms and Checklists\Quarterly Thermistor QA/QC Form

Quarterly Thermistor Readings

File Name (TM mm dd yy): ____________________

Read By: ____________________ Date: ____________________

Well	Location	# of nodes	Comments	Time
TDAM - T1 (TT - 1)	Tailings Dam	12		17:00
TDAM - T2 (TT - 2)	Tailings Dam	18		
TDAM - T3 (TT - 3)	Tailings Dam	16		
TDAM - T4 (TT - 4)	Tailings Dam	14		
TDAM - T5 (TT - 5)	Tailings Dam	17		
TDAM - T7 (TT - 7)	Seep Dam / Gray Box	15		
TDAM - T8 (TT - 8)	Tailings Dam	17		
TDAM - T14 (TT - 14)	Tailings Dam	14		
TDAM - T15 (TT - 15)	Tailings Dam	13		
* **T-05-61**	Tailings Dam	6		16:55
* **T95 - 4**	Tailings Dam	24	2/21/11	14:28
* **T95 - 5**	Tailings Dam	24		14:47
* **T96 - 10**	Tailings Dam	24	2/26/11	10:20
* **T97 - 28**	Tailings Dam	24		
* **T97 - 29**	Tailings Dam	24		
* **T97 - 30**	Tailings Dam	24		
T05 - 61	Tailings Dam	6		16:35
T05 - 63	East of Pond	8	2/19 reread	11:03
T05 - 64	East of Pond	7		11:07
T05 - 65	East of Pond	8		11:28
T05 - 66	East of Pond	8		11:25
T05 - 67	East of Pond	8	2/19	11:13
T05 - 68	East of Pond	8	Gone	
T05 - 62	Bottom of Dam	10	2-16-11	10:14
RDDAM - T1	Red Dog Creek Dam	10	ReRead 2-16-11	10:00
RDDAM - T2	Red Dog Creek Dam	11		
RDDAM - T3	Red Dog Creek Dam	11		
* **T96 - 15**	Lower Red Dog Creek	14	2/21/11	15:01

*** = location to perform a QAQC**

Red Dog Environmental

Teck

File: 6.30.50

Qualtrax\Red Dog Document Control\Environmental\Technical\Forms and Checklists\Quarterly Thermistor QA/QC Form

Quarterly Piezometer Readings

Box #: 392 Row #: 8

Read By: DSS/ATO Date: 2-15-11

Baro 2/21/11 15:45 5182.6 -17.0°c

Col.	Well	Location	Reading	Comments	Time	
1	Barometric transducer	Box above Seep Dam	4949.6	-10.7°c 2/16/11	14:25	10:59
30	P1	Red Dog Creek Dam	9763.6	-0.2 2-16-11	09:55	
31	P2	Red Dog Creek Dam	----	-5.1		
32	P3	Red Dog Creek Dam	9225.9	0.1°c		
33	P4	Red Dog Creek Dam	9341.8	18.1°c		
34	P5	Red Dog Creek Dam	9549.8	-		
35	P6	Red Dog Creek Dam	9527.1	0.2°c		
36	P7	Red Dog Creek Dam	9175.1	0°c		
5	* **P - 08A**	Box above Seep Dam	8924.8	4.0°c 2/21/11	~~14:25~~ DSS 15:24	
6	* **P - 08B**	Box above Seep Dam	8551.4	3.1°c 2/21/11	~~14:25~~ DSS 15:24	
7	P - 09A	Box above Seep Dam	8815.3		14:25	
8	P - 09B	Box above Seep Dam	8412.5		14:25	
9	P - 10A	Box above Seep Dam	8882.5		14:25	
10	P - 10B	Box above Seep Dam	8406.2		14:25	
17	* **P97 - 28**	Box above Seep Dam	7501.9		14:26	
18	P97 - 29	Box above Seep Dam	8767.7		14:26	
19	P97 - 30	Box above Seep Dam	~~No reading~~ 8493.1	1.2°c 2/21/11	~~14:26~~	15:41
11	P-11	Tailings Dam	9237.6	3.6°c 2/21/11	15:20	
12	P-12A	Tailings Dam	8639.3	1.5°c 2/21/11	15:27	
13	P-12B	Tailings Dam	9145.5	-0.2°c 2/21/11	15:29	
14	P-13	Tailings Dam	8807.8	3.1°c 2/21/11	15:31	
20	P97 - 31	Box above Seep Dam	10117.3		14:26	
15	P - 14A	W. Tailings Dam	8728.0	0.4°c 2/21/11	15:34	
71	P06 - 74	W. Tailings Dam	8456.4	4.1°c 2/21/11	15:22	
59	P05 - 62	Bottom of Dam	8085.4	4.2 2-16-11	10:13	
60	P05 - 63	East of Pond	8738	3.8°c		Redo
62	P05 - 65	East of Pond				
64	P05 - 67	East of Pond		2/17	11:13	Redo
65	P05 - 68	East of Pond	Gone			
66	P05 - 69	East of Pond	8822.8	-0.0°c 2/21/11	15:43	
21	* **P96 - 10**	Tailings Dam	8483.0	0.7°c 2/21/11	18:12	
22	* **P97 - 20**	Tailings Dam	7449.3	1.8°c 2/21/11	15:26	
23	* **P96 - 15**	Lower Red Dog Creek	7547.6	0.6°c 2/21/11	15:51	P-97-12
24	* **P97 - 12**	Overburden Dump	6250.7	0.2°c	16:27	
25	* **P96 - 13**	Overburden Dump	6885.5	0.5°c	16:36	
26	* **P99-7 R**	Landfill Site	Gone			

Select one of the SEP (*) piezometers to do the duplicate reading . Do not enter into Geokon as that will overwrite the first reading. Record the reading above. Read the Barometric Transducer every day readings are taken.

*** = location to perform a QAQC**

Red Dog Environmental

Teck

File: 6.30.50

Quarterly Piezometer Readings

Box #: 392 Row #: 10

Read By: DJS/AW Date: 2/16/11

Col.	Well	Location	Reading	Comments	Time
1	Barometric transducer	Box above Seep Dam	4949.6	-10.7°C	10:59
30	P1	Red Dog Creek Dam	9763.6	-0.2°C	10:47
31	P2	Red Dog Creek Dam	- - - -	-5.1°C	10:46
32	P3	Red Dog Creek Dam	9325.9	0.1°C	10:46
33	P4	Red Dog Creek Dam	9341.8	18.1°C	10:46
34	P5	Red Dog Creek Dam	9549.8	- -	10:45
35	P6	Red Dog Creek Dam	9527.1	0.2°C	10:45
36	P7	Red Dog Creek Dam	9175.0	0.0°C	10:46
5	* **P - 08A**	Box above Seep Dam			
6	* **P - 08B**	Box above Seep Dam			
7	P - 09A	Box above Seep Dam			
8	P - 09B	Box above Seep Dam			
9	P - 10A	Box above Seep Dam			
10	P - 10B	Box above Seep Dam			
17	* **P97 - 28**	Box above Seep Dam			
18	P97 - 29	Box above Seep Dam			
19	P97 - 30	Box above Seep Dam			
11	P-11	Tailings Dam			
12	P-12A	Tailings Dam			
13	P-12B	Tailings Dam			
14	P-13	Tailings Dam			
20	P97 - 31	Box above Seep Dam			
15	P - 14A	W. Tailings Dam			
71	P06 - 74	W. Tailings Dam			
59	P05 - 62	Bottom of Dam	8085.4	4.2°C	11:01
60	P05 - 63	East of Pond			
62	P05 - 65	East of Pond			
64	P05 - 67	East of Pond			
65	P05 - 68	East of Pond			
66	P05 - 69	East of Pond			
21	* **P96 - 10**	Tailings Dam			
22	* **P97 - 20**	Tailings Dam			
23	* **P96 - 15**	Lower Red Dog Creek			
24	* **P97 - 12**	Overburden Dump			
25	* **P96 - 13**	Overburden Dump			
26	* **P99-7 R**	Landfill Site			

Select one of the SEP (*) piezometers to do the duplicate reading . Do not enter into Geokon as that will overwrite the first reading. Record the reading above. Read the Barometric Transducer every day readings are taken.

*** = location to perform a QAQC**

Red Dog Environmental

Teck

File: 6.30.50

Quarterly Thermistor QA / QC

Location: T 96-10   Date: 2/26/11

Technician: AW   Start Time: 10:30   Stop Time: 10:32

Node	Ohms	Comments	Node	Temperature
Test	16.35		Test	
1	17.29		1	
2	3.99		2	
3	23.13		3	
4	16.36		4	
5	36.8		5	
6	Open		6	
7	18.83		7	
8	Open		8	
9	59.9		9	
10	40.2		10	
11	22.89		11	
12	0		12	
13	0		13	
14	0		14	
15	0		15	
16	0		16	
17	0		17	
18	0		18	
19	0		19	
20	0		20	
21	0		21	
22	0		22	
23	0		23	
24	0		24	
Test	16.35		Test	

Read these locations on noted month.

Month	Location
Nov-08	T 95-8
Dec-08	T 96-21
Jan-09	T 96-12
Feb-09	T 96-23
Mar-09	T 96-13
Apr-09	T 95-7
May-09	T 96-22
Jun-09	T 95-4
Jul-09	T 96-20
Aug-09	T 96-15
Sep-09	T 96-12S
Oct-09	T 95-5
Nov-09	T 96-10
Dec-09	T 97 29
Jan-10	T 97-30

Make a comment if reading jumps around and takes a long time to stabilize.
QA / QC readings to be done on 5% of SEP required thermistors - see above schedule.
Record test readings before and after other readings.
HP200 & multimeter readings are to be taken within 5 minutes of each other.

Quarterly Piezometer Readings

Box #: 392 Row #: 8

Read By: DJS/AW Date: 2/15/11

Col.	Well	Location	Reading	Comments	Time
1	Barometric transducer	Box above Seep Dam	4860.3	-9.3°C	14.29
30	P1	Red Dog Creek Dam			
31	P2	Red Dog Creek Dam			
32	P3	Red Dog Creek Dam			
33	P4	Red Dog Creek Dam			
34	P5	Red Dog Creek Dam			
35	P6	Red Dog Creek Dam			
36	P7	Red Dog Creek Dam			
5	* **P - 08A**	Box above Seep Dam			
6	* **P - 08B**	Box above Seep Dam			
7	P - 09A	Box above Seep Dam	8815.3	3.6°C	14.25
8	P - 09B	Box above Seep Dam	8412.5	3.3°C	
9	P - 10A	Box above Seep Dam	8882.5	4.1°C	
10	P - 10B	Box above Seep Dam	8406.2	3.9°C	
17	* **P97 - 28**	Box above Seep Dam	7501.9	4.0°C	
18	P97 - 29	Box above Seep Dam	8767.7	0.1°C	
19	P97 - 30	Box above Seep Dam			
11	P-11	Tailings Dam			
12	P-12A	Tailings Dam			
13	P-12B	Tailings Dam			
14	P-13	Tailings Dam			
20	P97 - 31	Box above Seep Dam	10717.3	1.8°C	14:26
15	P - 14A	W. Tailings Dam			
71	P06 - 74	W. Tailings Dam			
59	P05 - 62	Bottom of Dam			
60	P05 - 63	East of Pond			
62	P05 - 65	East of Pond			
64	P05 - 67	East of Pond			
65	P05 - 68	East of Pond			
66	P05 - 69	East of Pond			
21	* **P96 - 10**	Tailings Dam			
22	* **P97 - 20**	Tailings Dam			
23	* **P96 - 15**	Lower Red Dog Creek			
24	* **P97 - 12**	Overburden Dump	6250.7	0.2	16.27
25	* **P96 - 13**	Overburden Dump	6885.8	0.4	16.36
26	* **P99-7 R**	Landfill Site			

Select one of the SEP (*) piezometers to do the duplicate reading . Do not enter into Geokon as that will overwrite the first reading. Record the reading above.
Read the Barometric Transducer every day readings are taken.

*** = location to perform a QAQC**

Red Dog Environmental

Teck

File: 6.30.50

Quarterly Piezometer Readings

Box #: 392 Row #: ~~10~~ 11

Read By: AW/DJ Date: 2/21/11

Col.	Well	Location	Reading	Comments	Time
1	Barometric transducer	Box above Seep Dam	5182.6	-17.0°C	15:45
30	P1	Red Dog Creek Dam			
31	P2	Red Dog Creek Dam			
32	P3	Red Dog Creek Dam			
33	P4	Red Dog Creek Dam			
34	P5	Red Dog Creek Dam			
35	P6	Red Dog Creek Dam			
36	P7	Red Dog Creek Dam			
5	* **P - 08A**	Box above Seep Dam	8924.8	4.0°C	15:24
6	* **P - 08B**	Box above Seep Dam	8551.4	3.2°C	15:24
7	P - 09A	Box above Seep Dam			
8	P - 09B	Box above Seep Dam			
9	P - 10A	Box above Seep Dam			
10	P - 10B	Box above Seep Dam			
17	* **P97 - 28**	Box above Seep Dam			
18	P97 - 29	Box above Seep Dam			
19	P97 - 30	Box above Seep Dam	8493.1	1.2°C	15:41
11	P-11	Tailings Dam	9237.6	3.6°C	15:20
12	P-12A	Tailings Dam	8639.3	1.5°C	15:27
13	P-12B	Tailings Dam	91455	-6.2°C	15:29
14	P-13	Tailings Dam	8807.8	3.1°C	15:31
20	P97 - 31	Box above Seep Dam			
15	P - 14A	W. Tailings Dam	8728.0	0.4°C	15:31
71	P06 - 74	W. Tailings Dam	8456.4	4.1°C	15:22
59	P05 - 62	Bottom of Dam	~~8085.4~~	~~4.2°C~~	
60	P05 - 63	East of Pond			
62	P05 - 65	East of Pond			
64	P05 - 67	East of Pond			
65	P05 - 68	East of Pond			
66	P05 - 69	East of Pond	8828.8	-0.0°C	15:43
21	* **P96 - 10**	Tailings Dam	8483.6	0.7°C	18:12
22	* **P97 - 20**	Tailings Dam	7449.3	1.8°C	15:26
23	* **P96 - 15**	Lower Red Dog Creek	7547.6	0.6°C	15:51
24	* **P97 - 12**	Overburden Dump			
25	* **P96 - 13**	Overburden Dump			
26	* **P99-7 R**	Landfill Site			

Select one of the SEP (*) piezometers to do the duplicate reading . Do not enter into Geokon as that will overwrite the first reading. Record the reading above. Read the Barometric Transducer every day readings are taken.

*** = location to perform a QAQC**

Red Dog Environmental

Teck

File: 6.30.50

Quarterly Thermistor QA / QC

Location: T93-23 Date: 2/26/11

Technician: AW Start Time: 10:10 Stop Time: 10:12

Node	Ohms	Comments	Node	Temperature
Test	16.35		Test	
1	Open		1	
2	Open		2	
3	17.95		3	
4	16.55		4	
5	16.48		5	
6	16.52		6	
7	16.49		7	
8	16.59		8	
9	16.58		9	
10	16.63		10	
11	16.71		11	
12	16.81		12	
13	16.88		13	
14	16.97		14	
15	17.01		15	
16	17.09		16	
17	17.10		17	
18	17.14		18	
19	17.22		19	
20	17.25		20	
21	17.19		21	
22	17.24		22	
23	17.33		23	
24	17.40		24	
Test	16.35		Test	

Read these locations on noted month.

Month	Location
Nov-08	T 95-8
Dec-08	T 96-21
Jan-09	T 96-12
Feb-09	T 96-23
Mar-09	T 96-13
Apr-09	T 95-7
May-09	T 96-22
Jun-09	T 95-4
Jul-09	T 96-20
Aug-09	T 96-15
Sep-09	T 96-12S
Oct-09	T 95-5
Nov-09	T 96-10
Dec-09	T 97 29
Jan-10	T 97-30

Make a comment if reading jumps around and takes a long time to stabilize.
QA / QC readings to be done on 5% of SEP required thermistors - see above schedule.
Record test readings before and after other readings.
HP200 & multimeter readings are to be taken within 5 minutes of each other.

Quarterly Thermistor Readings

File Name (TM mm dd yy): TM051910

Read By: DJS   Date: 5-19-11 + 5-22-11

Well	Location	# of nodes	Comments	Time	
FWDAM - T1	Fresh Water Dam	12	Reread	9:30	
FWDAM - T3	Fresh Water Dam	15			5/22/11
FWDAM - T4	Fresh Water Dam	17			
FWDAM - T5	Fresh Water Dam	12			
FWDAM - T6	Fresh Water Dam	12	OK		
FWDAM - T7	Fresh Water Dam	11	Reread		
* T95 - 9	Landfill Site	24	Reread	03:52	5-22-11
* T95-07	Landfill Site	24	Reread T95-9S	03:52	
* T-95-008	Overburden Dump	24	reread	03:34	
* T96 - 12	Overburden Dump	24	reread	03:03	
* T96 - 12s	Overburden Dump	24	Severed		
* T-96-013	Overburden Dump	24	good	04:20	5-24-11
T-96-013S	Overburden Dump	24	reread	04:21	5-24-11
* T-96-021	Overburden Dump	24	reread	03:17	22nd
* T-96-022	Overburden Dump	24	reread	03:20	
* T-96-023	Overburden Dump	24	middle of Lake		read 5/30/11
T-96-024	Overburden Dump	24	good	03:28	22nd
T 06 - 69	East Back Dam Tundra	11	good	05:21	
T98 - 33	MM Laydown Yard	10	good	04:10	
T98 - 34	MM Laydown Yard	7	reread	04:15	
T98 - 35	MM Laydown Yard	7	good	04:21	

Well	Location	Depth to H20	Comments	Time
SPP97 - 1	Seepage Pond	14.67'	5-16-11	05:48
* SPP97 - 2	Seepage Pond	21.38'	5-16-11	05:43
SPP97 - 2	Seepage Pond			

Measure to top of steel casing to 0.01' precision. Take QA/QC reading within 5 minutes of first reading with a different operator. QA/QC reading is only required once per year. Do it in July.

*** = location to perform a QAQC**

Red Dog Environmental

Teck

File: 6.30.50

Quarterly Thermistor Readings

File Name (TM mm dd yy): TM051910

Read By: DJS Date: 5-23-11

Well	Location	# of nodes	Comments	Time	
TDAM - T1 (TT - 1)	Tailings Dam	12	good	02:49	5-22-11
TDAM - T2 (TT - 2)	Tailings Dam	18	reread	↓	
TDAM - T3 (TT - 3)	Tailings Dam	16	↓		
TDAM - T4 (TT - 4)	Tailings Dam	14			
TDAM - T5 (TT - 5)	Tailings Dam	17			
TDAM - T7 (TT - 7)	Seep Dam / Gray Box	15	reread	02:23	
TDAM - T8 (TT - 8)	Tailings Dam	17	↓	02:50	
TDAM - T14 (TT - 14)	Tailings Dam	14		↓	
TDAM - T15 (TT - 15)	Tailings Dam	13			
* **T-05-61**	Tailings Dam	6	good	04:22	
* **T95 - 4** QAQC	Tailings Dam	24	good	04:36	
* **T95 - 5**	Tailings Dam	24	reread	06:18	
* **T96 - 10**	Tailings Dam	24	reread	02:38	
* **T97 - 28**	Tailings Dam	24	reread	03:06	
* **T97 - 29**	Tailings Dam	24	reread	02:56	
* **T97 - 30**	Tailings Dam	24	good	03:00	
T05 - 61	Tailings Dam	6	good	04:22	
T05 - 63	East of Pond	8	good	05:49	
T05 - 64	East of Pond	7	reread	05:53	
T05 - 65	East of Pond	8	inaccessable		
T05 - 66	East of Pond	8	good	05:57	23-rd
T05 - 67	East of Pond	8	good	04:33	22nd
T05 - 68	East of Pond	8	removed		
T05 - 62	Bottom of Dam	10	~~reread~~ good	02:27	23-rd
RDDAM - T1	Red Dog Creek Dam	10	reread	03:22	
RDDAM - T2	Red Dog Creek Dam	11	↓	↓	
RDDAM - T3	Red Dog Creek Dam	11			
* **T96 - 15**	Lower Red Dog Creek	14	Good	5:50	5/22/11

*** = location to perform a QAQC**

Red Dog Environmental

Teck

File: 6.30.50

Qualtrax\Red Dog Document Control\Environmental\Technical\Forms and Checklists\Quarterly Thermistor QA/QC Form

Quarterly Piezometer Readings

Box #: 06-13815 Row #: 2 + 5 (5-17-11)

Read By: DSS Date: 5-16-11 + 5-17-11

Col.	Well	Location	Reading	Comments	Time	
1	Barometric transducer	Box above Seep Dam	4716.3/4803.2		5:54	02:06
30	P1	Red Dog Creek Dam	9628.5		01:55	5-17-11
31	P2	Red Dog Creek Dam	9742.1			
32	P3	Red Dog Creek Dam	9192.1			
33	P4	Red Dog Creek Dam	9210.4			
34	P5	Red Dog Creek Dam	9518.2			
35	P6	Red Dog Creek Dam	9393.2			
36	P7	Red Dog Creek Dam	9051.2			
5	* **P - 08A**	Box above Seep Dam	8786.2		6:48	
6	* **P - 08B**	Box above Seep Dam	8328.6		6:48	
7	P - 09A	Box above Seep Dam	8578.5		5:54	
8	P - 09B	Box above Seep Dam	8276.2			
9	P - 10A	Box above Seep Dam	8765.3			
10	P - 10B	Box above Seep Dam	8304.6			
17	* **P97 - 28**	Box above Seep Dam	6979.9			
18	P97 - 29	Box above Seep Dam	8321.5			
19	P97 - 30	~~Box above Seep~~ Dam	8119.5	Bottom of Dam	6:05	
11	P-11	Tailings Dam	9248.3		2:15	5-17-11
12	P-12A	Tailings Dam	8642.8	**	6:44	
13	P-12B	Tailings Dam	9077.1	**	6:44	
14	P-13	Tailings Dam	8742.7		06:45	
20	P97 - 31	Box above Seep Dam	10672.7		5:57	
15	P - 14A	W. Tailings Dam	~~DRY~~ 8748.0	Water Deep/97 dry	6:35	
71	P06 - 74	W. Tailings Dam	7634.6		6:51	
59	P05 - 62	Bottom of Dam	7987.5		06:00	
60	P05 - 63	East of Pond	8636.8		3:51	
62	P05 - 65	East of Pond	8356.8		4:00	
64	P05 - 67	East of Pond	8567.4		3:46	5-17-11
~~65~~	~~P05 - 68~~	~~East of Pond~~		Removed		
66	P05 - 69	East of Pond	8839.2		4:12	
21	* **P96 - 10**	Tailings Dam	8459.9		20:47	5-17-11
22	* **P97 - 20**	Tailings Dam	7440.1		6:47	
23	* **P96 - 15**	Lower Red Dog Creek	7536.9		3:31	5-17-11 97-12
24	* **P97 - 12**	Overburden Dump	6264.4	QAQC 6899.9*	3:22	5-17-11 96-13
25	* **P96 - 13**	Overburden Dump	6899.8		4:25	5-17-11 96-15
~~26~~	~~* P99-7 R~~	~~Landfill Site~~				

Yes + 8P (beside P96 - 10 / P97 - 20)

no (beside P99-7 R)

Select one of the SEP (*) piezometers to do the duplicate reading . Do not enter into Geokon as that will overwrite the first reading. Record the reading above. Read the Barometric Transducer every day readings are taken.

*** = location to perform a QAQC**

** = Mistakenly recorded in Row #3

Red Dog Environmental

Teck

File: 6.30.50

Qualtrax\Red Dog Document Control\Environmental\Technical\Forms and Checklists\Quarterly Thermistor QA/QC Form

~~Aqqaluk Deep Thermistor~~ QAQC

Location: Aqqaluk Deep Therm

Date: 4-23-11

Air Temp: 41° F

Start Time: 04:40

Technician: DJS

Finish Time: 04:43

Node	OHMS	Comments
Test	~~16.04~~ 16.35	
1U	16.04	RDG 5-1
2U	15.59	
3U	15.87	
4U	16.19	
5U	16.48	
6U	16.81	
7U	17.01	
8U	17.18	
9U	17.42	
10U	17.35	
11U	17.37	
12U	17.38	
1L	17.37	RDG5-2
2L	17.29	
3L	17.21	
4L	17.14	
5L	16.96	
6L	16.84	
7L	16.66	
8L	16.54	
9L	16.28	
10L	open	
11L	15.93	
12L	15.70	
Test	16.35	

Quarterly Thermistor Readings

File Name (TM mm dd yy): TM 080911

Read By: AW /DJ   Date: 8-9-11

Well	Location	# of nodes	Comments	Time
FWDAM - T1	Fresh Water Dam	12	Reread	14:17
FWDAM - T3	Fresh Water Dam	15		
FWDAM - T4	Fresh Water Dam	17	OK	
FWDAM - T5	Fresh Water Dam	12	Reread	
FWDAM - T6	Fresh Water Dam	12		
FWDAM - T7	Fresh Water Dam	11		
* **T95 - 9**	Landfill Site	24	8/10	15:00
* ~~**T95-07**~~	~~Landfill Site~~	~~24~~	Buried	—
* **T-95-008**	Overburden Dump	24	Reread	14:58
* **T96 - 12**	Overburden Dump	24	Reread	14:25
* ~~**T96 - 12s**~~	~~Overburden Dump~~	~~24~~	Cut	—
* **T-96-013**	Overburden Dump	24		14:33
T-96-013S	Overburden Dump	24	Reread	14:33
* **T-96-021**	Overburden Dump	24	Reread	14:41
* **T-96-022**	Overburden Dump	24	Reread	14:43
* **T-96-023**	Overburden Dump	24	Reread	14:50
T-96-024	Overburden Dump	24	Reread	14:52
T 06 - 69	Back Dam	11	8/10 reread	9:00
T98 - 33	MM Laydown Yard	10	8/10	8:43
T98 - 34	MM Laydown Yard	7	8/10	8:38
T98 - 35	MM Laydown Yard	7	8/10	8:31

Well	Location	Depth to H20	Comments	Time
SPP97 - 1	Seepage Pond	8.72	8/10	15:46
* **SPP97 - 2**	Seepage Pond	21.52	8/10	15:41
SPP97 - 2	Seepage Pond	21.52	8/10	15:42

Measure to top of steel casing to 0.01' precision. Take QA/QC reading within 5 minutes of first reading with a different operator. QA/QC reading is only required once per year. Do it in July.

*** = location to perform a QAQC**

Red Dog Environmental

Teck

File: 6.30.50

Quarterly Thermistor Readings

File Name (TM mm dd yy): TM 080911

Read By: AW / DJ Date: 8/9/11

Well	Location	# of nodes	Comments	Time
TDAM - T1 (TT - 1)	Tailings Dam	12	Reread	15:33
TDAM - T2 (TT - 2)	Tailings Dam	18		
TDAM - T3 (TT - 3)	Tailings Dam	16		
TDAM - T4 (TT - 4)	Tailings Dam	14		
TDAM - T5 (TT - 5)	Tailings Dam	17		
TDAM - T7 (TT - 7)	Seep Dam / Gray Box	15	Reread	17:10
TDAM - T8 (TT - 8)	Tailings Dam	17	Reread	15:33
TDAM - T14 (TT - 14)	Tailings Dam	14		
TDAM - T15 (TT - 15)	Tailings Dam	13		
* **T-05-61**	Tailings Dam	6		15:09
* **T95 - 4**	Tailings Dam	24		15:12
* **T95 - 5**	Tailings Dam	24	8/10 QA	14:40
* **T96 - 10**	Tailings Dam	24	Reread	17:20
* **T97 - 28**	Tailings Dam	24		15:44
* **T97 - 29**	Tailings Dam	24		15:40
* **T97 - 30**	Tailings Dam	24		15:30
T05 - 61	Tailings Dam	6	Reread	15:09
T05 - 63	East of Pond	8	8/10	9:50
T05 - 64	East of Pond	7	8/10	9:46
T05 - 65	East of Pond	8	Reread	9:53
T05 - 66	East of Pond	8		9:58
T05 - 67	East of Pond	8	8/10	10:15
~~T05 - 68~~	~~East of Pond~~	~~8~~	~~8/10~~	~~10:18~~ GONE
T05 - 62	Bottom of Dam	10		15:41
RDDAM - T1	Red Dog Creek Dam	10	8/10	8:05
RDDAM - T2	Red Dog Creek Dam	11		8:05
RDDAM - T3	Red Dog Creek Dam	11		8:06
* **T96 - 15**	Lower Red Dog Creek	14	8/10	9:25

*** = location to perform a QAQC**

Red Dog Environmental

Teck

File: 6.30.50

Quarterly Piezometer Readings

Box #: 13815 Row #: 3

Read By: AW / DJ Date: 8/9/11

Col.	Well	Location	Reading	Comments	Time	
1	Barometric transducer	Box above Seep Dam	5693.1		15:39	
30	P1	Red Dog Creek Dam	9709.5	8/10 Row 4	8:00	
31	P2	Red Dog Creek Dam	8814.6			
32	P3	Red Dog Creek Dam	3825.5			
33	P4	Red Dog Creek Dam	9286.5			
34	P5	Red Dog Creek Dam	9544.7			
35	P6	Red Dog Creek Dam	9472.8			
36	P7	Red Dog Creek Dam	9124.4			
5	* **P - 08A**	Box above Seep Dam	8945.6		15:14	
6	* **P - 08B**	Box above Seep Dam	8574.2		15:14	
7	P - 09A	Box above Seep Dam	8736.1		15:39	
8	P - 09B	Box above Seep Dam	8393.9		15:40	
9	P - 10A	Box above Seep Dam	8864.6		15:40	
10	P - 10B	Box above Seep Dam	8366.7		15:40	
17	* **P97 - 28**	Box above Seep Dam	7024.8		15:40	
18	P97 - 29	Box above Seep Dam	8523.4		15:40	
19	P97 - 30	Box above Seep Dam	8010.7		15:24	
11	P-11	Tailings Dam	9240		15:13	
12	P-12A	Tailings Dam	8636.6		15:17	
13	P-12B	Tailings Dam	9165.2		15:17	
14	P-13	Tailings Dam	8814.5		15:20	
20	P97 - 31	Box above Seep Dam	10248.8		15:40	
15	P - 14A	W. Tailings Dam	8741.5		15:21	
71	P06 - 74	W. Tailings Dam	8284.6		15:16	
59	P05 - 62	Bottom of Dam	8170.1		15:37	
60	P05 - 63	East of Pond	8633.6	8/10	9:50	Row 4
62	P05 - 65	East of Pond	8576	8/10	9:53	Row 4
64	P05 - 67	East of Pond	8581.8	8/10	10:19	Row 4
~~65~~	~~P05 - 68~~	~~East of Pond~~				
66	P05 - 69	East of Pond	8831.7	8	15:34	
21	* **P96 - 10**	Tailings Dam	8461.7		17:15	
22	* **P97 - 20**	Tailings Dam	7440.6		15:15	
23	* **P96 - 15**	Lower Red Dog Creek	7547.5	8/10	9:28	Row 4
24	* **P97 - 12**	Overburden Dump	6287.7		14:27	
25	* **P96 - 13**	Overburden Dump	6893.2		14:33	
~~26~~	~~* **P99-7 R**~~	~~Landfill Site~~		BURIED		

Select one of the SEP (*) piezometers to do the duplicate reading . Do not enter into Geokon as that will overwrite the first reading. Record the reading above. Read the Barometric Transducer every day readings are taken.

*** = location to perform a QAQC**

Red Dog Environmental

Teck

File: 6.30.50

Quarterly Thermistor QA / QC

Location: T95-5 Date: 8/10/11

Technician: AW/DS Start Time: 14:40 Stop Time: 14:43

Node	Ohms	Comments	Node	Temperature
Test	16.35		Test	
1	open		1	
2			2	
3			3	
4			4	
5			5	
6			6	
7			7	
8			8	
9			9	
10			10	
11			11	
12			12	
13			13	
14	16.93		14	
15	16.86		15	
16	16.87		16	
17	open		17	
18	16.59		18	
19	16.45		19	
20	16.26		20	
21	16.14		21	
22	15.95		22	
23	15.79		23	
24	15.61		24	
Test	16.34		Test	

Read these locations on noted month.

Month	Location
Nov-08	T 95-8
Dec-08	T 96-21
Jan-09	T 96-12
Feb-09	T 96-23
Mar-09	T 96-13
Apr-09	T 95-7
May-09	T 96-22
Jun-09	T 95-4
Jul-09	T 96-20
Aug-09	T 96-15
Sep-09	T 96-12S
Oct-09	T 95-5
Nov-09	T 96-10
Dec-09	T 97 29
Jan-10	T 97-30

Make a comment if reading jumps around and takes a long time to stabilize.
QA / QC readings to be done on 5% of SEP required thermistors - see above schedule.
Record test readings before and after other readings.
HP200 & multimeter readings are to be taken within 5 minutes of each other.

Quarterly Piezometer Readings

Box #: 06-13815

Row #: 4 + 5 (11-15-11: 4; 11-16-11: 5)

Read By: DJS/AW

Date: 11-15-11

Col.	Well	Location	Reading (11-15-11)	Comments (11-16-11)	Time	
1	Barometric transducer	Box above Seep Dam	4772.30-25.7		16:47	10:11 +
30	P1	Red Dog Creek Dam			09:50	+
31	P2	Red Dog Creek Dam				
32	P3	Red Dog Creek Dam				
33	P4	Red Dog Creek Dam				
34	P5	Red Dog Creek Dam				
35	P6	Red Dog Creek Dam				
36	P7	Red Dog Creek Dam				
5	* **P - 08A**	Box above Seep Dam			16:50	
6	* **P - 08B**	Box above Seep Dam			16:51	
7	P - 09A	Box above Seep Dam			16:47	
8	P - 09B	Box above Seep Dam				
9	P - 10A	Box above Seep Dam				
10	P - 10B	Box above Seep Dam				
17	* **P97 - 28**	Box above Seep Dam				
18	P97 - 29	Box above Seep Dam				
19	P97 - 30	Box above Seep Dam			17:40	
11	P-11	Tailings Dam			16:47	
12	P-12A	Tailings Dam			17:00	
13	P-12B	Tailings Dam			17:00	
14	P-13	Tailings Dam			~~15:08~~ [illegible]	
20	P97 - 31	Box above Seep Dam			16:47	
15	P - 14A	W. Tailings Dam		90.45"	17:05	+
71	P06 - 74	W. Tailings Dam			16:48	+
59	P05 - 62	Bottom of Dam			16:51	
60	P05 - 63	East of Pond			10:48	+
62	P05 - 65	East of Pond		11/16	16:30	+
64	P05 - 67	East of Pond			14:40	** +
65	P05 - 68	East of Pond	—	Gone	—	
66	P05 - 69	East of Pond		11/15	[illegible]	
21	* **P96 - 10**	Tailings Dam			10:23	+
22	* **P97 - 20**	Tailings Dam		RESPLICE	16:56	+
23	* **P96 - 15**	Lower Red Dog Creek		11-16	16:00	+
24	* **P97 - 12**	Overburden Dump		11-15	~~14:5?~~	15:31
25	* **P96 - 13**	Overburden Dump			15:08	
26	* **P99-7 R**	Landfill Site		BURIED	—	

Select one of the SEP (*) piezometers to do the duplicate reading. Do not enter into Geokon as that will overwrite the first reading. Record the reading above.
Read the Barometric Transducer every day readings are taken.

*** = location to perform a QAQC**

+ = 11-16-11

Red Dog Environmental

Teck

File: 6.30.50

Quarterly Thermistor Readings

File Name (TM mm dd yy): TM 111311 ← File Failed Reread on 11-21

Read By: DJS/AW   Date: 11-13-11

Well	Location	# of nodes	Comments	Time	
FWDAM - T1	Fresh Water Dam	12	Reread	15:22	
FWDAM - T3	Fresh Water Dam	15			
FWDAM - T4	Fresh Water Dam	17			
FWDAM - T5	Fresh Water Dam	12			
FWDAM - T6	Fresh Water Dam	12			
FWDAM - T7	Fresh Water Dam	11			
* **T95 - 9**	Landfill Site	24		16:06	**
* **T95-07**	Landfill Site	24	BURIED	—	
* **T-95-008**	Overburden Dump	24	reread	15:36	**
* **T96 - 12**	Overburden Dump	24	Reread / 11-15	14:57	**
* ~~**T96 - 12s**~~ 95-9S	Overburden Dump	24	Connector cut	16:06	**
* **T-96-013**	Overburden Dump	24	reread	15:06	**
T-96-013S	Overburden Dump	24	good	15:06	**
* **T-96-021**	Overburden Dump	24	reread	15:40	
* **T-96-022**	Overburden Dump	24	reread	15:42	
* **T-96-023**	Overburden Dump	24	good	15:52	**
T-96-024	Overburden Dump	24	Reread	15:13	+
T 06 - 69	Back Dam	11	good	15:25	+
T98 - 33	MM Laydown Yard	10	reread Corrosion	11:14	
T98 - 34	MM Laydown Yard	7	reread corroded wire	11:11	+
T98 - 35	MM Laydown Yard	7	reread	11:08	+

Well	Location	Depth to H20	Comments	Time	
SPP97 - 1	Seepage Pond	11.11	11-16	10:42	+
* **SPP97 - 2**	Seepage Pond	22.85	11-16	10:15	+
SPP97 - 2	Seepage Pond	22.85	11-16	10:15	+

Measure to top of steel casing to 0.01' precision. Take QA/QC reading within 5 minutes of first reading with a different operator. QA/QC reading is only required once per year. Do it in July.

*** = location to perform a QAQC**

+ = 11-16-11

** = 11-15-11

Red Dog Environmental

Teck

File: 6.30.50

Quarterly Thermistor Readings

File Name (TM mm dd yy): TM 111311 ← File Failed Reread on 11-21

Read By: DJS/AW Date: 11-13-11

Well	Location	# of nodes	Comments	Time	
TDAM - T1 (TT - 1)	Tailings Dam	12			
TDAM - T2 (TT - 2)	Tailings Dam	18			
TDAM - T3 (TT - 3)	Tailings Dam	16			
TDAM - T4 (TT - 4)	Tailings Dam	14			
TDAM - T5 (TT - 5)	Tailings Dam	17			
TDAM - T7 (TT - 7)	Seep Dam / Gray Box	15	11-16	10:15	
TDAM - T8 (TT - 8)	Tailings Dam	17			
TDAM - T14 (TT - 14)	Tailings Dam	14			
TDAM - T15 (TT - 15)	Tailings Dam	13			
* **T-05-61**	Tailings Dam	6		16:40	
* **T95 - 4**	Tailings Dam	24		16:45	
* **T95 - 5**	Tailings Dam	24	Reread	16:20	+
* **T96 - 10**	Tailings Dam	24	Reread / QA	10:37	+
* **T97 - 28**	Tailings Dam	24	reread	16:58	**
* **T97 - 29**	Tailings Dam	24	reread	17:02	**
* **T97 - 30**	Tailings Dam	24	good	17:35	**
T05 - 61	Tailings Dam	6	Good	16:40	+
T05 - 63	East of Pond	8	good	10:48	
T05 - 64	East of Pond	7	good	10:53	
T05 - 65	East of Pond	8	Need	~~10:56~~	16:30 +
T05 - 66	East of Pond	8	Reread	10:56	
T05 - 67	East of Pond	8		14:46	~~**~~ +
T05 - 68	East of Pond	8	GONE	—	
T05 - 62	Bottom of Dam	10		16:51	**
RDDAM - T1	Red Dog Creek Dam	10	good	09:53	+
RDDAM - T2	Red Dog Creek Dam	11	" " "		+
RDDAM - T3	Red Dog Creek Dam	11	reread		+
* **T96 - 15**	Lower Red Dog Creek	14	Reread	15:57	+

*** = location to perform a QAQC**

** = 11-15-11

\+ = 11-16-11

Red Dog Environmental

Teck

File: 6.30.50

Qualtrax\Red Dog Document Control\Environmental\Technical\Forms and Checklists\Quarterly Thermistor QA/QC Form

Quarterly Thermistor Readings

File Name (TM mm dd yy): TM 112111

Read By: A Willman Date: 11-21-11

Well	Location	# of nodes	Comments	Time
FWDAM - T1	Fresh Water Dam	12		13:50
FWDAM - T3	Fresh Water Dam	15		
FWDAM - T4	Fresh Water Dam	17		
FWDAM - T5	Fresh Water Dam	12		
FWDAM - T6	Fresh Water Dam	12		
FWDAM - T7	Fresh Water Dam	11		
* **T95 - 9**	Landfill Site	24	Reread ALP97-10	14:52
* ~~**T95-07**~~	~~Landfill Site~~	~~24~~		
* **T-95-008**	Overburden Dump	24	Reread	14.40
* **T96 - 12**	Overburden Dump	24	Reread	14:05
* **T96 - 12s**	Overburden Dump	24	NEEDS SPLICE	14:05
* **T-96-013**	Overburden Dump	24	GOOD	14:12
T-96-013S	Overburden Dump	24	Reread	14:12
* **T-96-021**	Overburden Dump	24	Reread	14 17
* **T-96-022**	Overburden Dump	24	Reread	14.20
* **T-96-023**	Overburden Dump	24	Reread	14:35
T-96-024	Overburden Dump	24	Reread	14.25
T 06 - 69	Back Dam	11	~~Reread~~ Good	15:05
T98 - 33	MM Laydown Yard	10	Reread	15:17
T98 - 34	MM Laydown Yard	7	Reread	15:20
T98 - 35	MM Laydown Yard	7	Reread	15:25

Well	Location	Depth to H20	Comments	Time
~~SPP97 - 1~~	~~Seepage Pond~~			
* ~~**SPP97 - 2**~~	~~Seepage Pond~~			
~~SPP97 - 2~~	~~Seepage Pond~~			

Read 11 16

Measure to top of steel casing to 0.01' precision. Take QA/QC reading within 5 minutes of first reading with a different operator. QA/QC reading is only required once per year. Do it in July.

*** = location to perform a QAQC**

Red Dog Environmental

Teck

File: 6.30.50

Quarterly Thermistor Readings

File Name (TM mm dd yy): TM 112111

Read By: AW   Date: 11-21-11 + 11-22-11

Well	Location	# of nodes	Comments	Time
TDAM - T1 (TT - 1)	Tailings Dam	12	Reread	17:00
TDAM - T2 (TT - 2)	Tailings Dam	18		
TDAM - T3 (TT - 3)	Tailings Dam	16		
TDAM - T4 (TT - 4)	Tailings Dam	14		
TDAM - T5 (TT - 5)	Tailings Dam	17		
TDAM - T7 (TT - 7)	Seep Dam / Gray Box	15	Good	16:28
TDAM - T8 (TT - 8)	Tailings Dam	17	Reread	17:00
TDAM - T14 (TT - 14)	Tailings Dam	14		
TDAM - T15 (TT - 15)	Tailings Dam	13		
* **T-05-61**	Tailings Dam	6	Reread 11-22	14:15
* **T95 - 4**	Tailings Dam	24	Reread 11-22	14:20
* **T95 - 5**	Tailings Dam	24	Reread	15:50
* **T96 - 10**	Tailings Dam	24	Reread	16:32
* **T97 - 28**	Tailings Dam	24	Reread / 11-22	11:07
* **T97 - 29**	Tailings Dam	24	Reread	16:46
* **T97 - 30**	Tailings Dam	24	Reread	16:50
T05 - 61	Tailings Dam	6	Reread	14:15
T05 - 63	East of Pond	8	Good / 11-22	11:00
T05 - 64	East of Pond	7	Good	15:35
T05 - 65	East of Pond	8	Reread	15:42
T05 - 66	East of Pond	8	Good	15:32
T05 - 67	East of Pond	8	REREAD	15:30
T05 - 68	East of Pond	8	GONE	—
T05 - 62	Bottom of Dam	10	Good 11/22	11:10
RDDAM - T1	Red Dog Creek Dam	10	Good 11/22	11:17
RDDAM - T2	Red Dog Creek Dam	11	Reread	
RDDAM - T3	Red Dog Creek Dam	11	Reread	
* **T96 - 15**	Lower Red Dog Creek	14	Good	16:10

*** = location to perform a QAQC**

Red Dog Environmental

Teck

File: 6.30.50

Qualtrax\Red Dog Document Control\Environmental\Technical\Forms and Checklists\Quarterly Thermistor QA/QC Form

Quarterly Thermistor QA / QC

Location: T96-10 Date: 11-21-11

Technician: AW Start Time: 16:36 Stop Time: 16:39

Node	Ohms	Comments	Node	Temperature
Test	16.34 K		Test	
1	15.74 K		1	
2	133.5 K		2	
3	27.3 K		3	
4	11.04 M		4	
5	15 M		5	
6	125 K		6	
7	84 K		7	
8	6.01 M		8	
9	OPEN		9	
10	99.1 K		10	
11	2.01 M		11	
12	OPEN		12	
13	29.91 K		13	
14	16.23 K		14	
15	17.46 K		15	
16	15.26 K		16	
17	15.28 K		17	
18	16.23 K		18	
19	15.02 K		19	
20	15.06 K		20	
21	14.71 K		21	
22	14.87 K		22	
23	22.1 K		23	
24	14.44 K		24	
Test	16.34 K		Test	

Read these locations on noted month.

Month	**Location**
Nov-08	T 95-8
Dec-08	T 96-21
Jan-09	T 96-12
Feb-09	T 96-23
Mar-09	T 96-13
Apr-09	T 95-7
May-09	T 96-22
Jun-09	T 95-4
Jul-09	T 96-20
Aug-09	T 96-15
Sep-09	T 96-12S
Oct-09	T 95-5
Nov-09	T 96-10
Dec-09	T 97 29
Jan-10	T 97-30

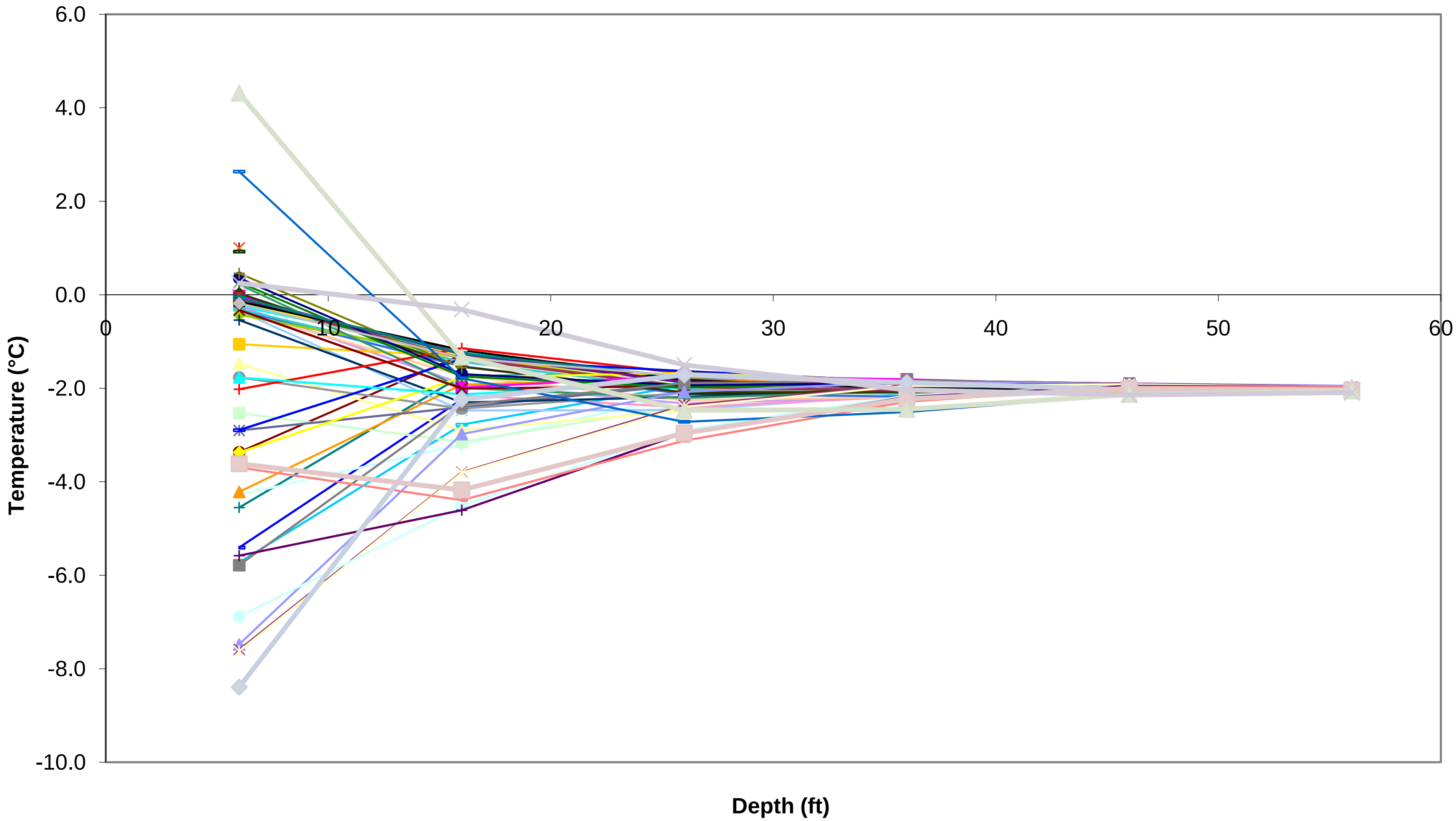
Make a comment if reading jumps around and takes a long time to stabilize.
QA / QC readings to be done on 5% of SEP required thermistors - see above schedule.
Record test readings before and after other readings.
HP200 & multimeter readings are to be taken within 5 minutes of each other.

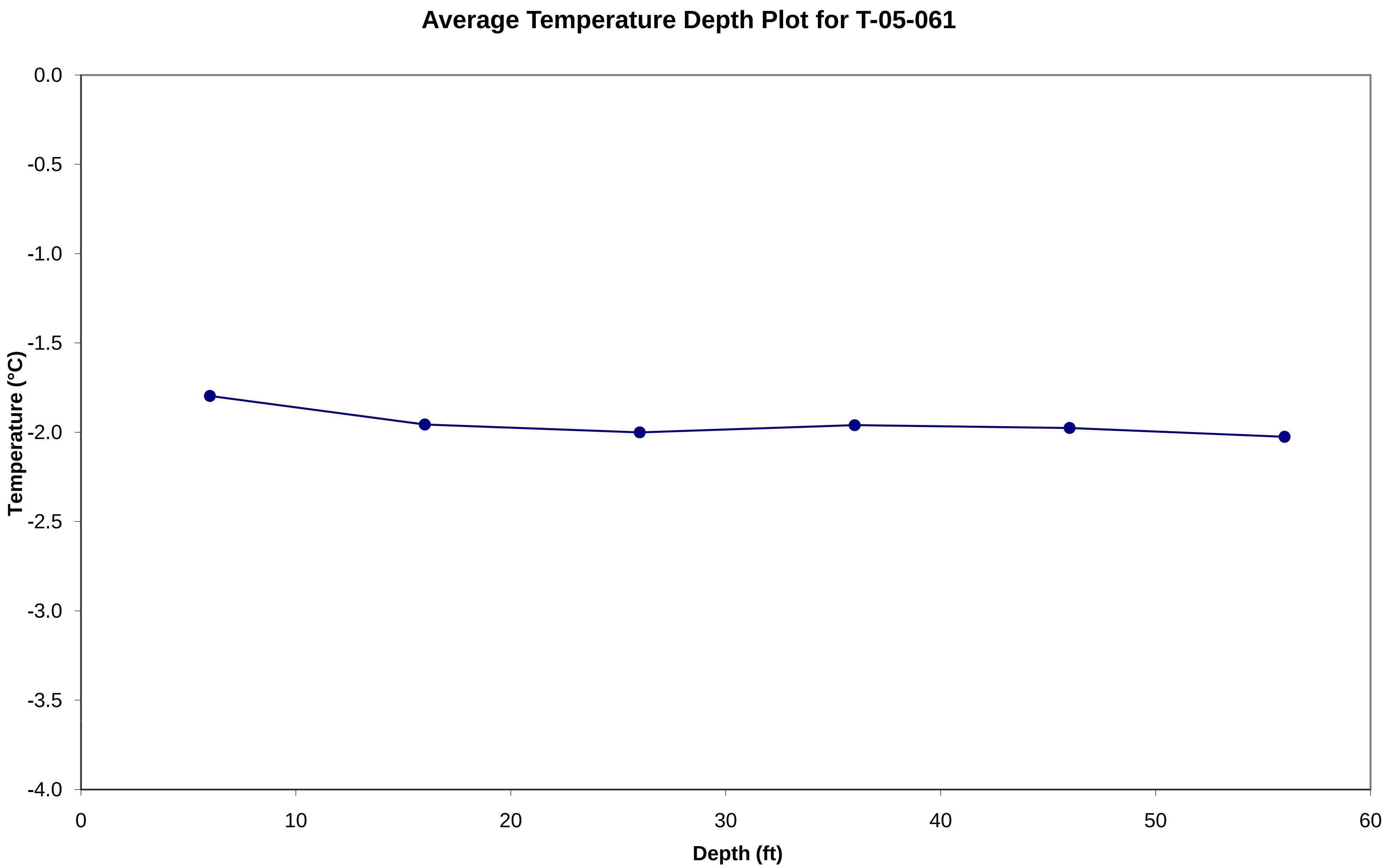
APPENDIX B

Temperature Data from Long-Term Monitoring Locations

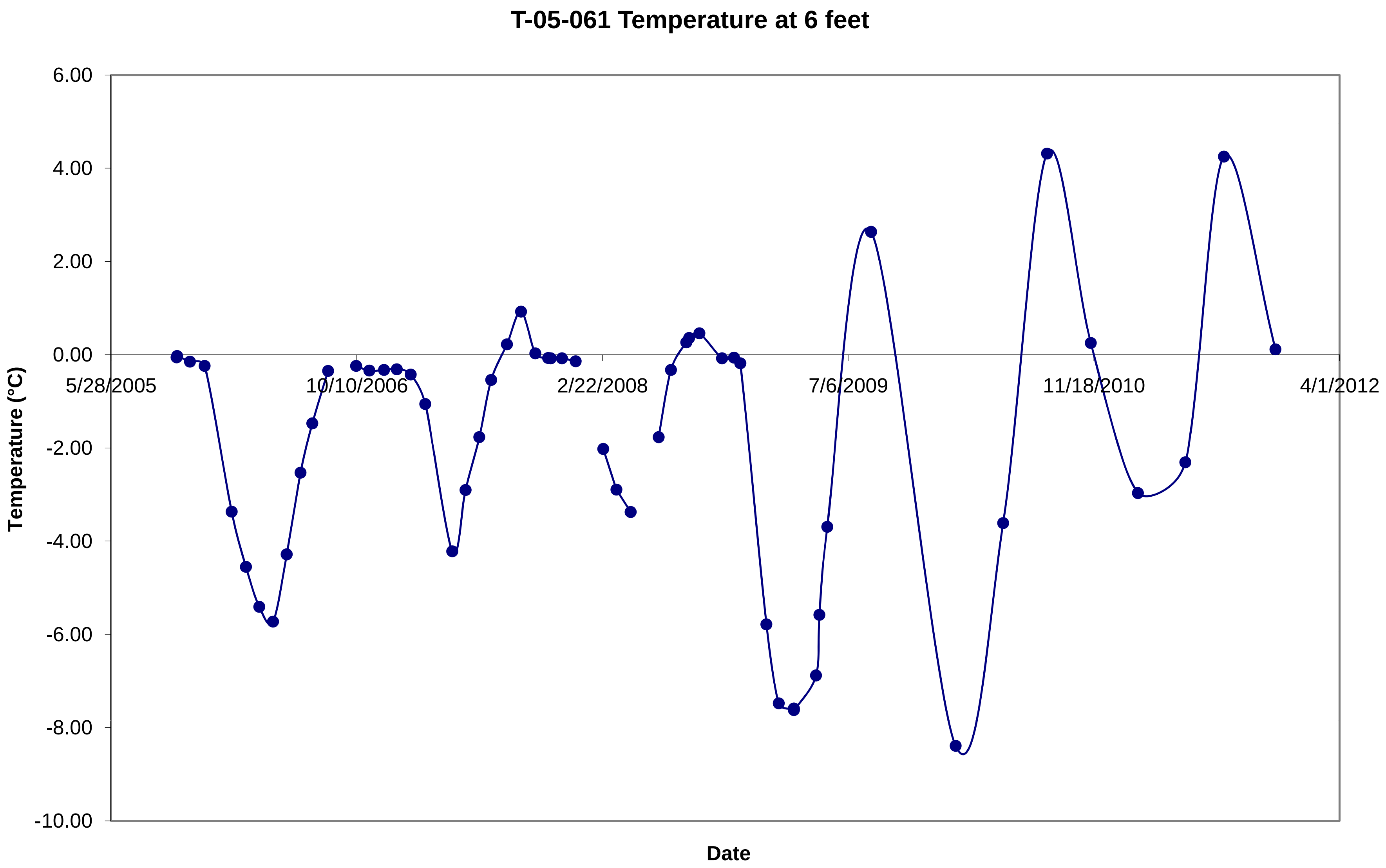
T-05-061

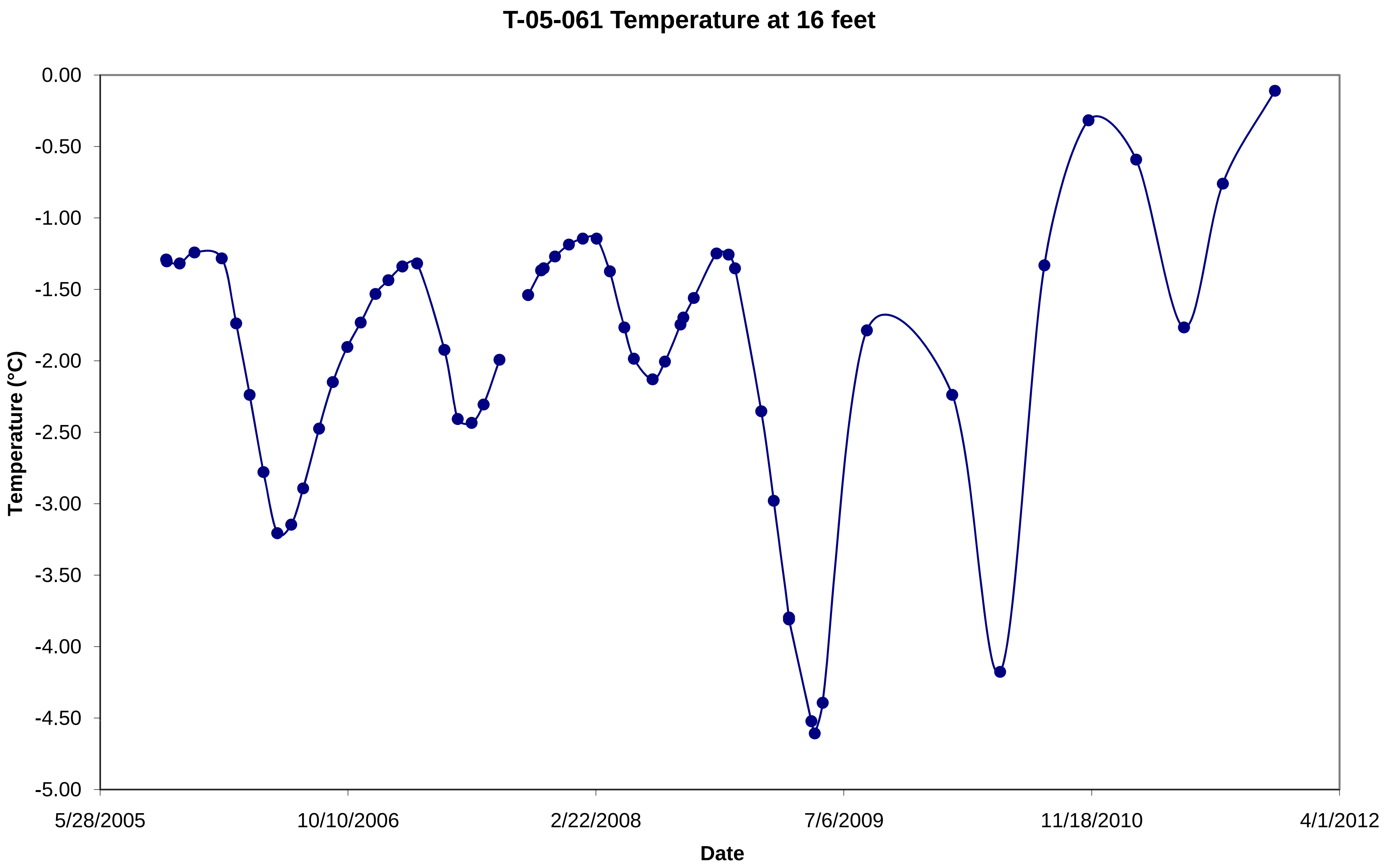
Temperature Depth Plot for T-05-061



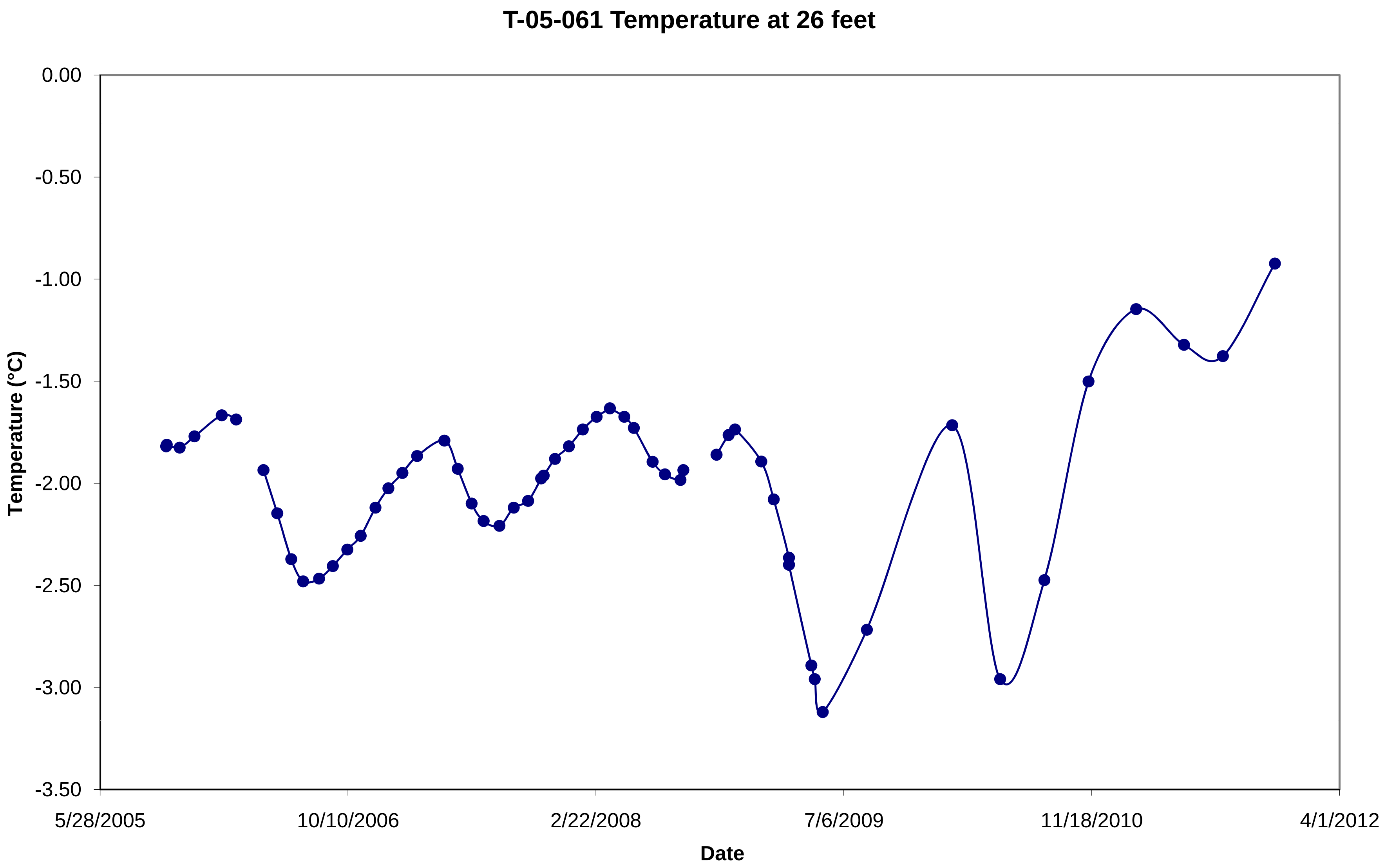


Average Temperature Depth Plot for T-05-061
Temperature (°C)
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
0
10
20
30
40
50
60
Depth (ft)

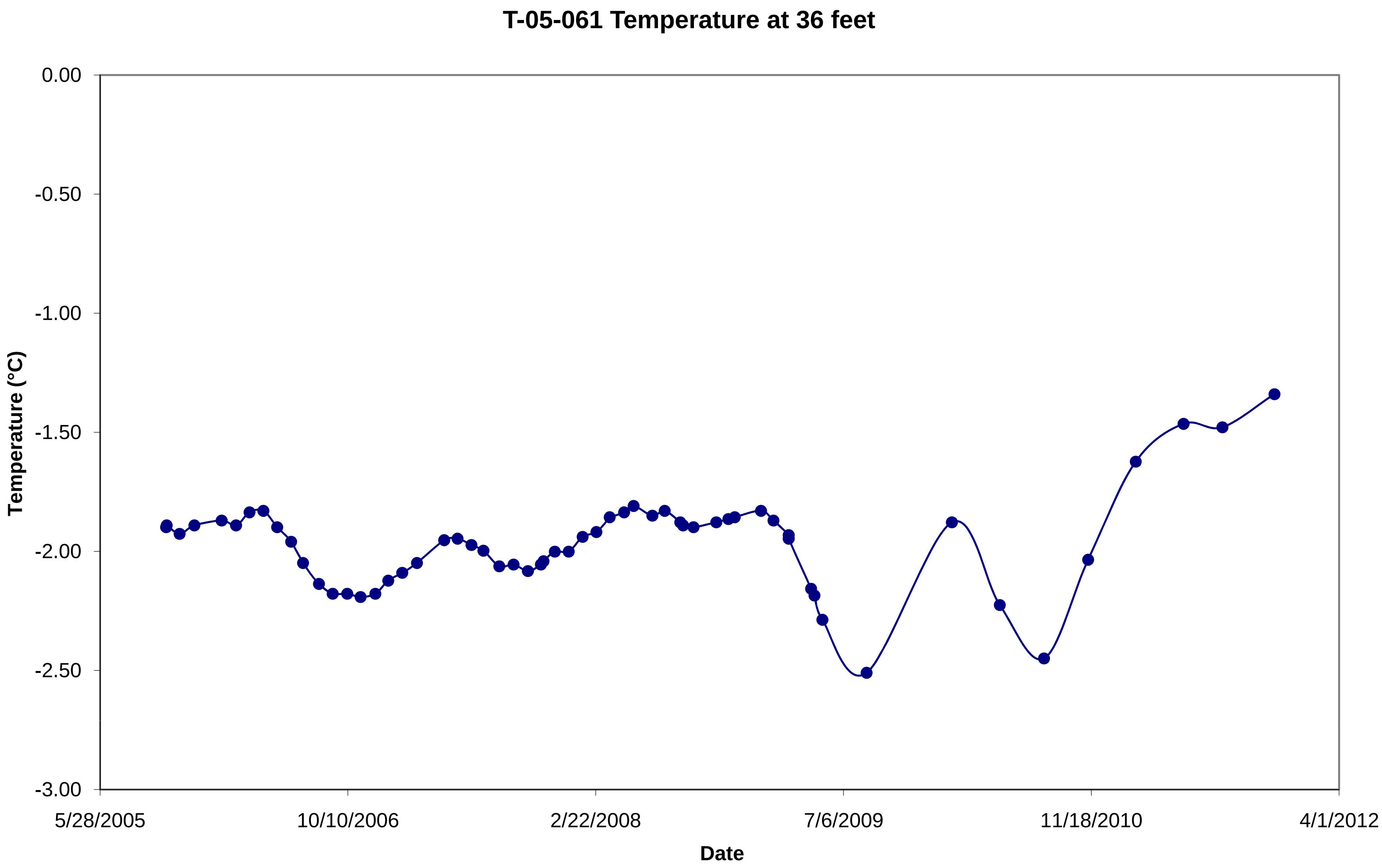

T-05-061 Temperature at 6 feet
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
-8.00
-10.00
Temperature (°C)
5/28/2005
10/10/2006
2/22/2008
7/6/2009
11/18/2010
4/1/2012
Date

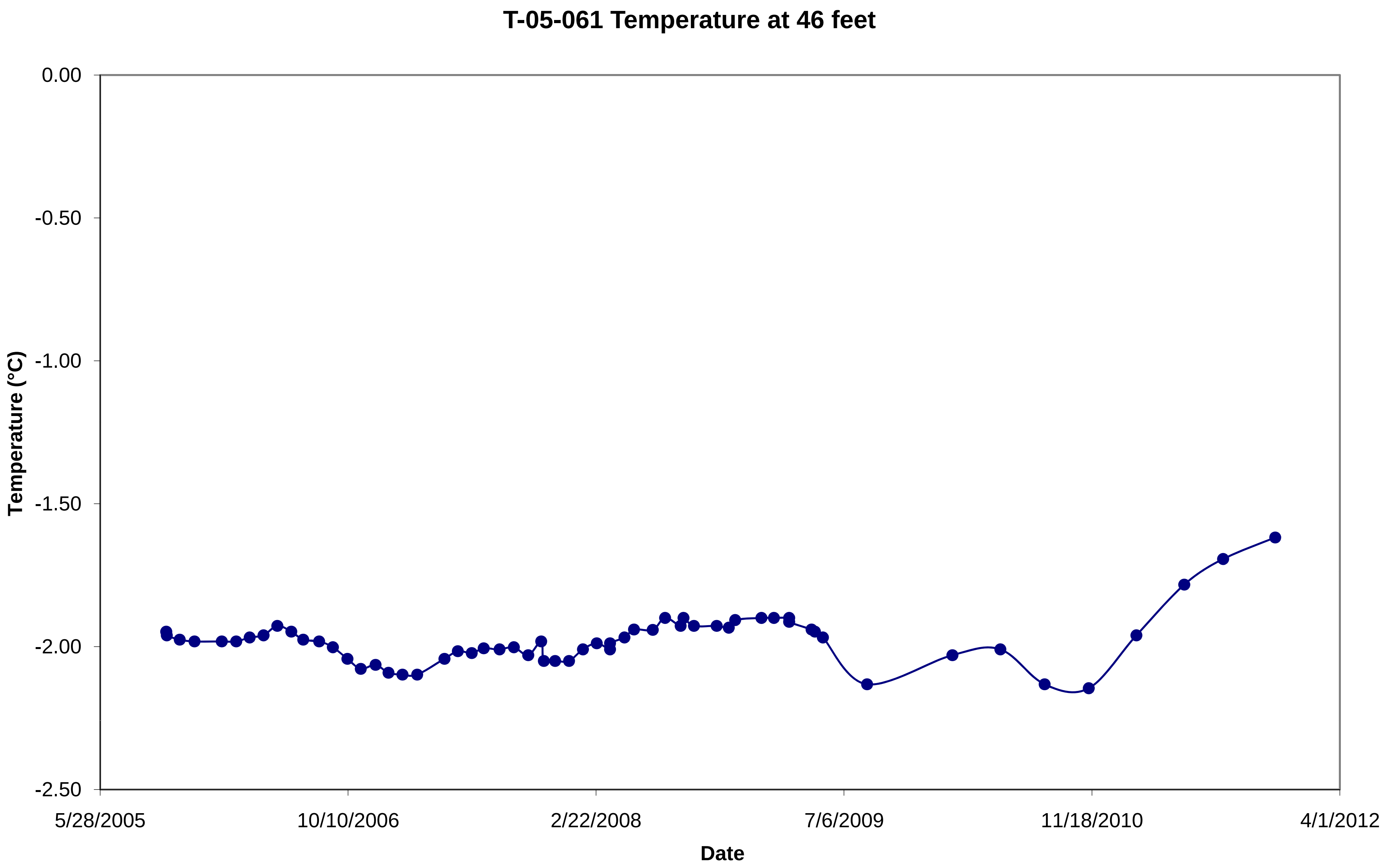


T-05-061 Temperature at 16 feet
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
-4.00
-4.50
-5.00
Temperature (°C)
5/28/2005
10/10/2006
2/22/2008
7/6/2009
11/18/2010
4/1/2012
Date



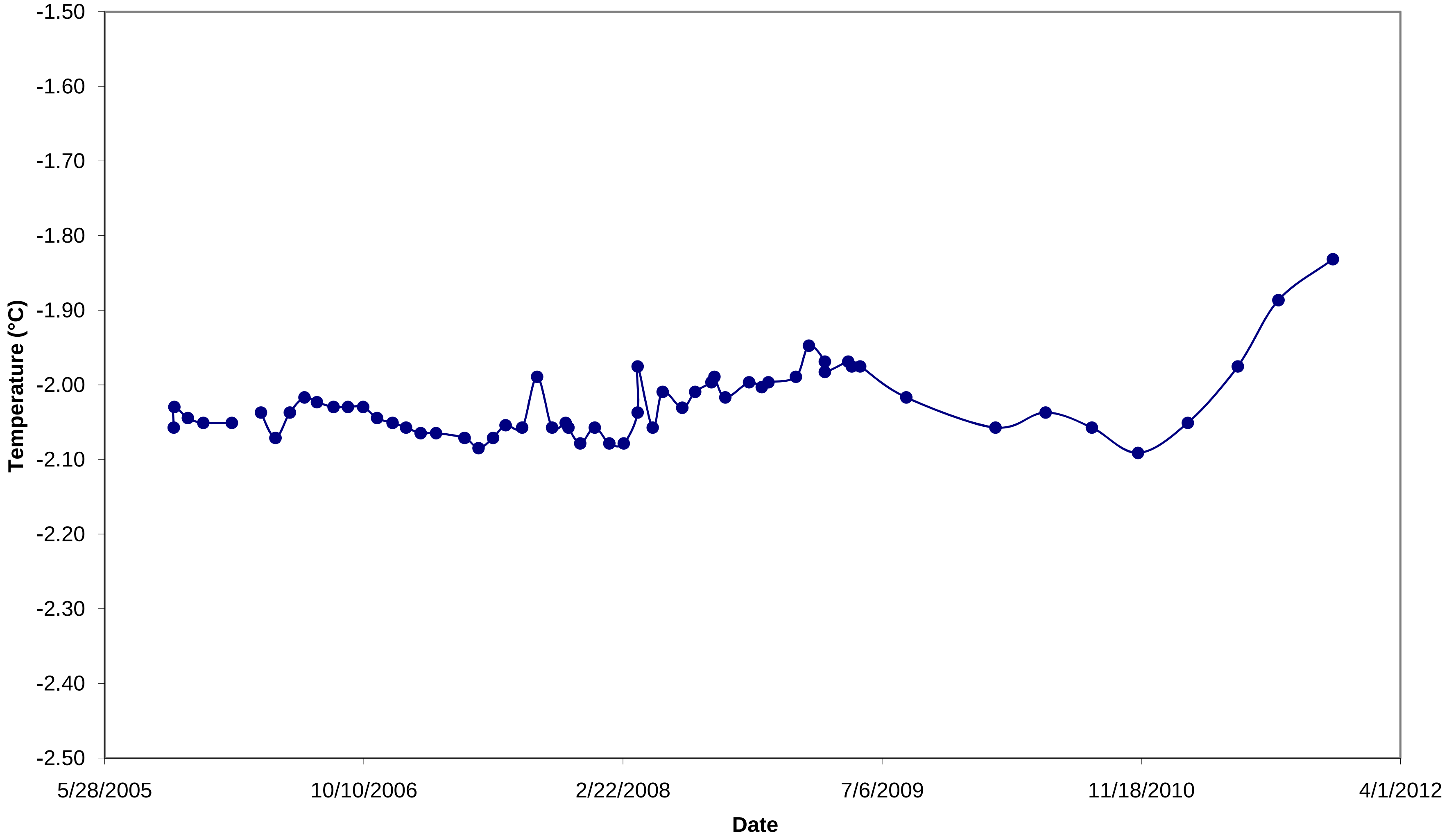
T-05-061 Temperature at 26 feet
Temperature (°C)
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
5/28/2005
10/10/2006
2/22/2008
7/6/2009
11/18/2010
4/1/2012
Date


T-05-061 Temperature at 36 feet
Temperature (°C)
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
5/28/2005
10/10/2006
2/22/2008
7/6/2009
11/18/2010
4/1/2012
Date

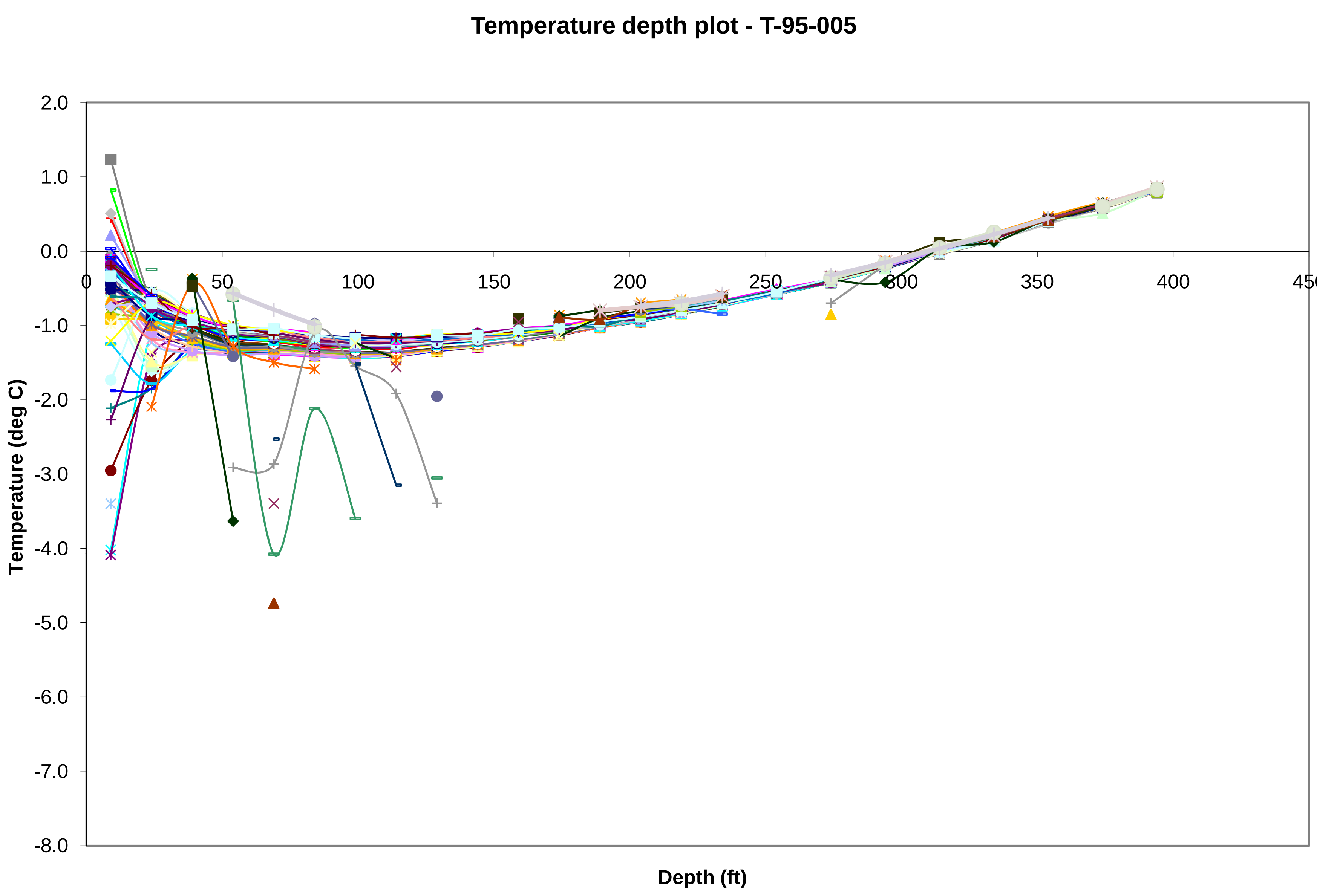


T-05-061 Temperature at 46 feet
Temperature (°C)
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
5/28/2005
10/10/2006
2/22/2008
7/6/2009
11/18/2010
4/1/2012
Date

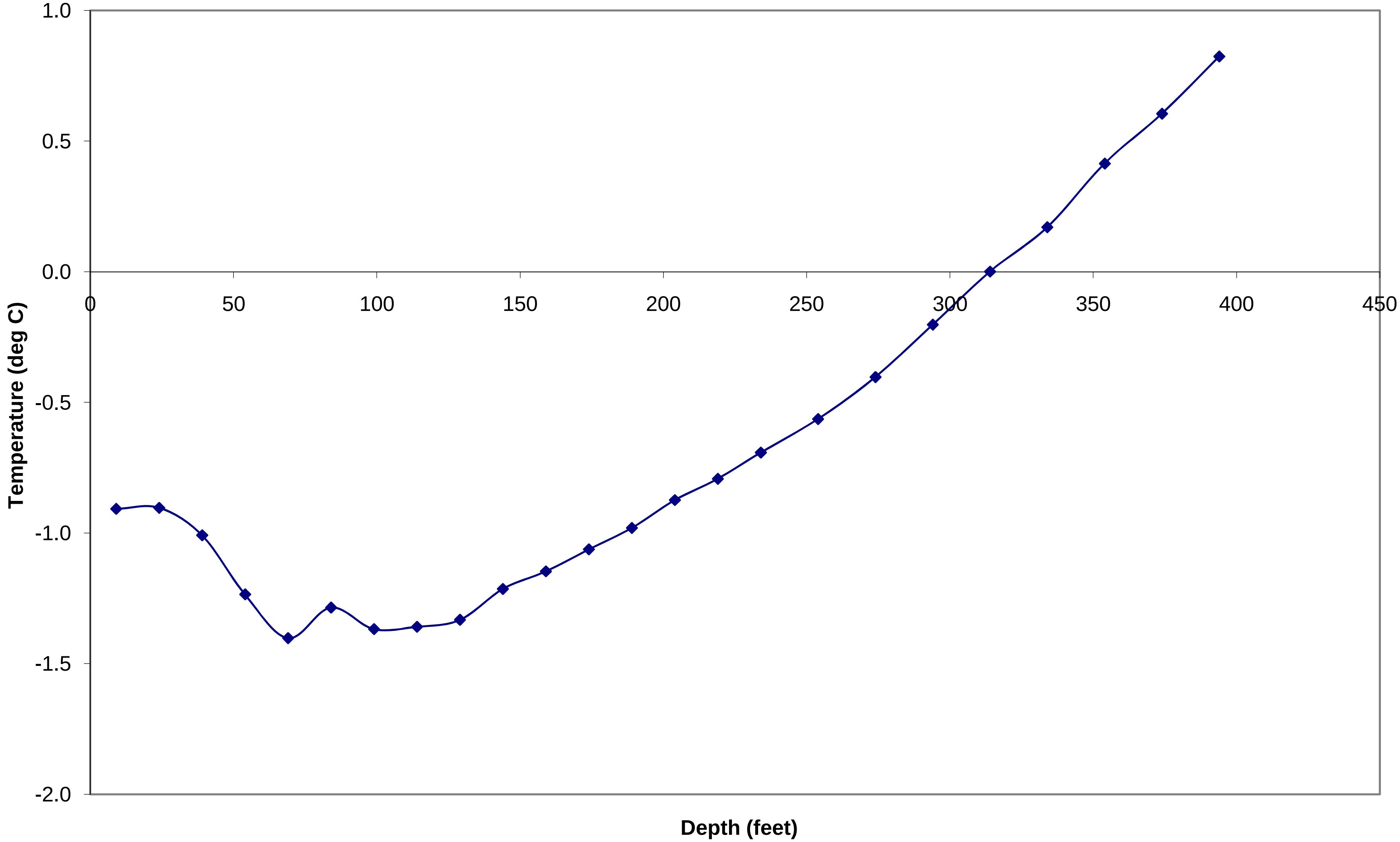
T-05-061 Temperature at 56 feet

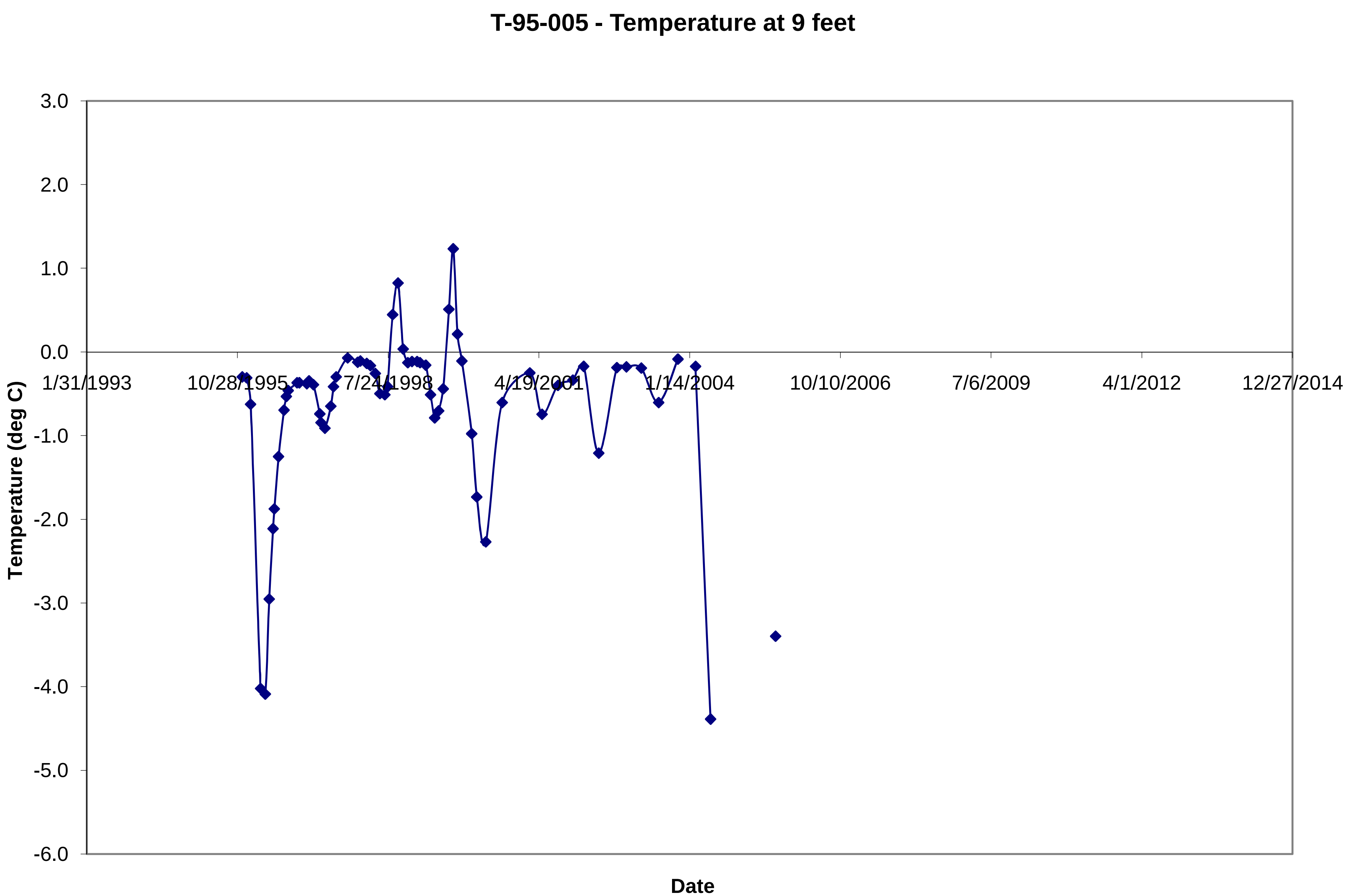


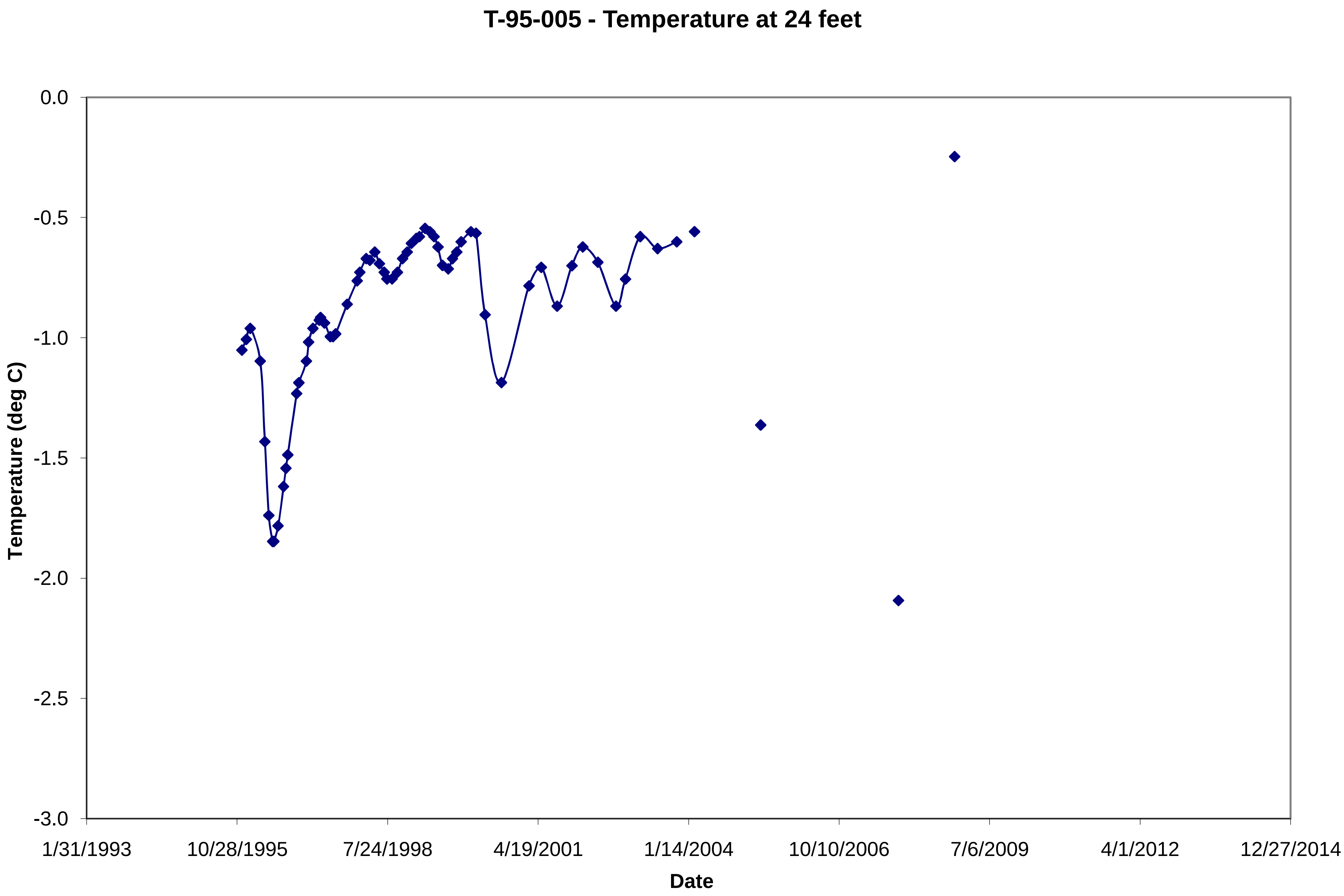
T-95-005

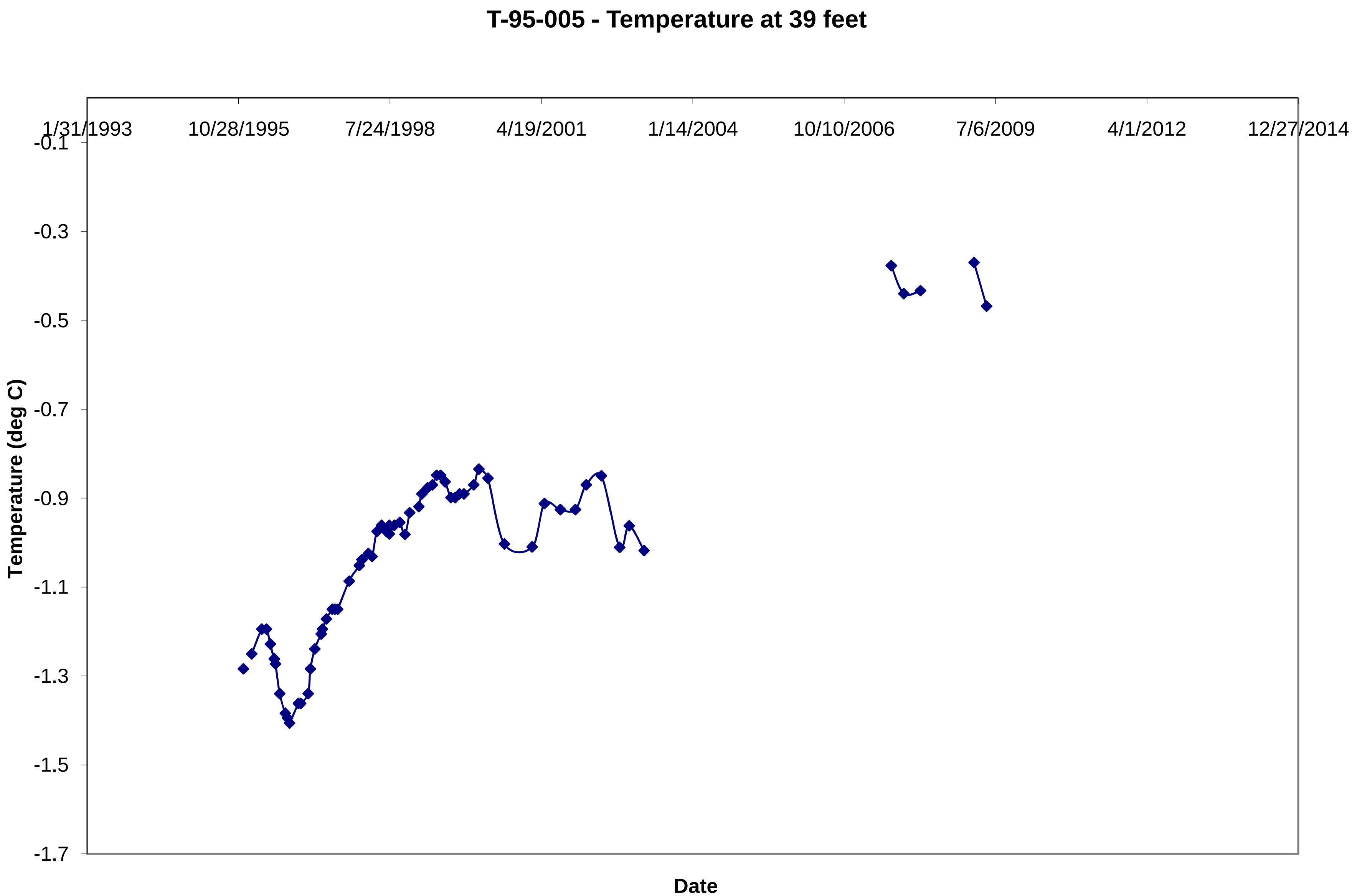

Temperature depth plot - T-95-005
Temperature (deg C)
Depth (ft)
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
-6.0
-7.0
-8.0
0
50
100
150
200
250
300
350
400
450

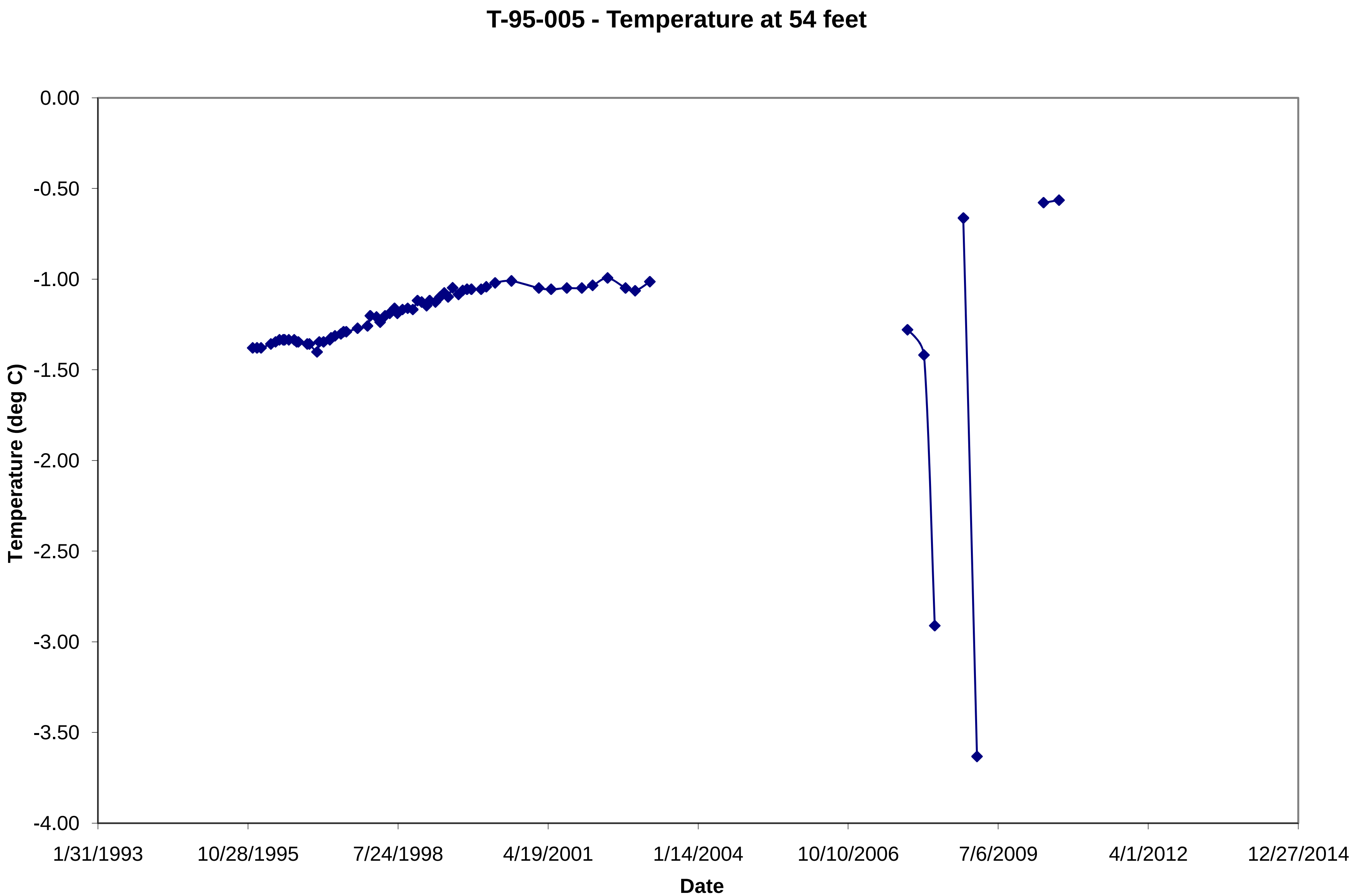
T-95-005 - Average temperature profile



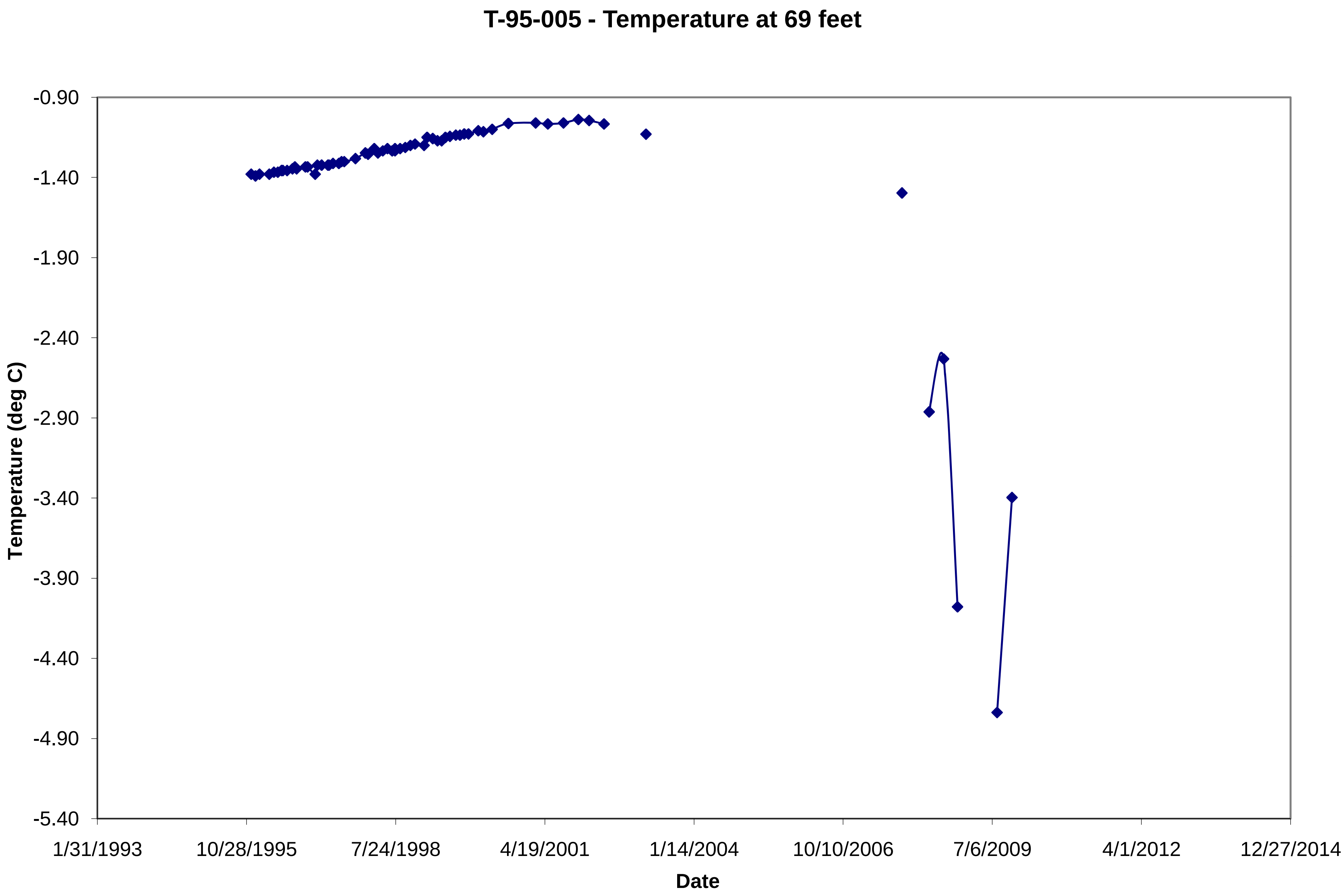

T-95-005 - Temperature at 9 feet
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
-6.0
Temperature (deg C)
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

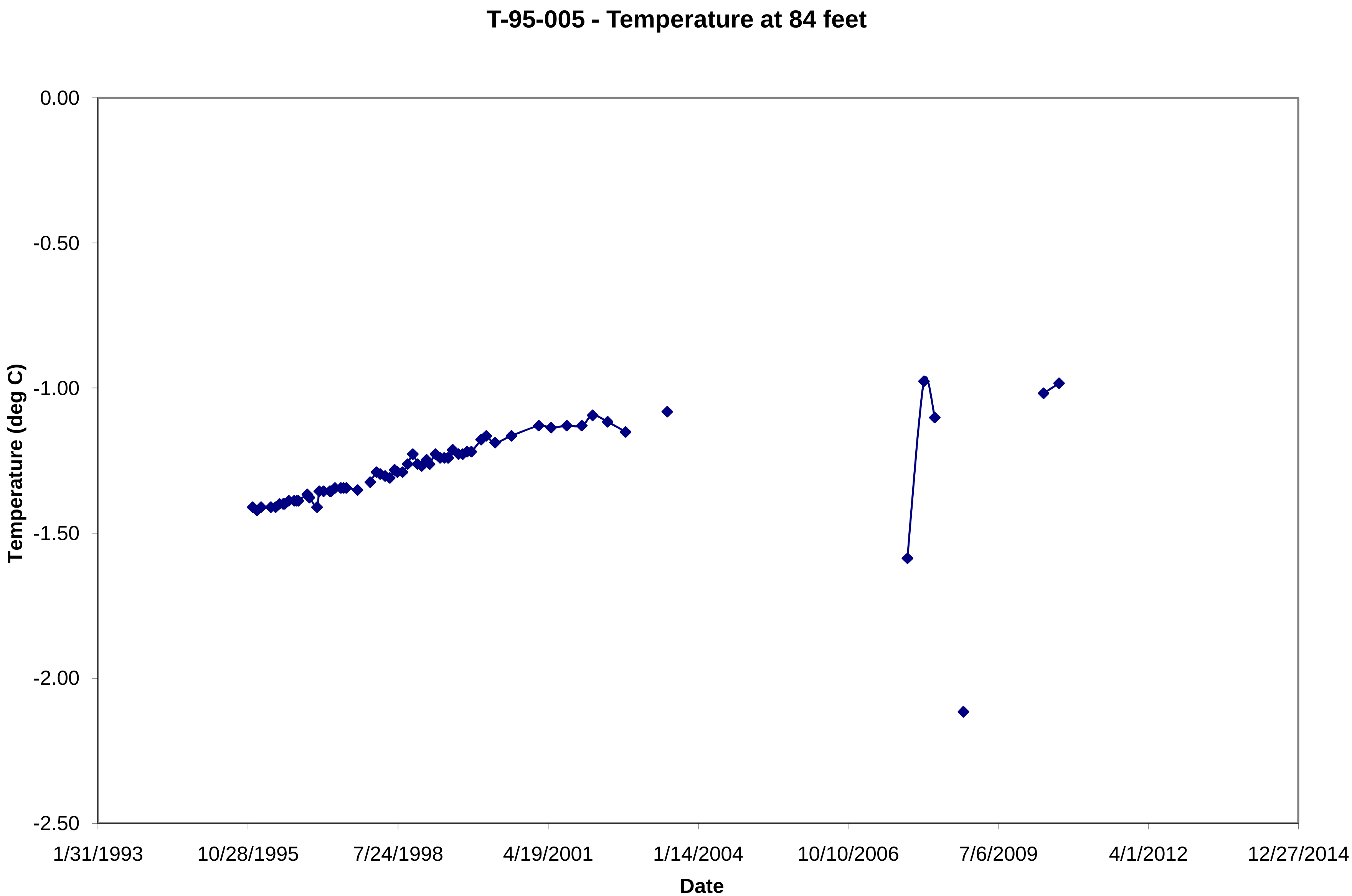

T-95-005 - Temperature at 24 feet
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
Temperature (deg C)
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-95-005 - Temperature at 39 feet
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
-0.1
-0.3
-0.5
-0.7
-0.9
-1.1
-1.3
-1.5
-1.7
Temperature (deg C)
Date

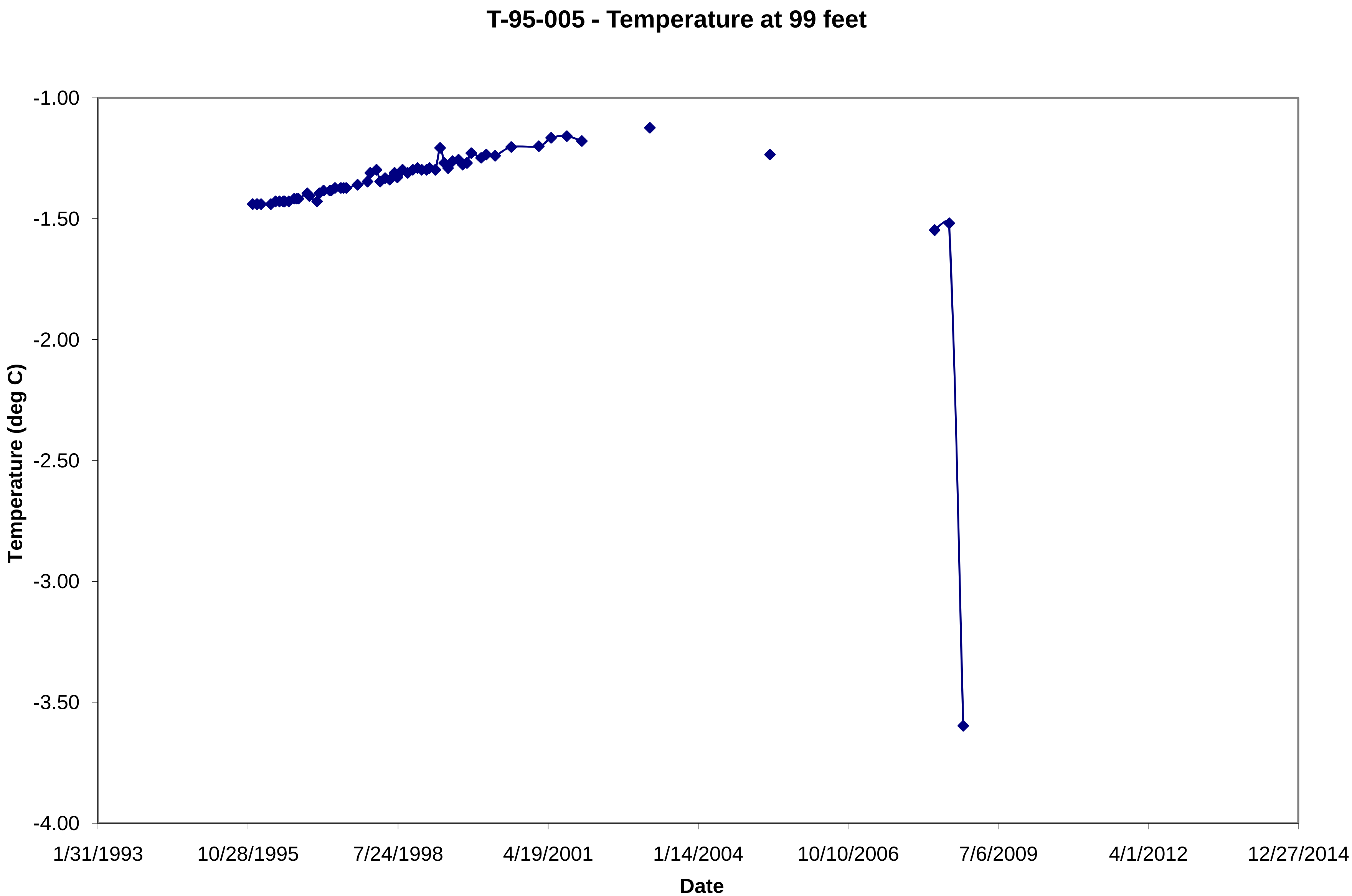


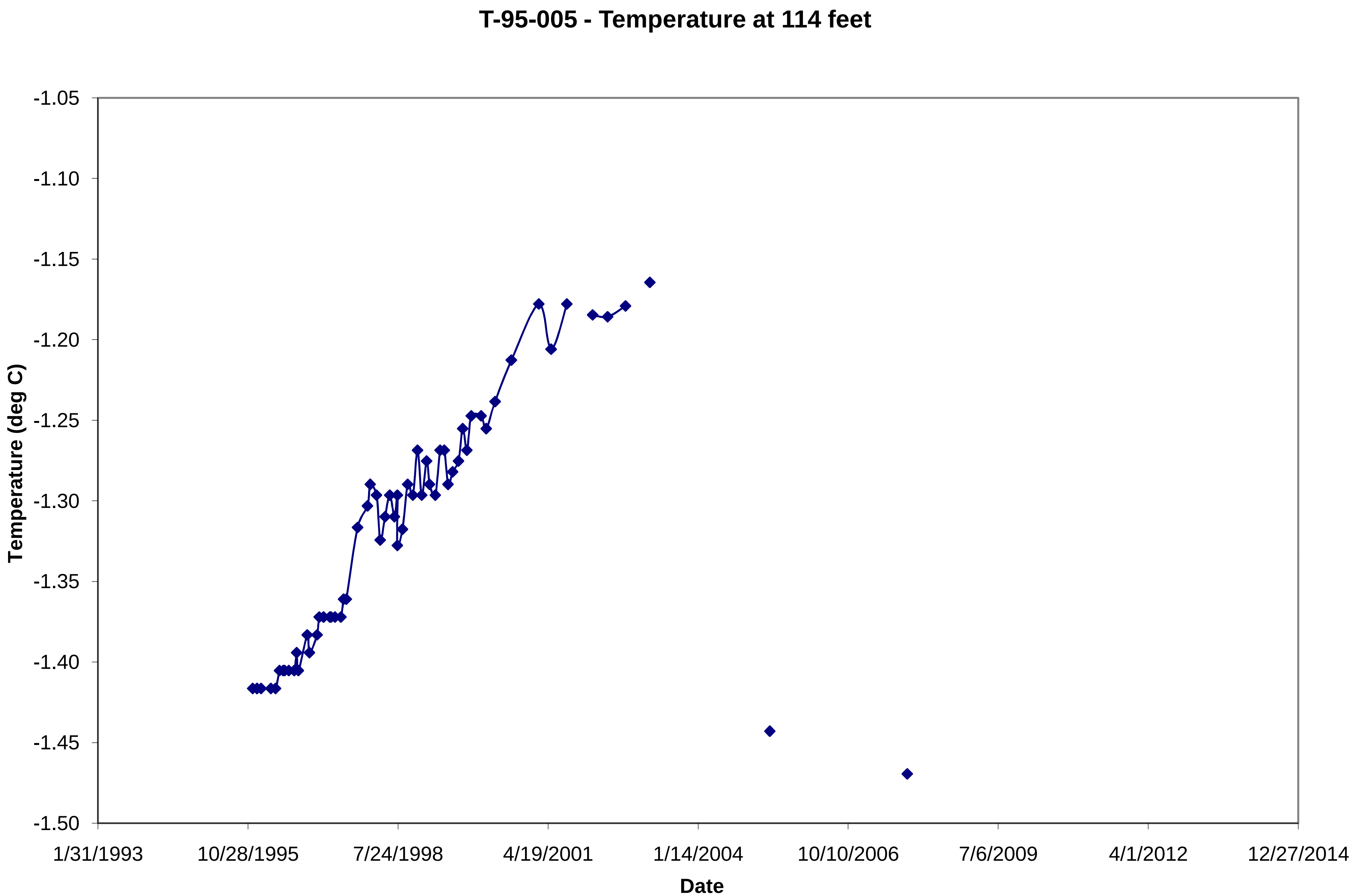
T-95-005 - Temperature at 54 feet
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
-4.00
Temperature (deg C)
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-95-005 - Temperature at 69 feet
Temperature (deg C)
-0.90
-1.40
-1.90
-2.40
-2.90
-3.40
-3.90
-4.40
-4.90
-5.40
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

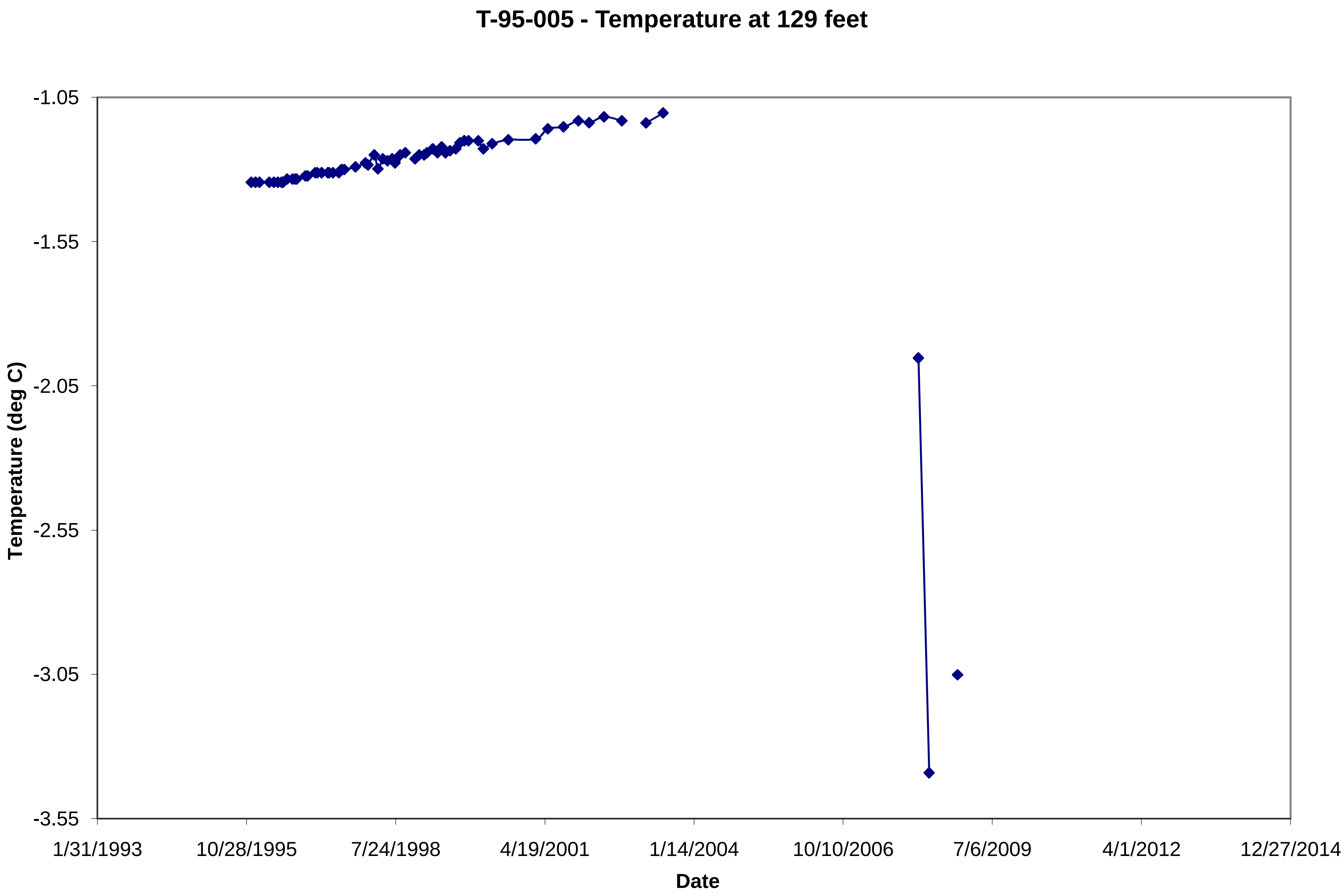


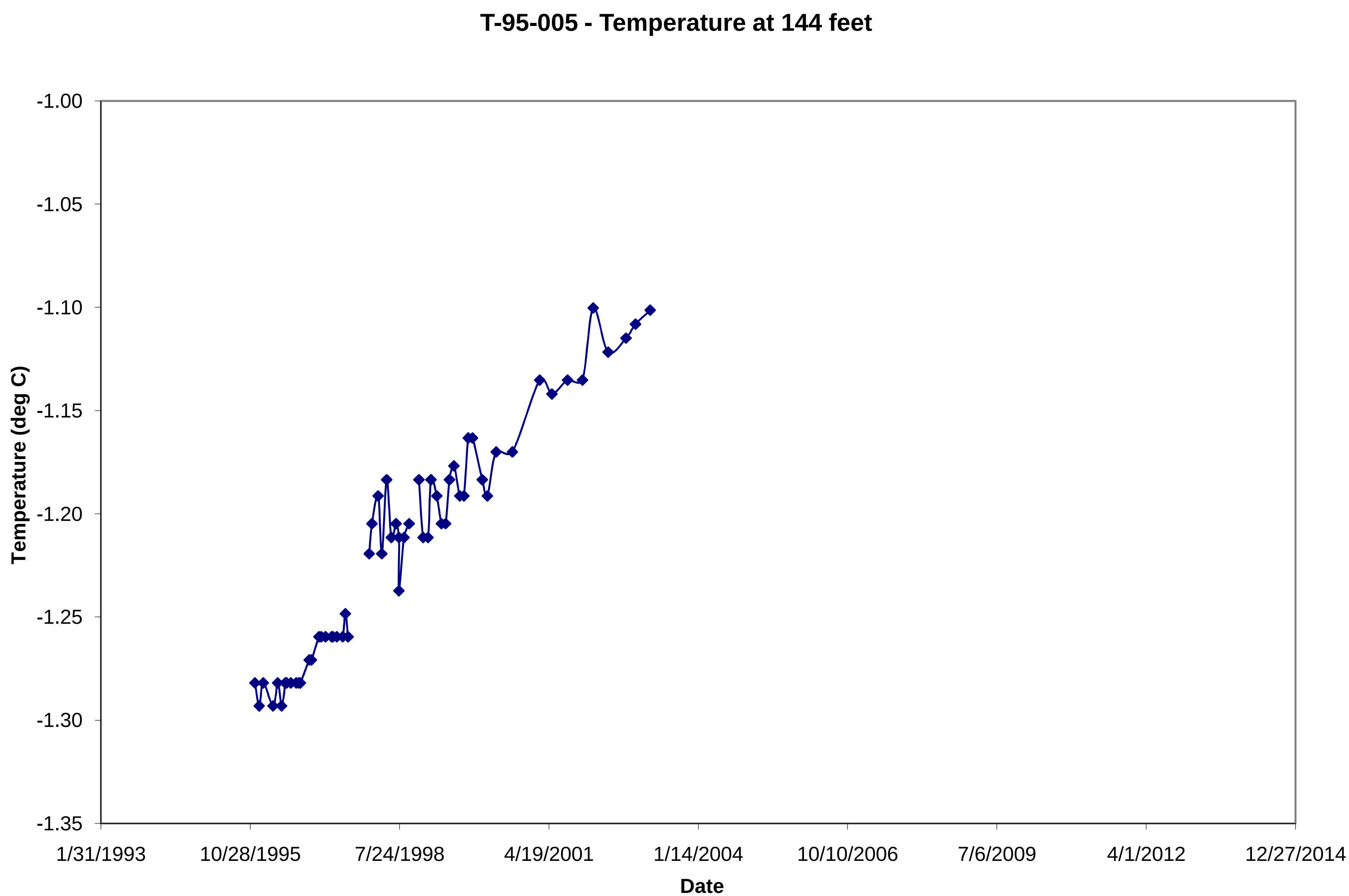
T-95-005 - Temperature at 84 feet
Temperature (deg C)
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

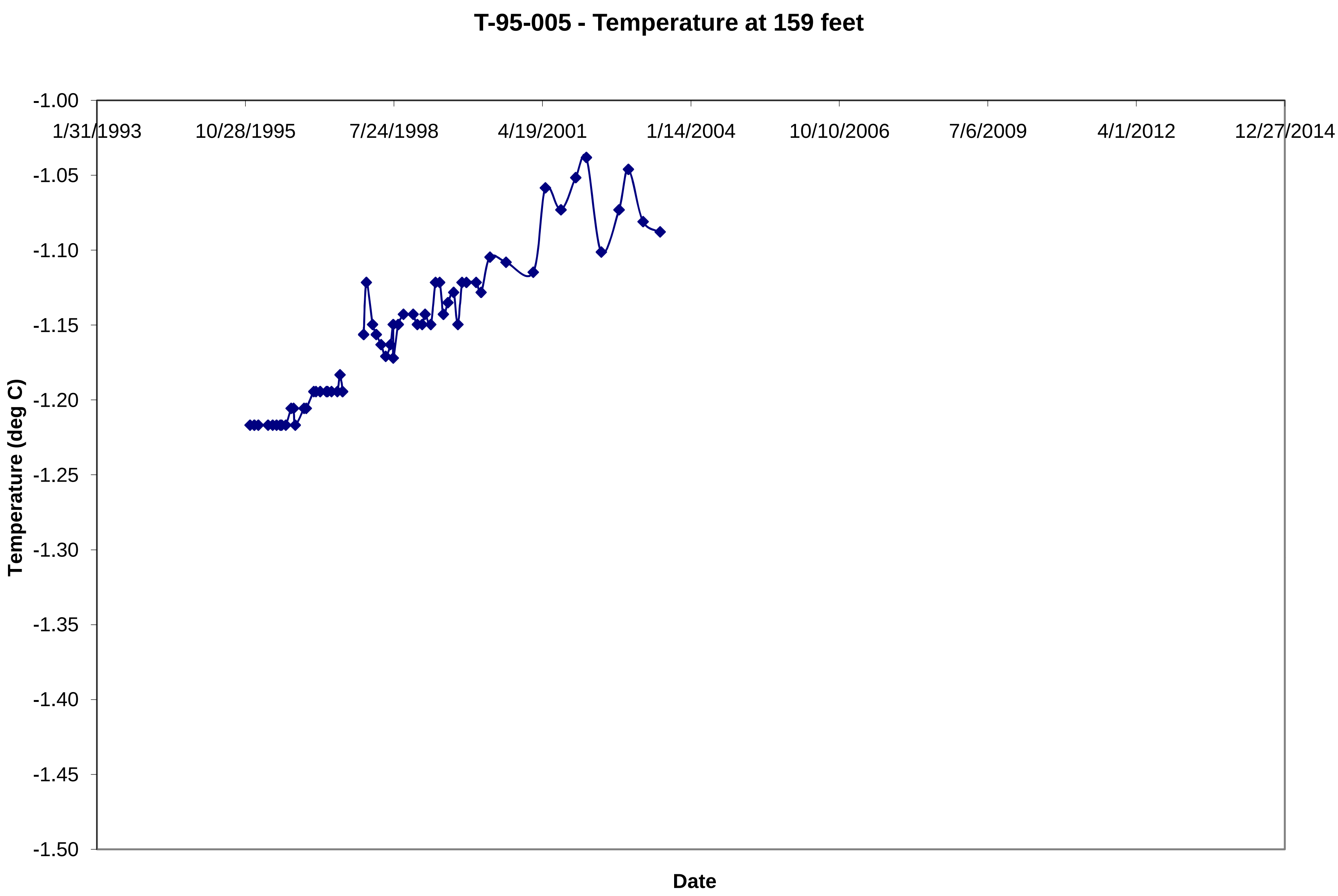

T-95-005 - Temperature at 99 feet
Temperature (deg C)
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
-4.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

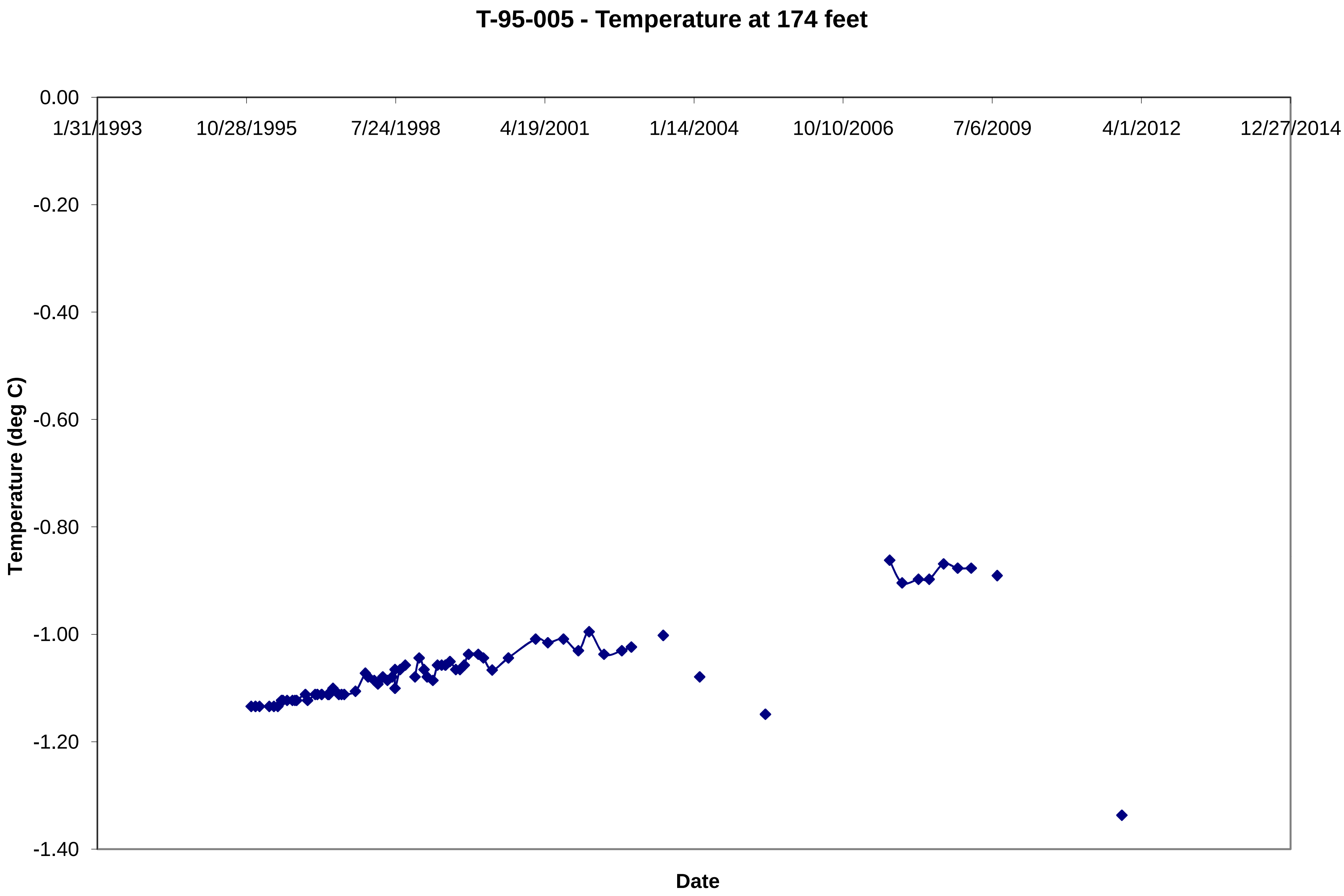


T-95-005 - Temperature at 114 feet
-1.05
-1.10
-1.15
-1.20
-1.25
-1.30
-1.35
-1.40
-1.45
-1.50
Temperature (deg C)
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-95-005 - Temperature at 129 feet
Temperature (deg C)
-1.05
-1.55
-2.05
-2.55
-3.05
-3.55
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

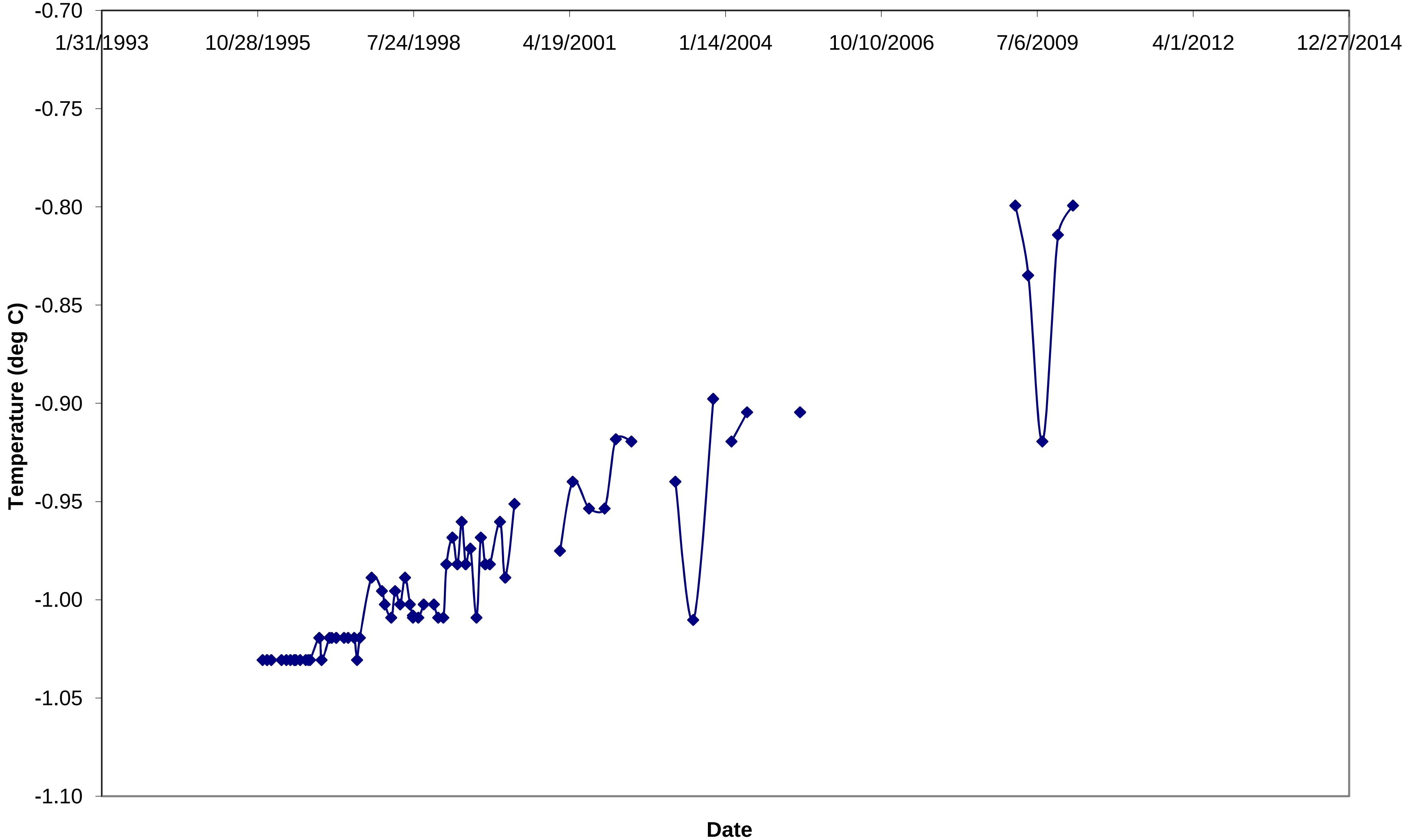

T-95-005 - Temperature at 144 feet
-1.00
-1.05
-1.10
-1.15
-1.20
-1.25
-1.30
-1.35
Temperature (deg C)
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

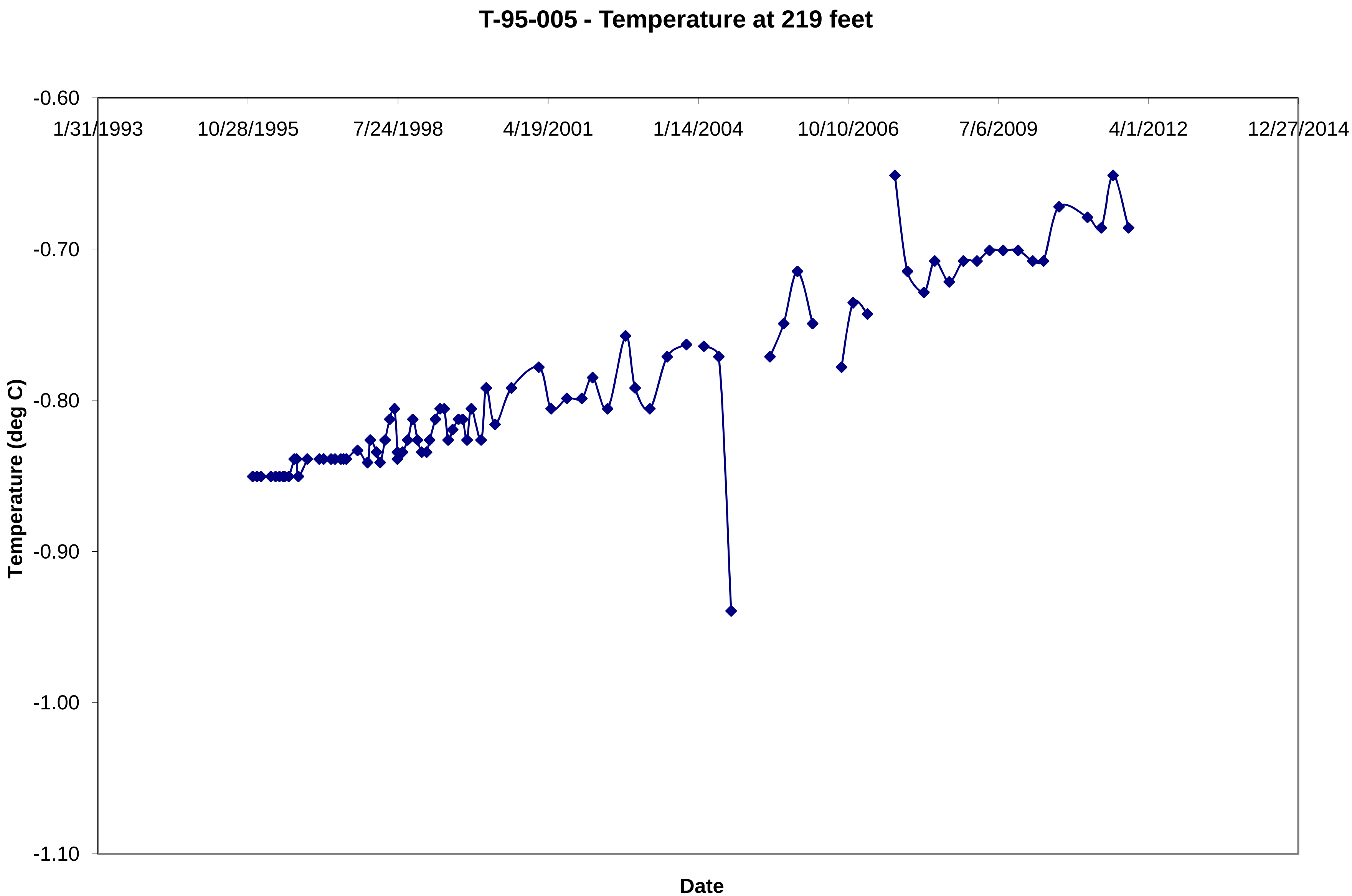

T-95-005 - Temperature at 159 feet
-1.00
-1.05
-1.10
-1.15
-1.20
-1.25
-1.30
-1.35
-1.40
-1.45
-1.50
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date



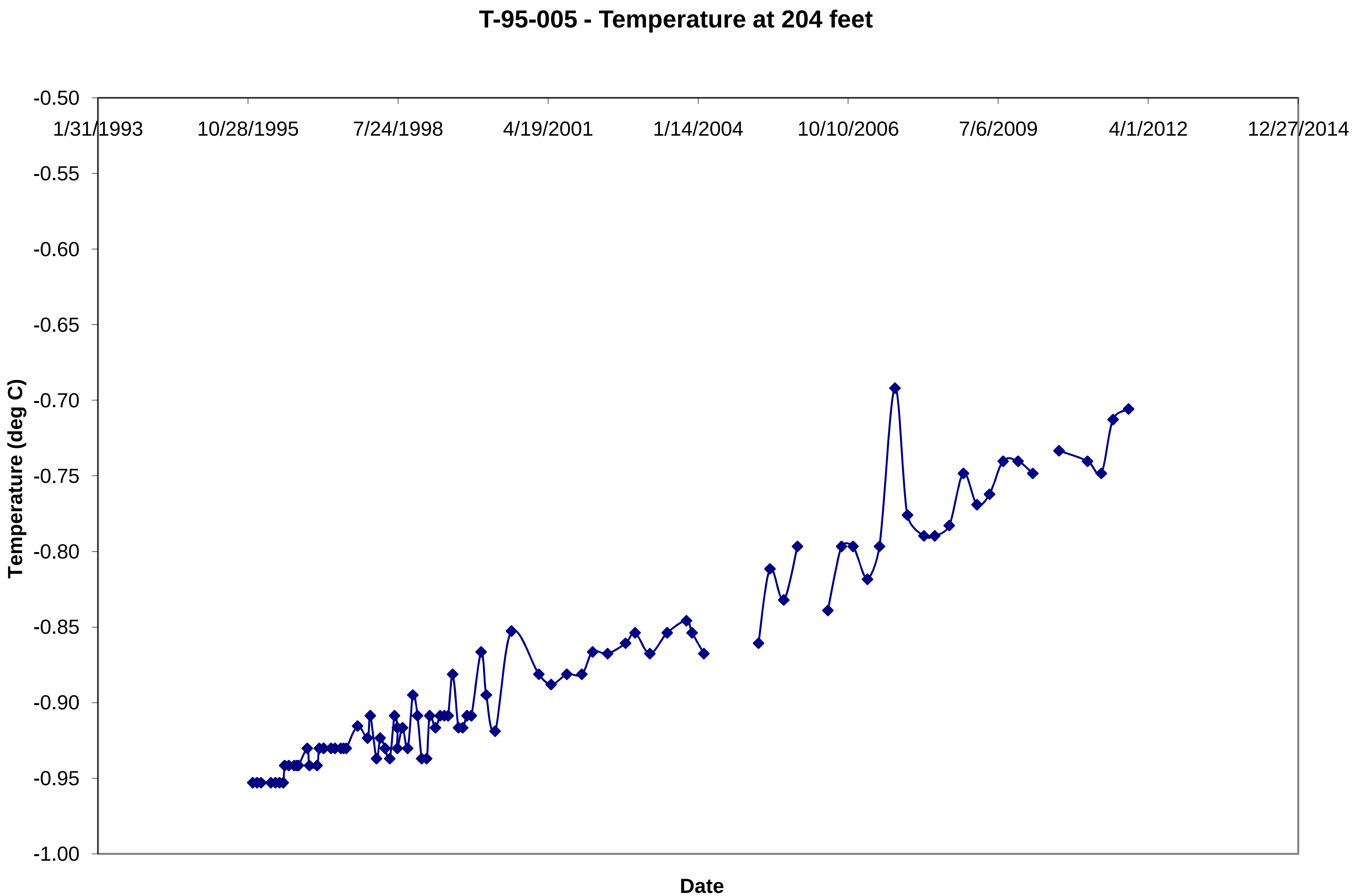
T-95-005 - Temperature at 174 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

T-95-005 - Temperature at 189 feet

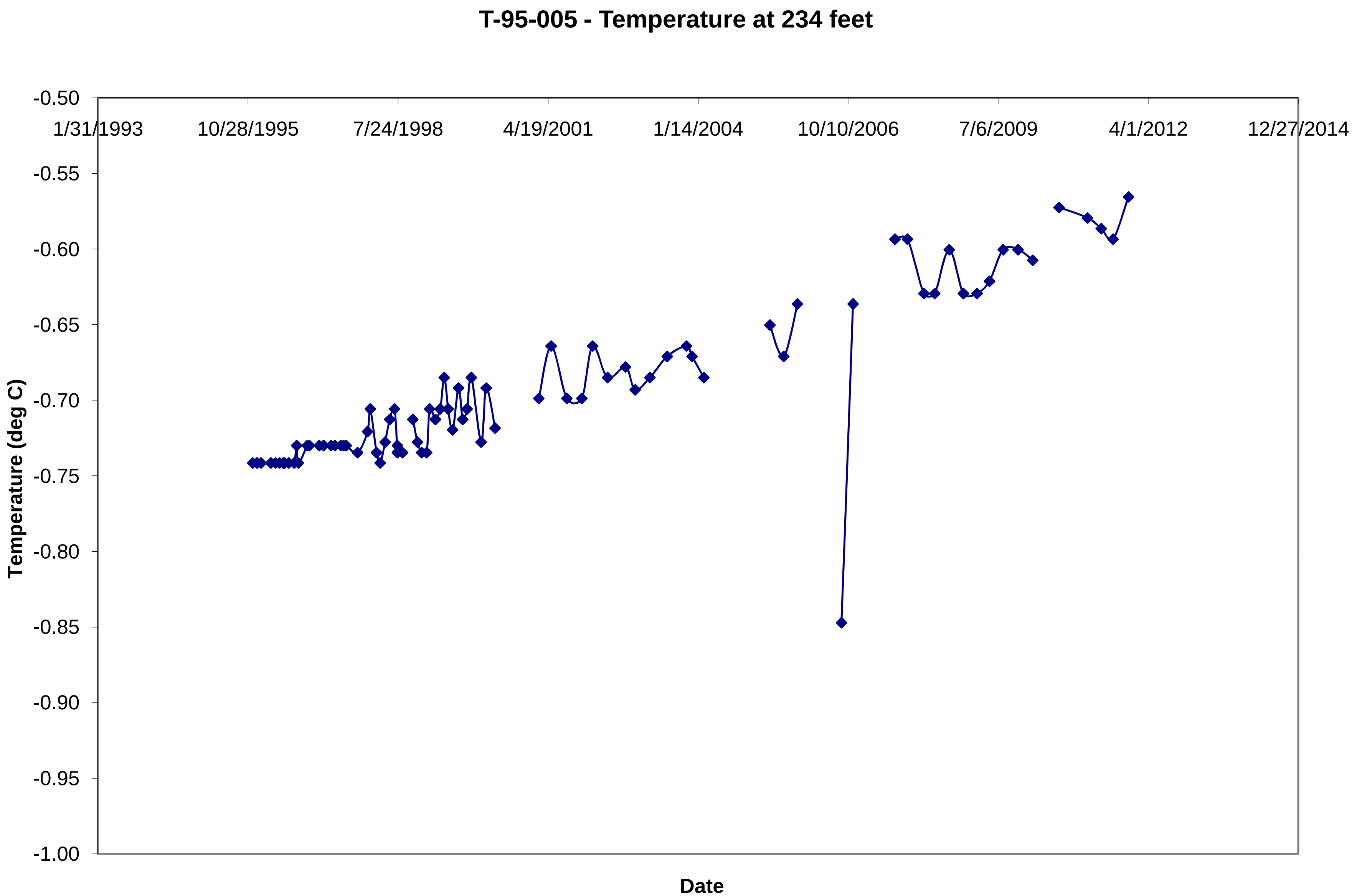




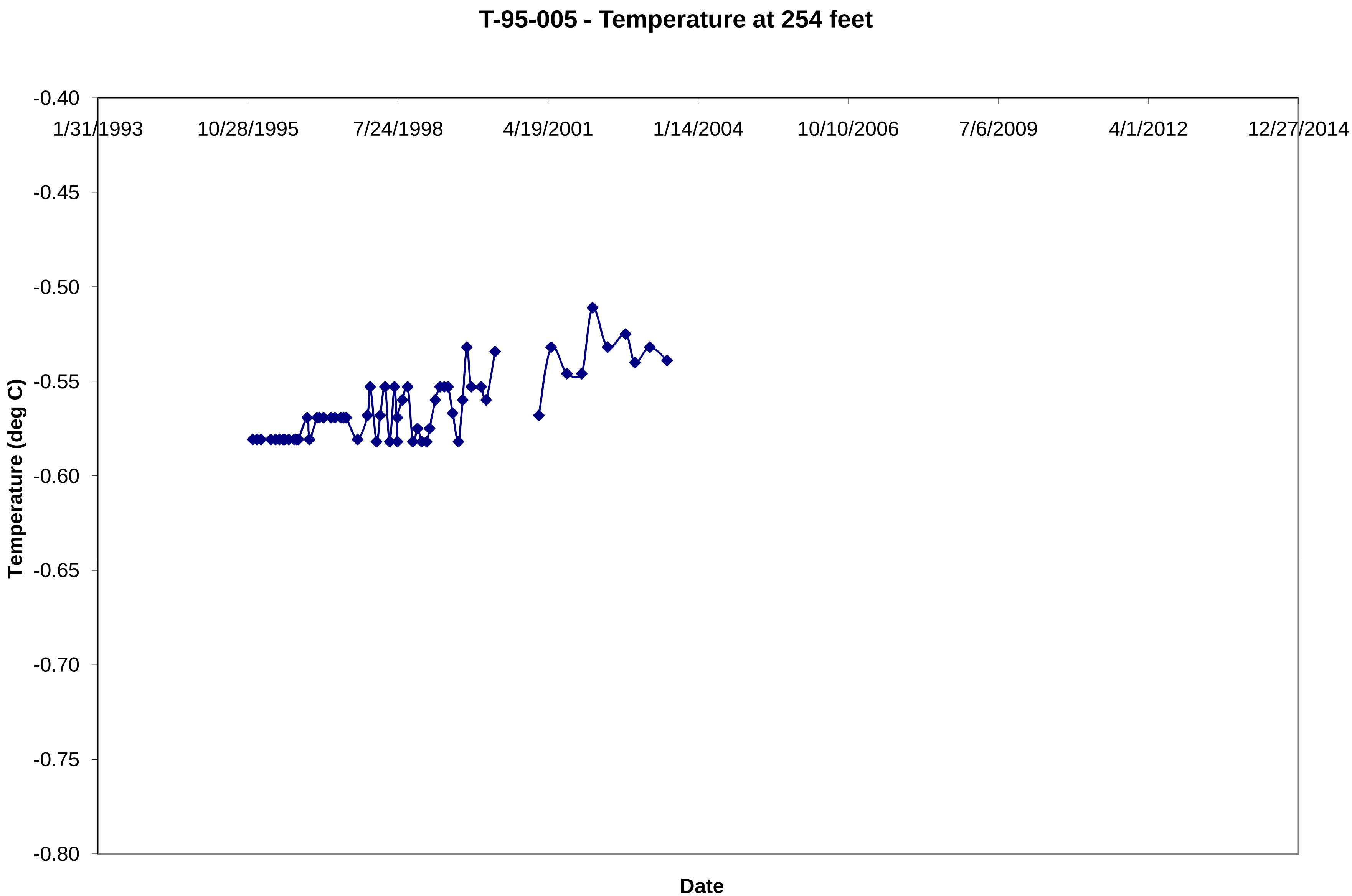
T-95-005 - Temperature at 219 feet
-0.60
-0.70
-0.80
-0.90
-1.00
-1.10
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date



T-95-005 - Temperature at 204 feet
Temperature (deg C)
-0.50
-0.55
-0.60
-0.65
-0.70
-0.75
-0.80
-0.85
-0.90
-0.95
-1.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

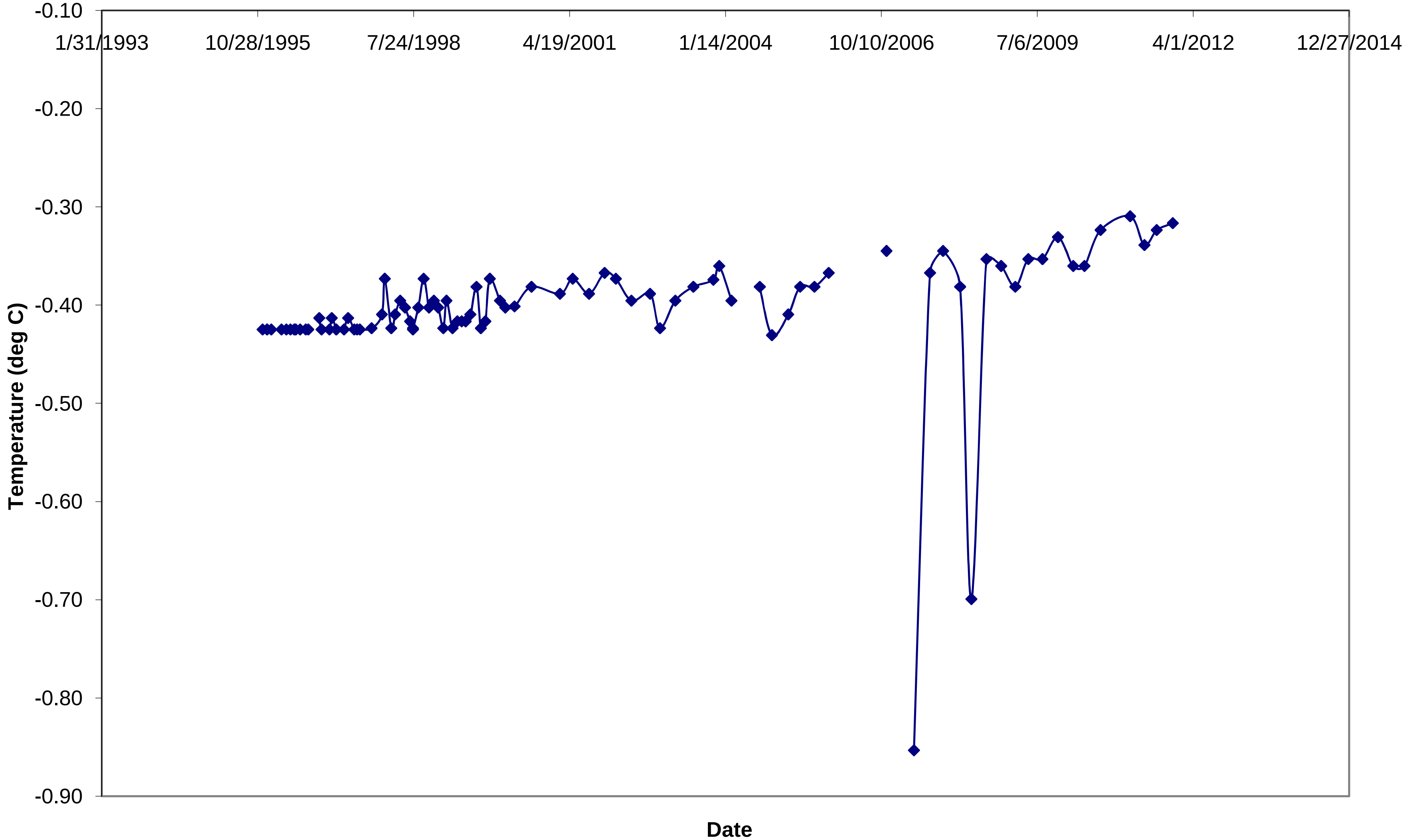


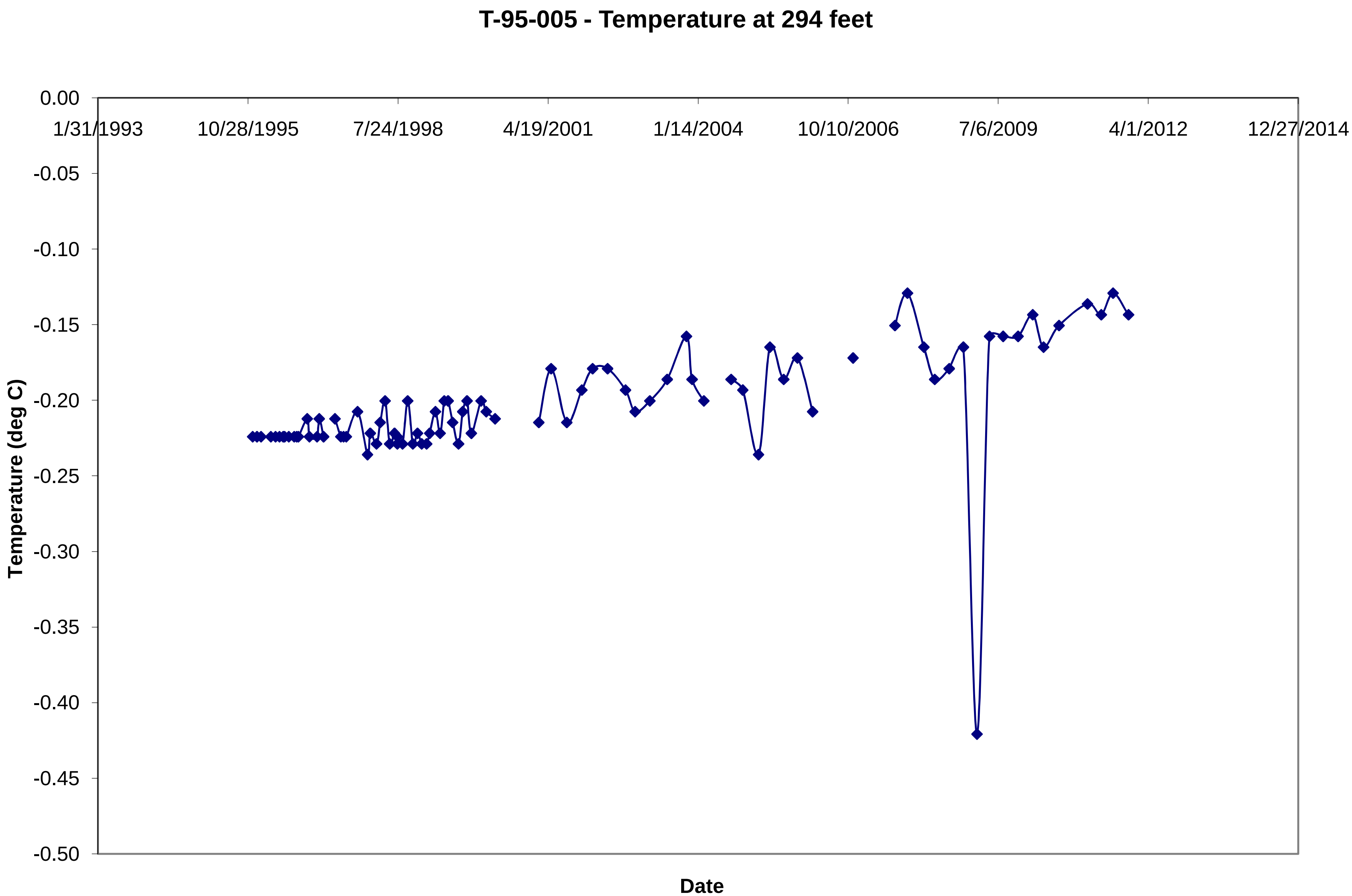
T-95-005 - Temperature at 234 feet
-0.50
-0.55
-0.60
-0.65
-0.70
-0.75
-0.80
-0.85
-0.90
-0.95
-1.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

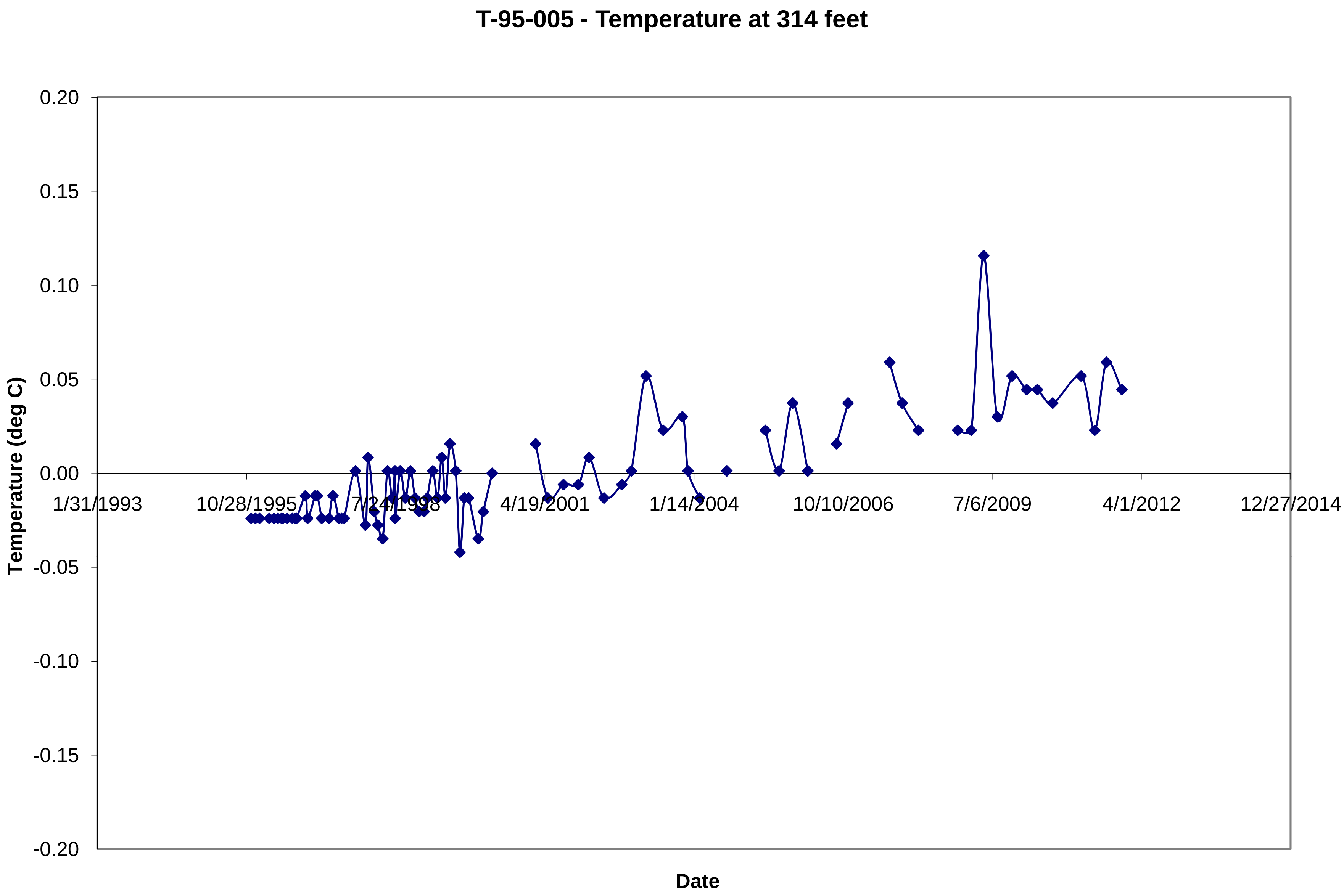


T-95-005 - Temperature at 254 feet
Temperature (deg C)
-0.40
-0.45
-0.50
-0.55
-0.60
-0.65
-0.70
-0.75
-0.80
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

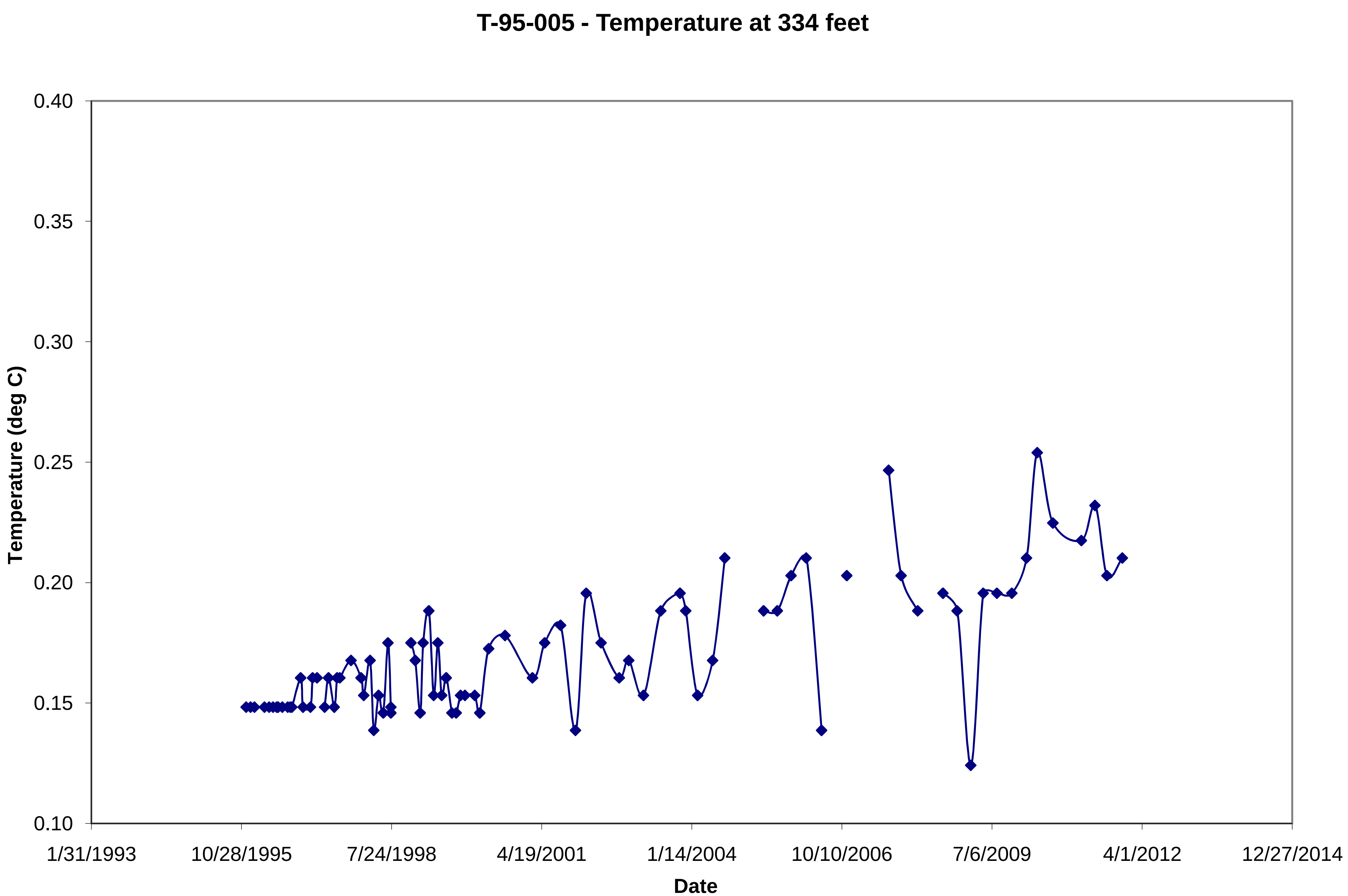
T-95-005 - Temperature at 274 feet



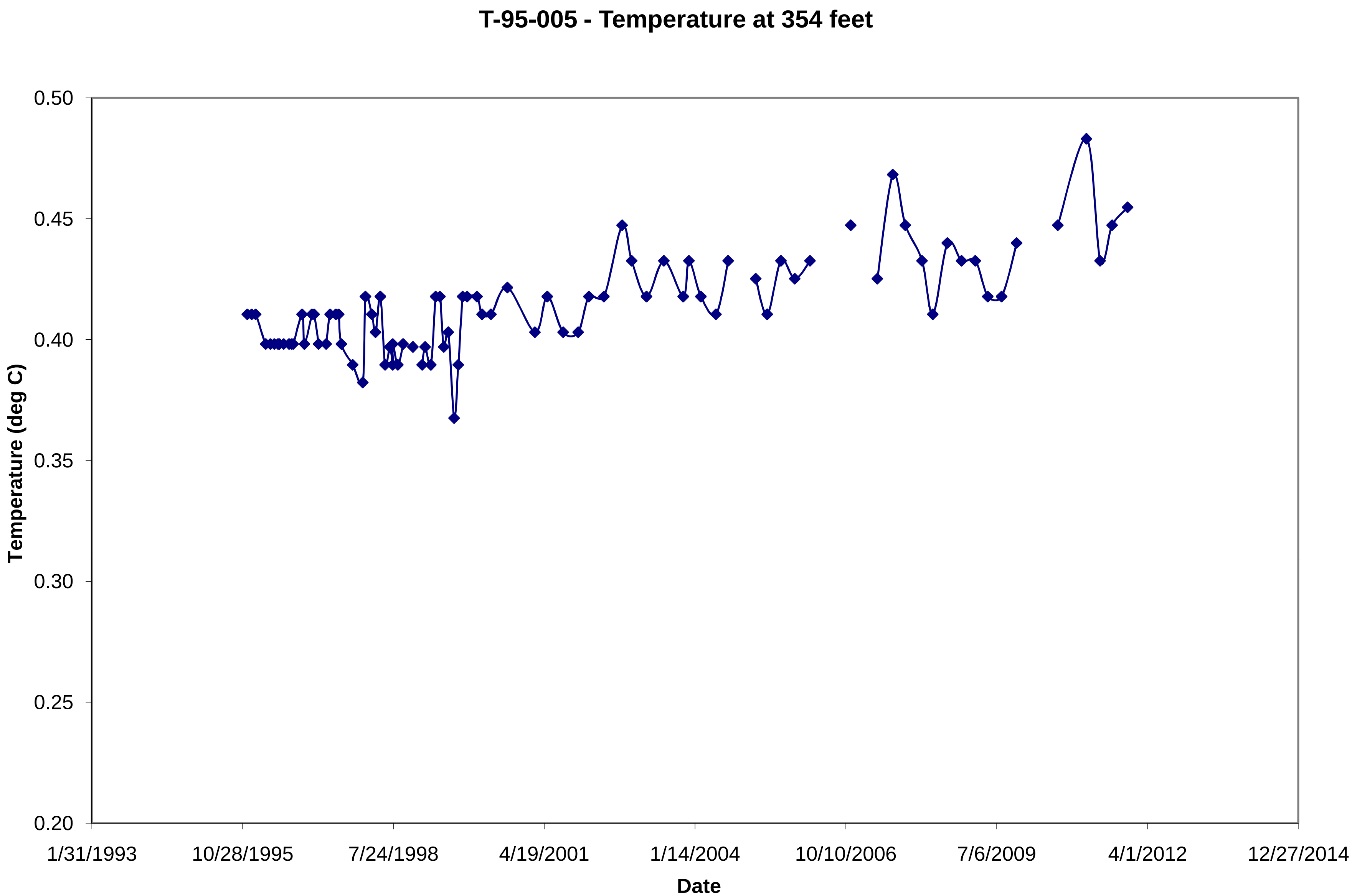

T-95-005 - Temperature at 294 feet
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
-0.35
-0.40
-0.45
-0.50
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date



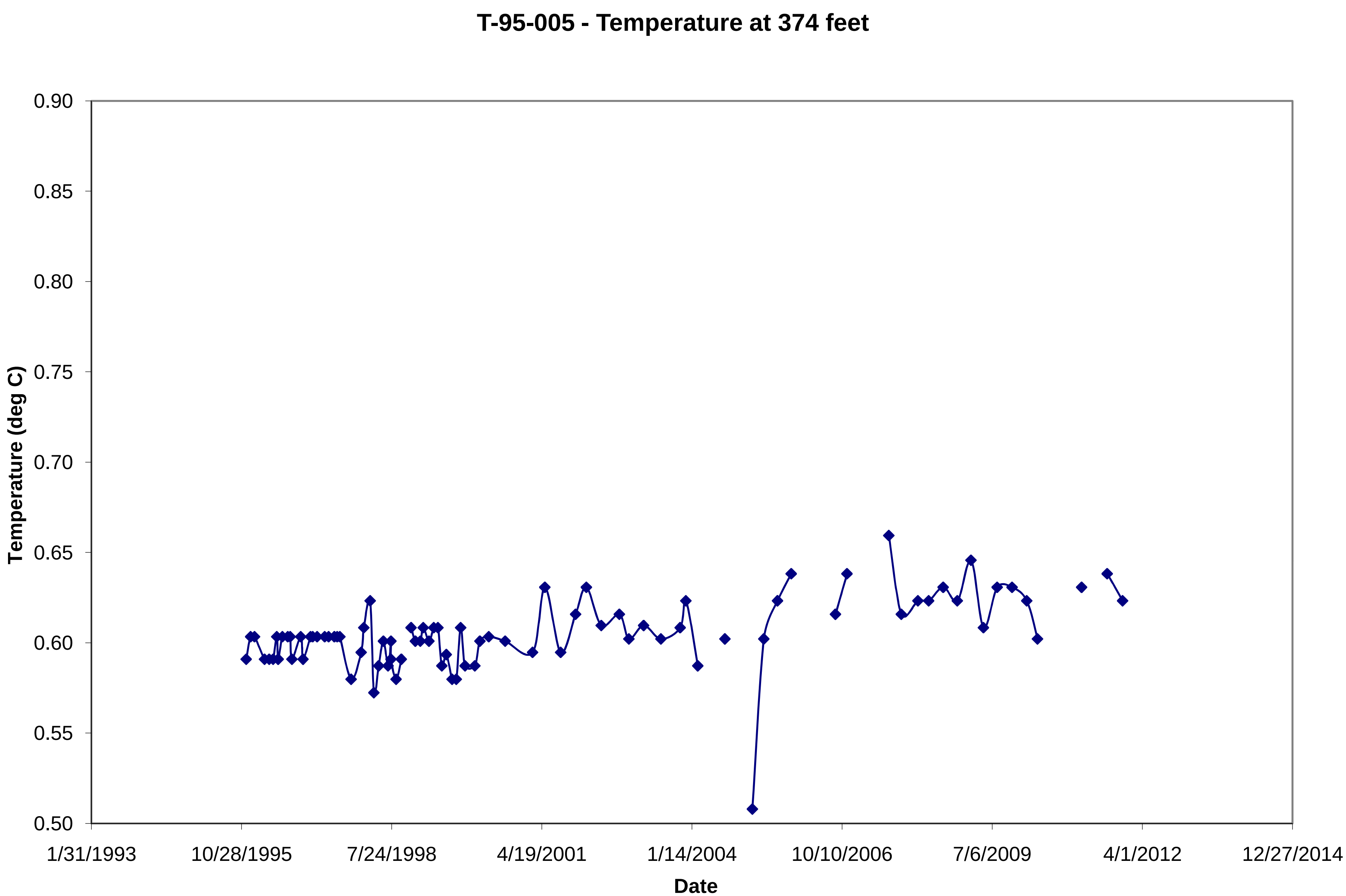
T-95-005 - Temperature at 314 feet
Temperature (deg C)
0.20
0.15
0.10
0.05
0.00
-0.05
-0.10
-0.15
-0.20
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



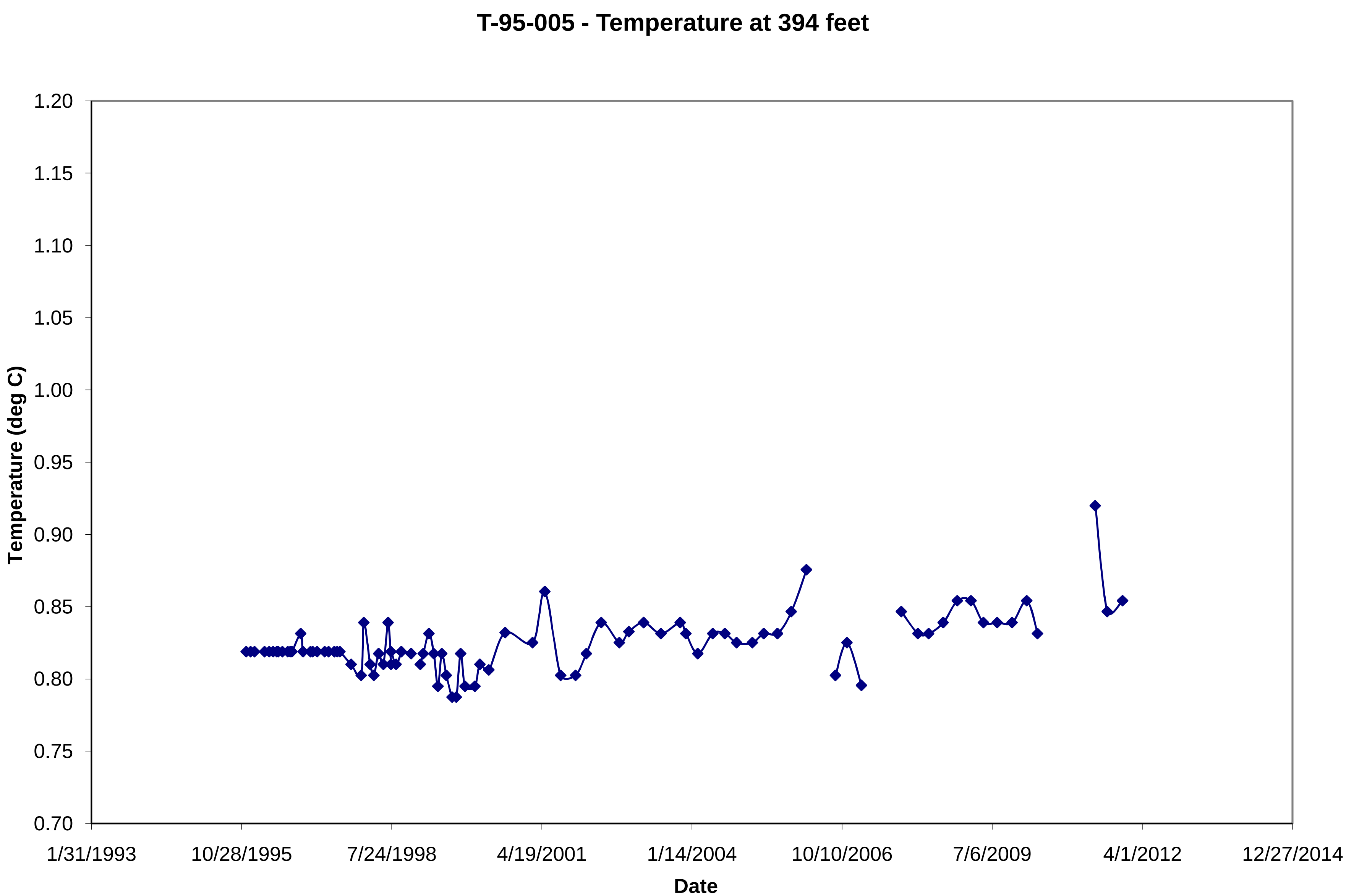
T-95-005 - Temperature at 334 feet
Temperature (deg C)
0.40
0.35
0.30
0.25
0.20
0.15
0.10
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



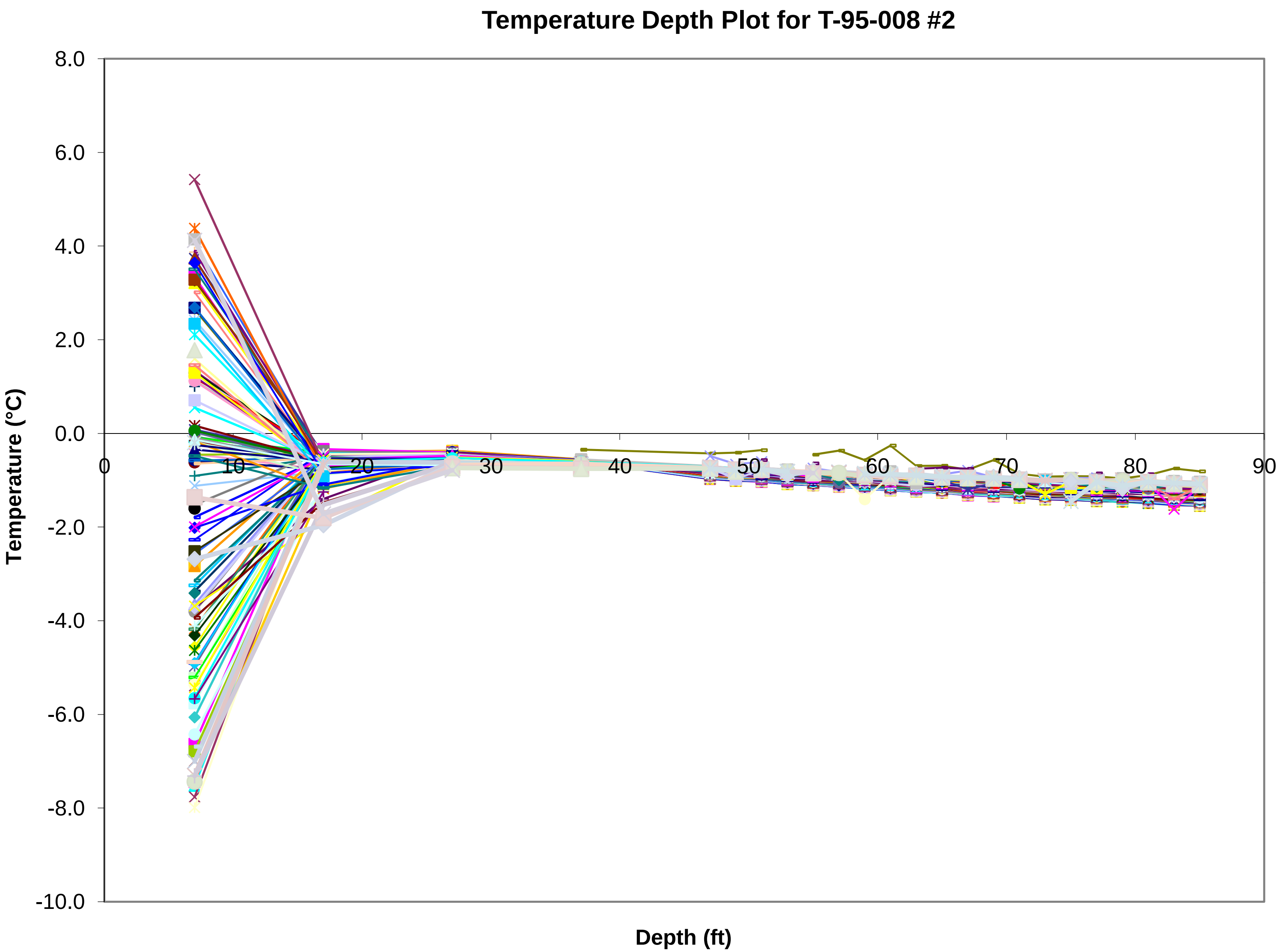
T-95-005 - Temperature at 354 feet
Temperature (deg C)
0.50
0.45
0.40
0.35
0.30
0.25
0.20
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



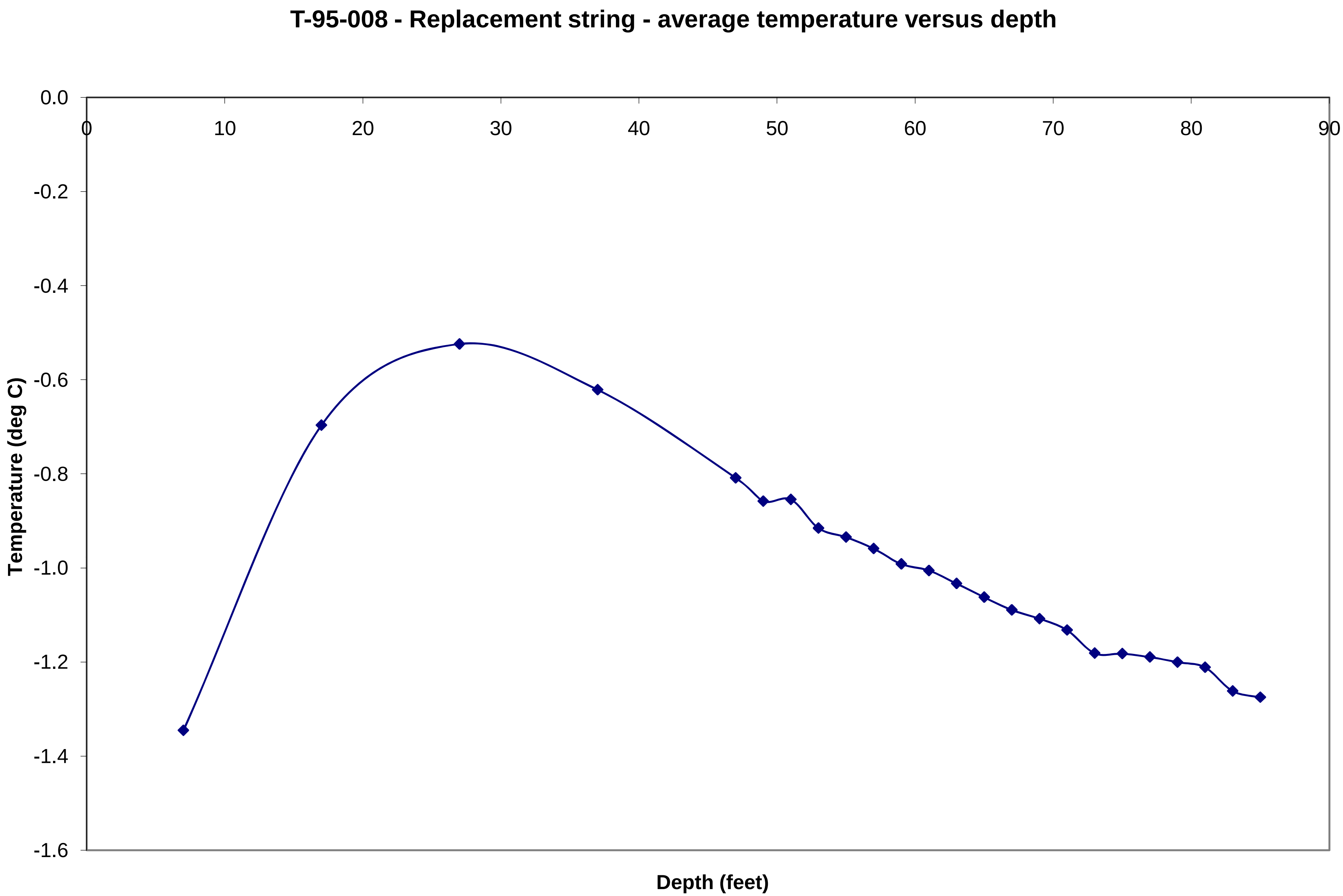
T-95-005 - Temperature at 374 feet
Temperature (deg C)
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

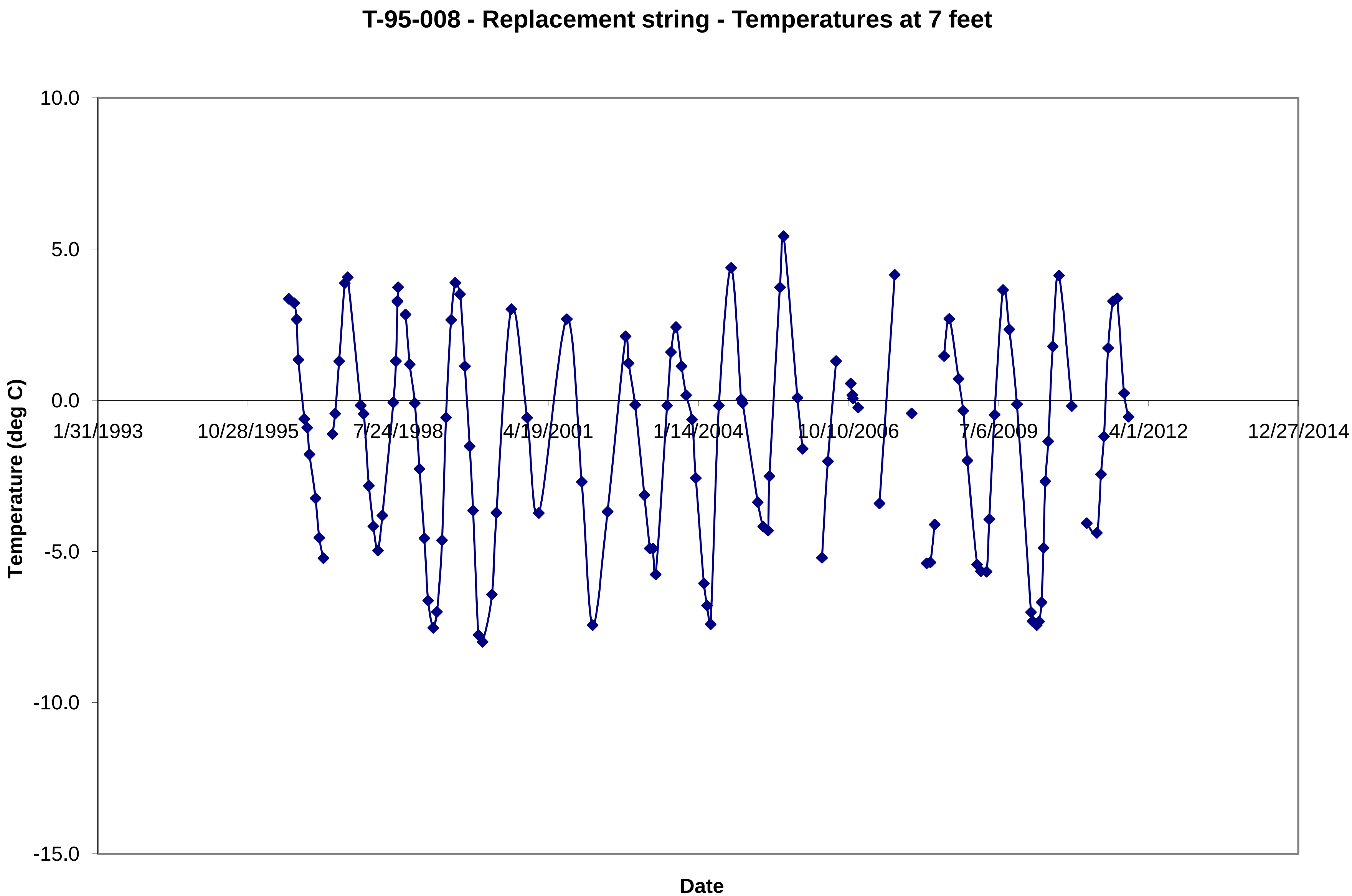

T-95-005 - Temperature at 394 feet
Temperature (deg C)
1.20
1.15
1.10
1.05
1.00
0.95
0.90
0.85
0.80
0.75
0.70
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

T-95-008 #2

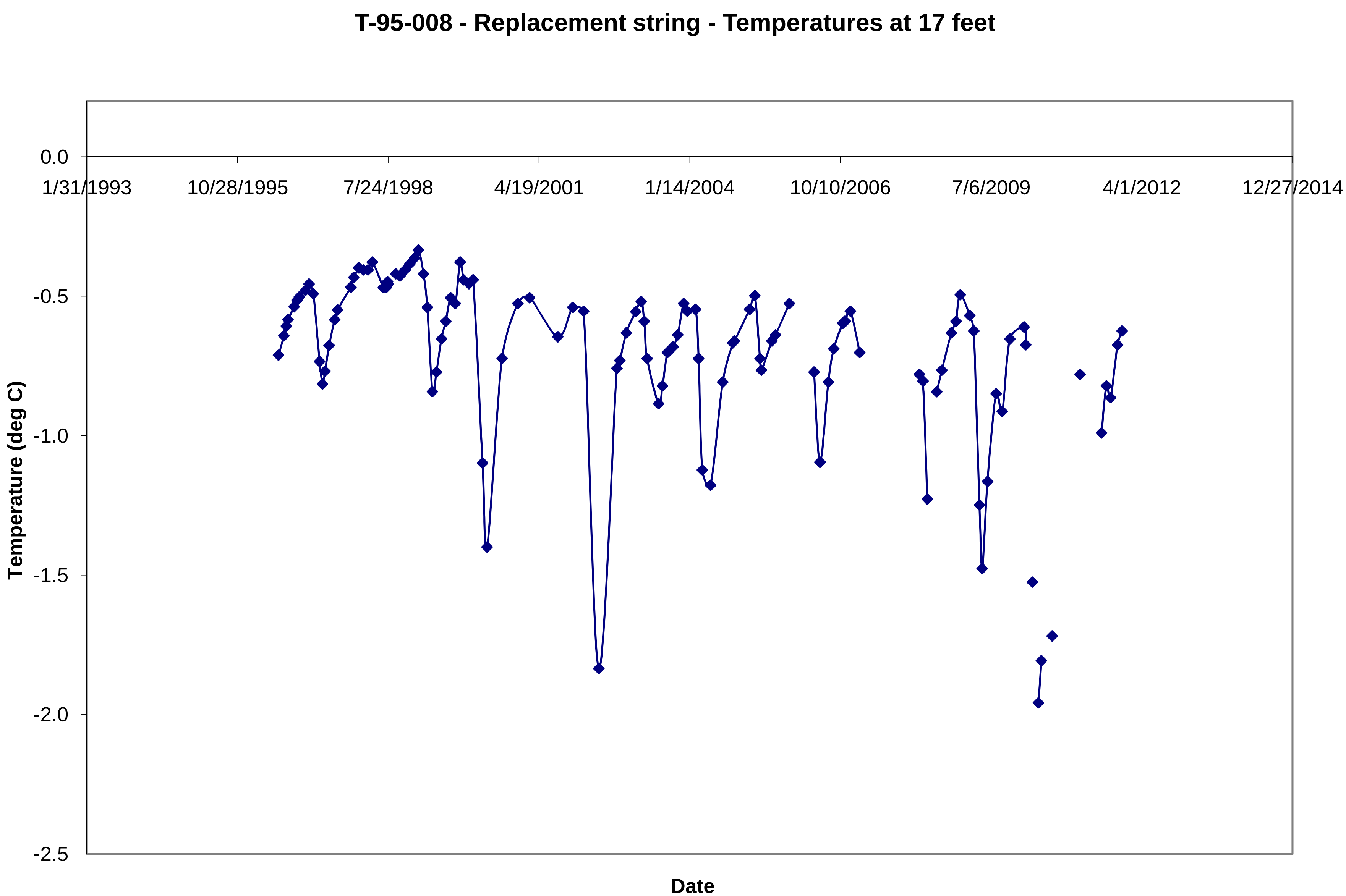


Temperature Depth Plot for T-95-008 #2
Temperature (°C)
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
-10.0
0
10
20
30
40
50
60
70
80
90
Depth (ft)

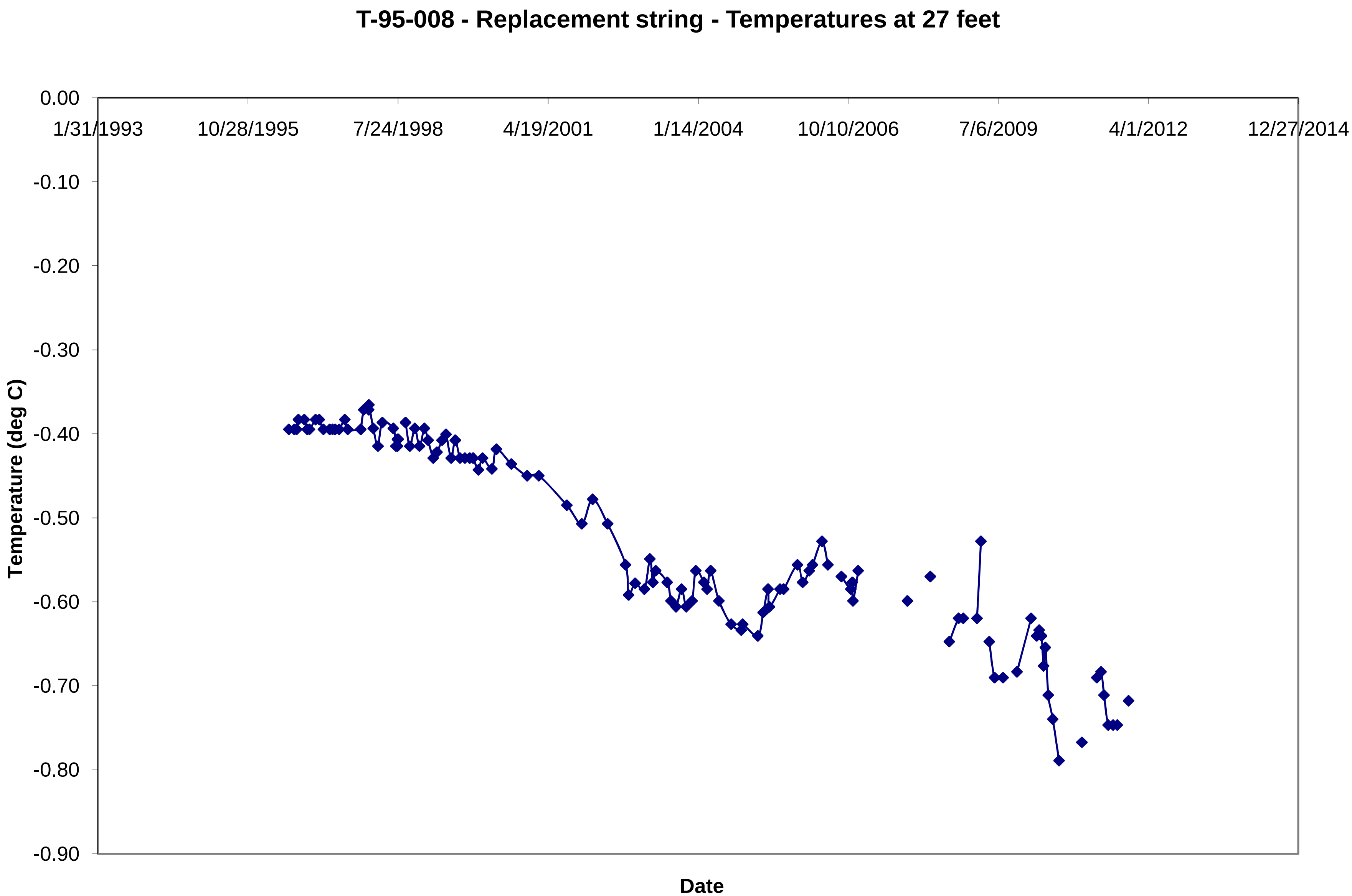

T-95-008 - Replacement string - average temperature versus depth
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
0
10
20
30
40
50
60
70
80
90
Temperature (deg C)
Depth (feet)

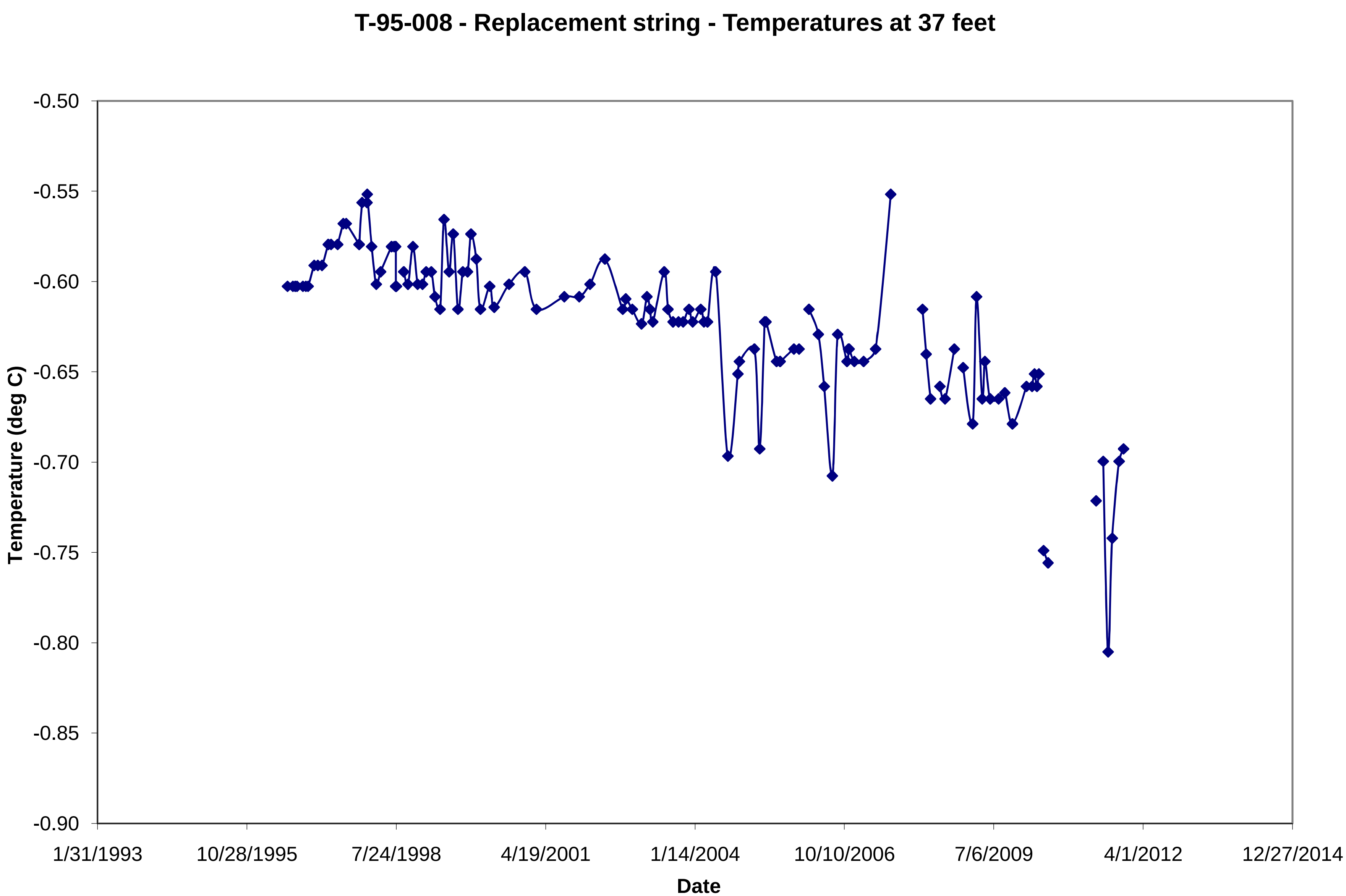


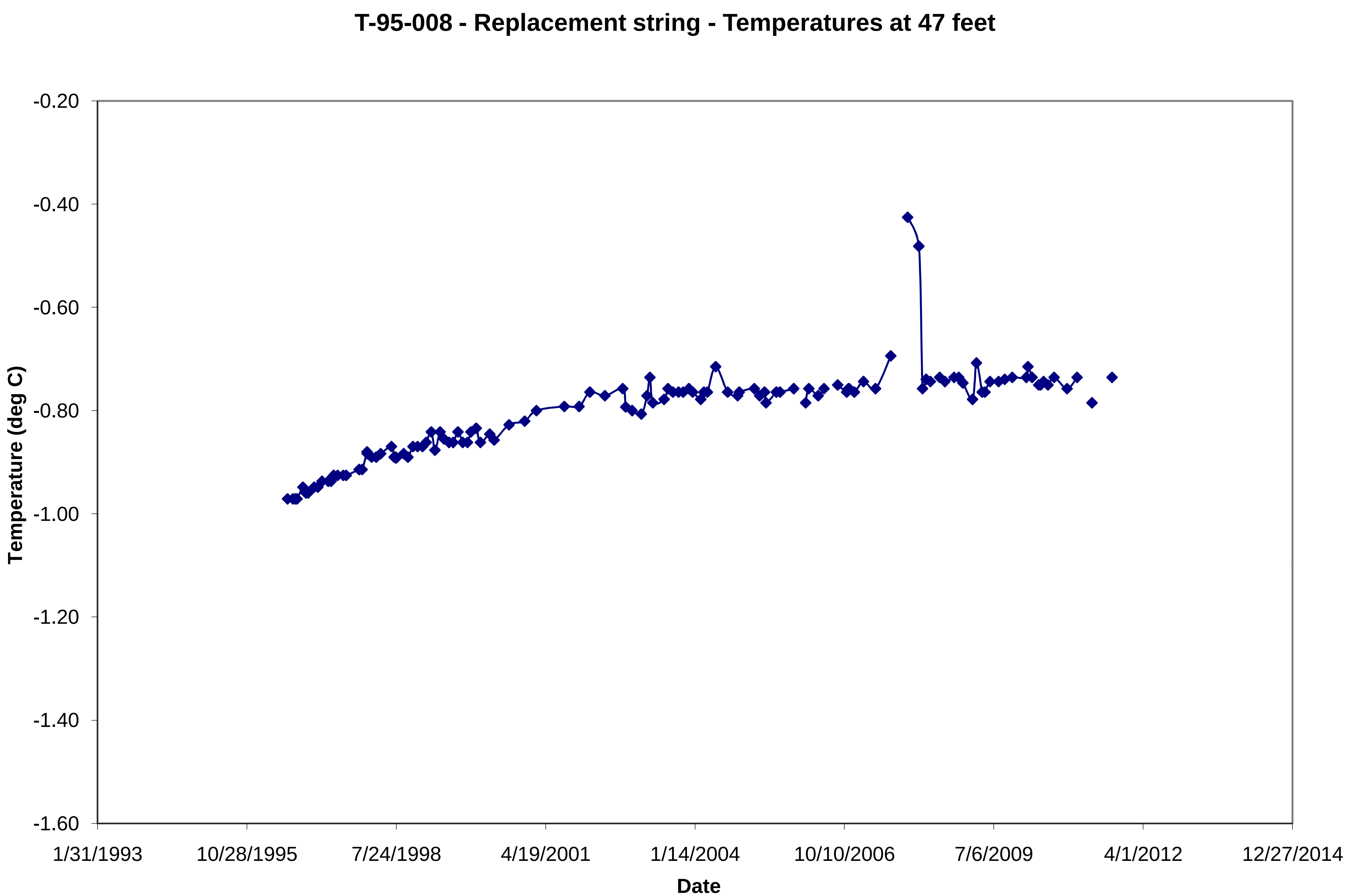
T-95-008 - Replacement string - Temperatures at 7 feet
10.0
5.0
0.0
-5.0
-10.0
-15.0
Temperature (deg C)
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



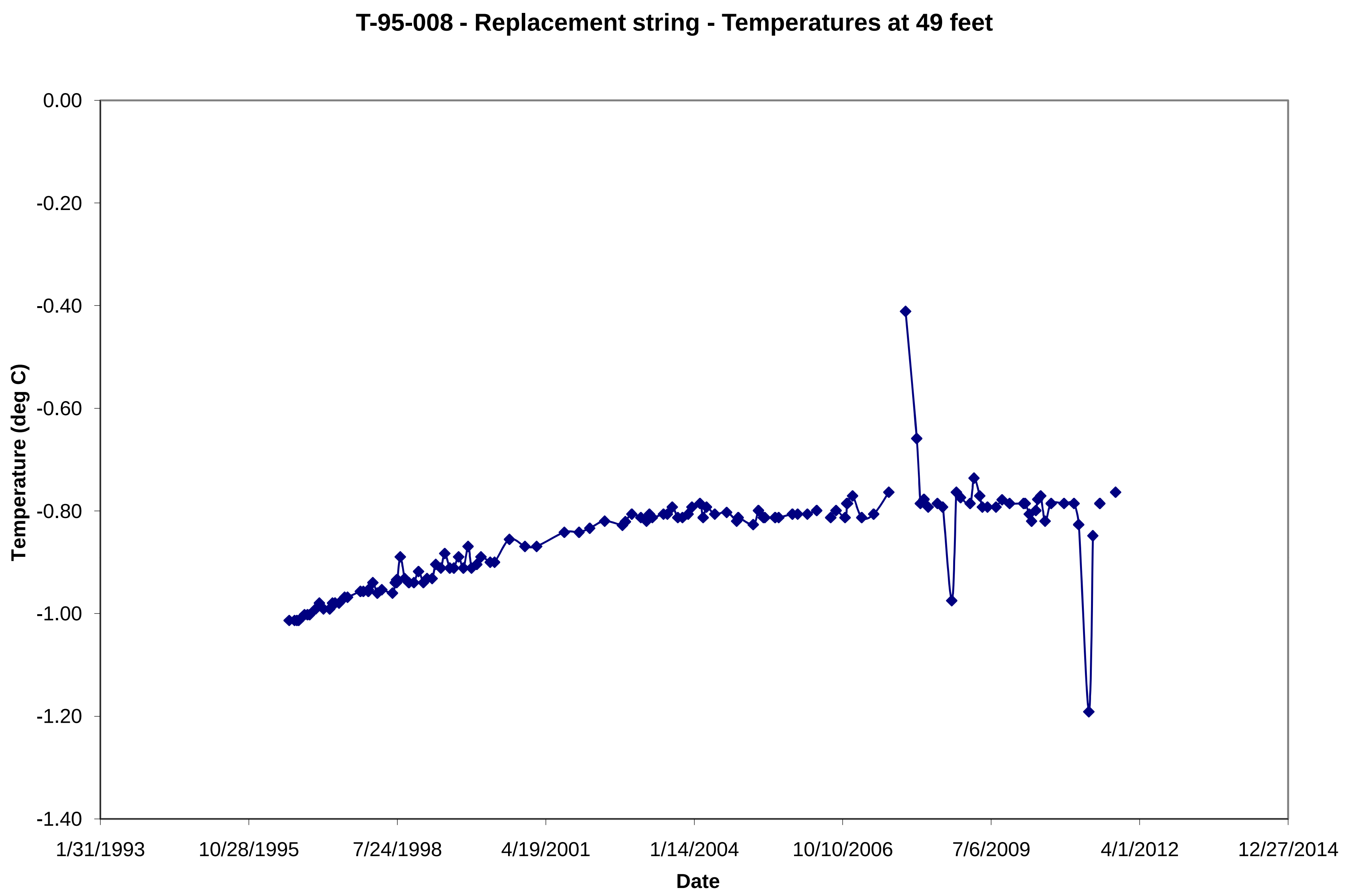
T-95-008 - Replacement string - Temperatures at 17 feet
Temperature (deg C)
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

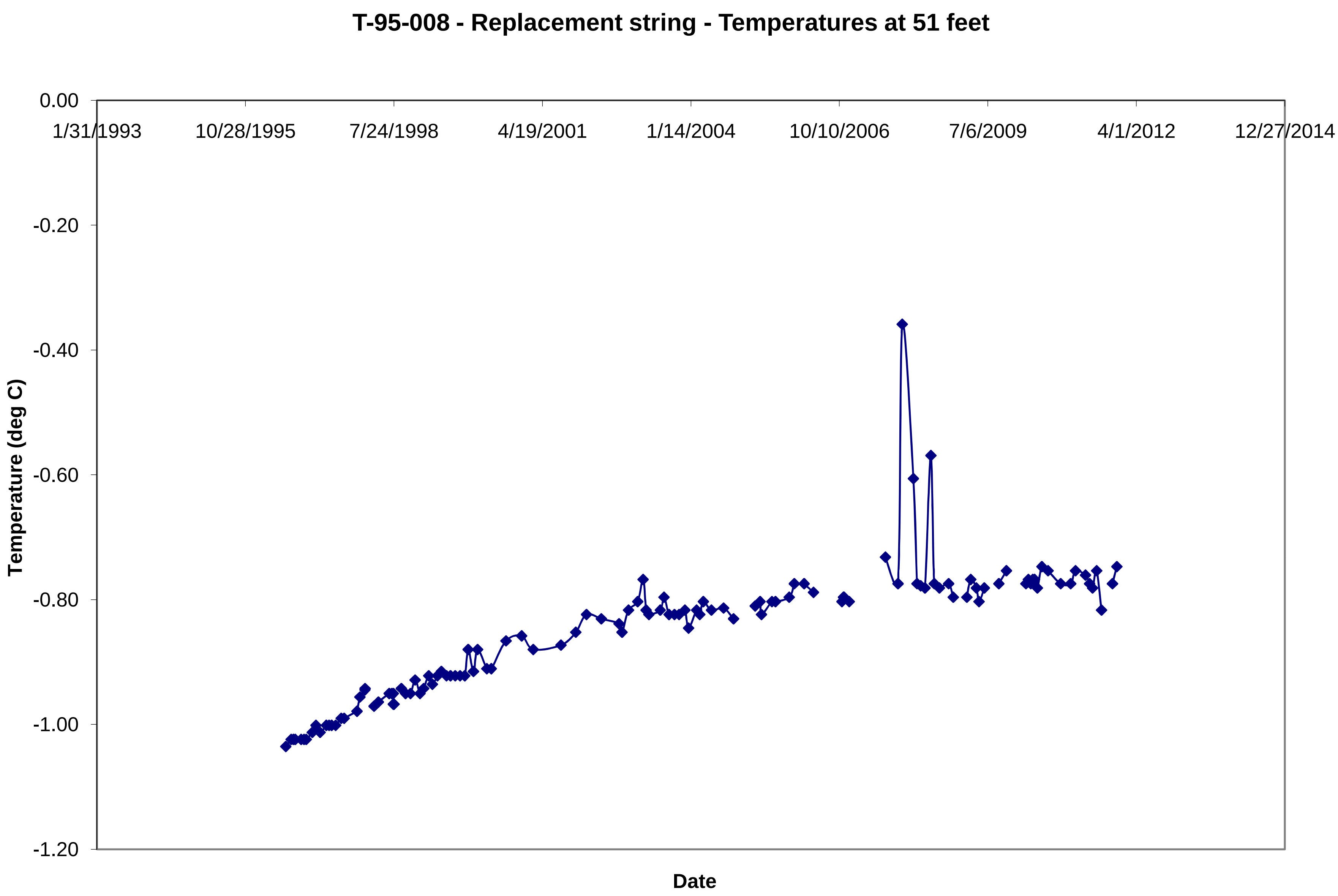

T-95-008 - Replacement string - Temperatures at 27 feet
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date


T-95-008 - Replacement string - Temperatures at 37 feet
Temperature (deg C)
-0.50
-0.55
-0.60
-0.65
-0.70
-0.75
-0.80
-0.85
-0.90
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

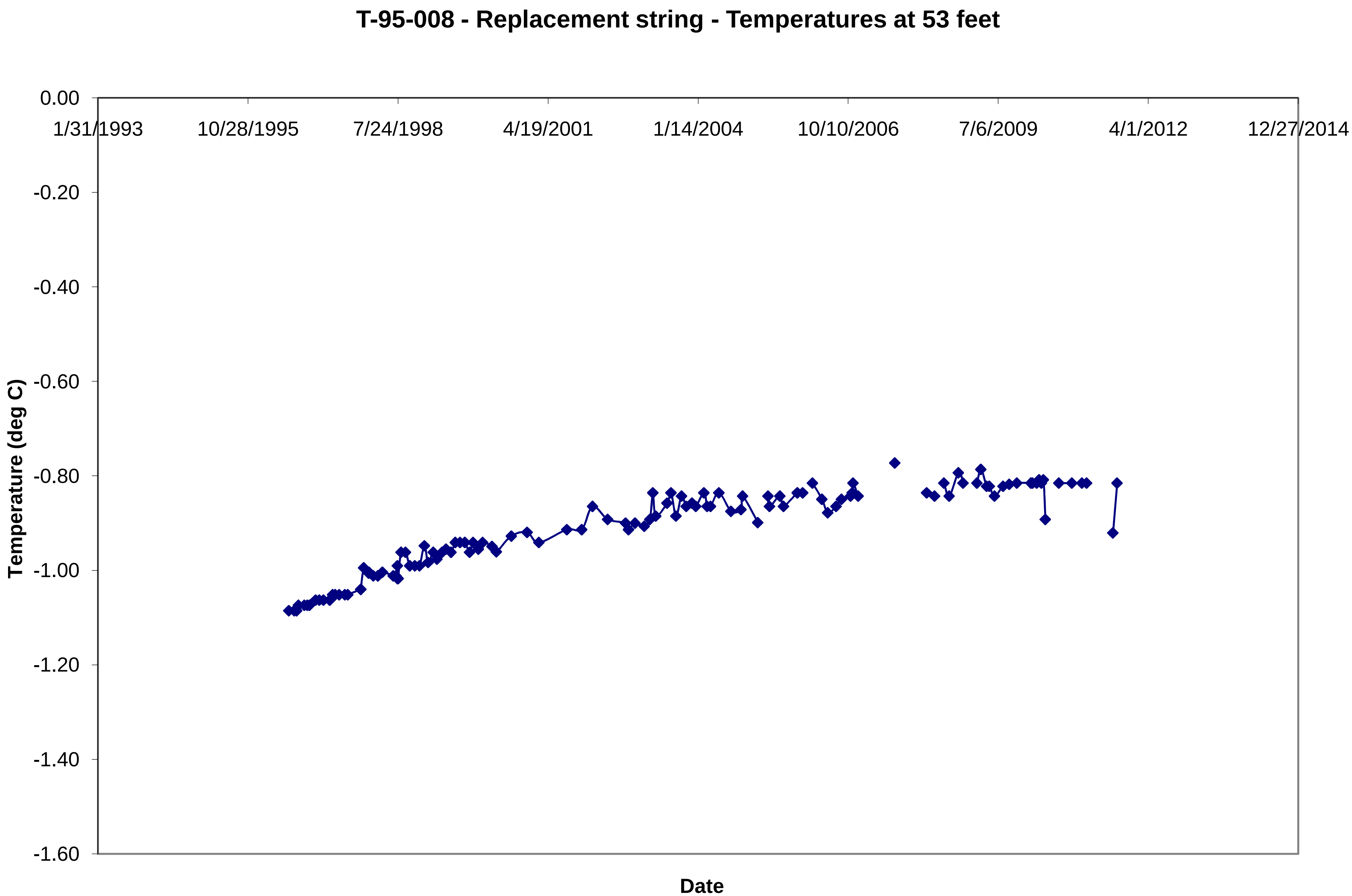


T-95-008 - Replacement string - Temperatures at 47 feet
Temperature (deg C)
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

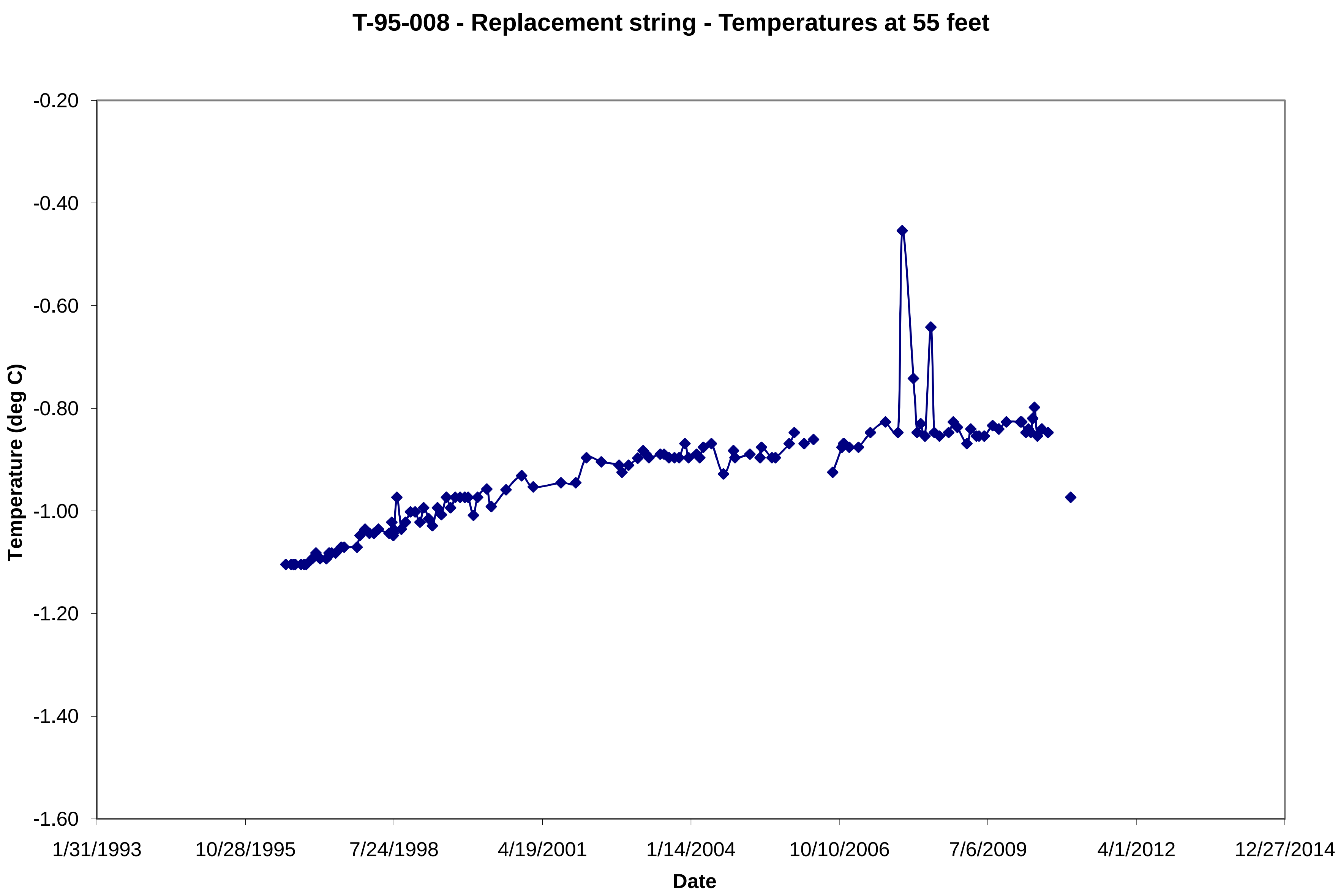

T-95-008 - Replacement string - Temperatures at 49 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
Temperature (deg C)
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

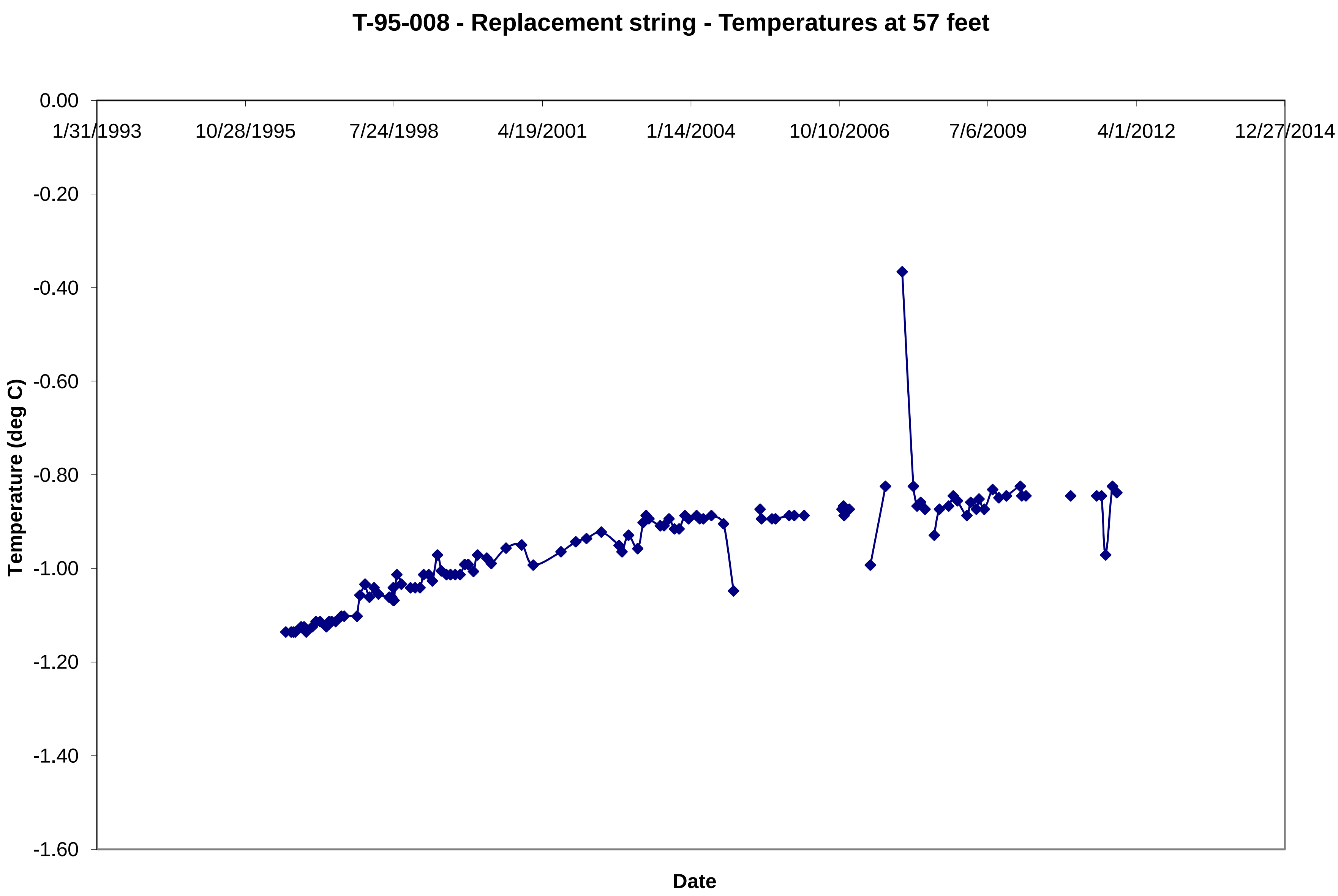


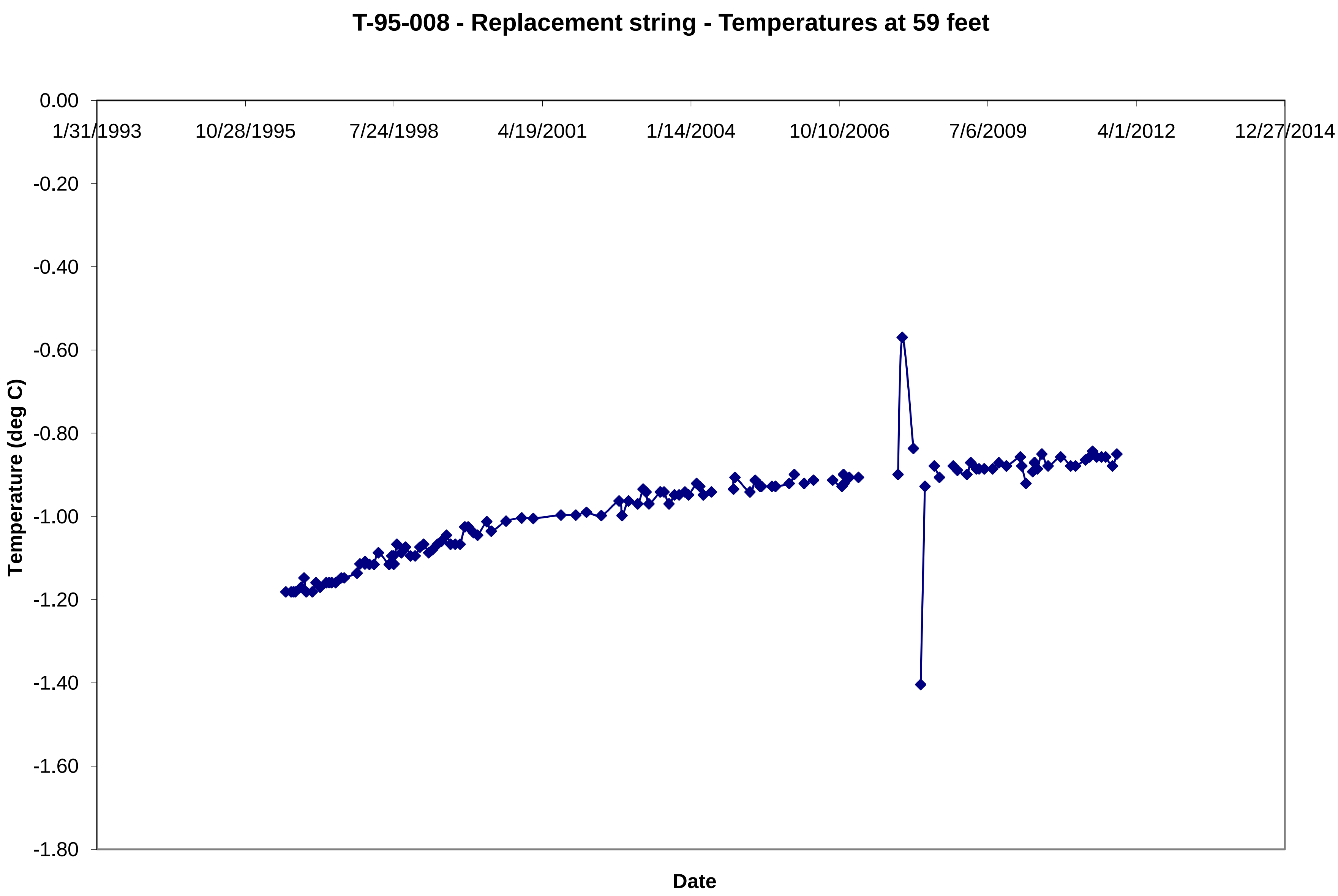
T-95-008 - Replacement string - Temperatures at 51 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

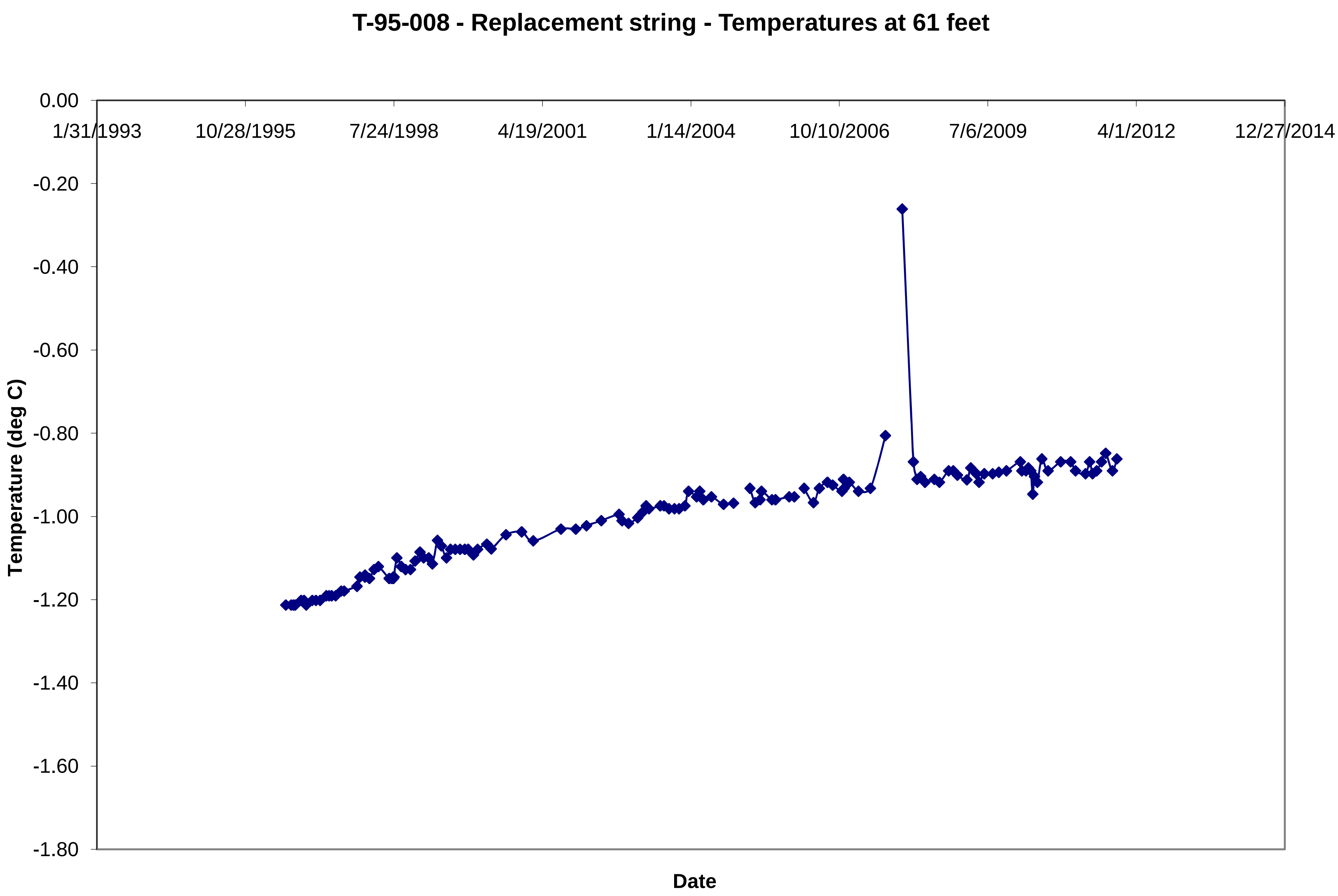


T-95-008 - Replacement string - Temperatures at 53 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
Temperature (deg C)
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

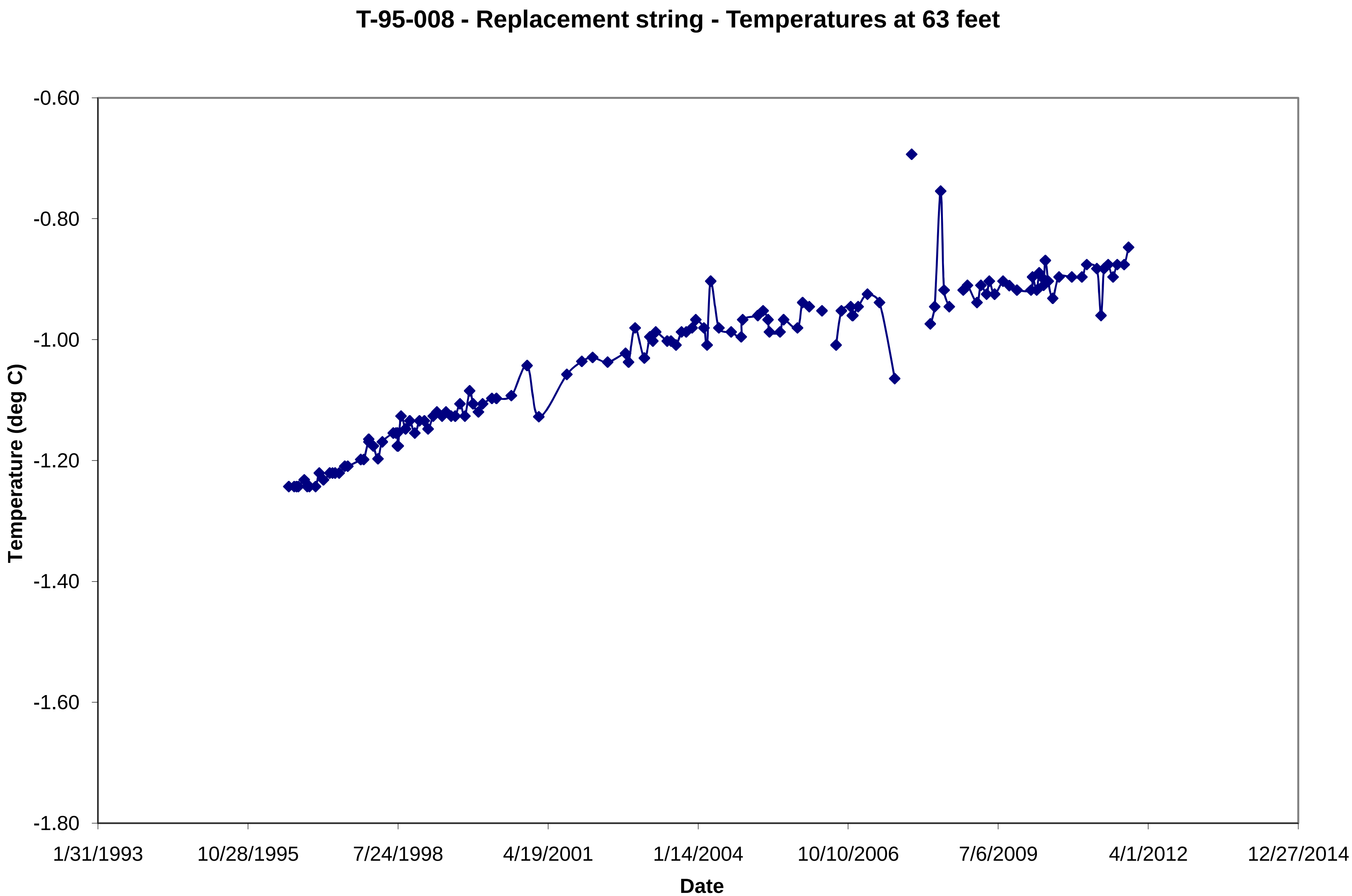

T-95-008 - Replacement string - Temperatures at 55 feet
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
Temperature (deg C)
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-95-008 - Replacement string - Temperatures at 57 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

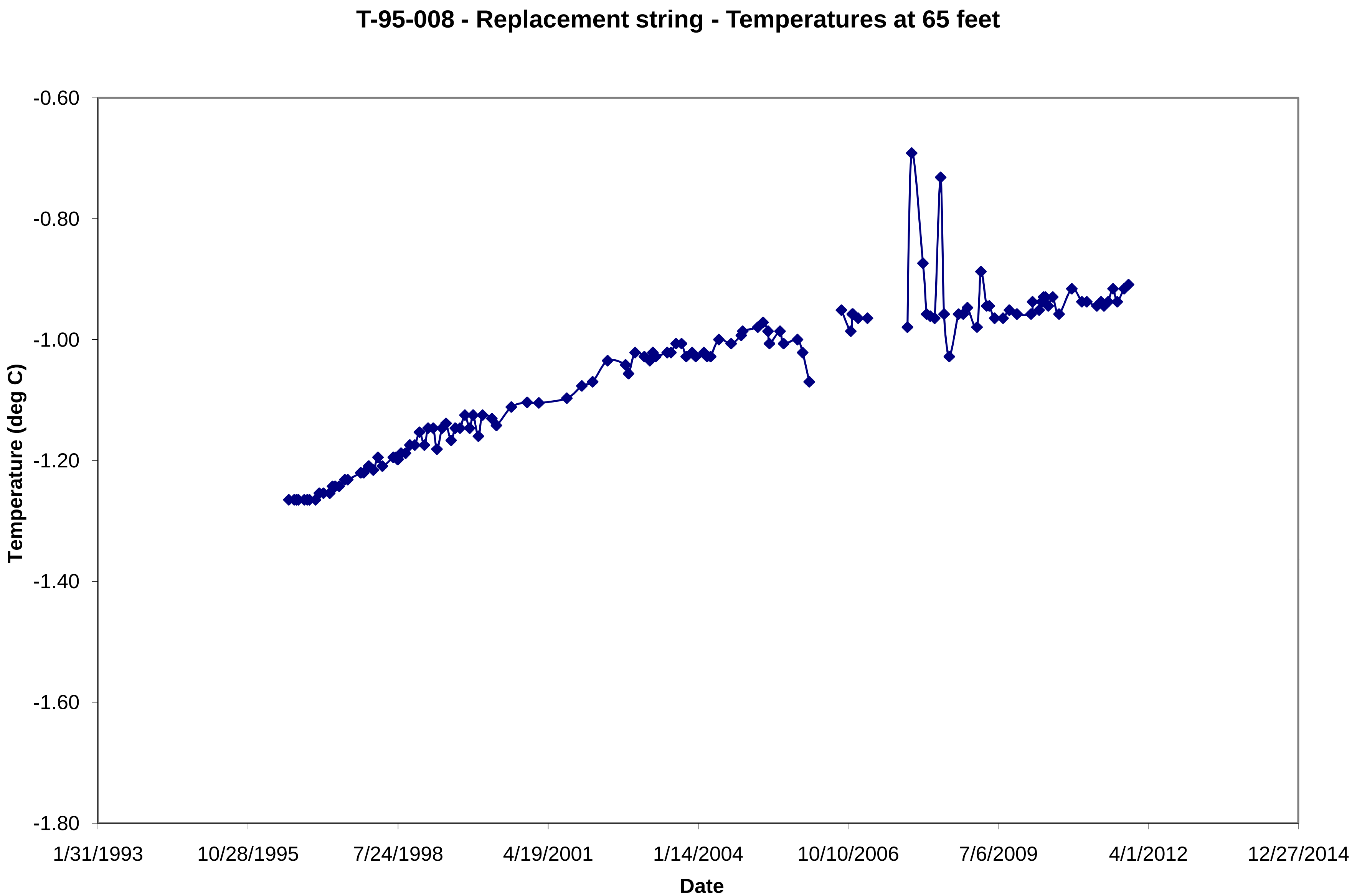

T-95-008 - Replacement string - Temperatures at 59 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date



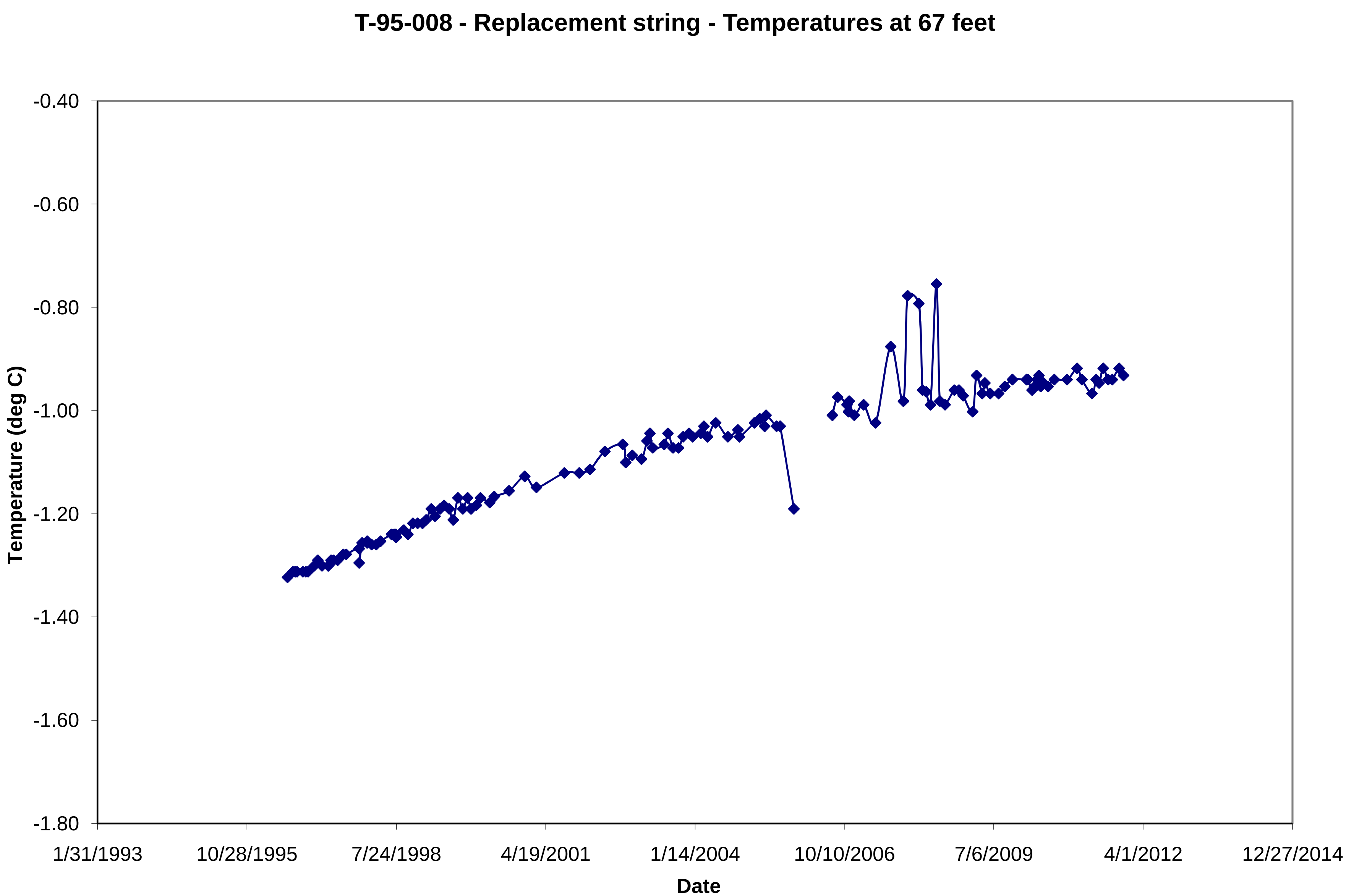
T-95-008 - Replacement string - Temperatures at 61 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

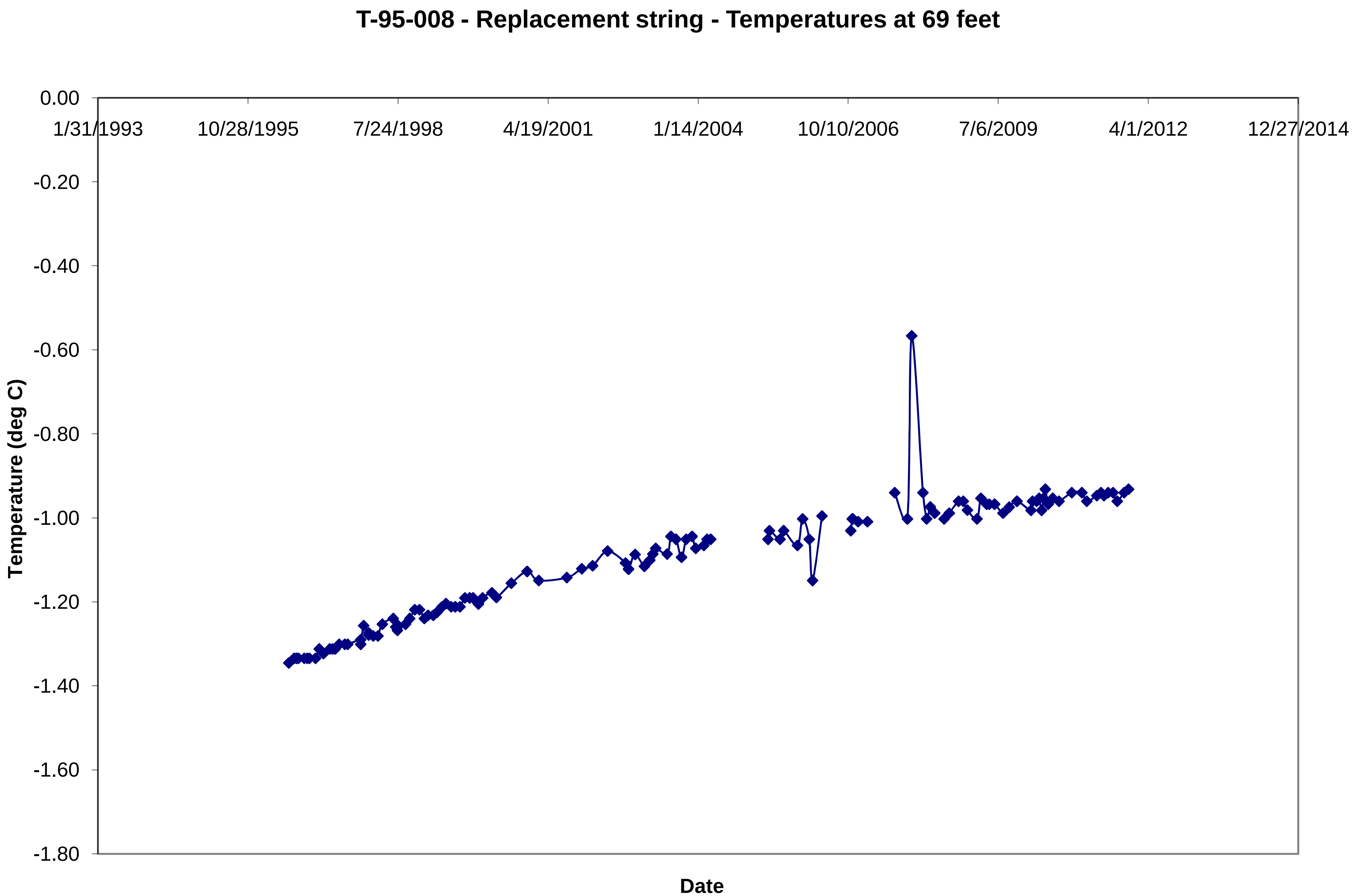


T-95-008 - Replacement string - Temperatures at 63 feet
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
Temperature (deg C)
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

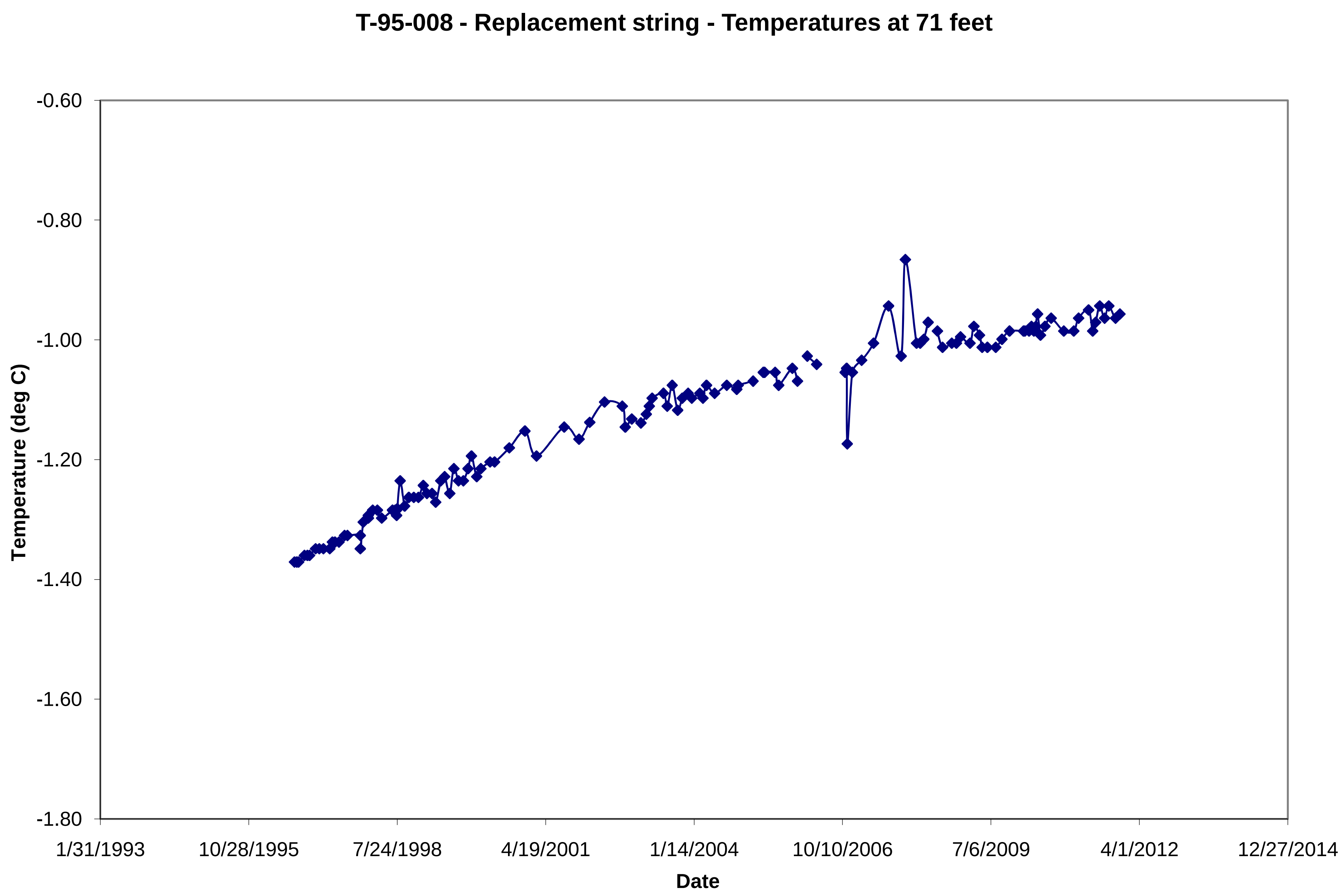


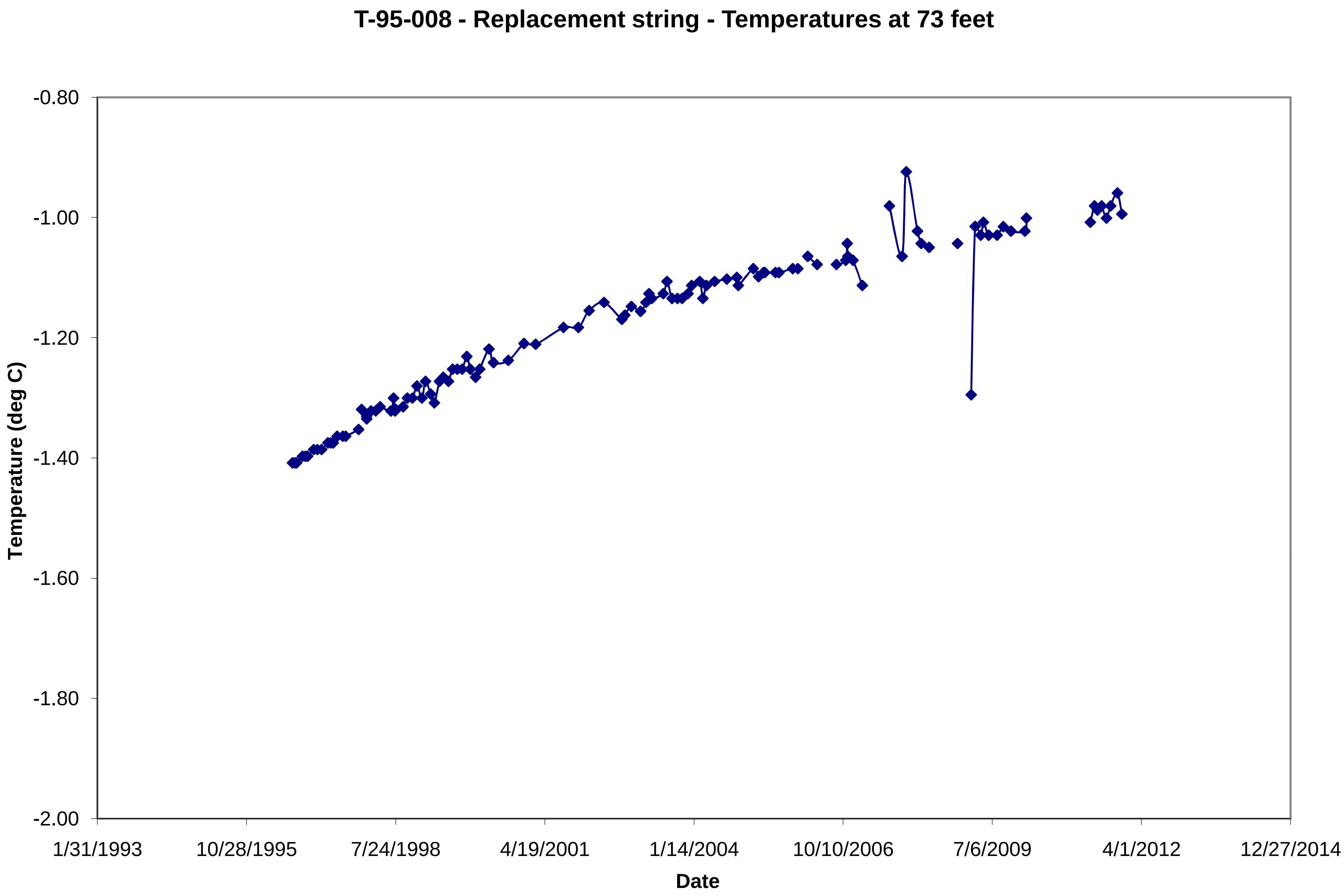
T-95-008 - Replacement string - Temperatures at 65 feet
Temperature (deg C)
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-95-008 - Replacement string - Temperatures at 67 feet
Temperature (deg C)
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

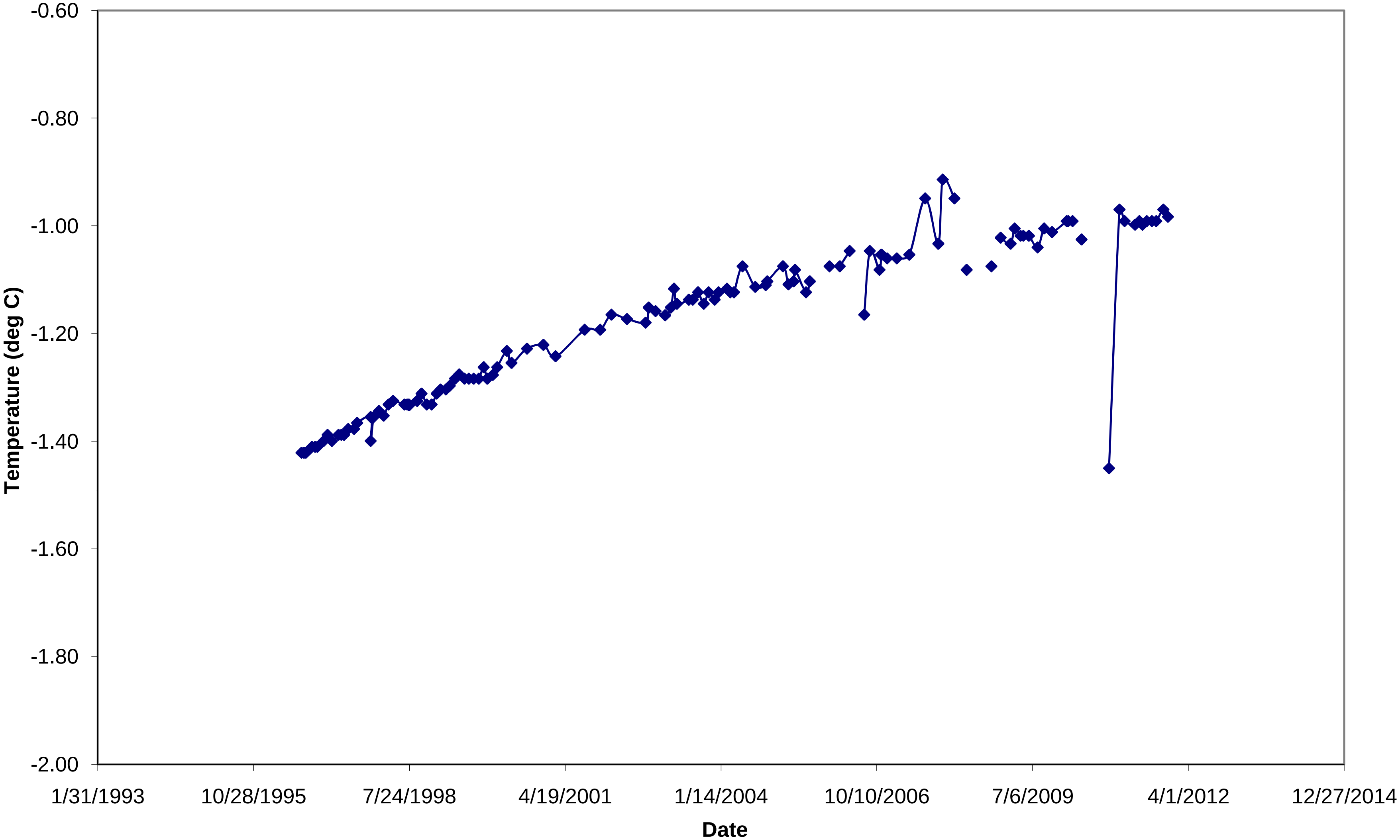


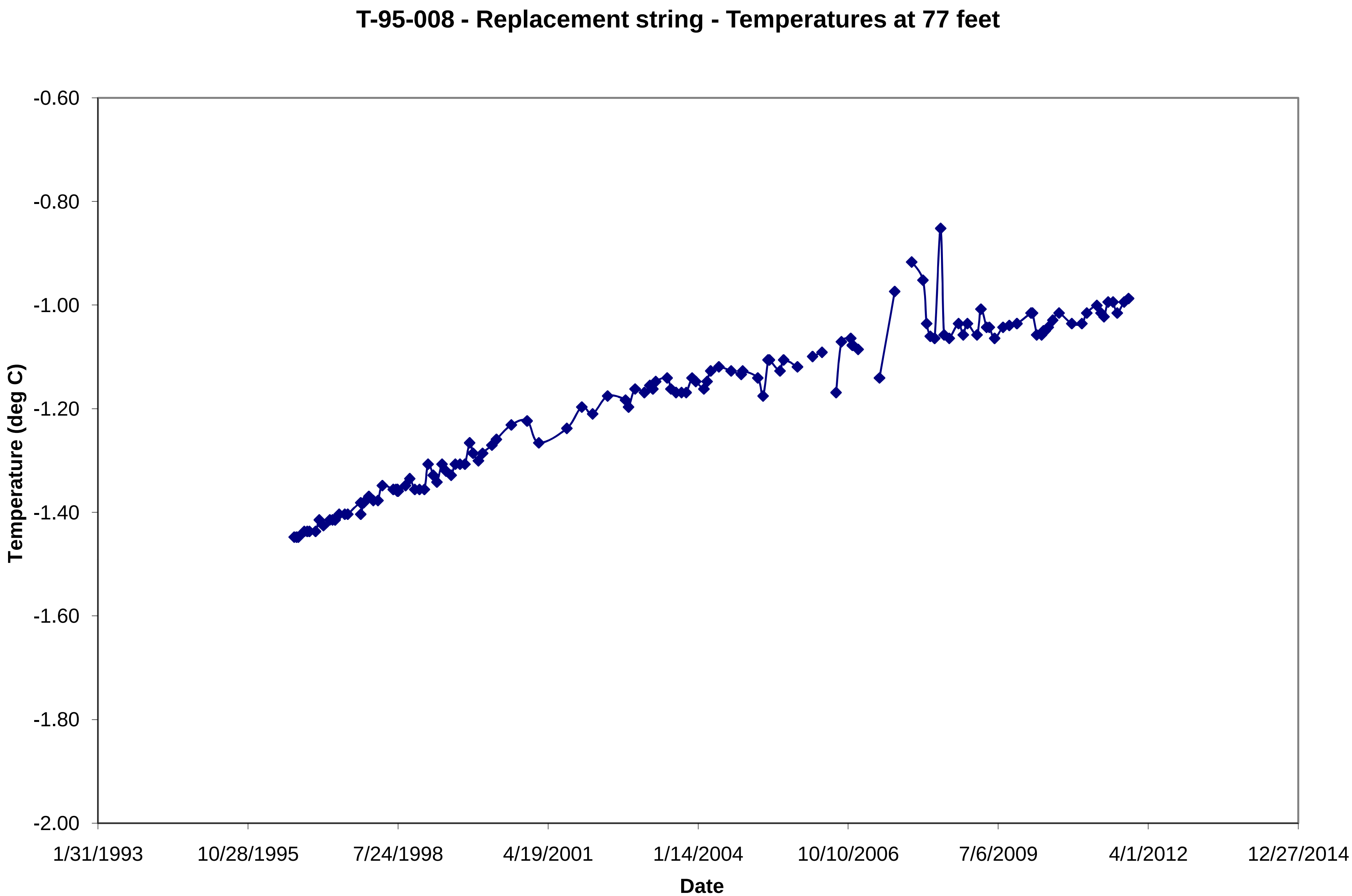
T-95-008 - Replacement string - Temperatures at 69 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

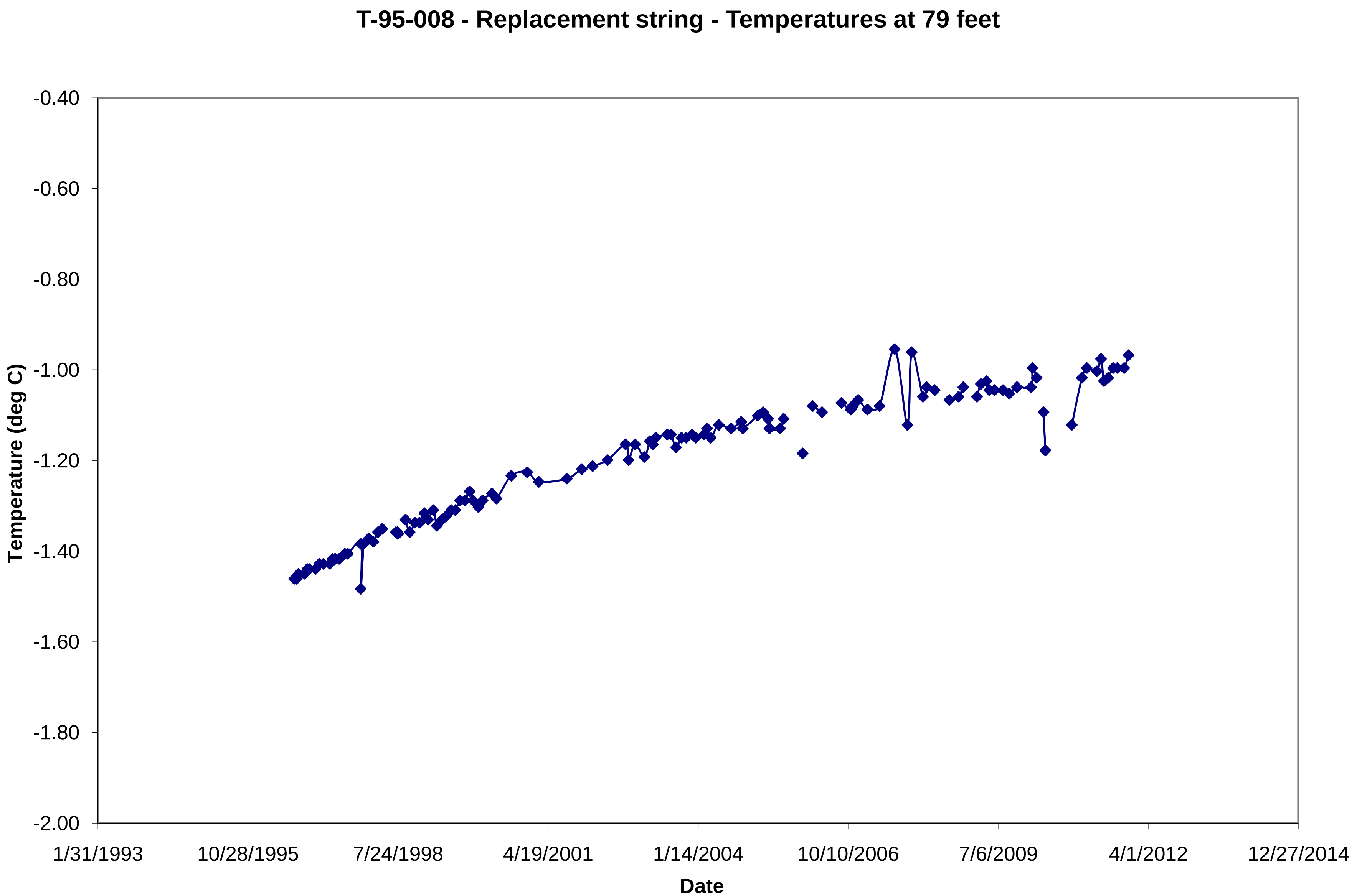

T-95-008 - Replacement string - Temperatures at 71 feet
Temperature (deg C)
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-95-008 - Replacement string - Temperatures at 73 feet
Temperature (deg C)
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

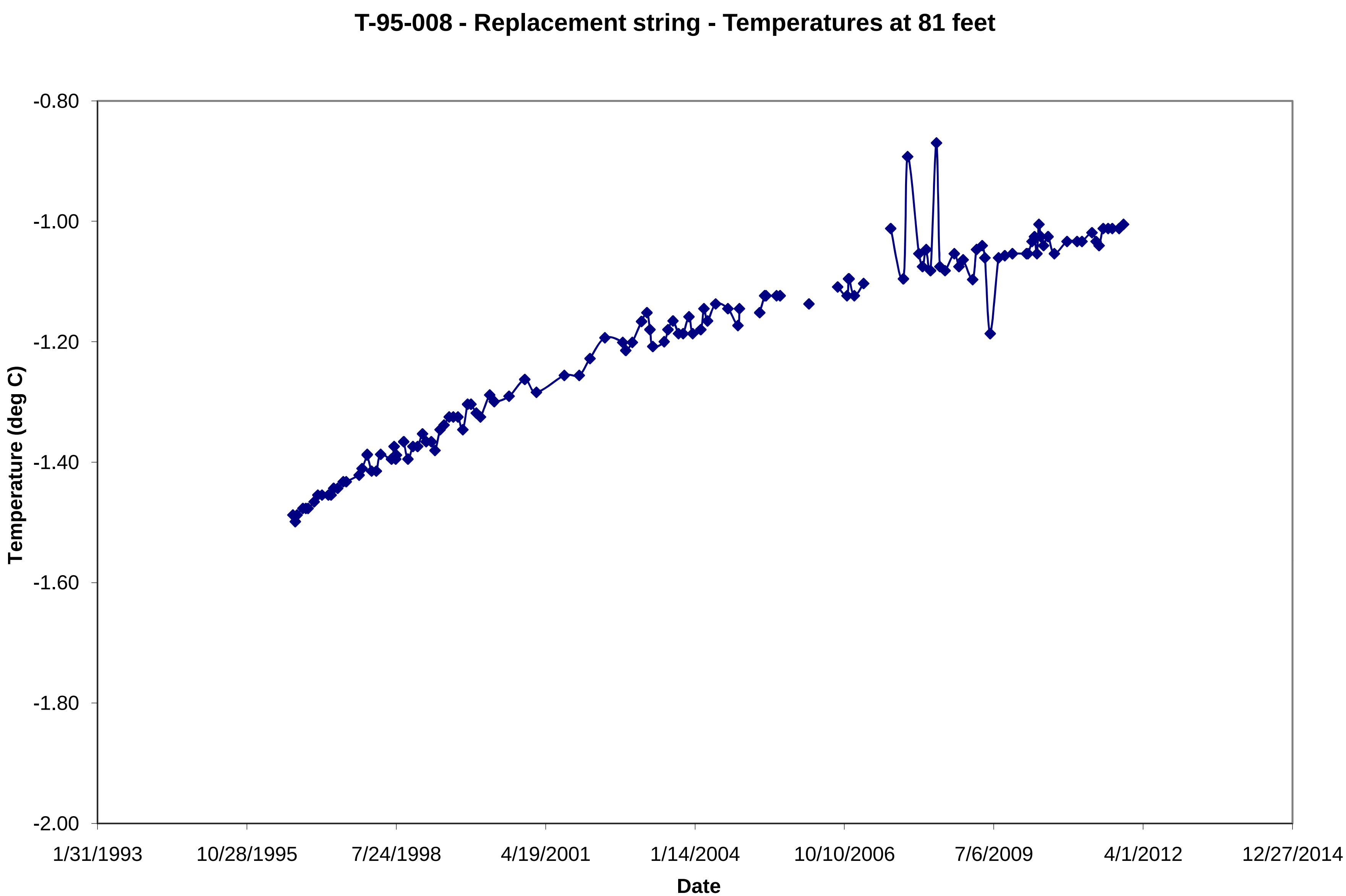
T-95-008 - Replacement string - Temperatures at 75 feet

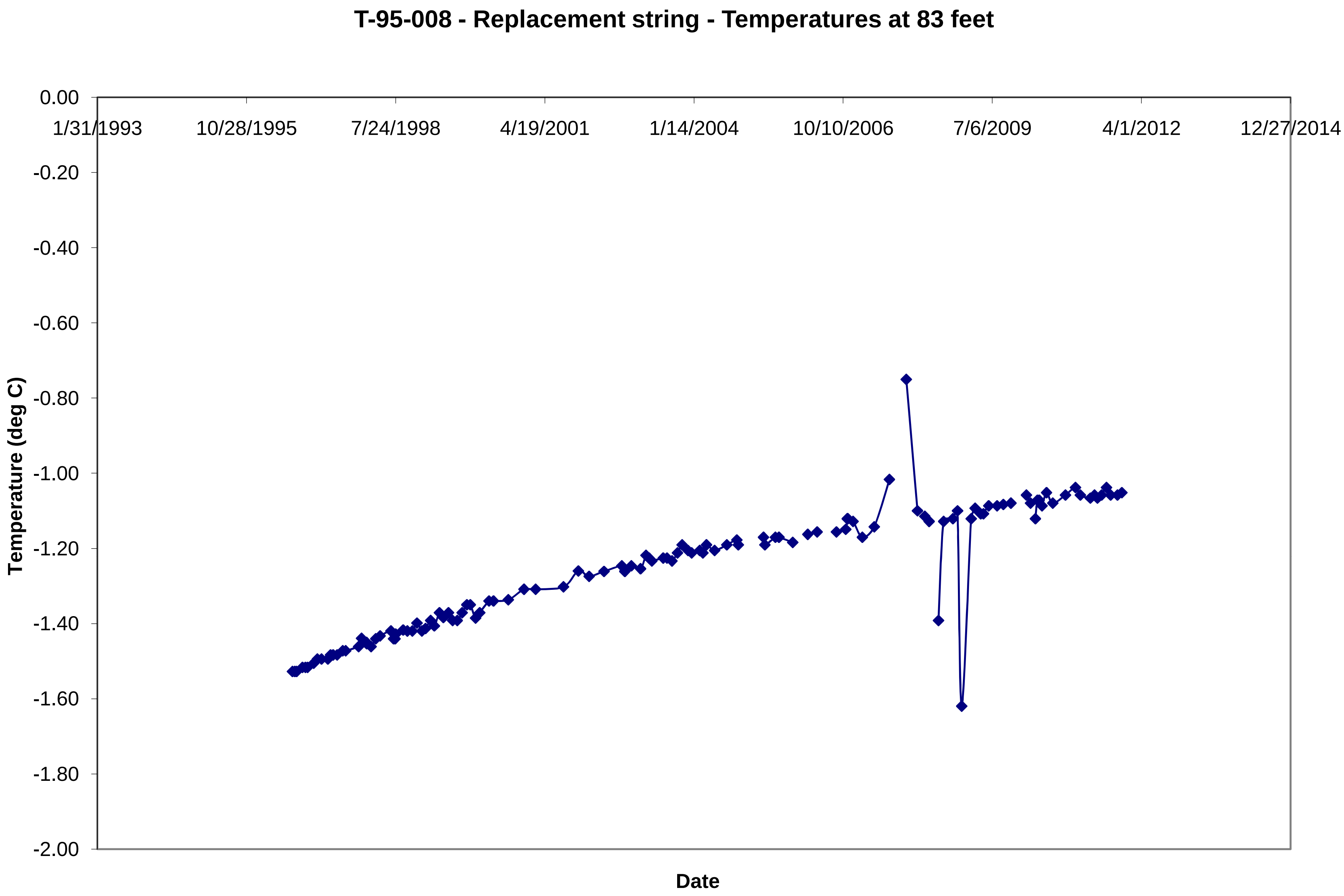



T-95-008 - Replacement string - Temperatures at 77 feet
Temperature (deg C)
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

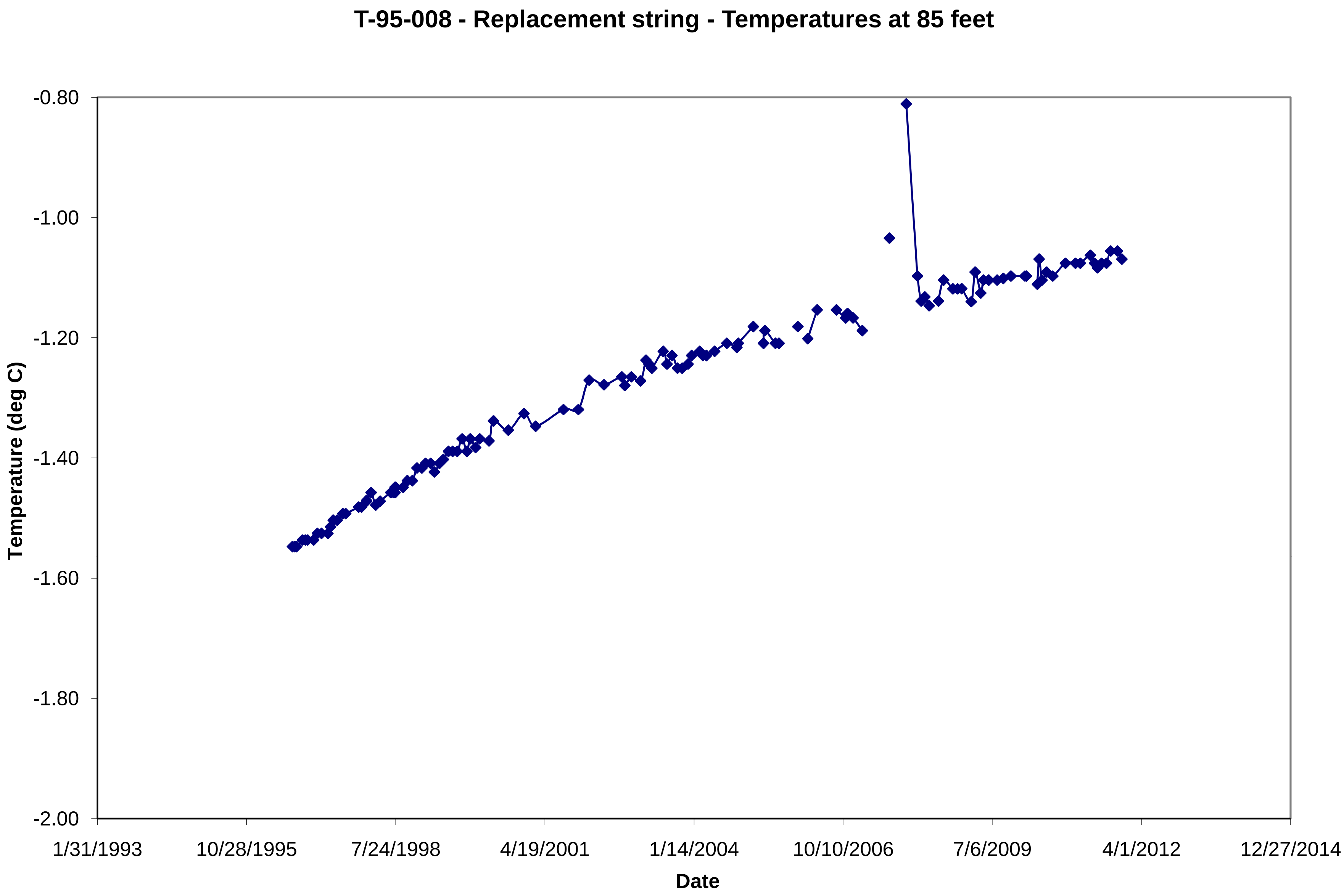


T-95-008 - Replacement string - Temperatures at 79 feet
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
Temperature (deg C)
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-95-008 - Replacement string - Temperatures at 81 feet
Temperature (deg C)
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

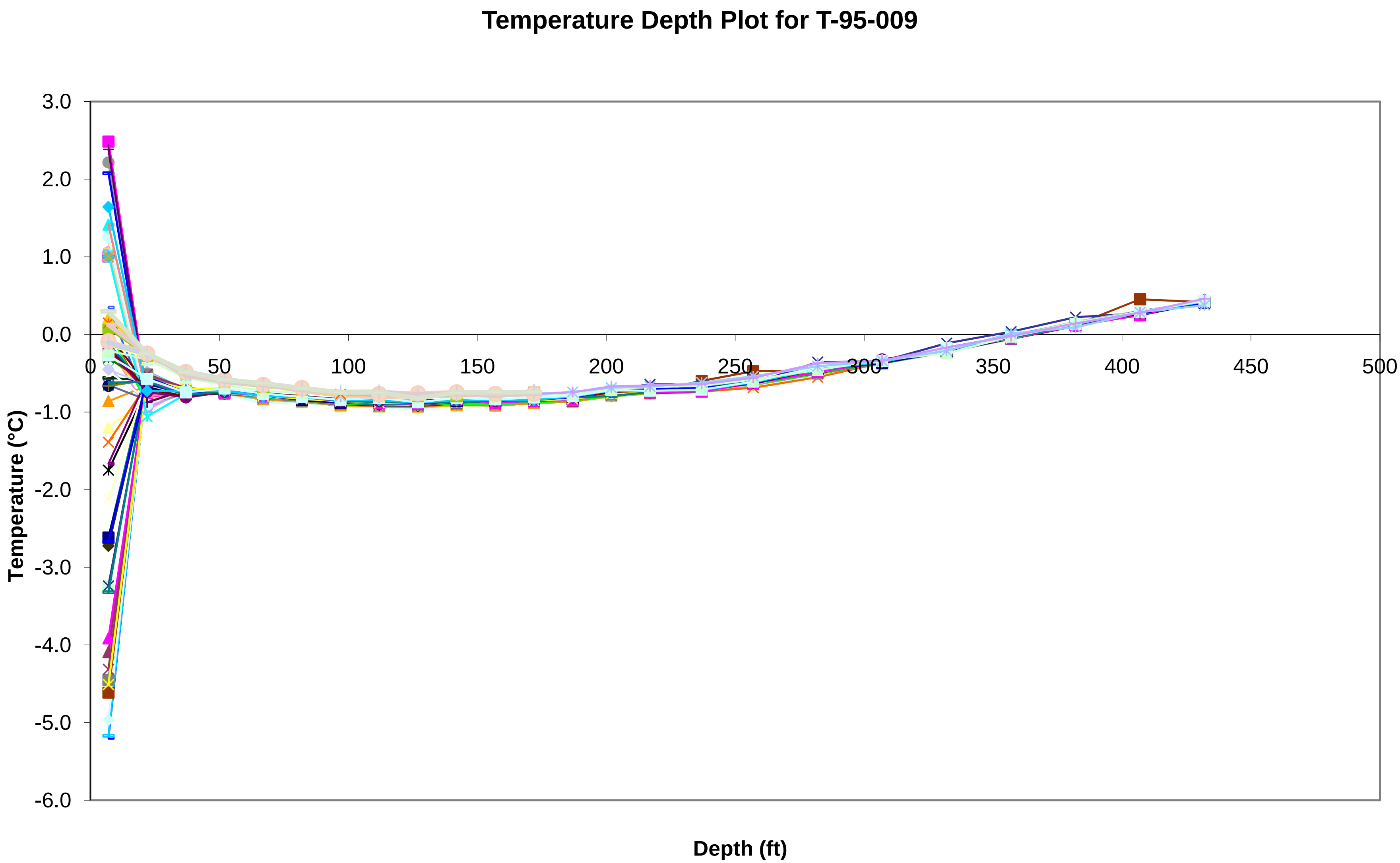


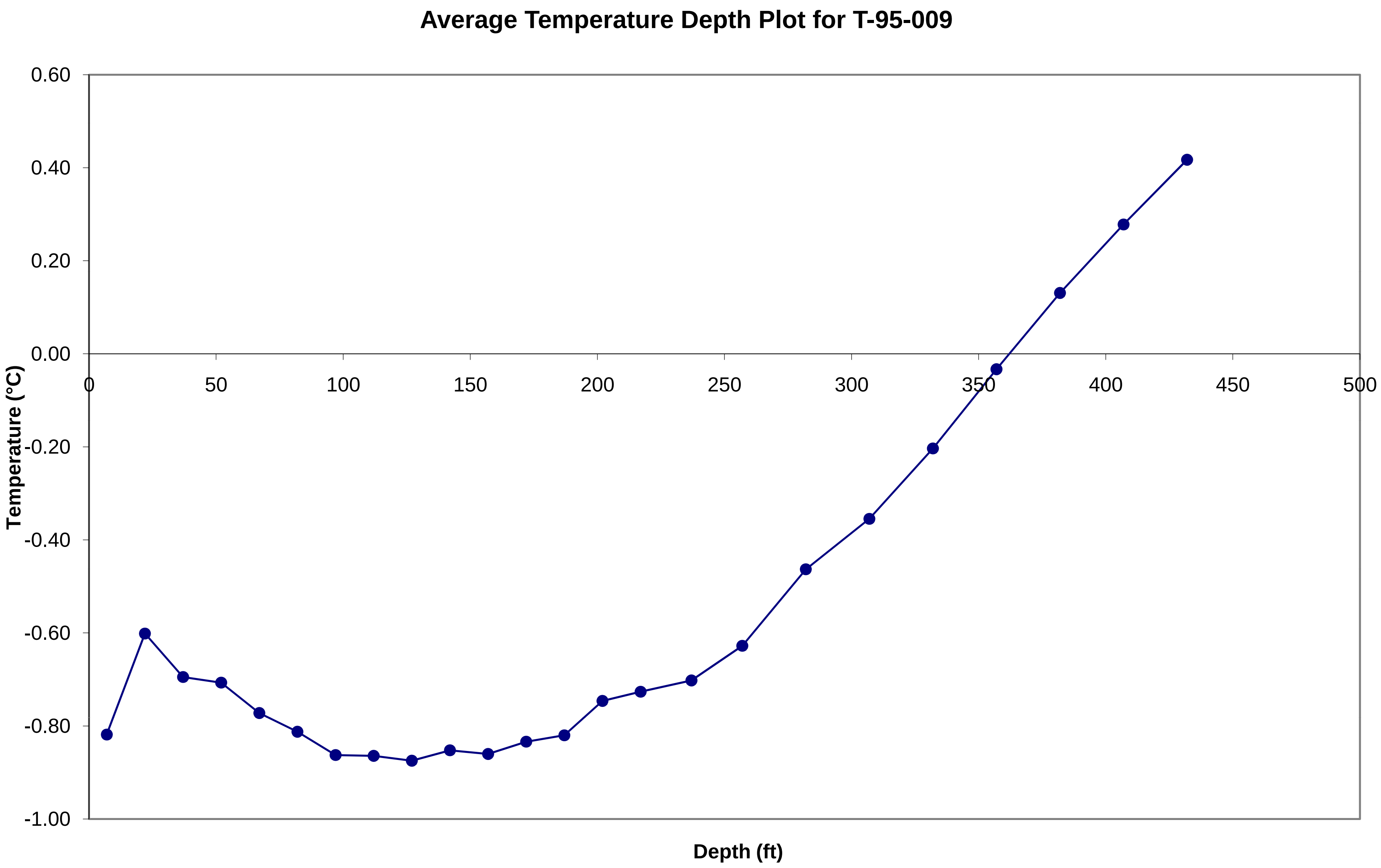
T-95-008 - Replacement string - Temperatures at 83 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date



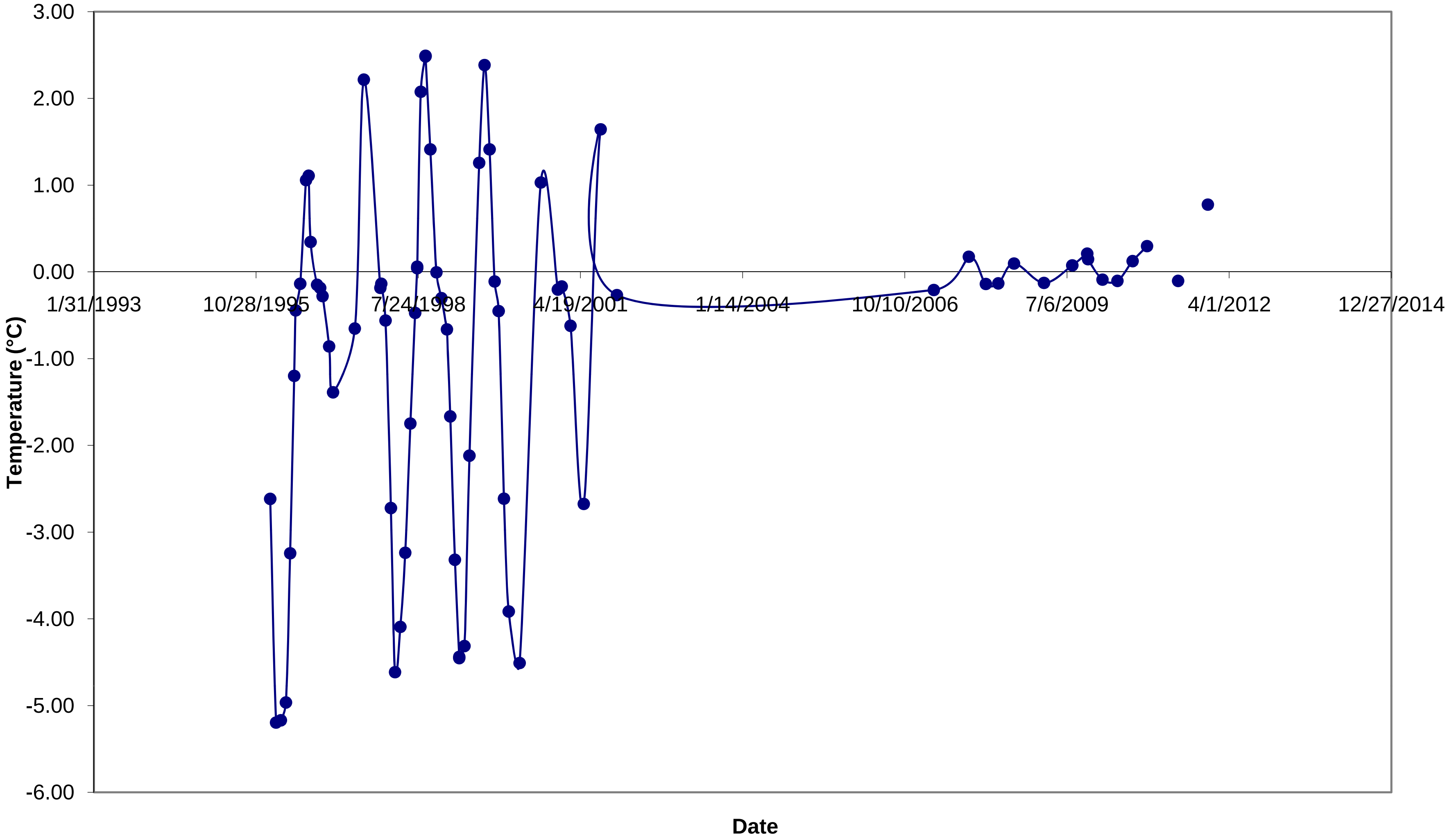
T-95-008 - Replacement string - Temperatures at 85 feet
Temperature (deg C)
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

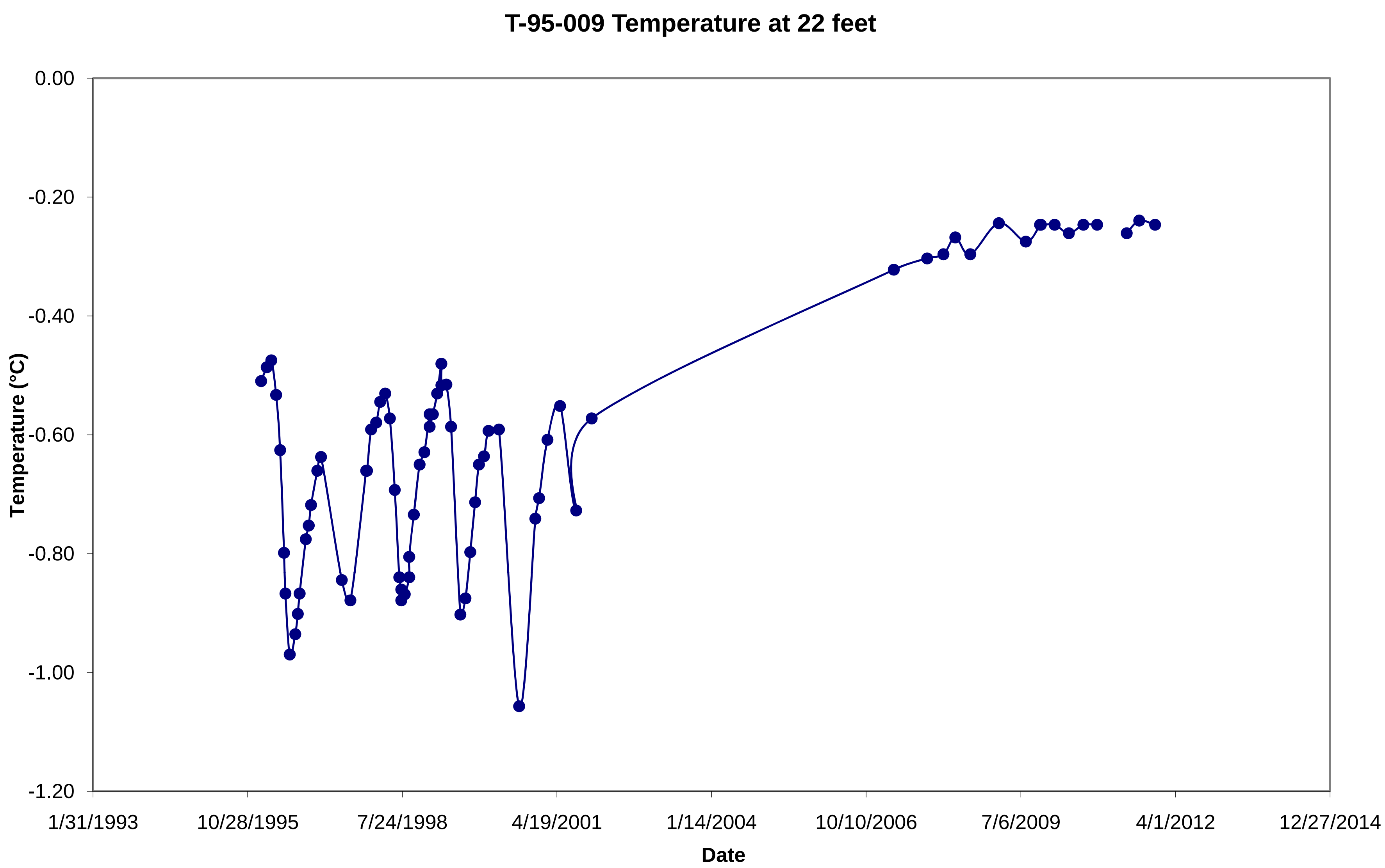
T-95-009


Temperature Depth Plot for T-95-009
3.0
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
-6.0
Temperature (°C)
0
50
100
150
200
250
300
350
400
450
500
Depth (ft)


Average Temperature Depth Plot for T-95-009
Temperature (°C)
Depth (ft)
0.60
0.40
0.20
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
0
50
100
150
200
250
300
350
400
450
500

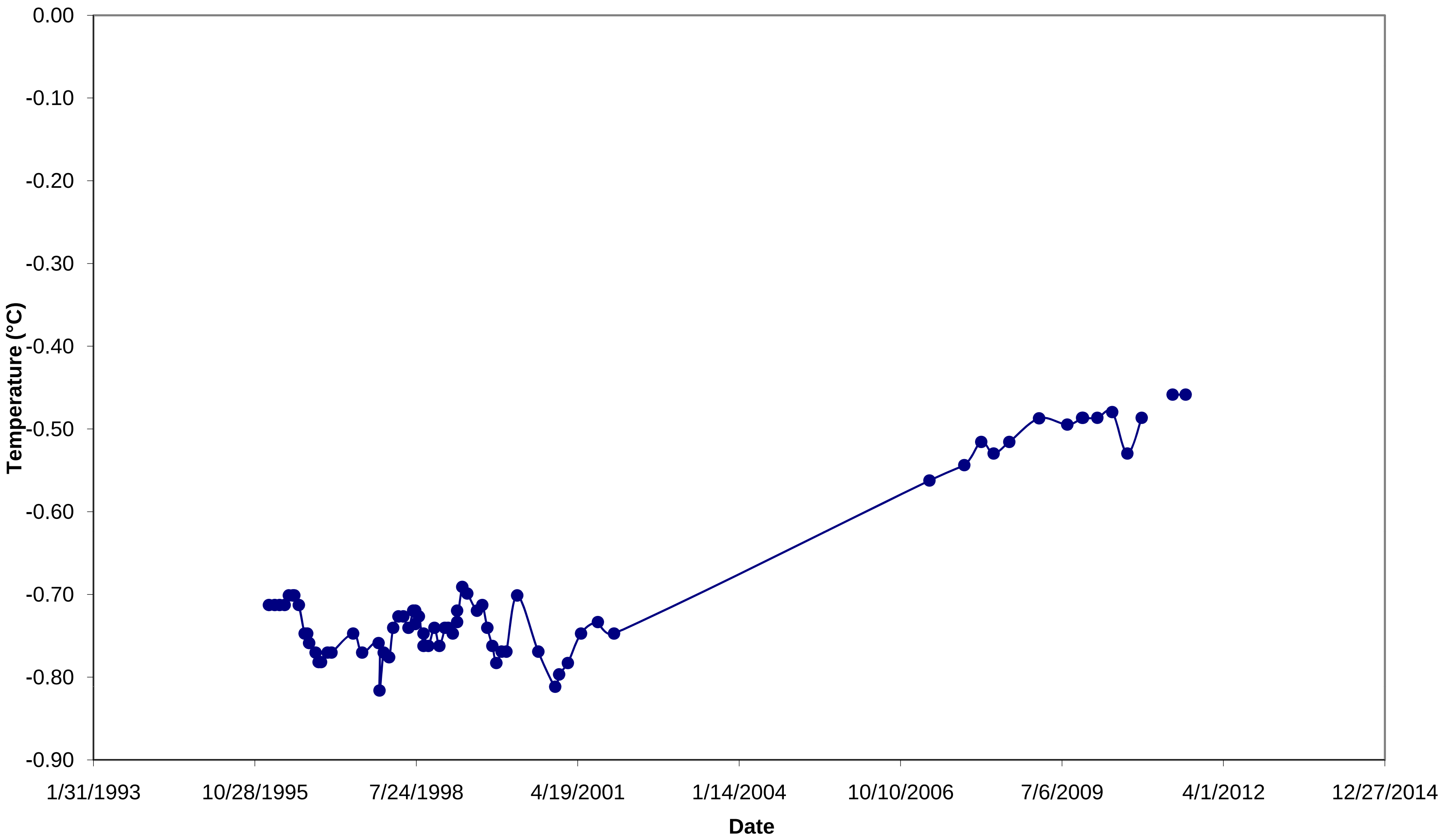
T-95-009 Temperature at 7 feet

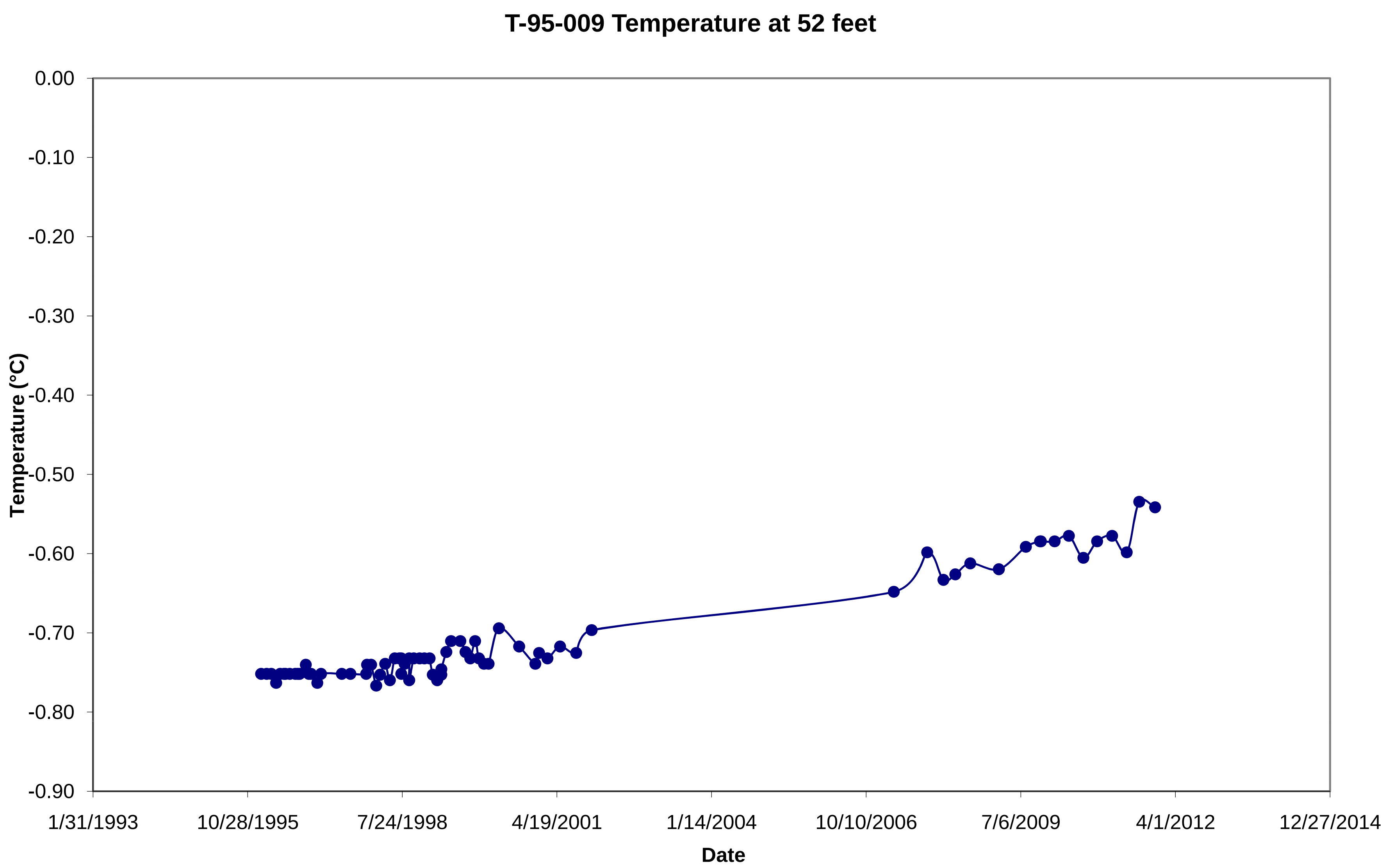


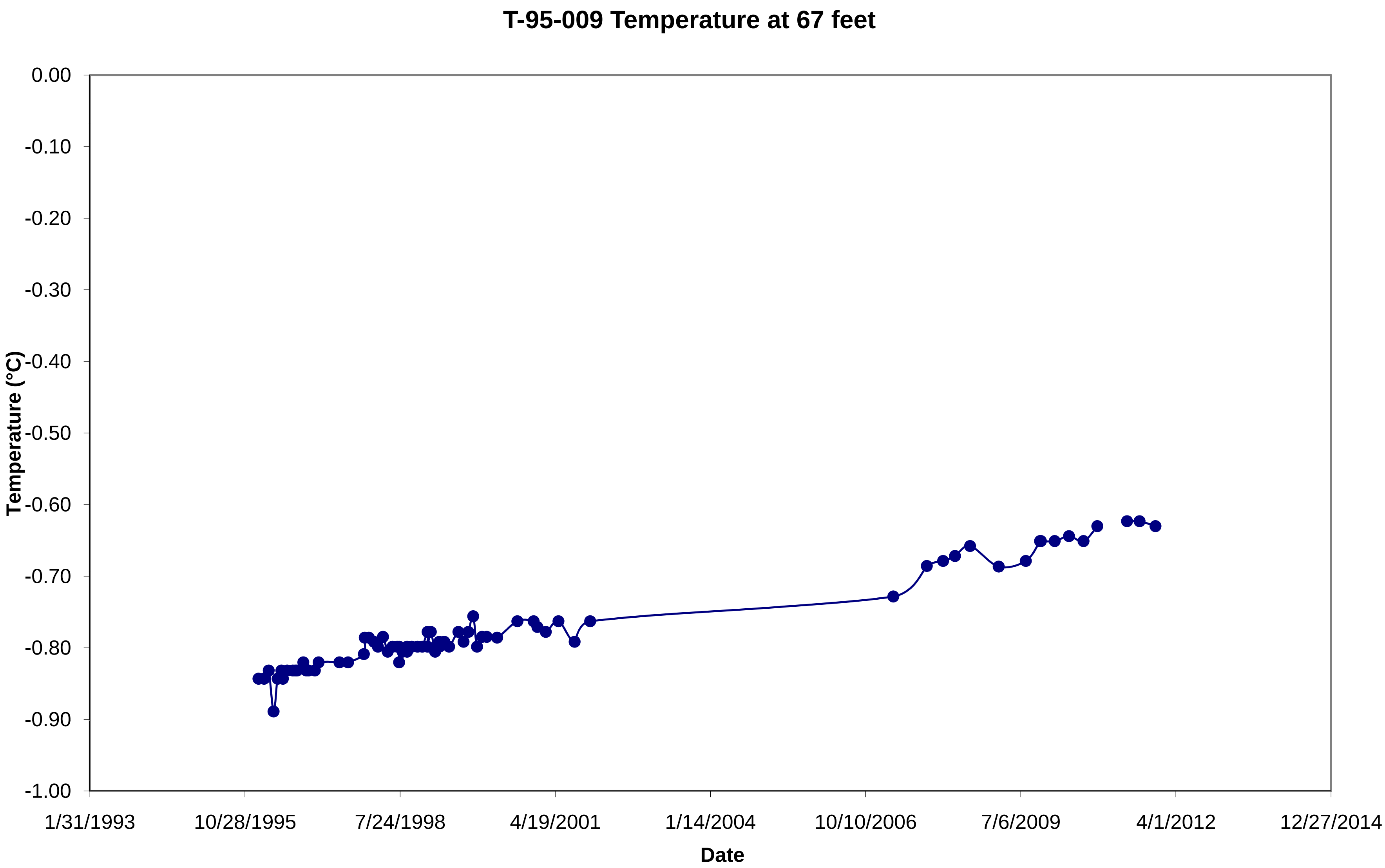


T-95-009 Temperature at 22 feet
Temperature (°C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

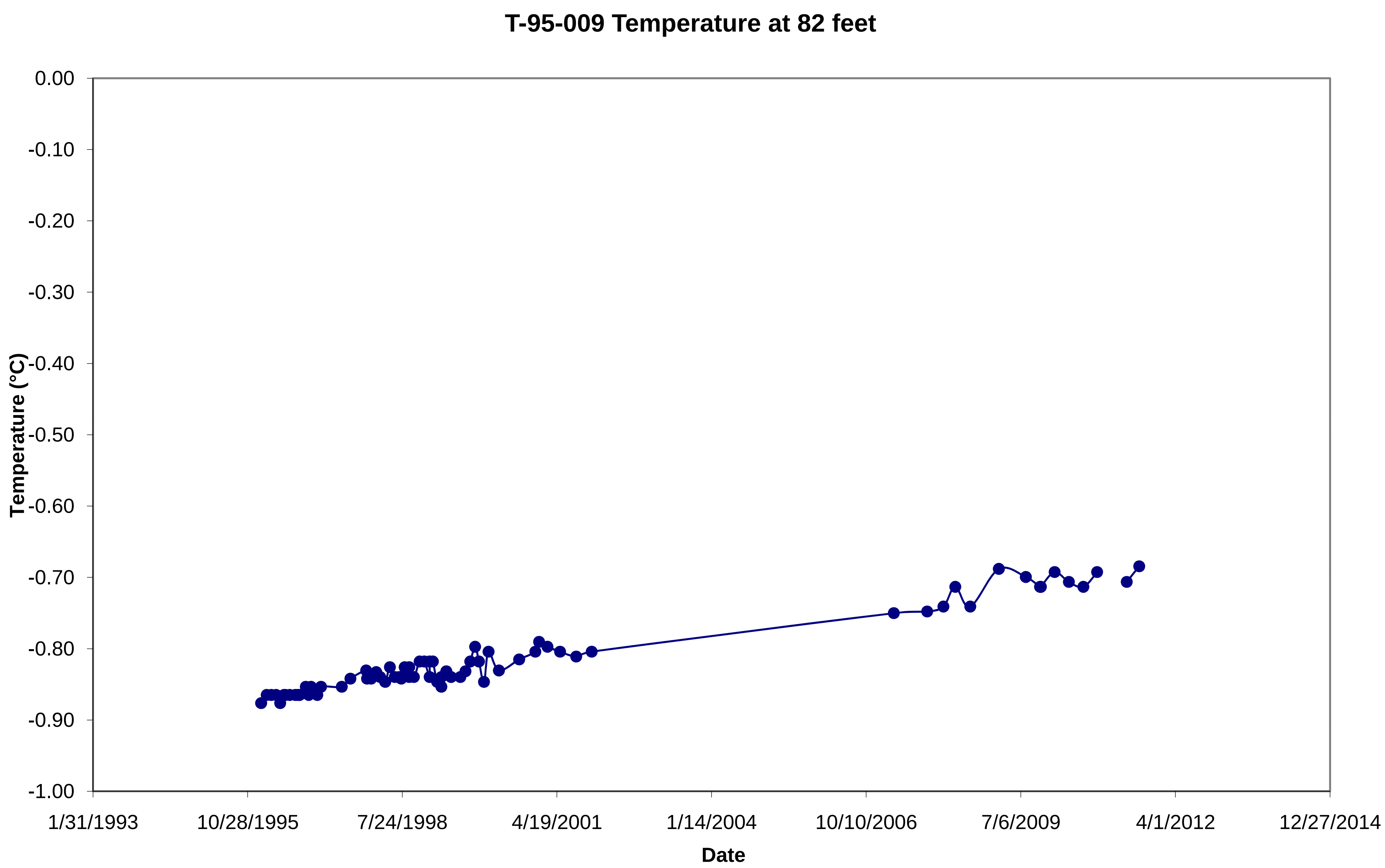
T-95-009 Temperature at 37 feet




T-95-009 Temperature at 52 feet
Temperature (°C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

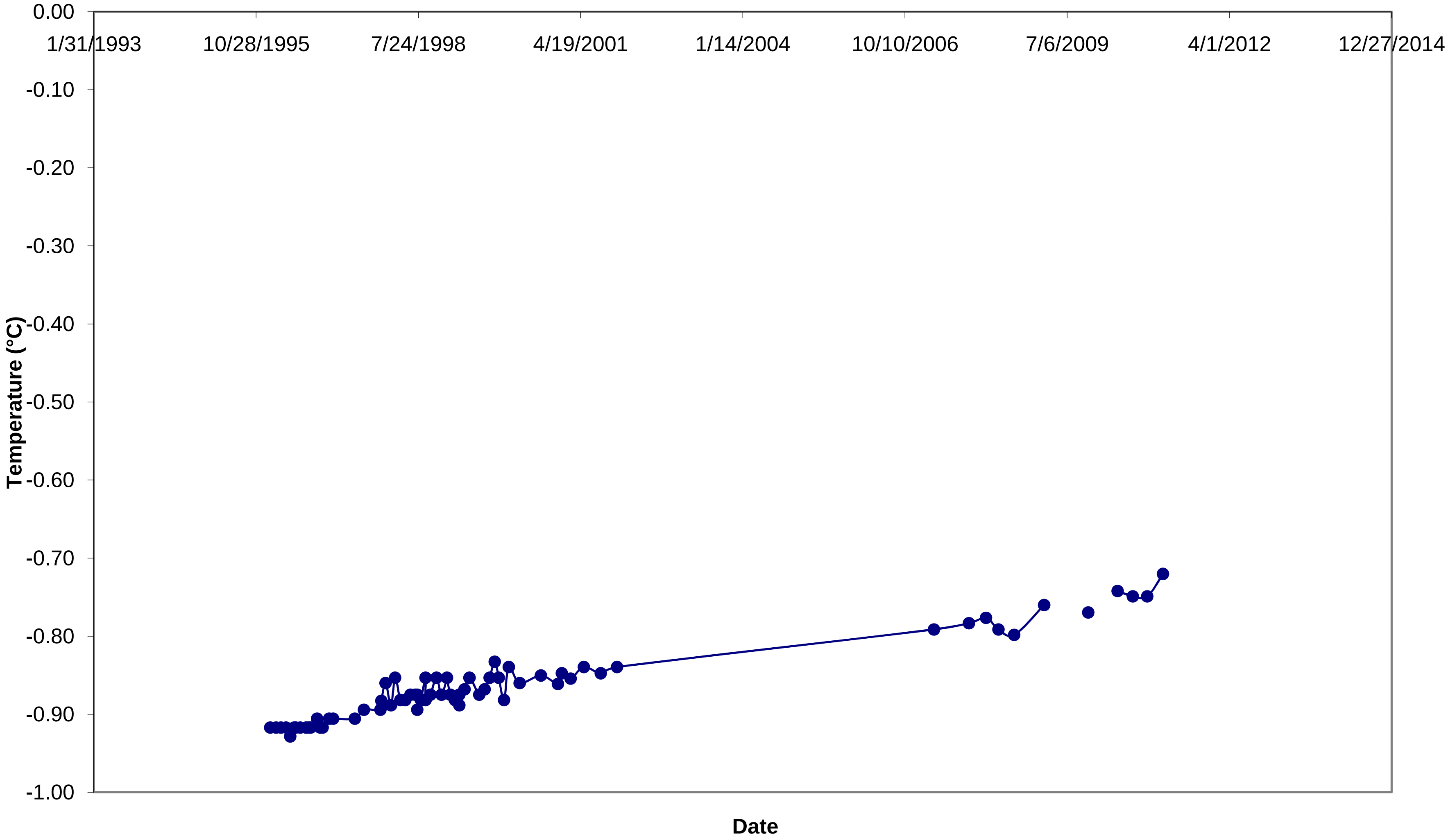


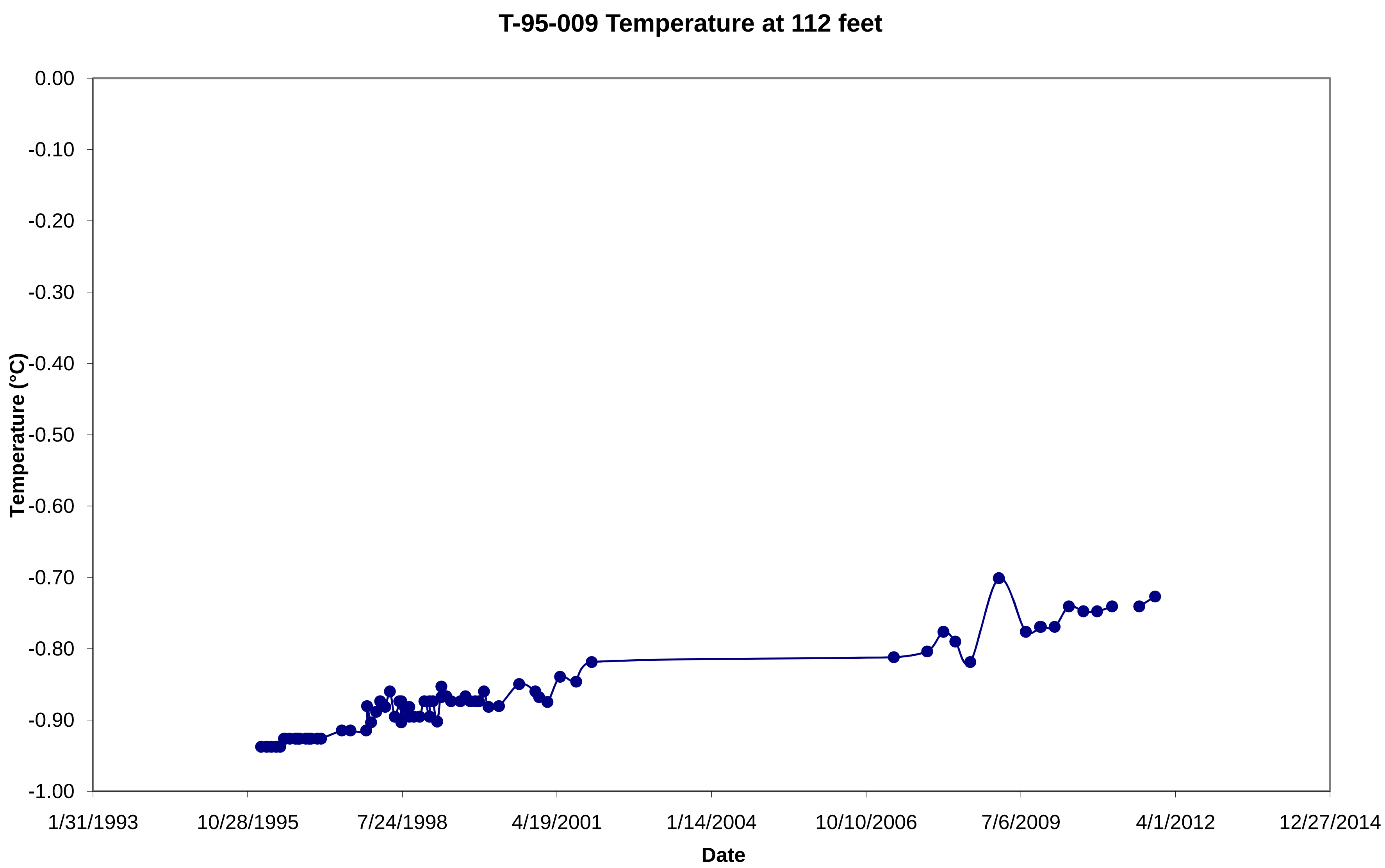
T-95-009 Temperature at 67 feet
Temperature (°C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
-1.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



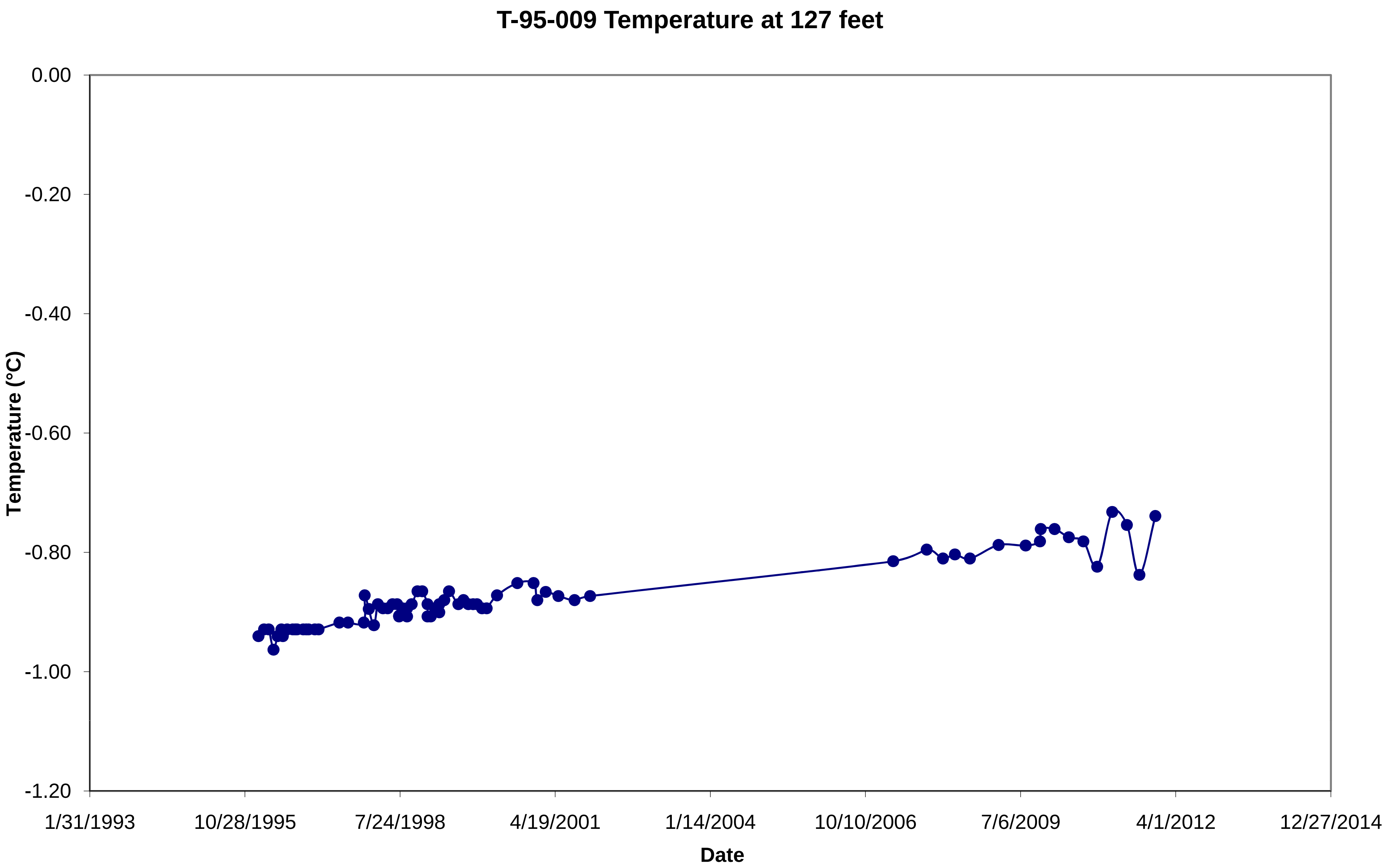
T-95-009 Temperature at 82 feet
Temperature (°C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
-1.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

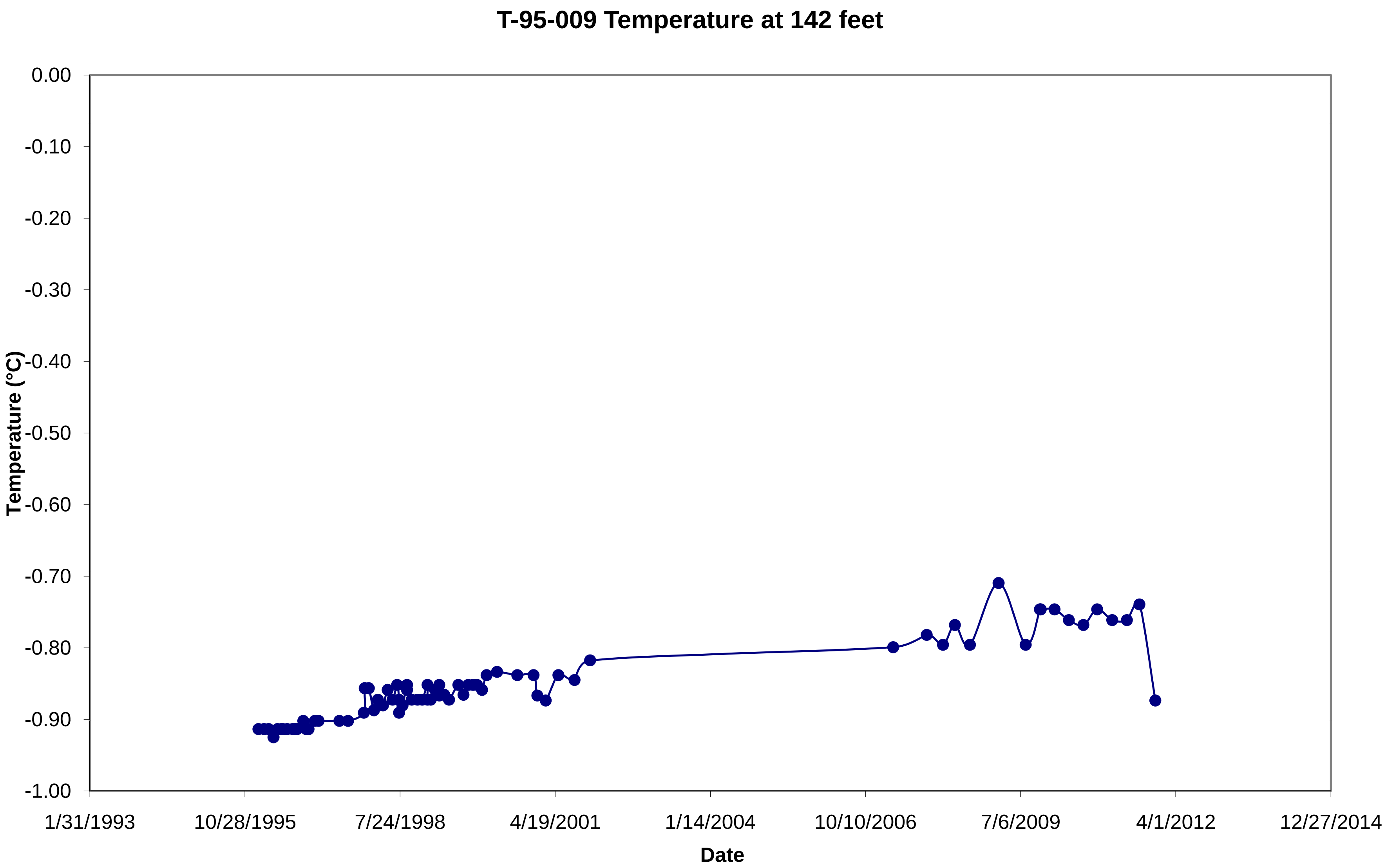
T-95-009 Temperature at 97 feet



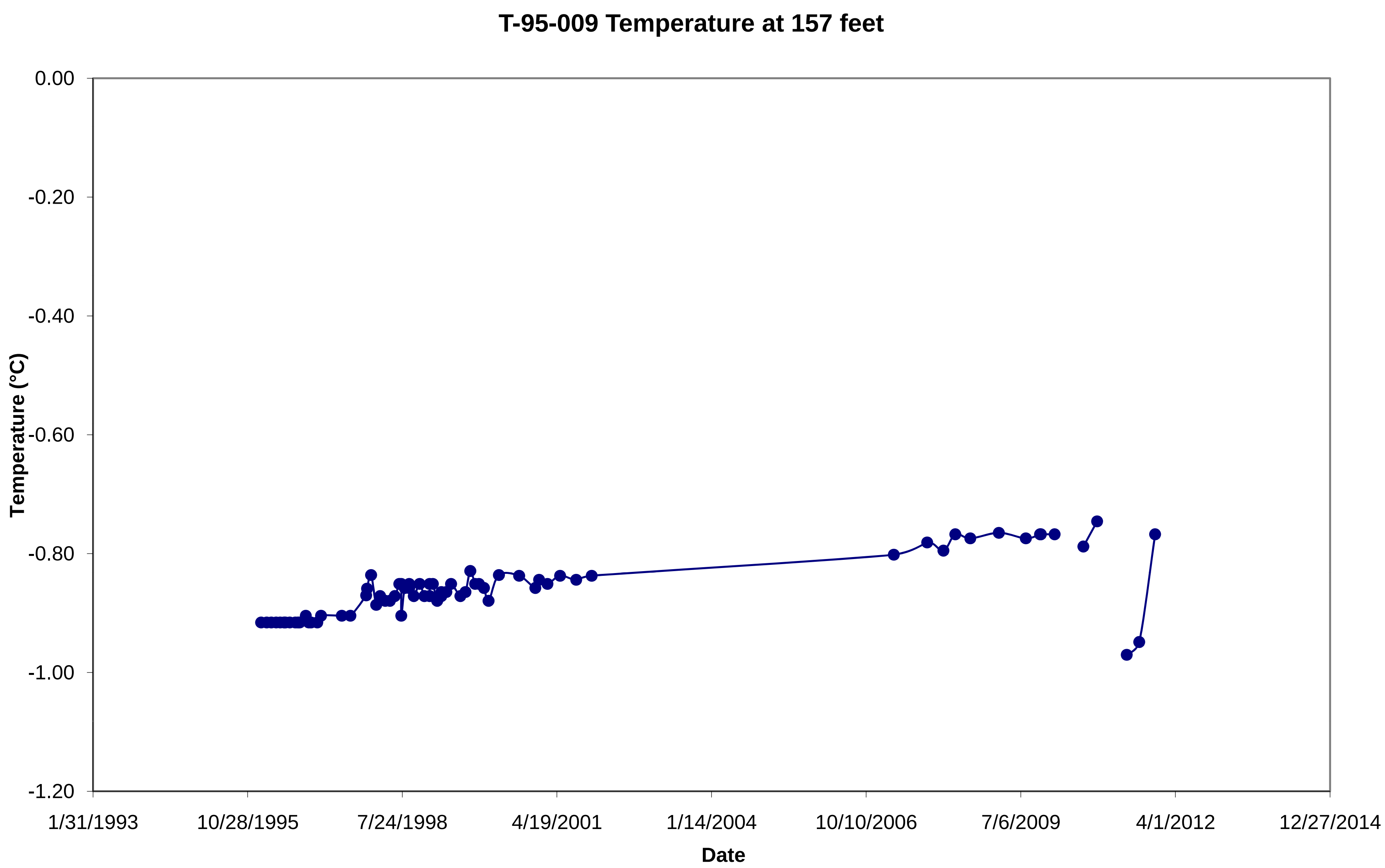


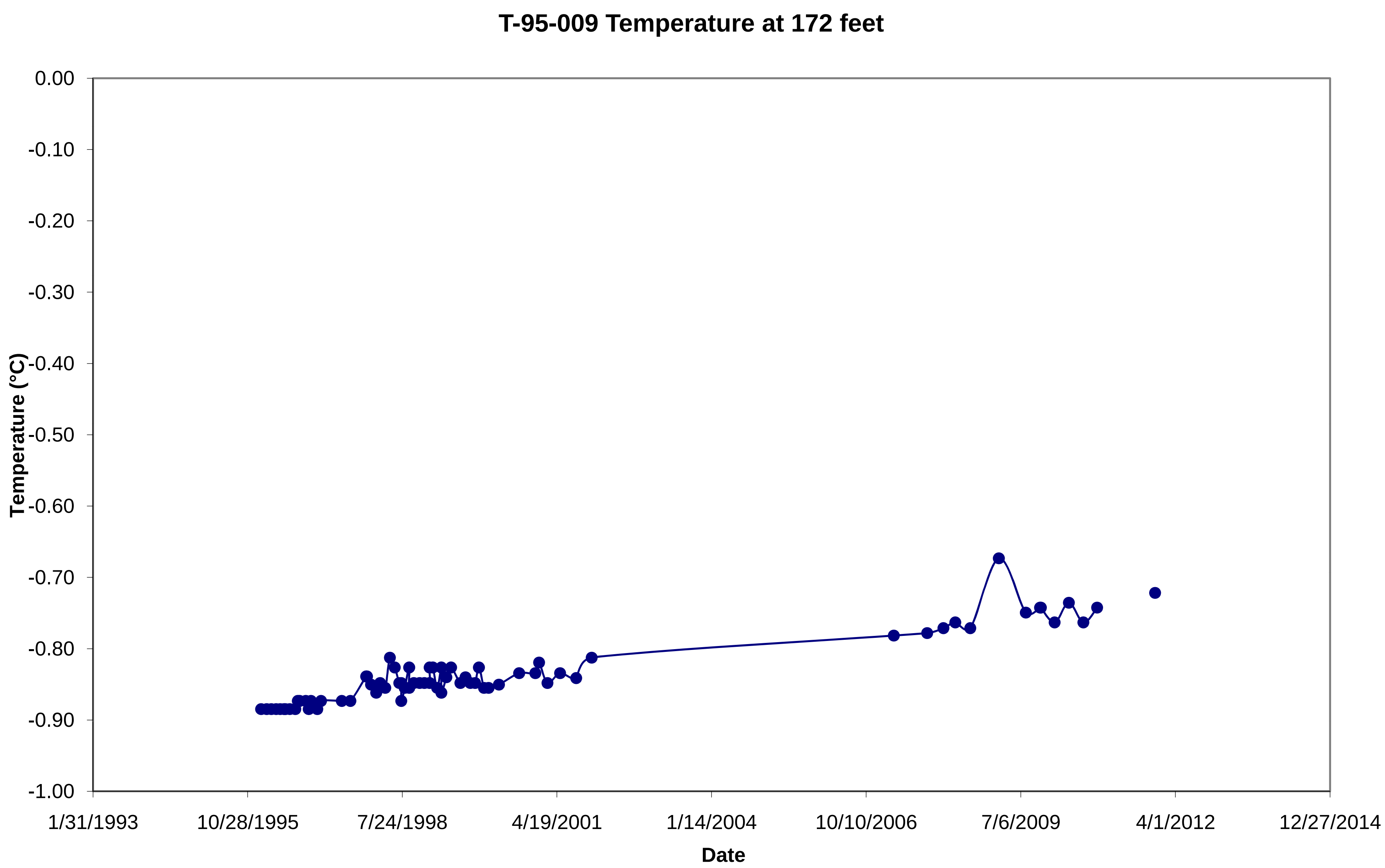
T-95-009 Temperature at 112 feet
Temperature (°C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
-1.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-95-009 Temperature at 127 feet
Temperature (°C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

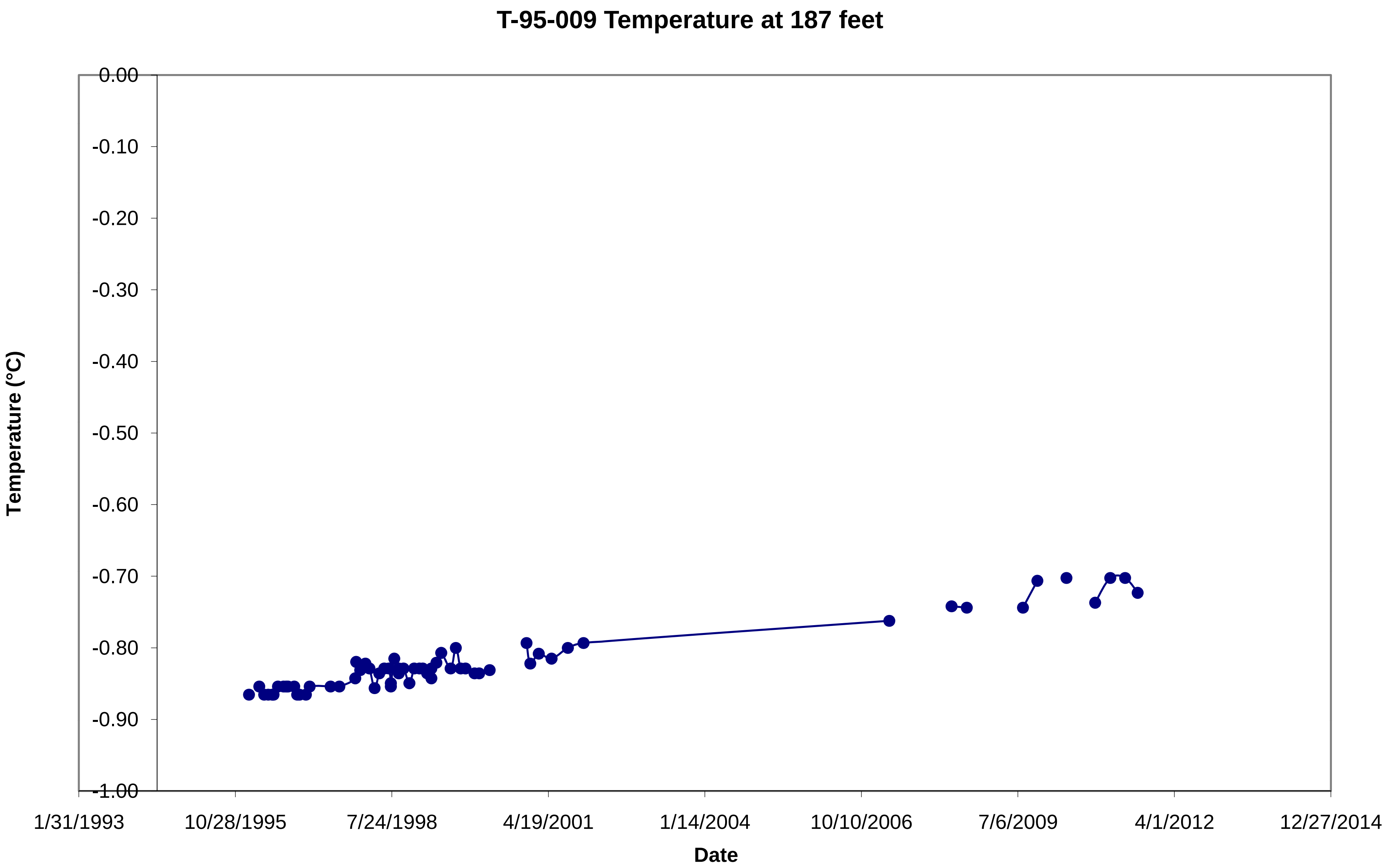


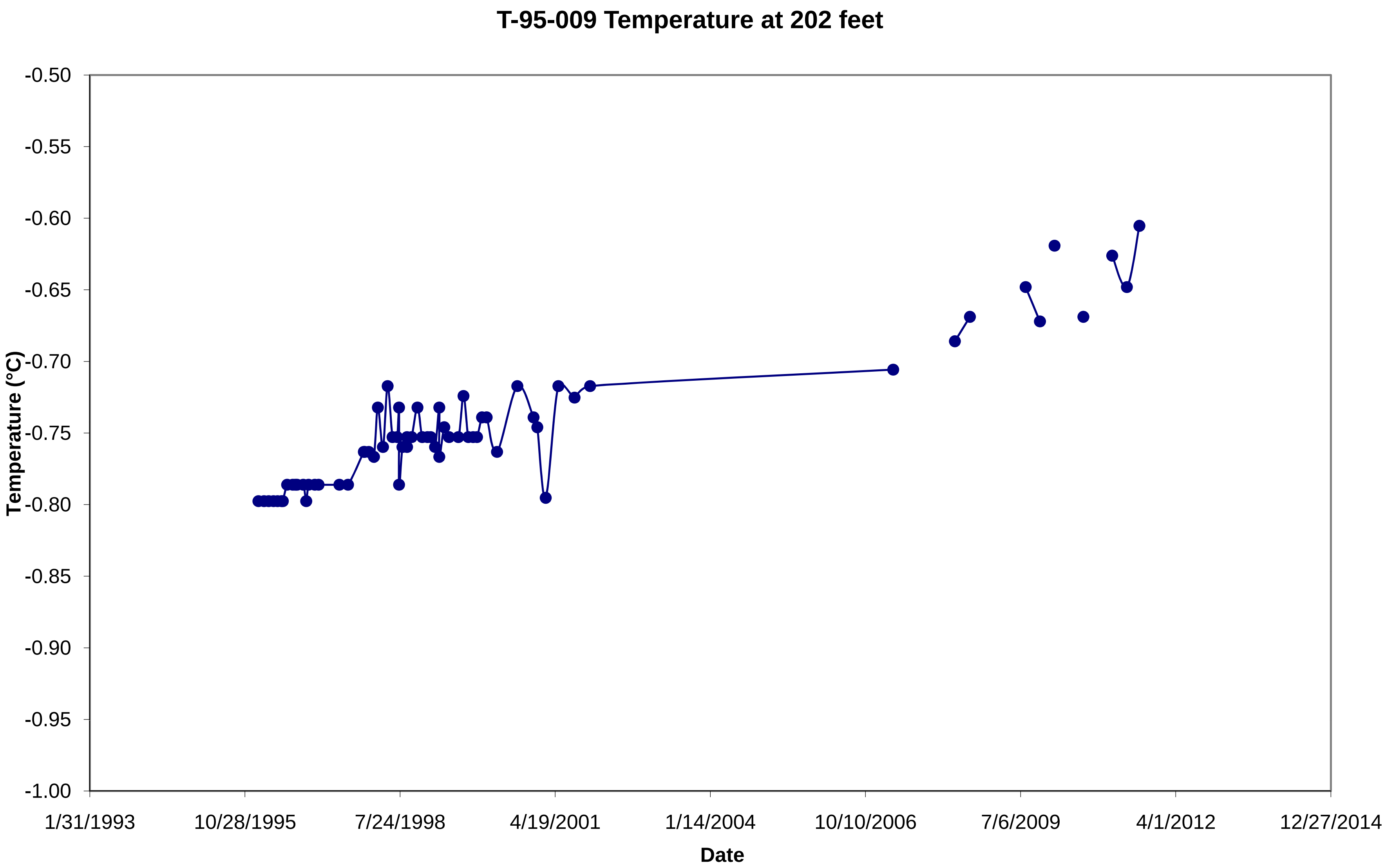
T-95-009 Temperature at 142 feet
Temperature (°C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
-1.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

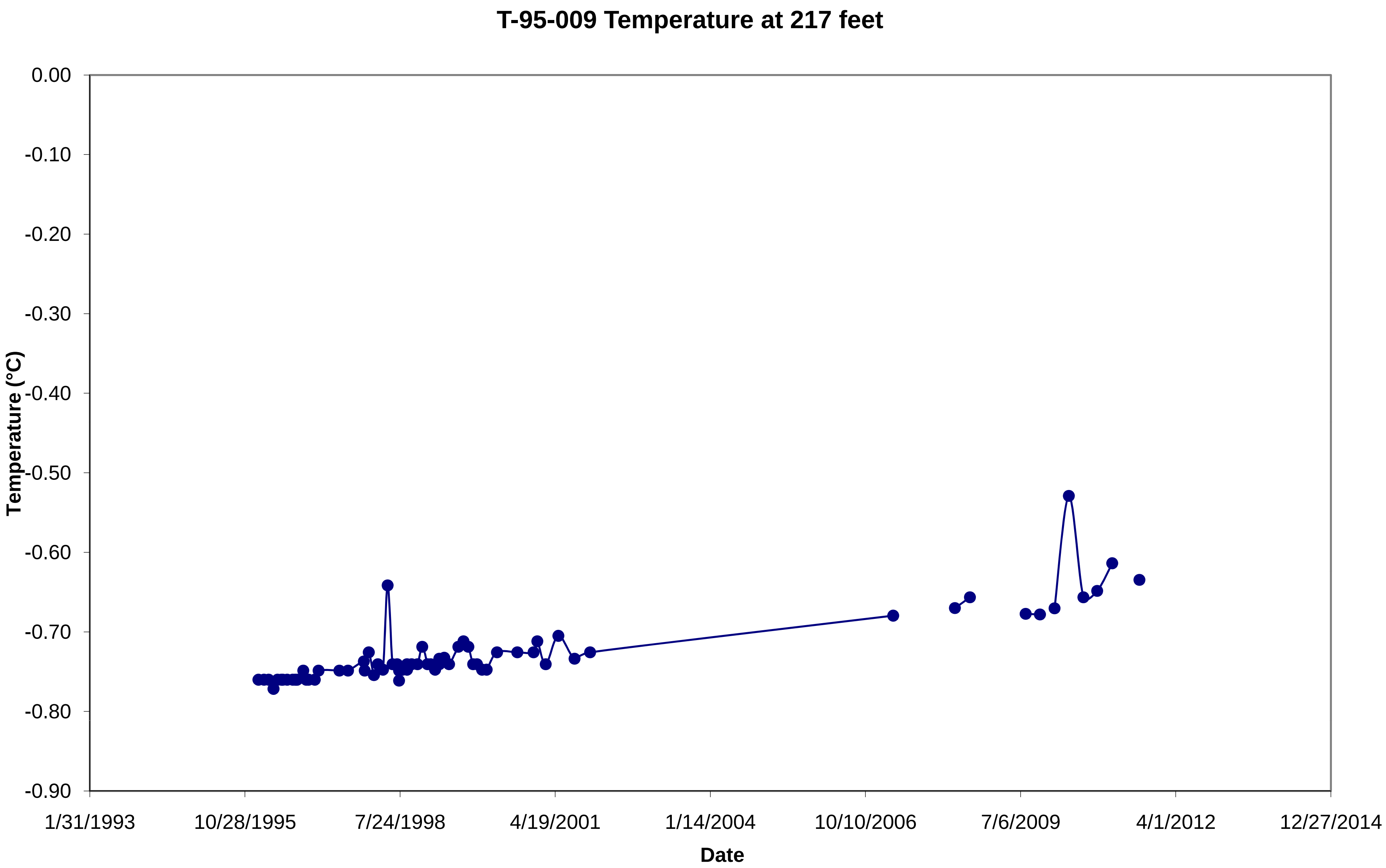

T-95-009 Temperature at 157 feet
Temperature (°C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



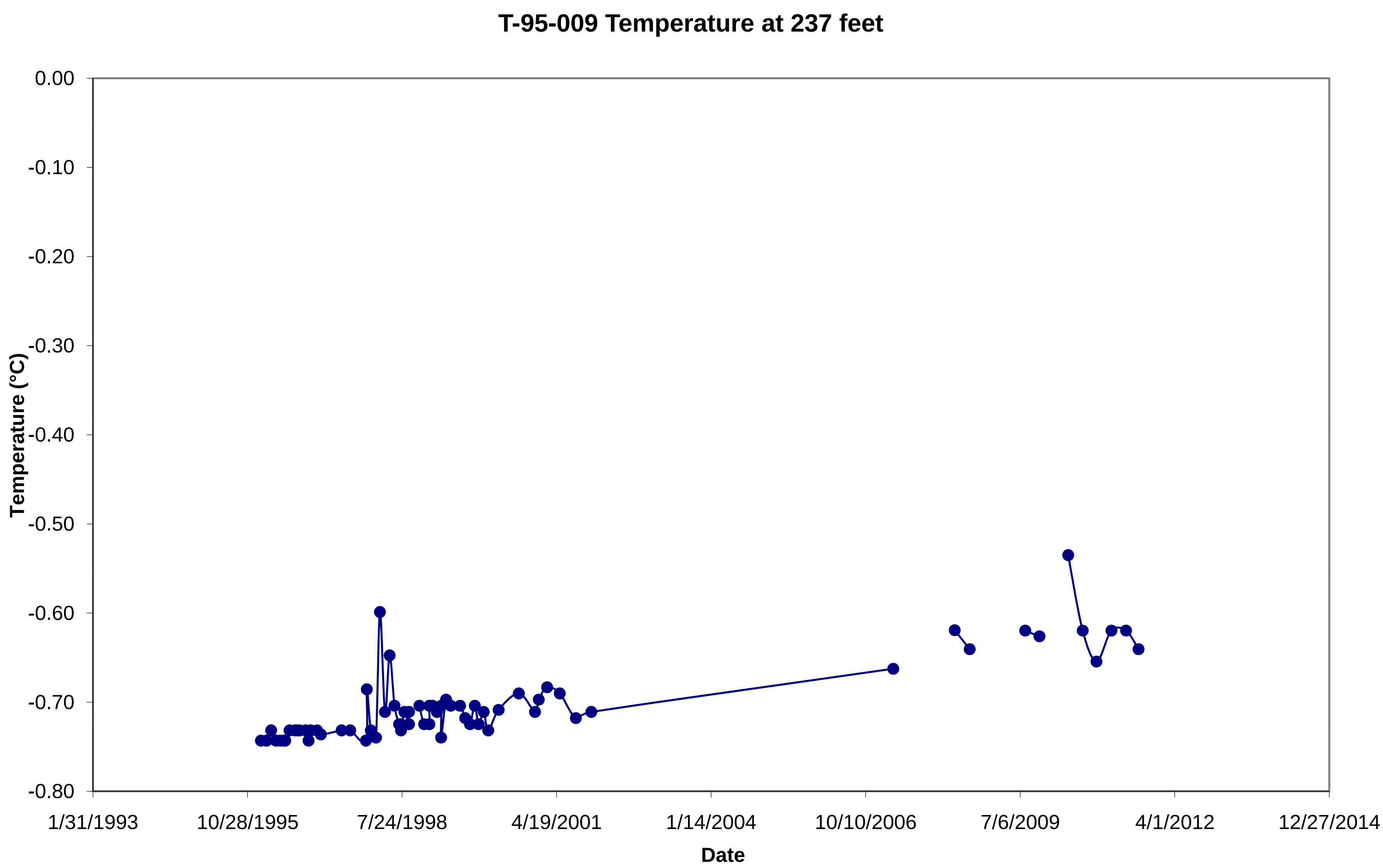
T-95-009 Temperature at 172 feet
Temperature (°C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
-1.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-95-009 Temperature at 187 feet
Temperature (°C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
-1.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

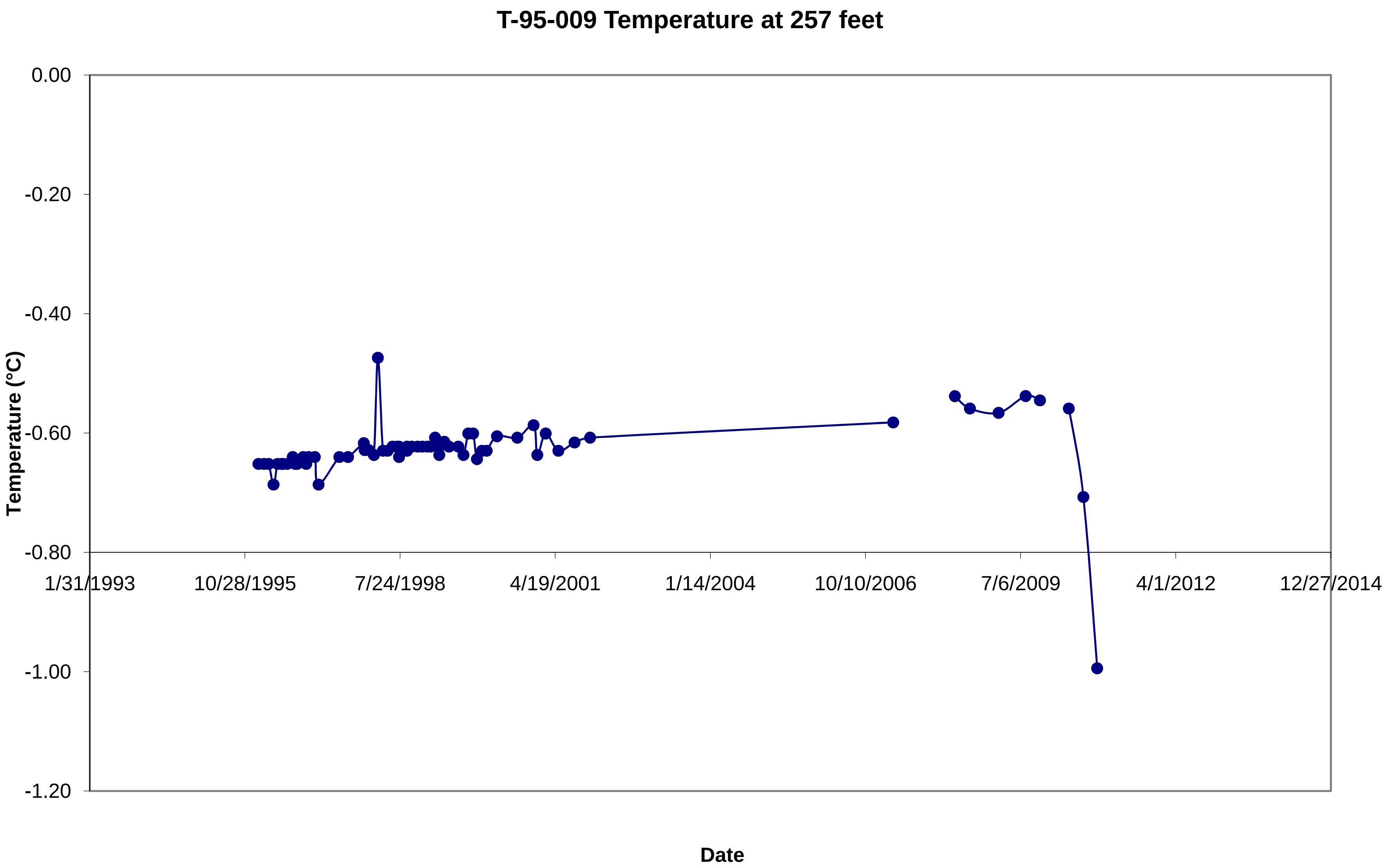

T-95-009 Temperature at 202 feet
Temperature (°C)
-0.50
-0.55
-0.60
-0.65
-0.70
-0.75
-0.80
-0.85
-0.90
-0.95
-1.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



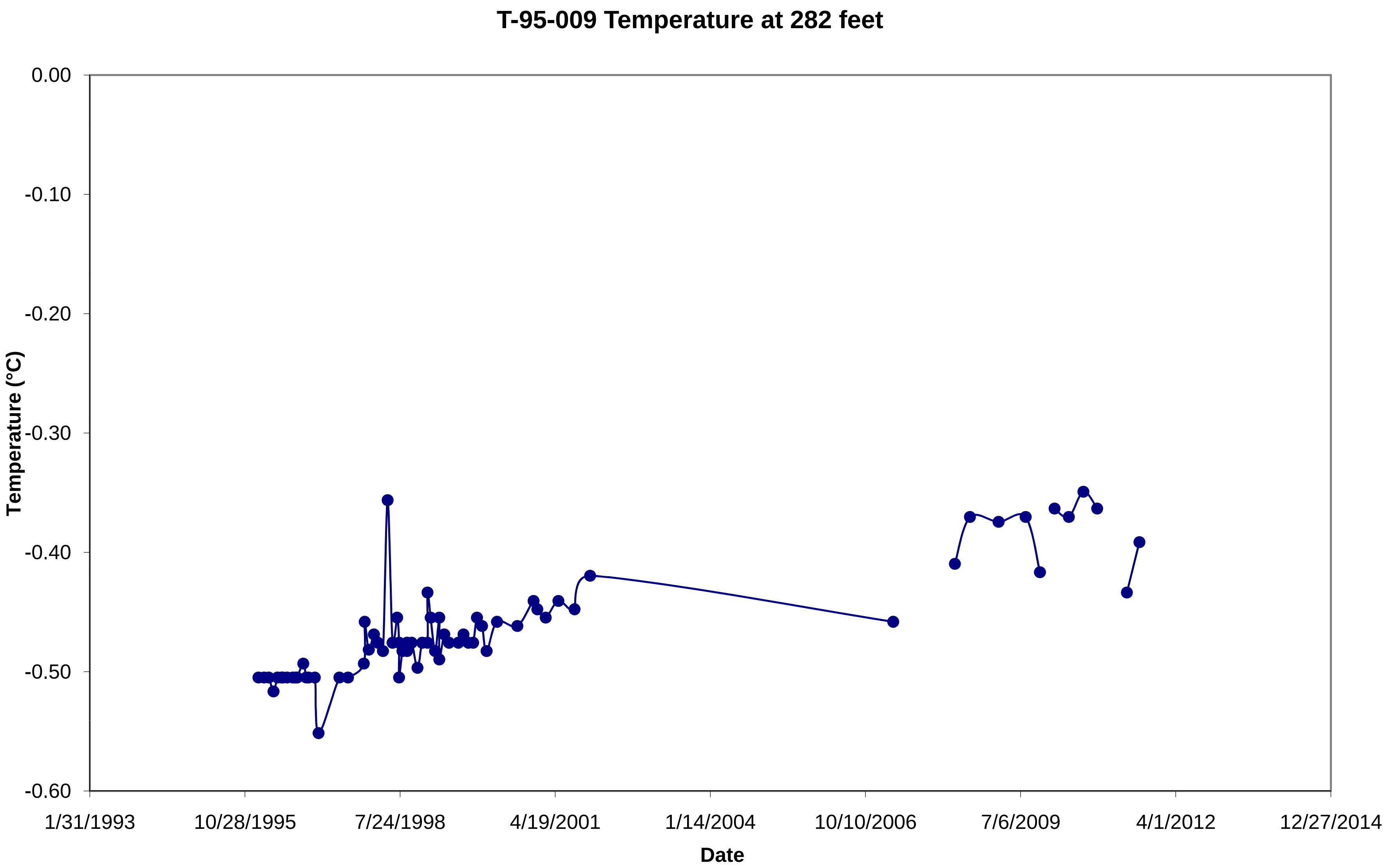
T-95-009 Temperature at 217 feet
Temperature (°C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



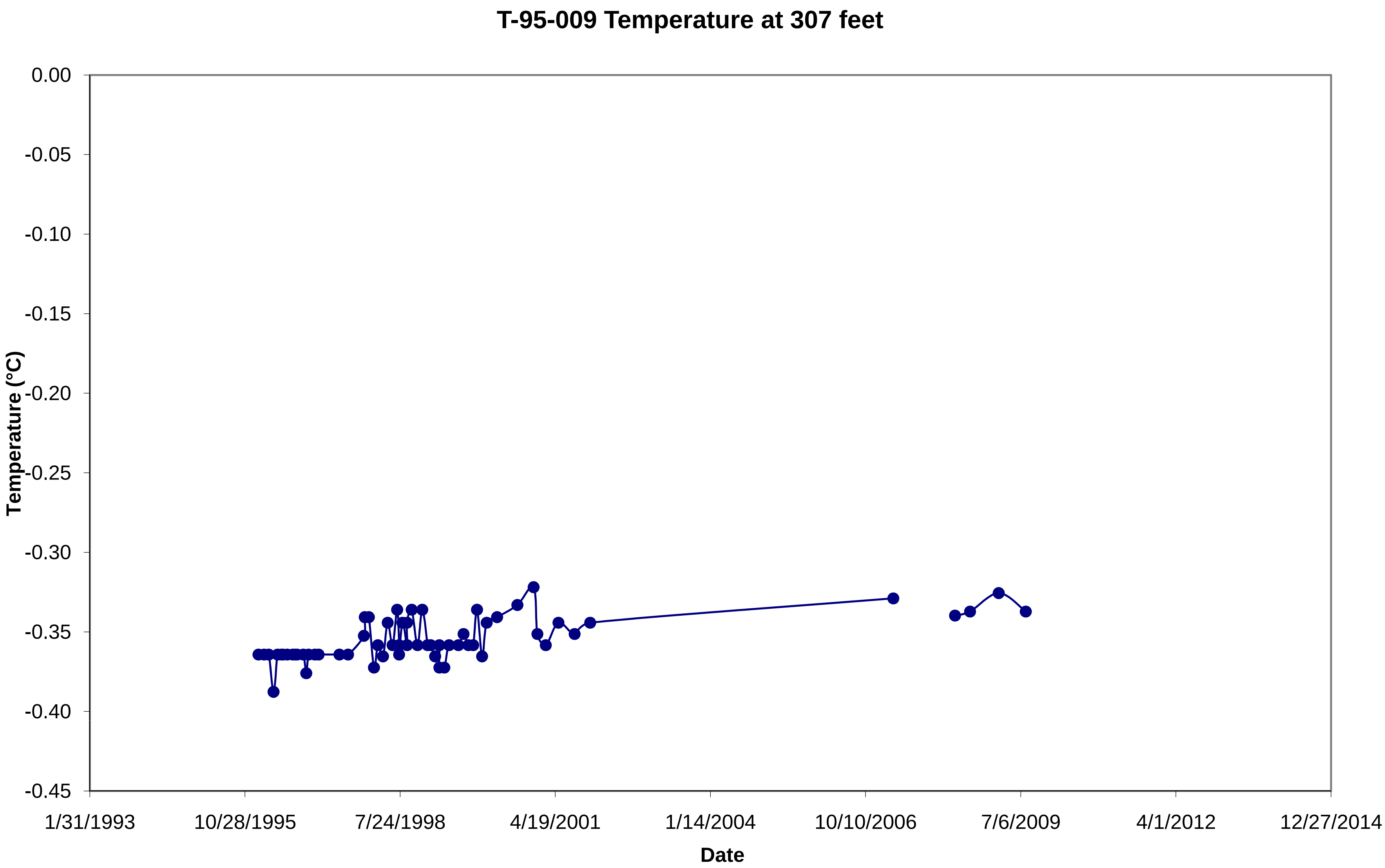
T-95-009 Temperature at 237 feet
Temperature (°C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



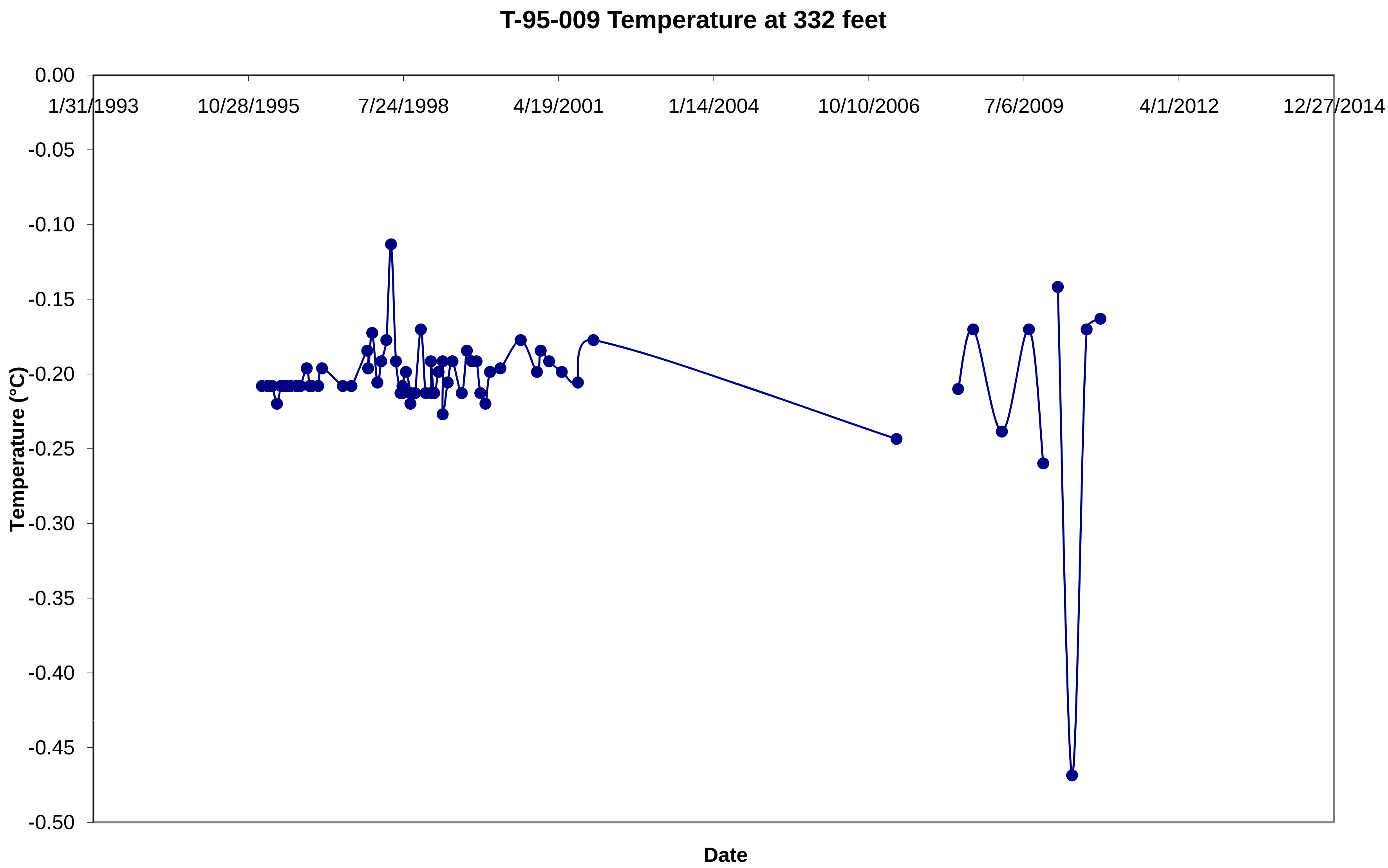
T-95-009 Temperature at 257 feet
Temperature (°C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

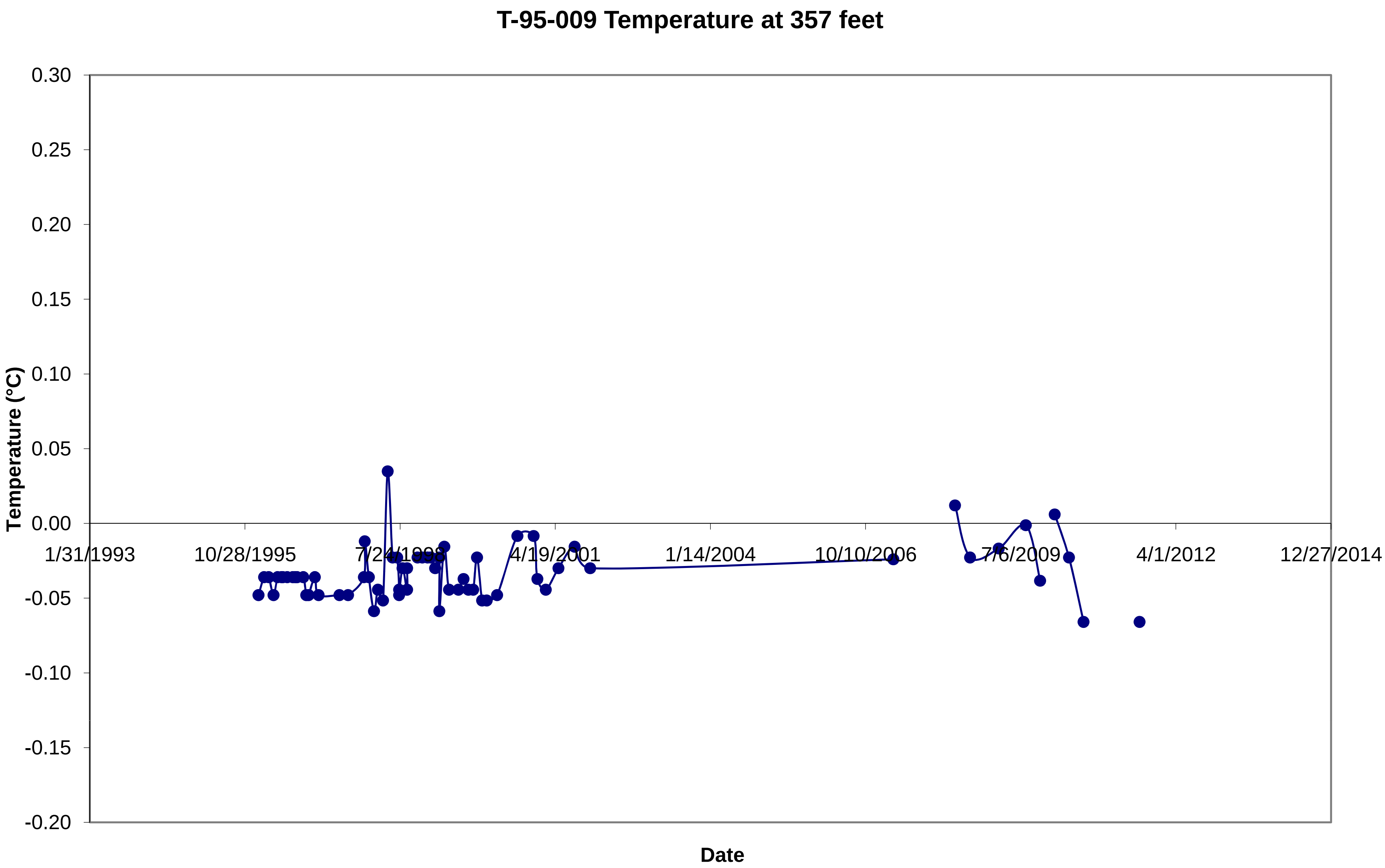


T-95-009 Temperature at 282 feet
Temperature (°C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

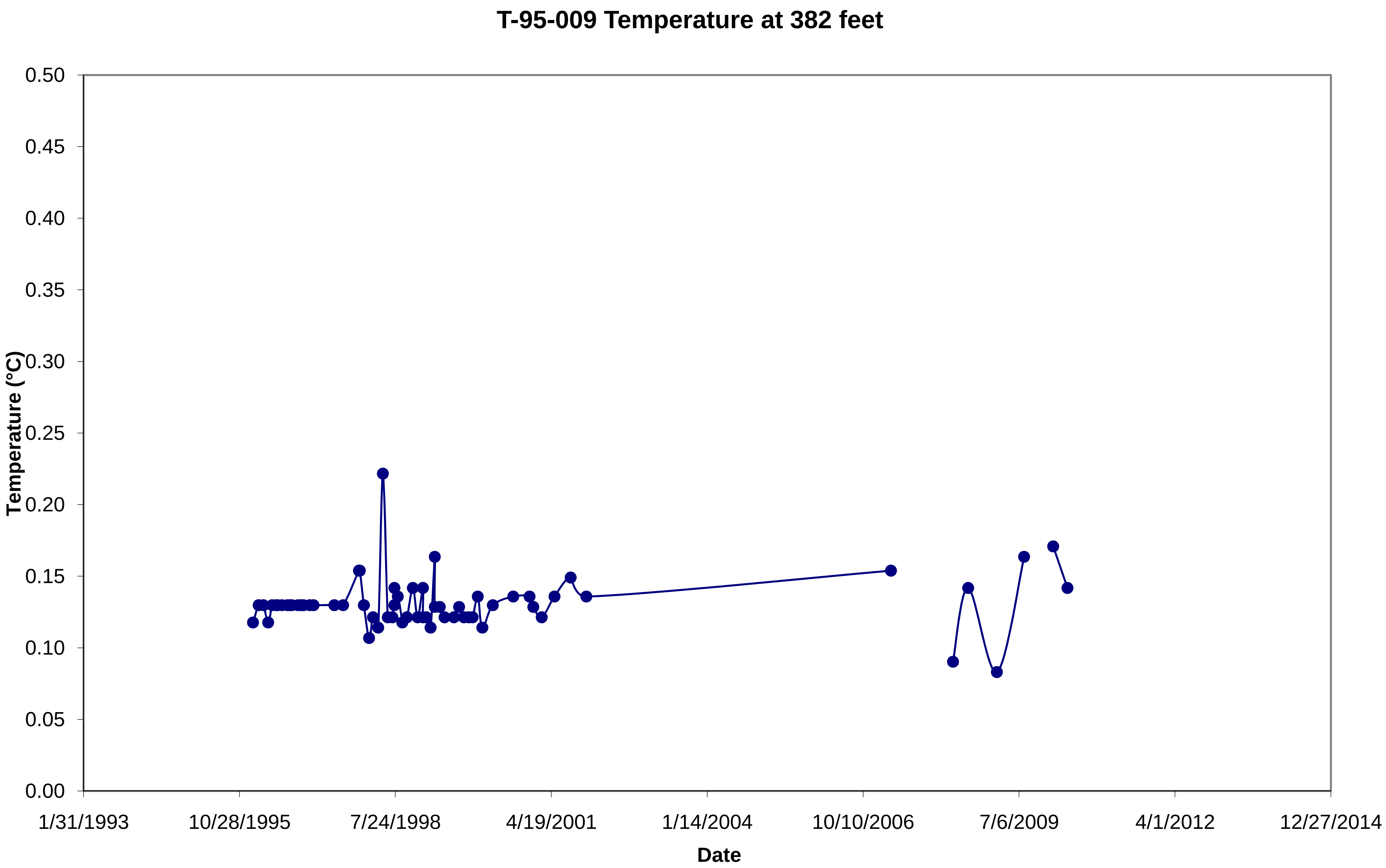


T-95-009 Temperature at 307 feet
Temperature (°C)
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
-0.35
-0.40
-0.45
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-95-009 Temperature at 332 feet
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
-0.35
-0.40
-0.45
-0.50
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (°C)
Date

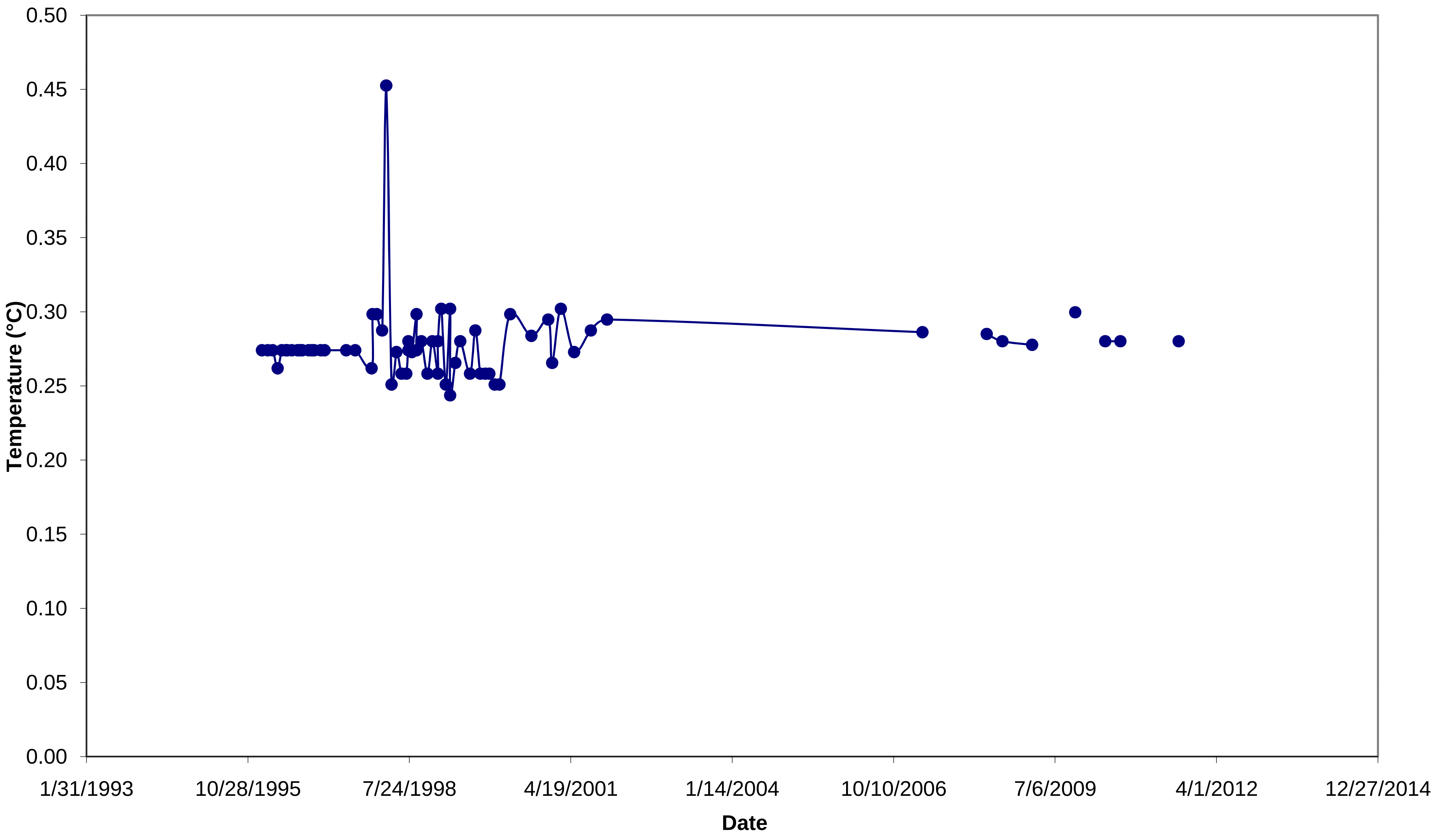


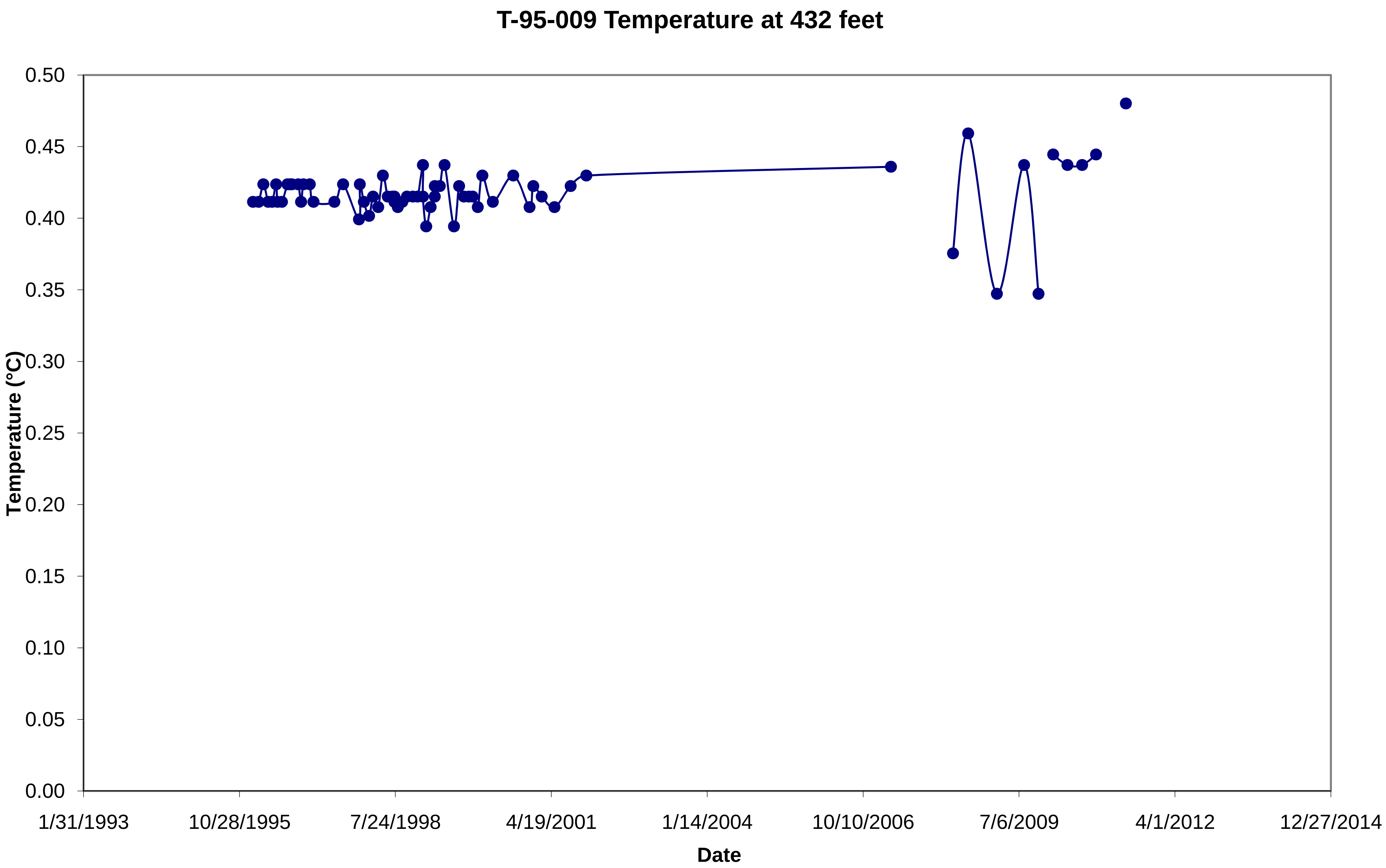
T-95-009 Temperature at 357 feet
Temperature (°C)
0.30
0.25
0.20
0.15
0.10
0.05
0.00
-0.05
-0.10
-0.15
-0.20
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



T-95-009 Temperature at 382 feet
Temperature (°C)
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

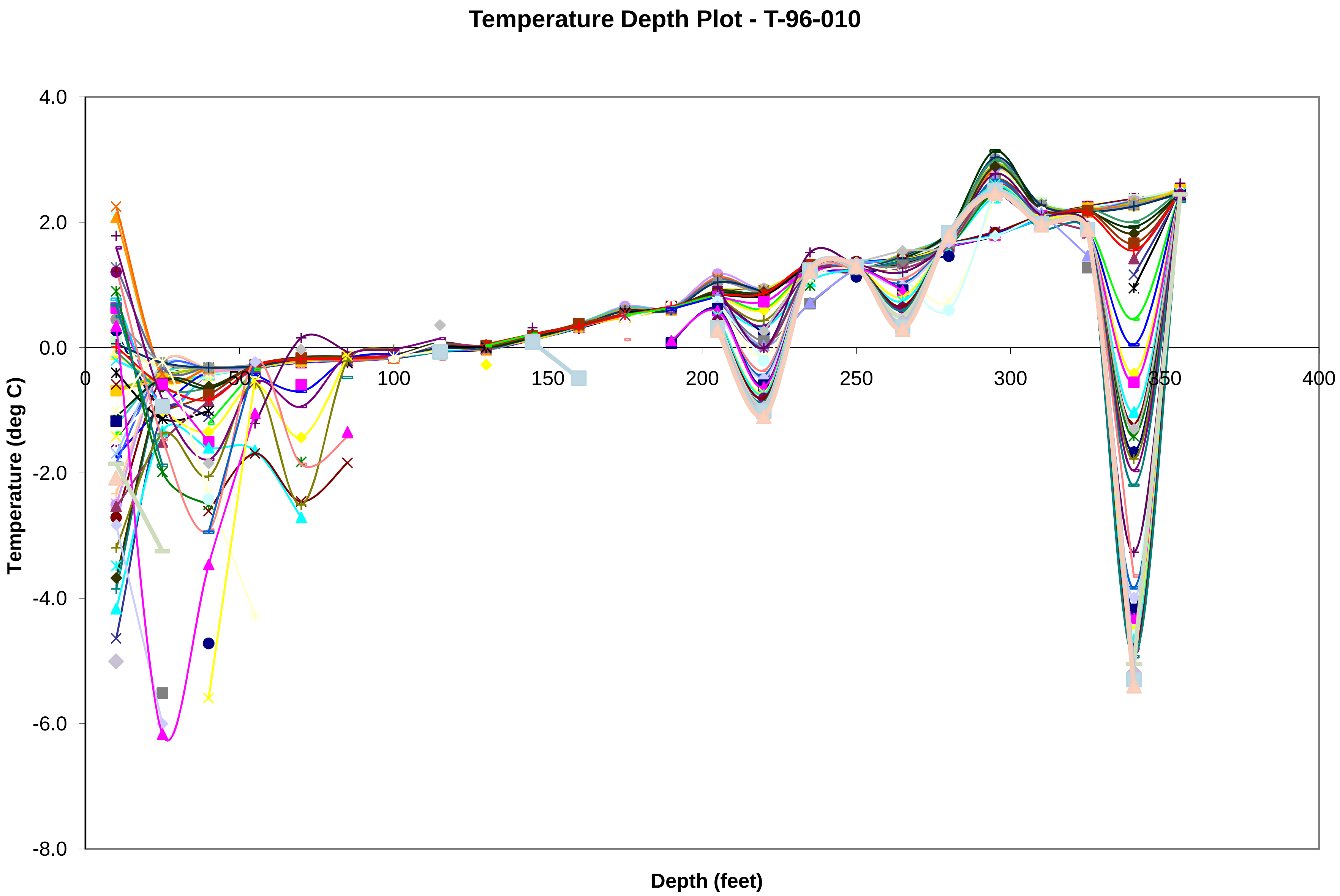
T-95-009 Temperature at 407 feet



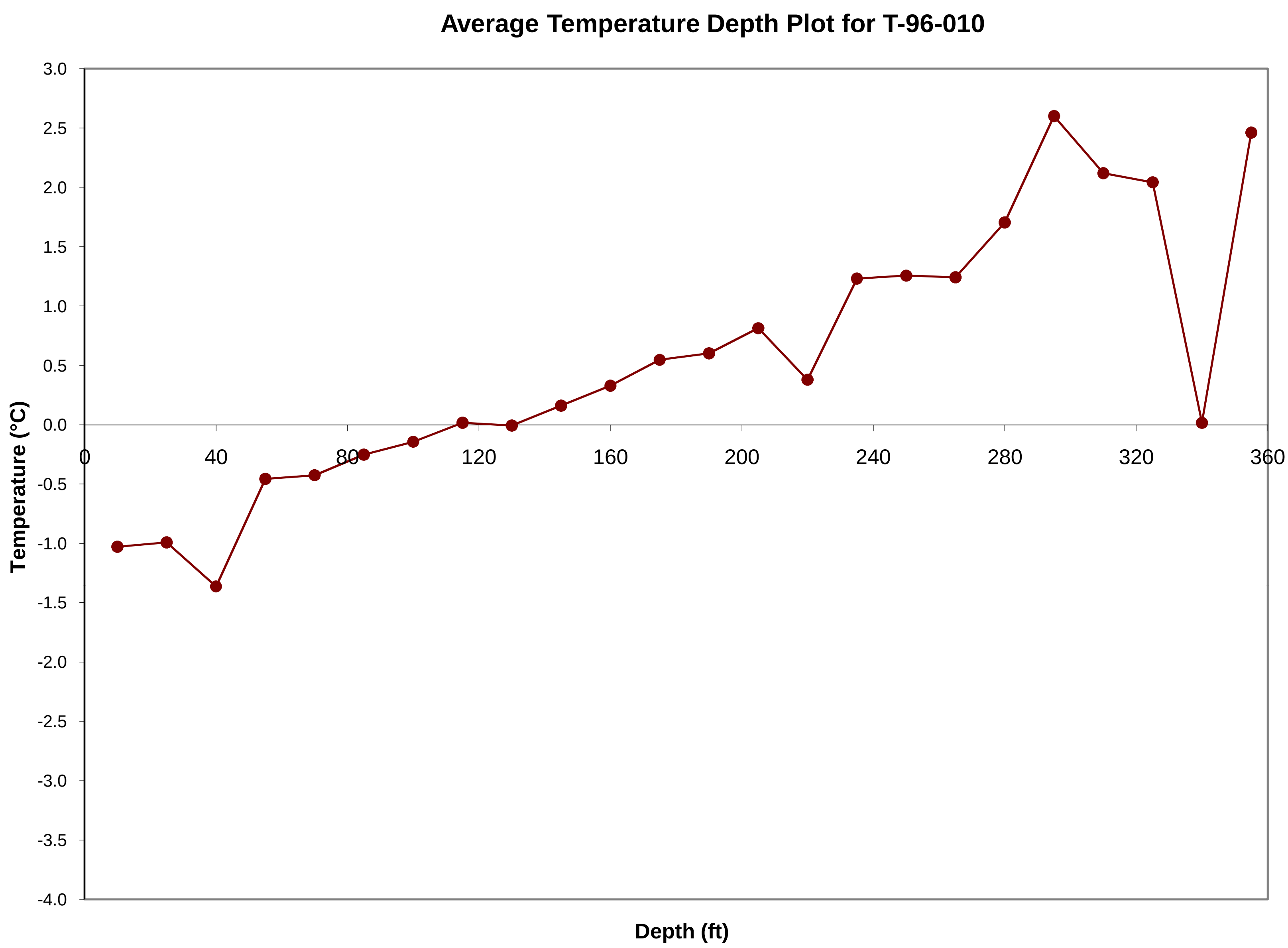


T-95-009 Temperature at 432 feet
Temperature (°C)
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
1/31/1993
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

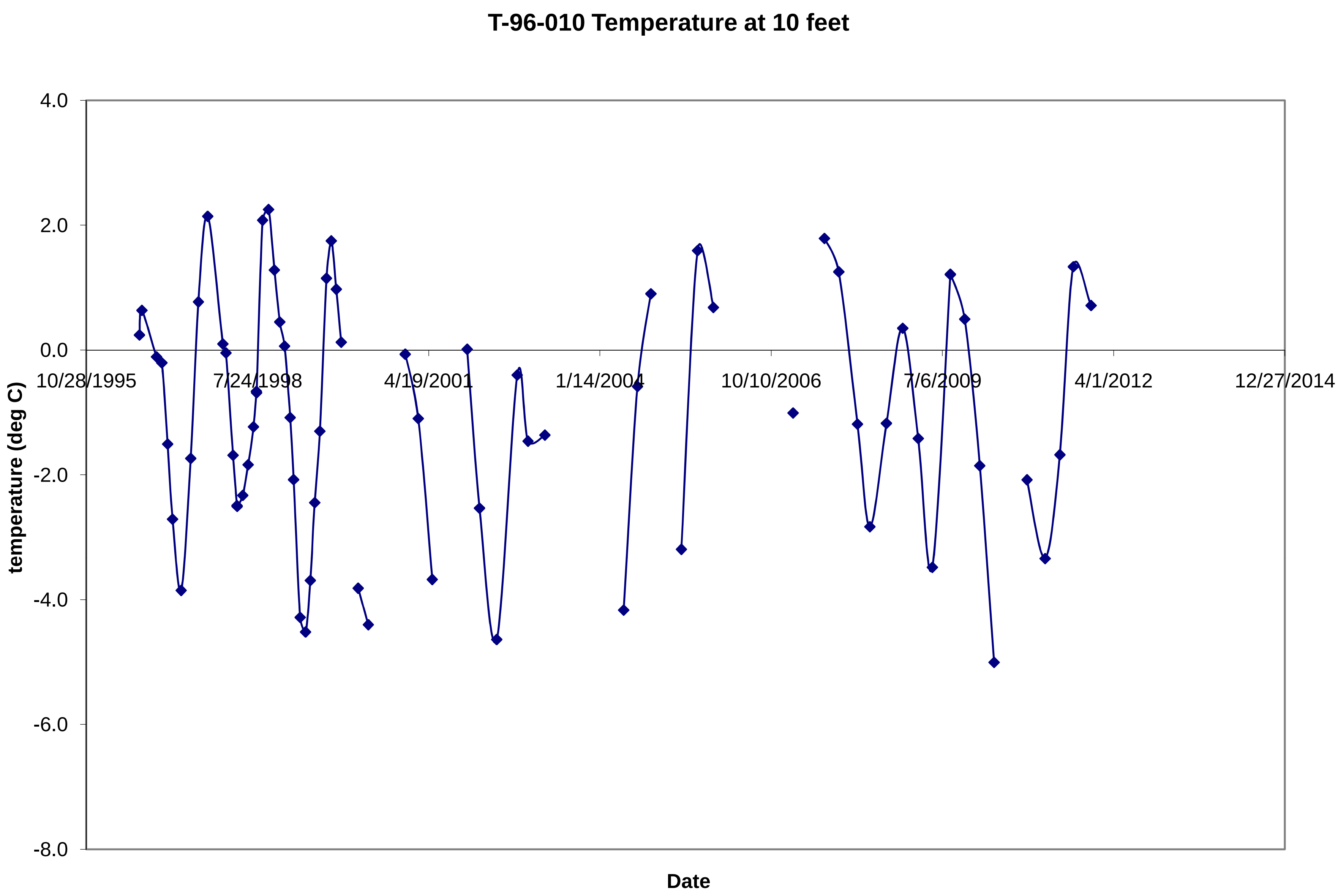
T-96-010



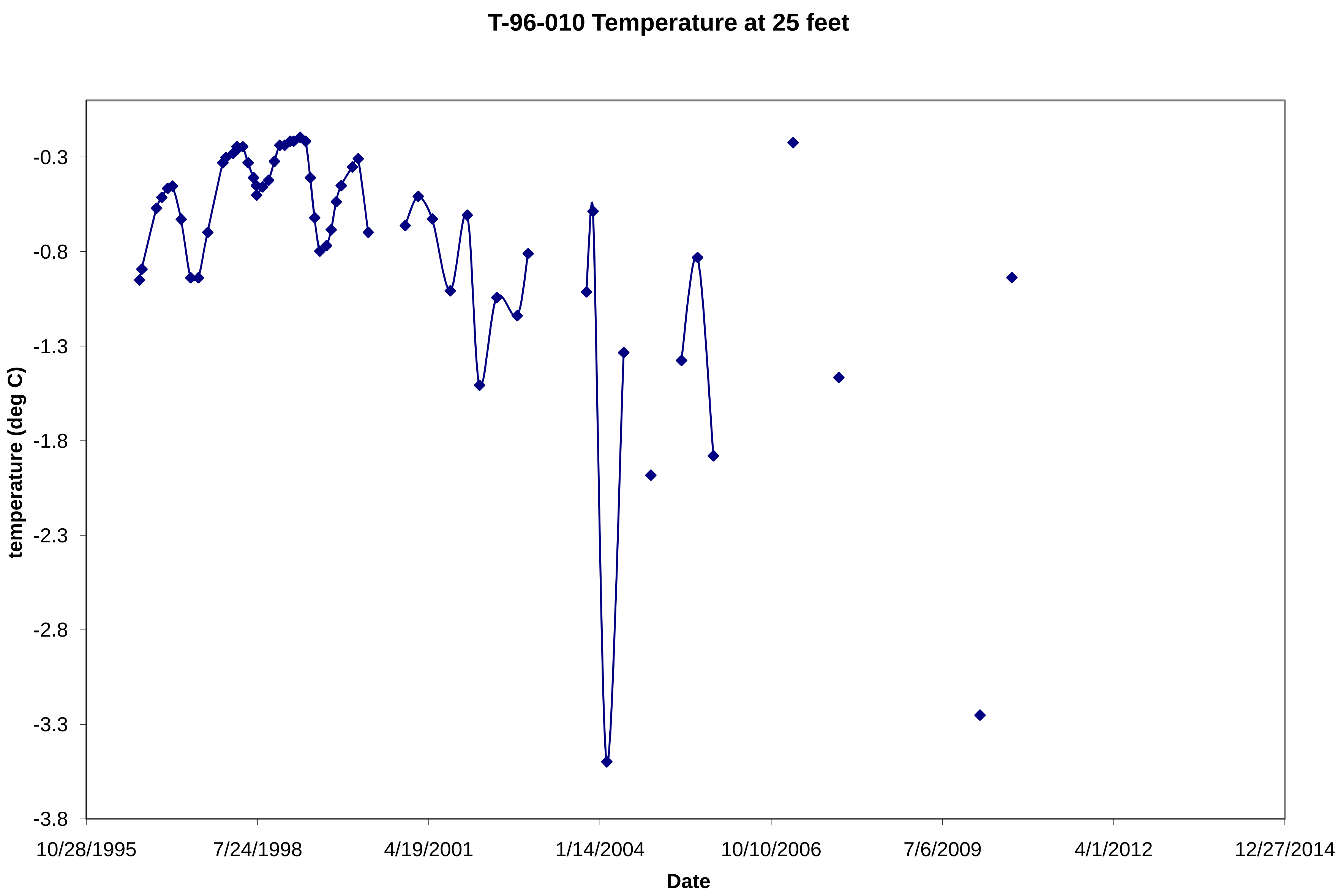
Temperature Depth Plot - T-96-010
Temperature (deg C)
Depth (feet)
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
0
50
100
150
200
250
300
350
400

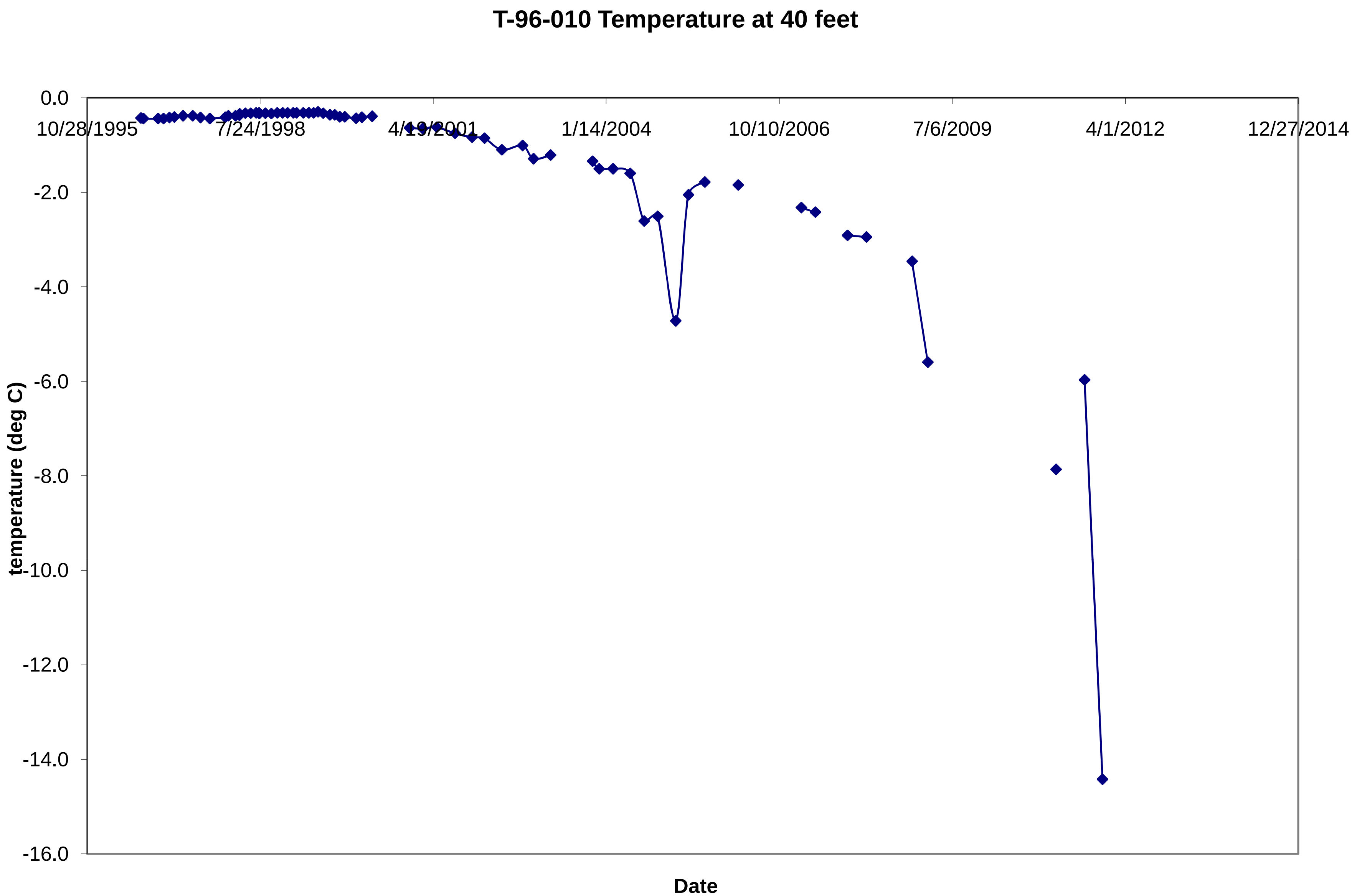


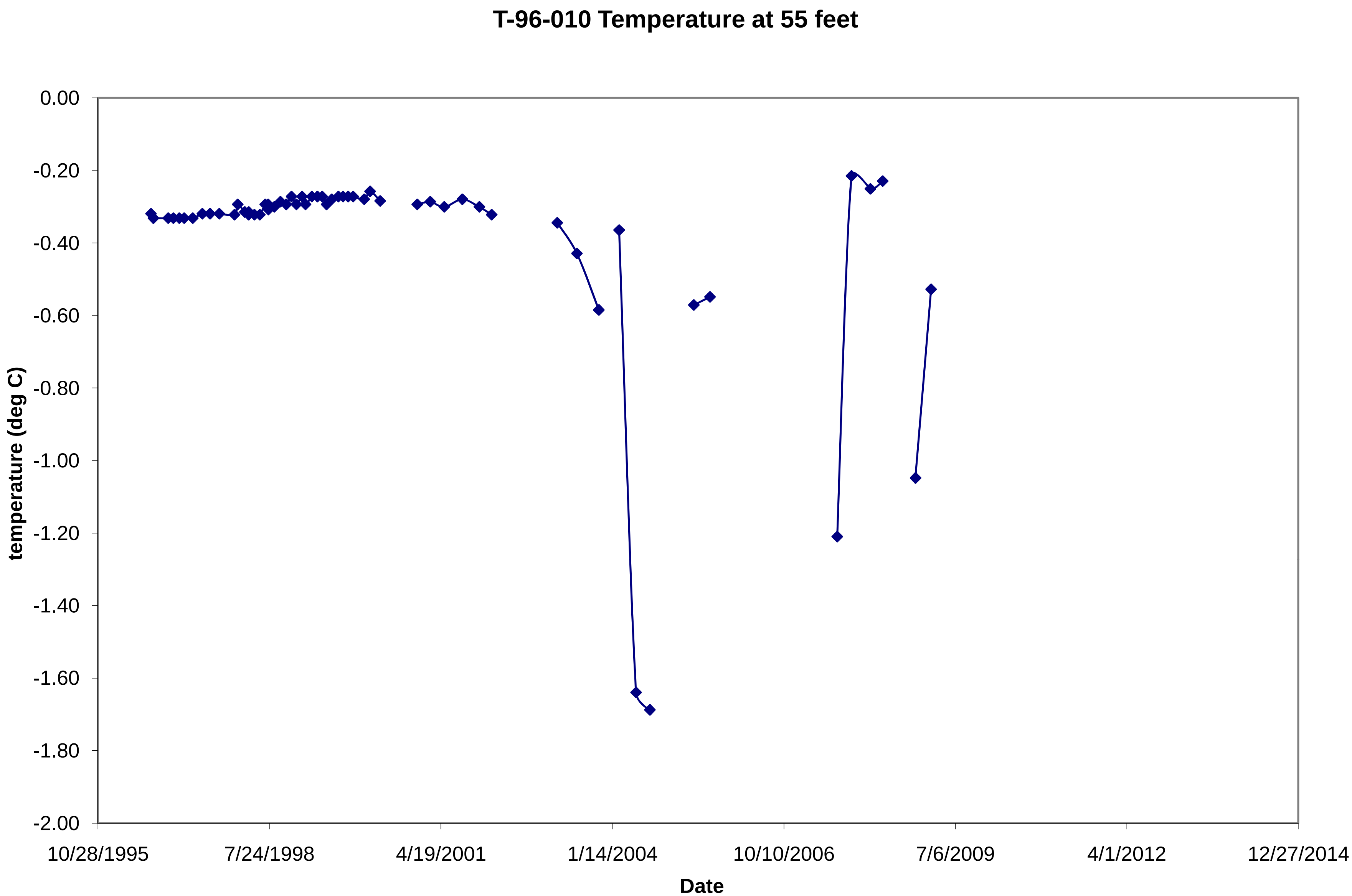
Average Temperature Depth Plot for T-96-010
Temperature (°C)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
0
40
80
120
160
200
240
280
320
360
Depth (ft)

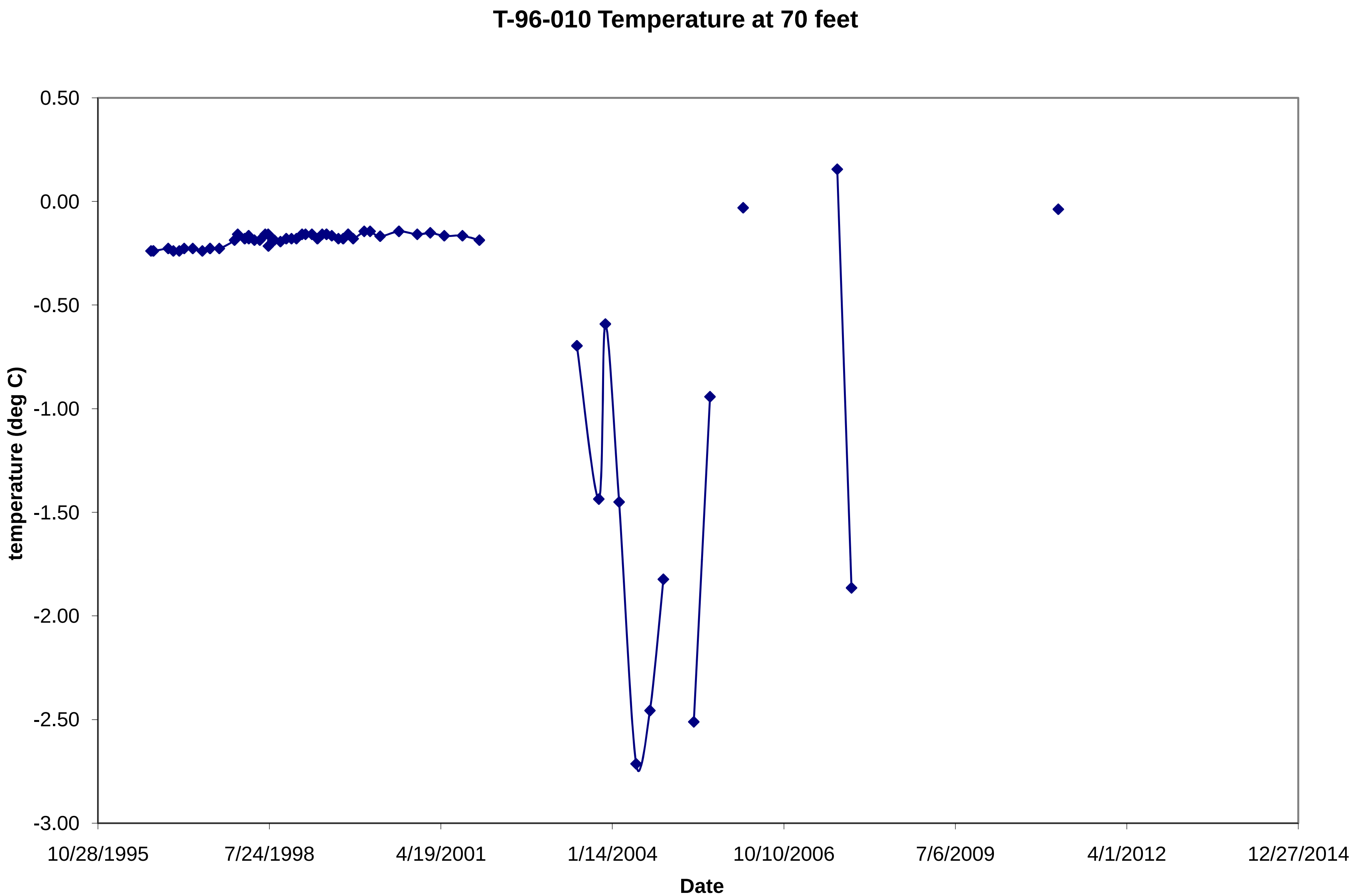


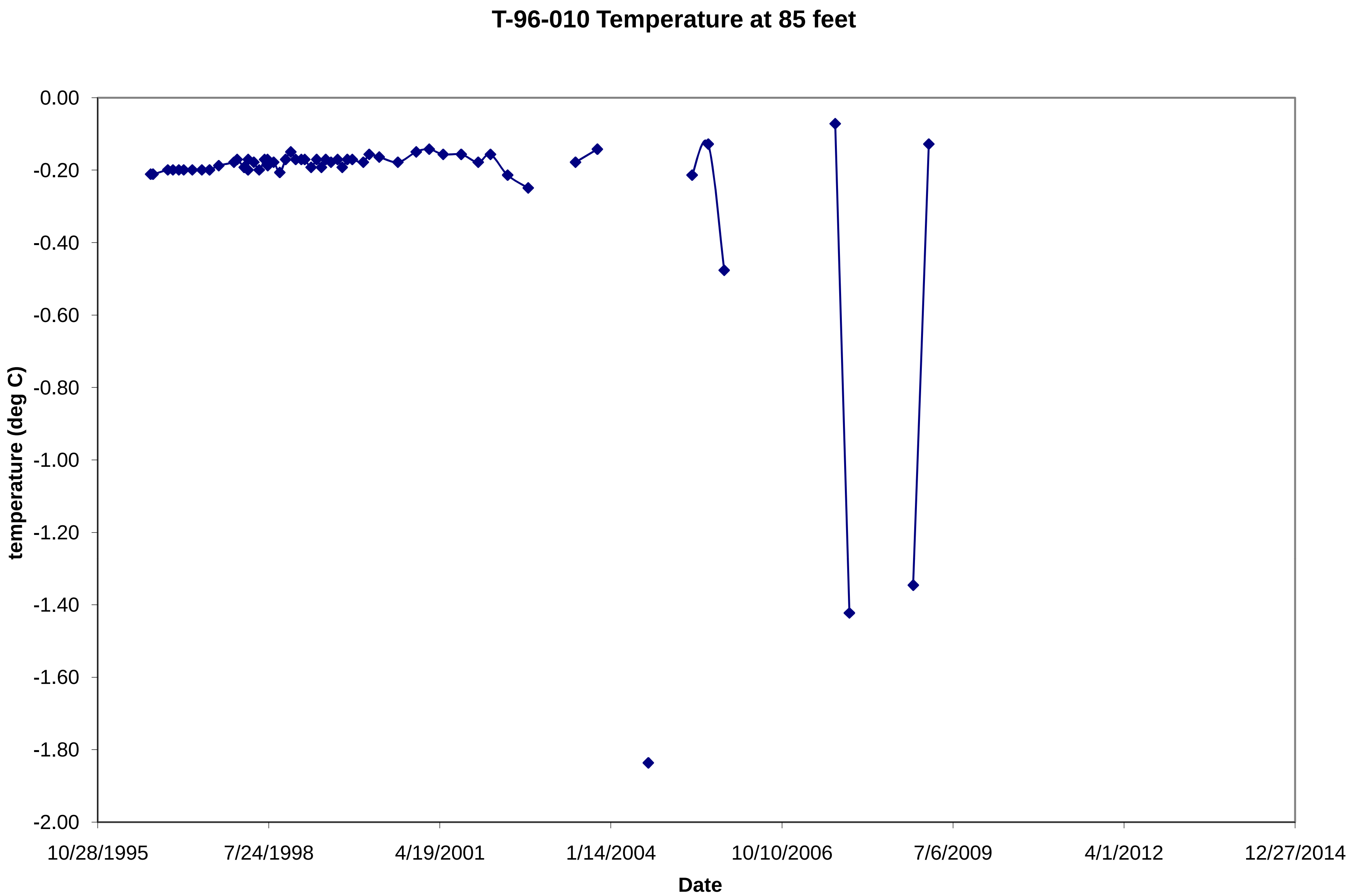
T-96-010 Temperature at 10 feet
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

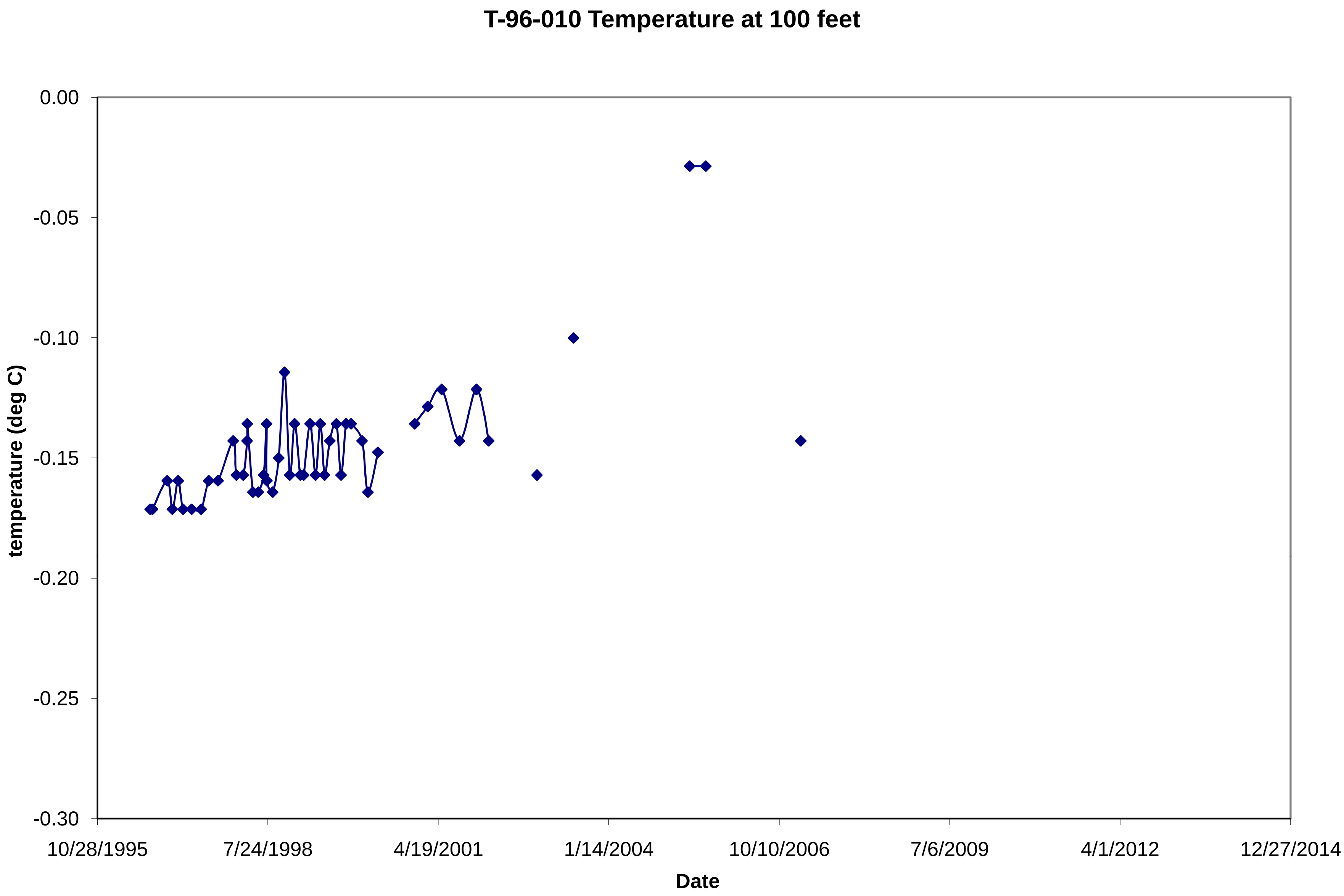

T-96-010 Temperature at 25 feet
temperature (deg C)
-0.3
-0.8
-1.3
-1.8
-2.3
-2.8
-3.3
-3.8
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

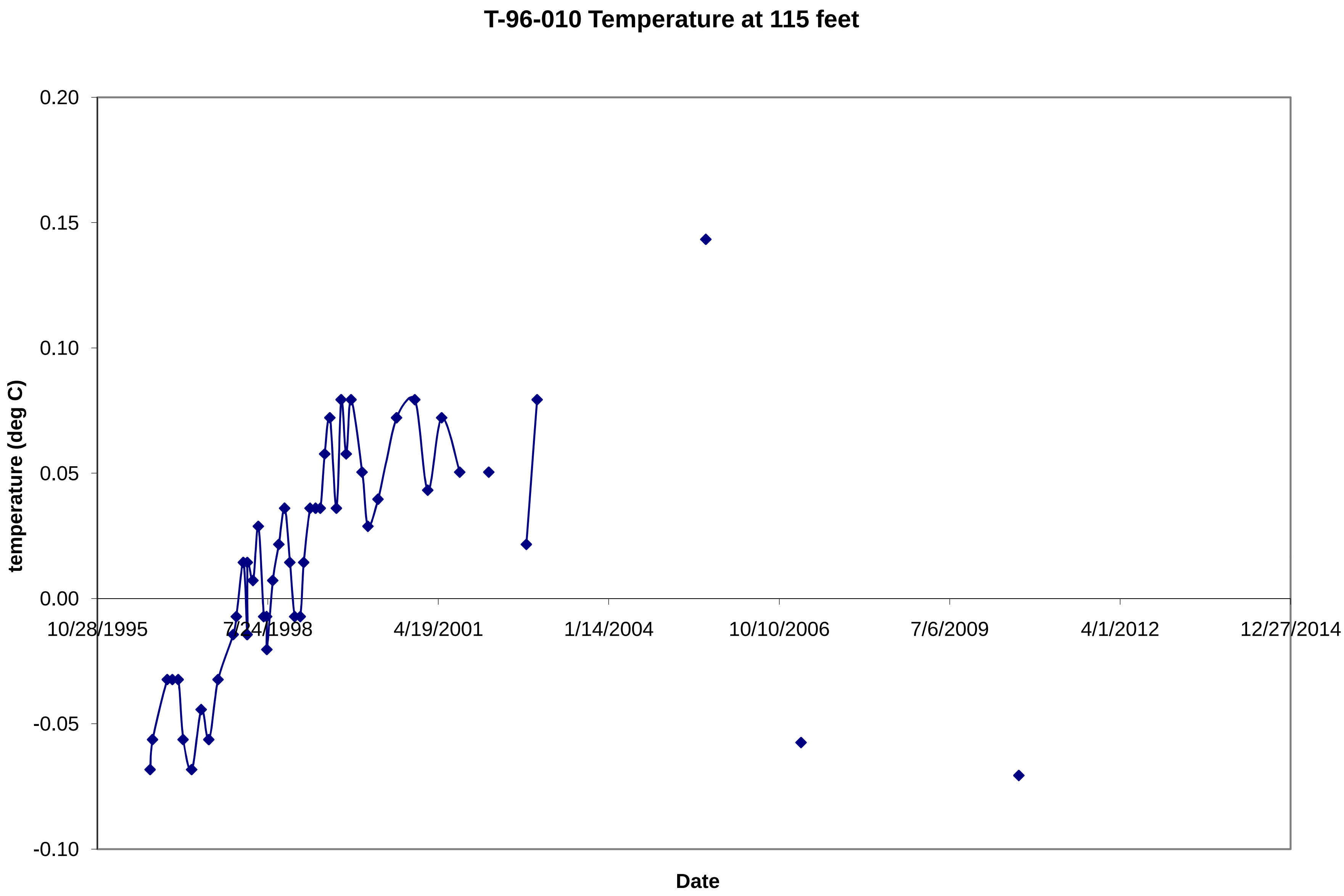

T-96-010 Temperature at 40 feet
0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
-14.0
-16.0
temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

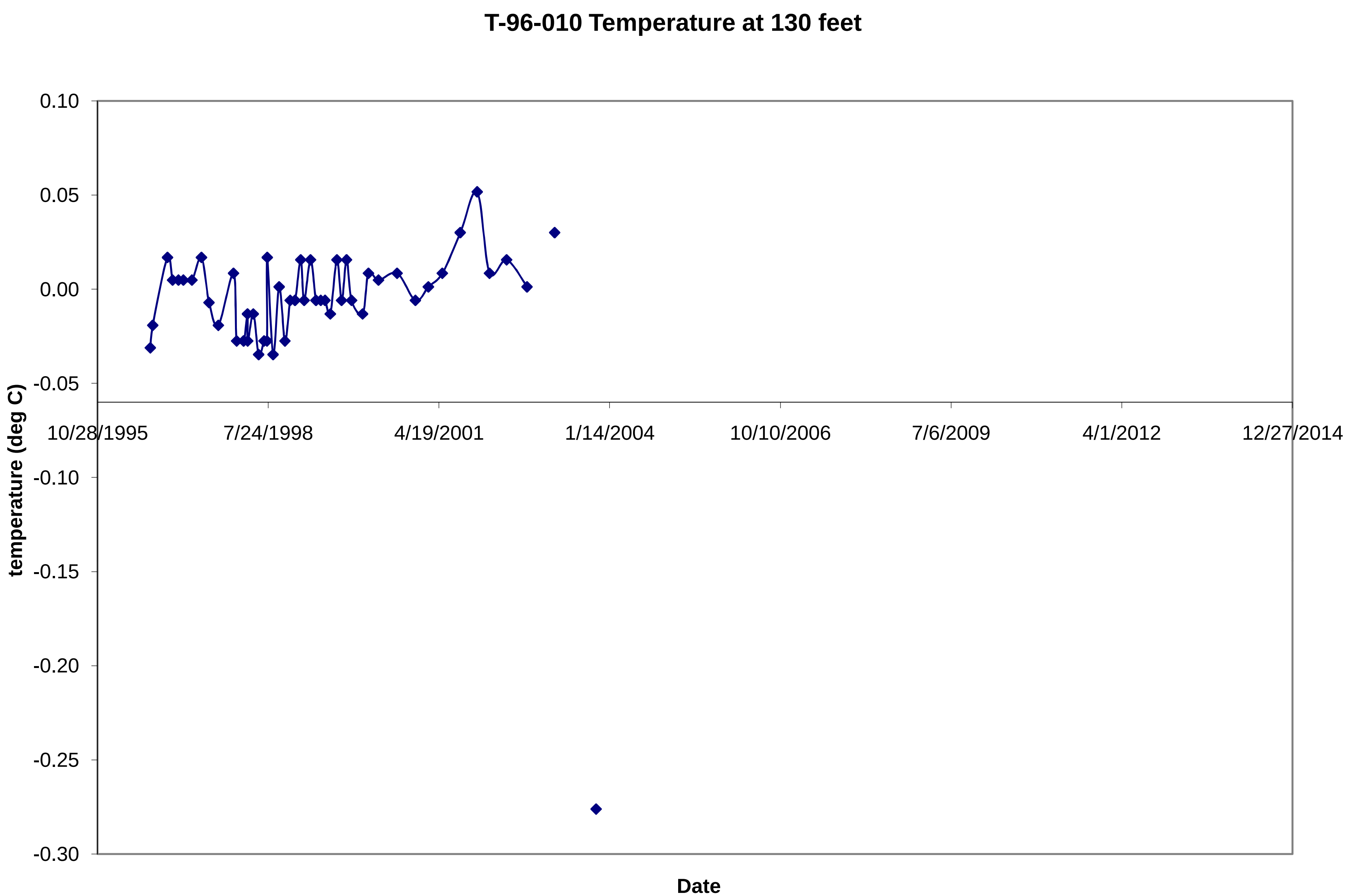

T-96-010 Temperature at 55 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-010 Temperature at 70 feet
temperature (deg C)
0.50
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

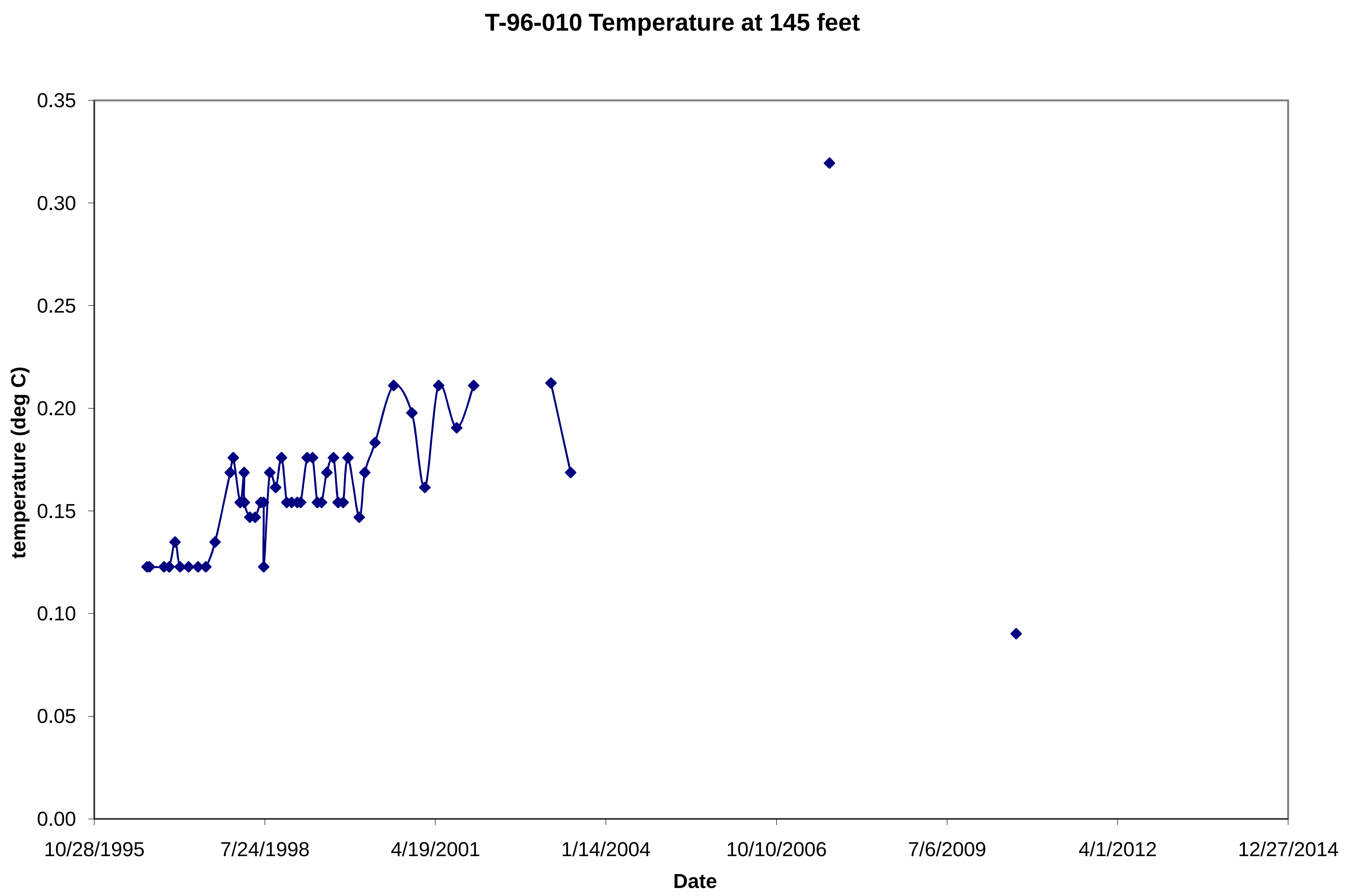

T-96-010 Temperature at 85 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

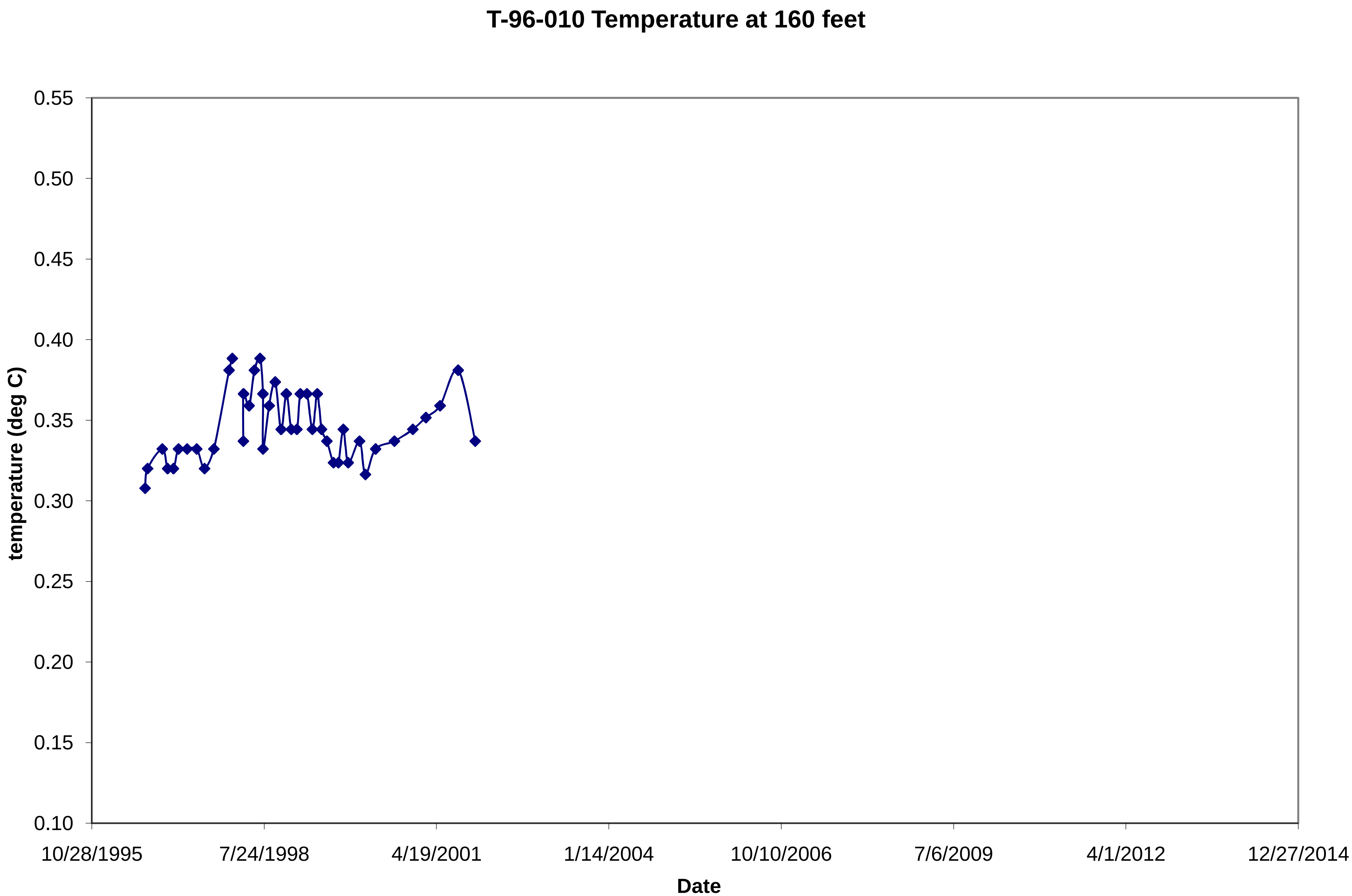

T-96-010 Temperature at 100 feet
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-010 Temperature at 115 feet
temperature (deg C)
0.20
0.15
0.10
0.05
0.00
-0.05
-0.10
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

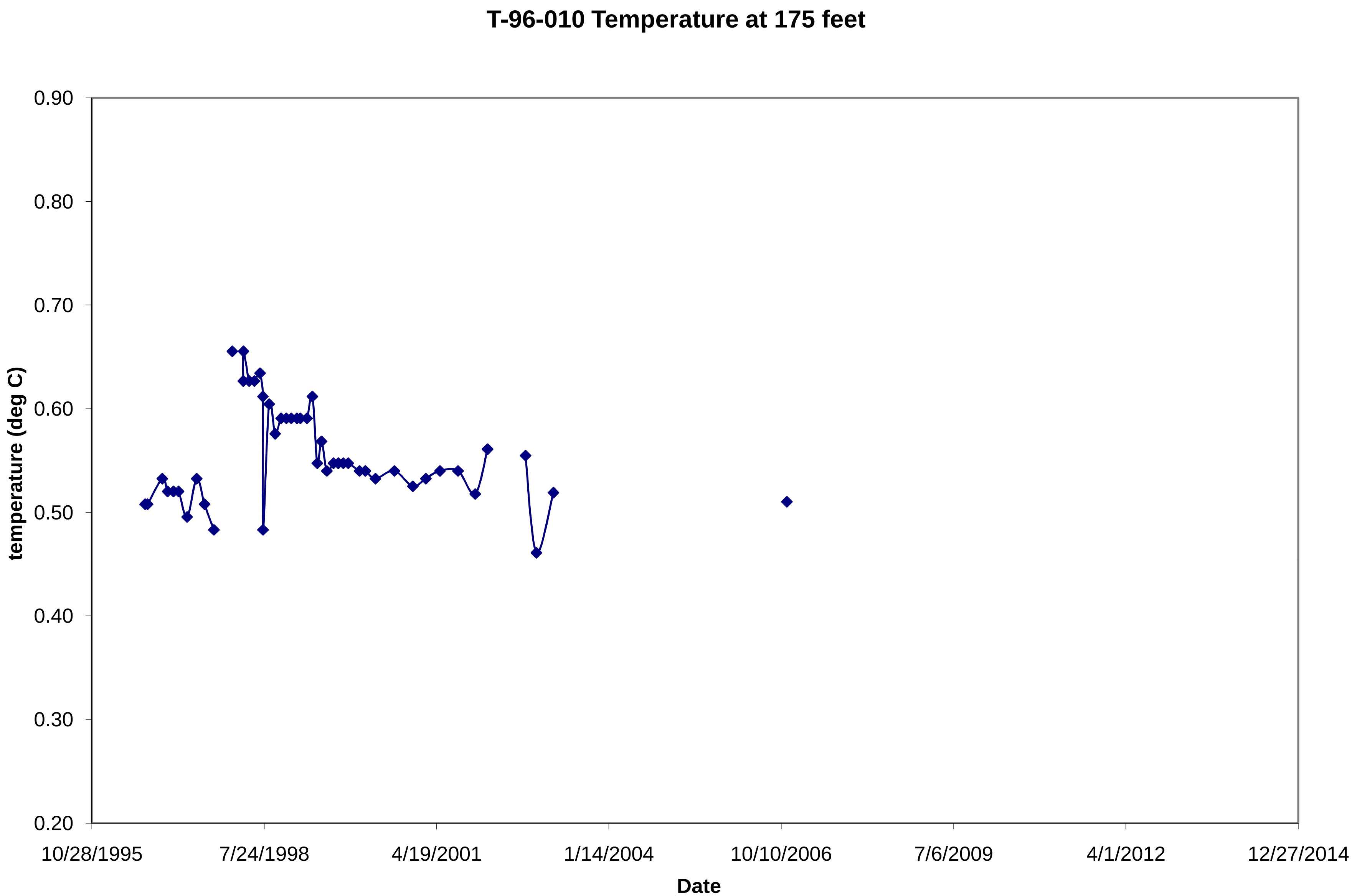


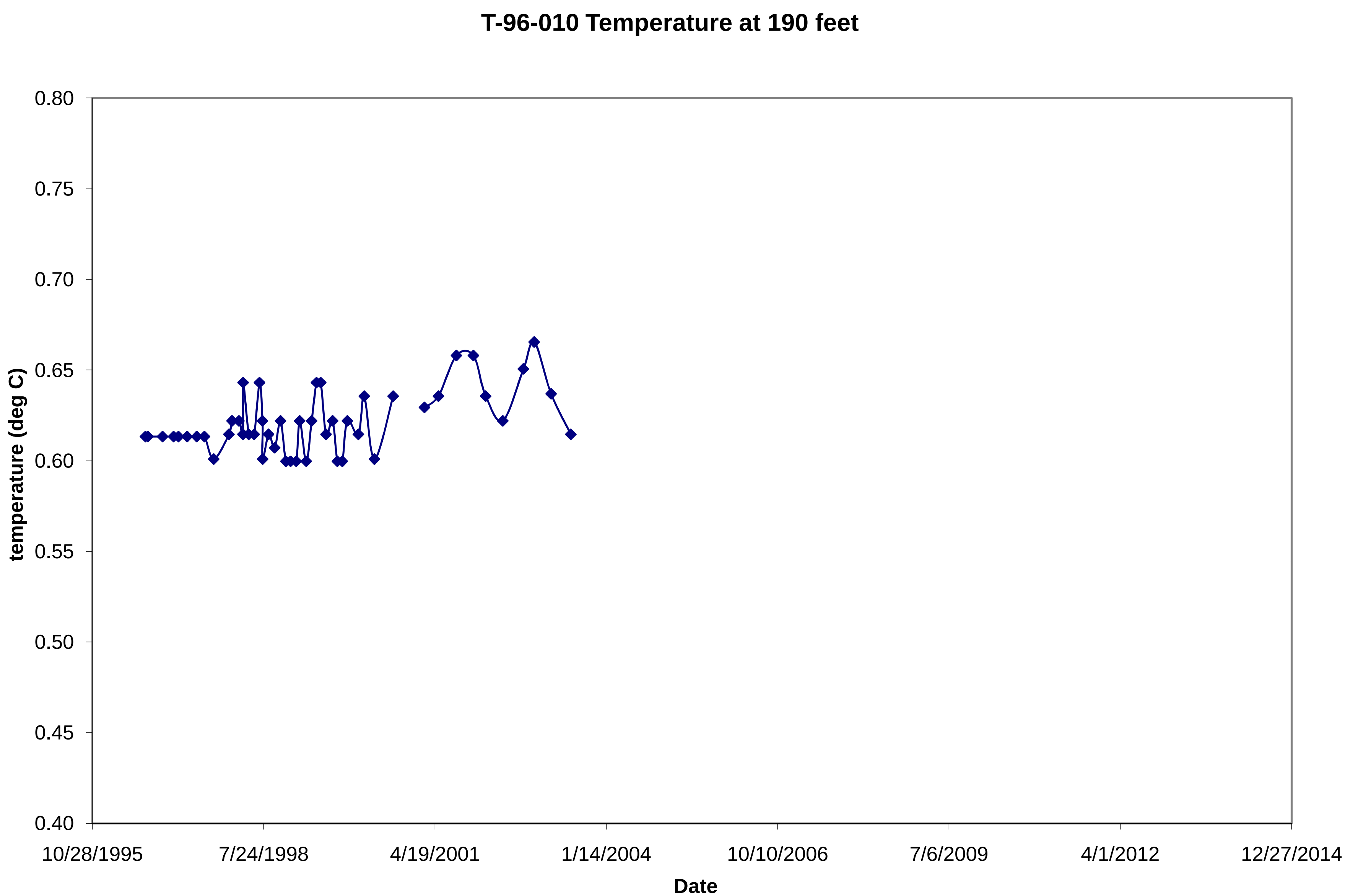
T-96-010 Temperature at 130 feet
0.10
0.05
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

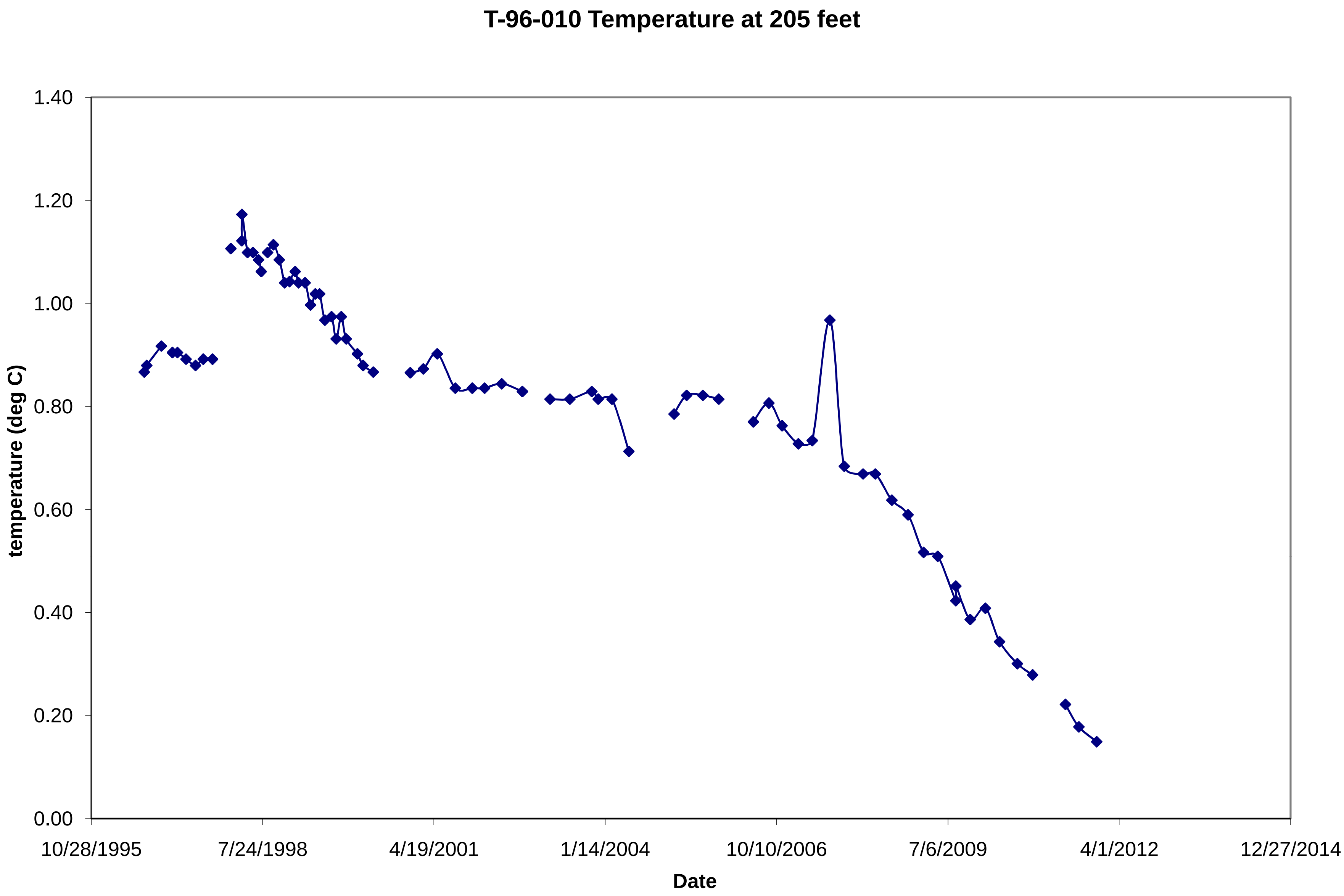

T-96-010 Temperature at 145 feet
temperature (deg C)
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

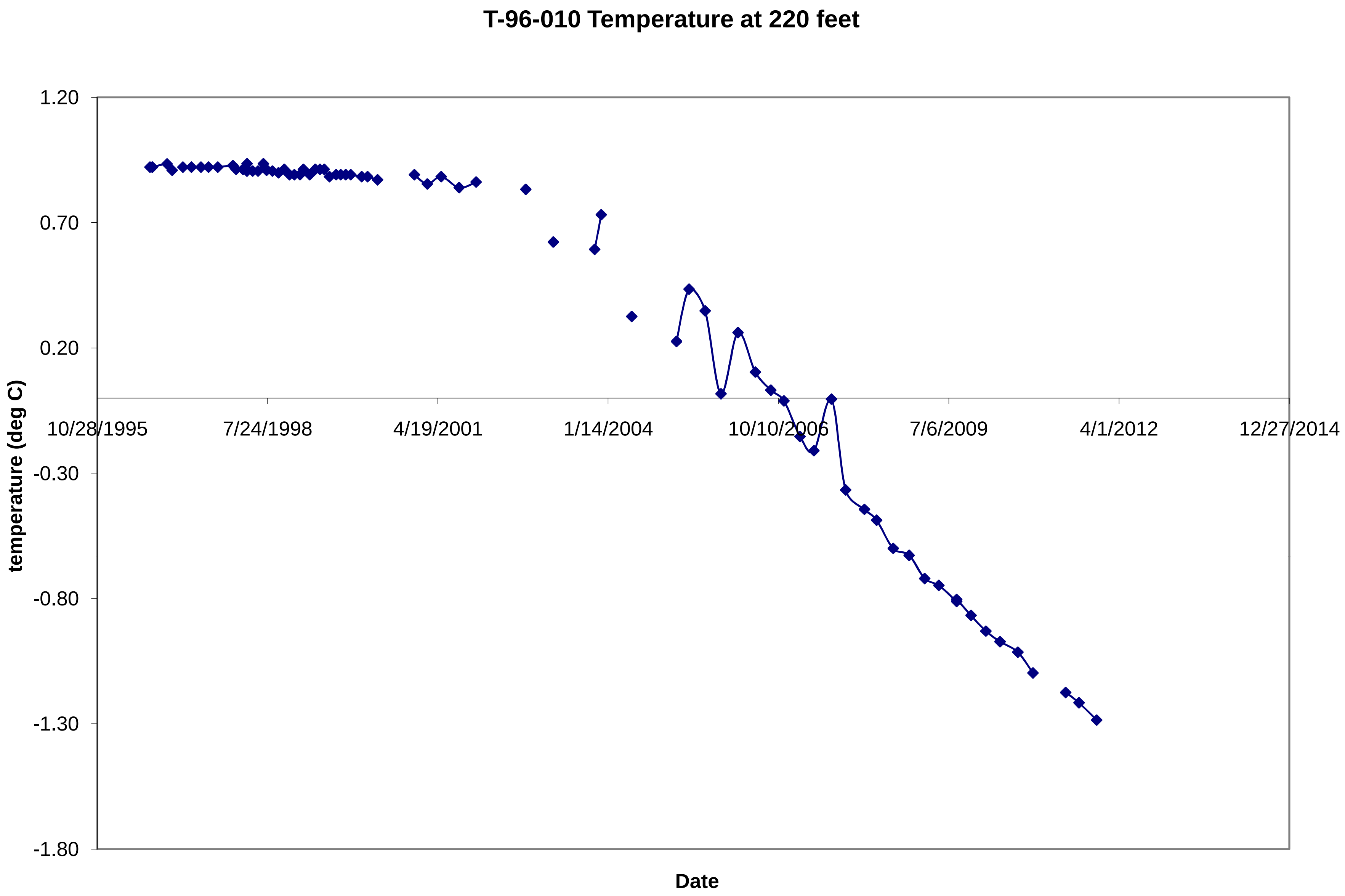


T-96-010 Temperature at 160 feet
temperature (deg C)
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

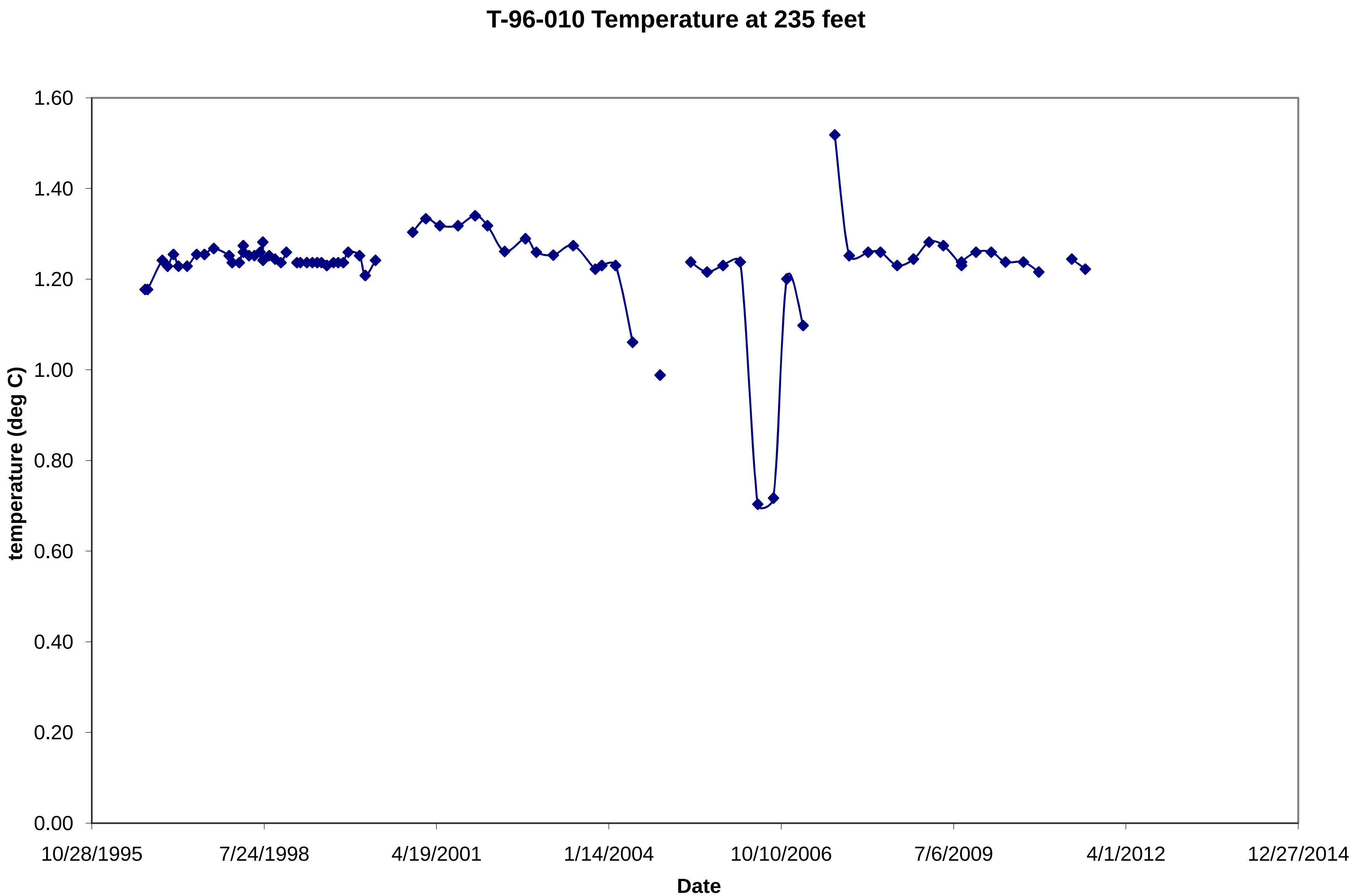

T-96-010 Temperature at 175 feet
temperature (deg C)
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-010 Temperature at 190 feet
temperature (deg C)
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0.45
0.40
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

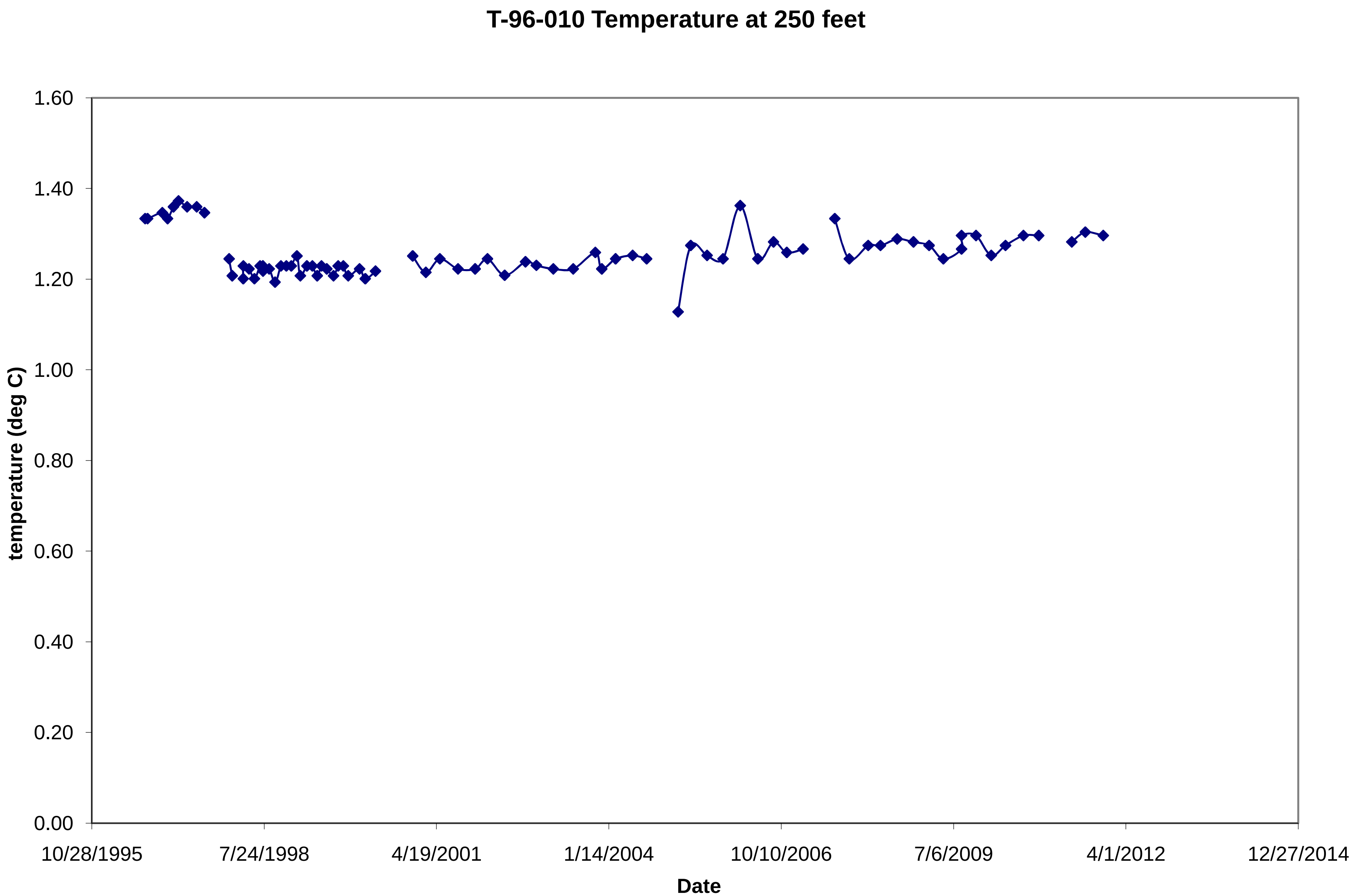

T-96-010 Temperature at 205 feet
temperature (deg C)
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



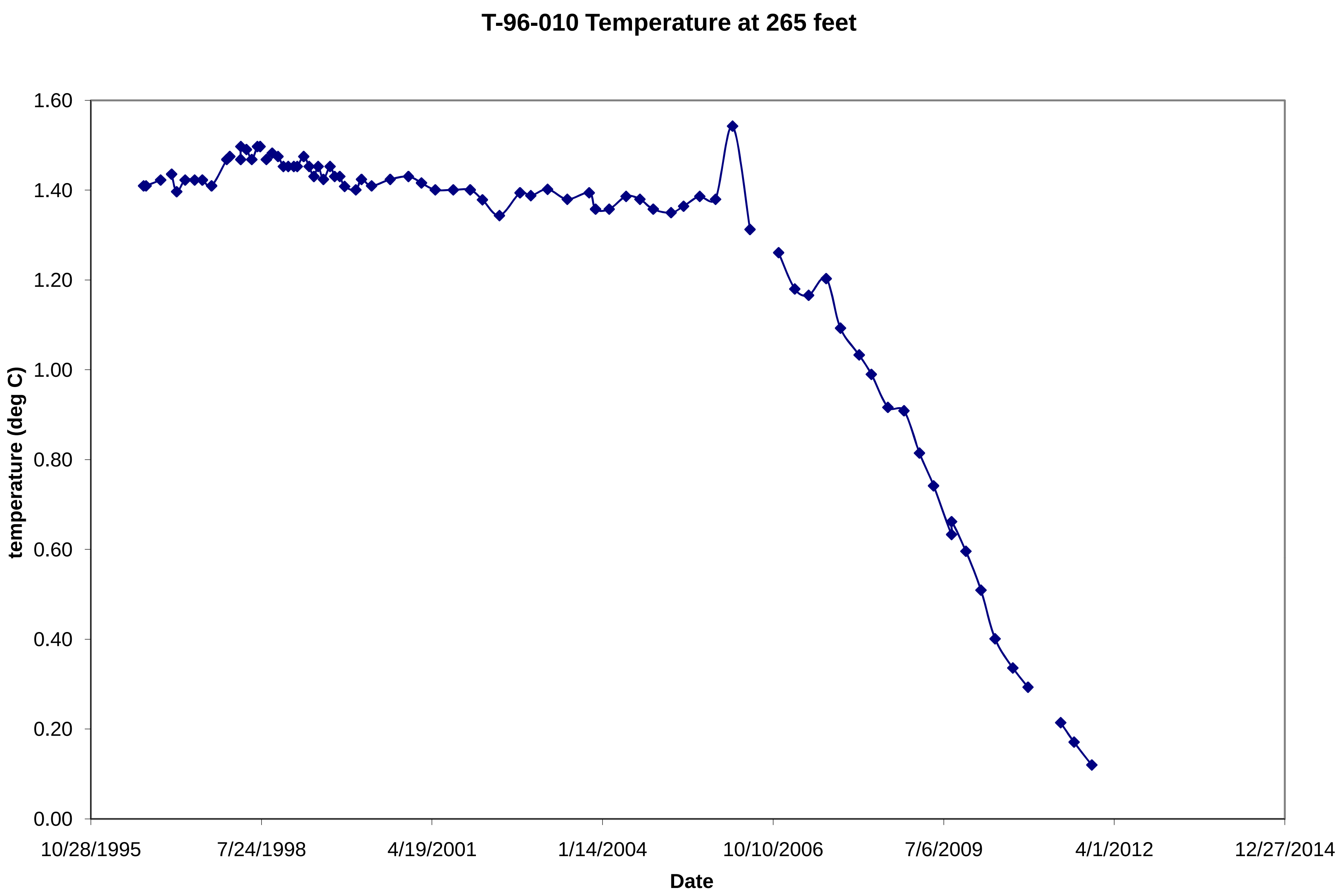
T-96-010 Temperature at 220 feet
1.20
0.70
0.20
-0.30
-0.80
-1.30
-1.80
temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

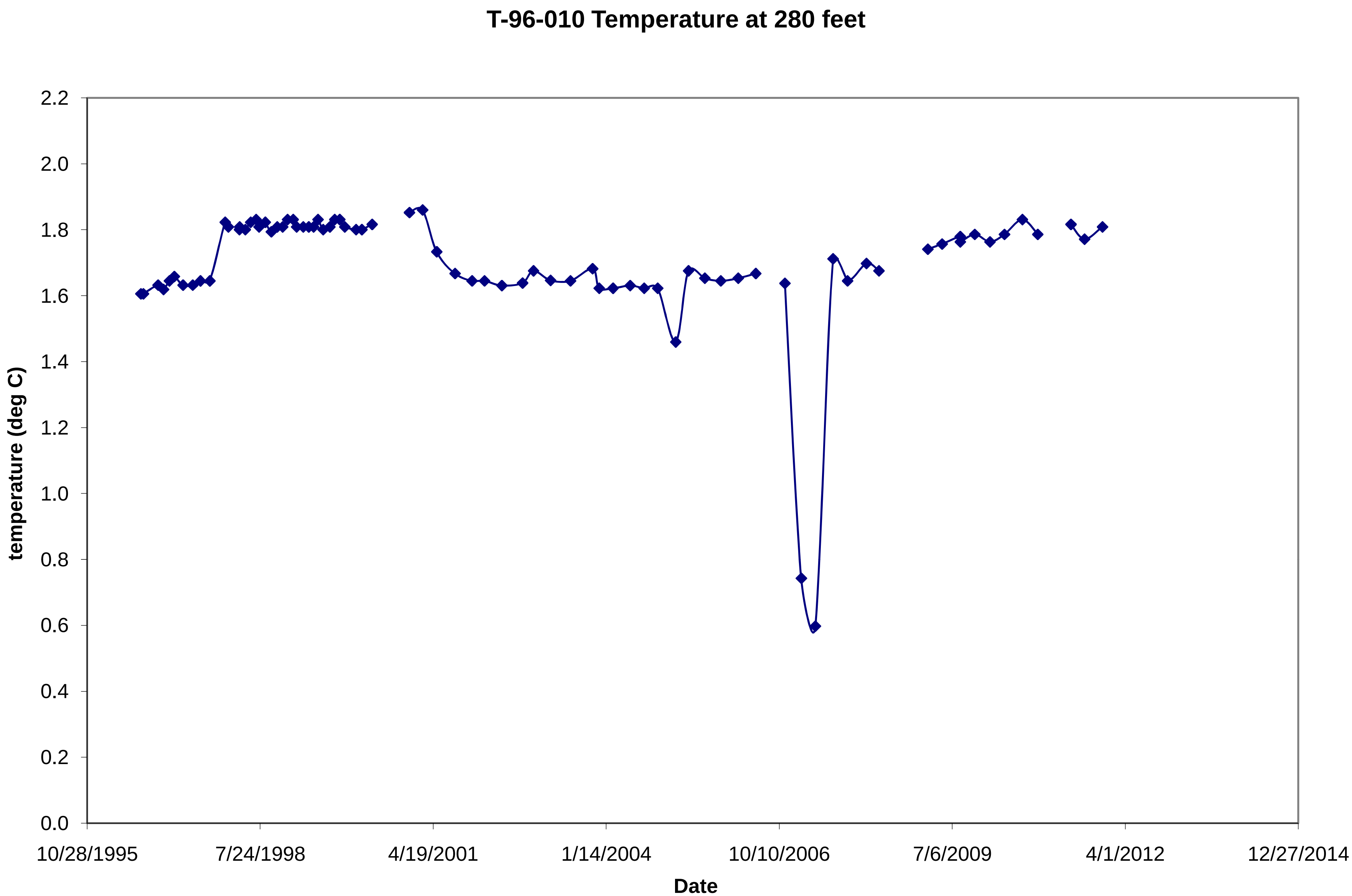


T-96-010 Temperature at 235 feet
temperature (deg C)
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

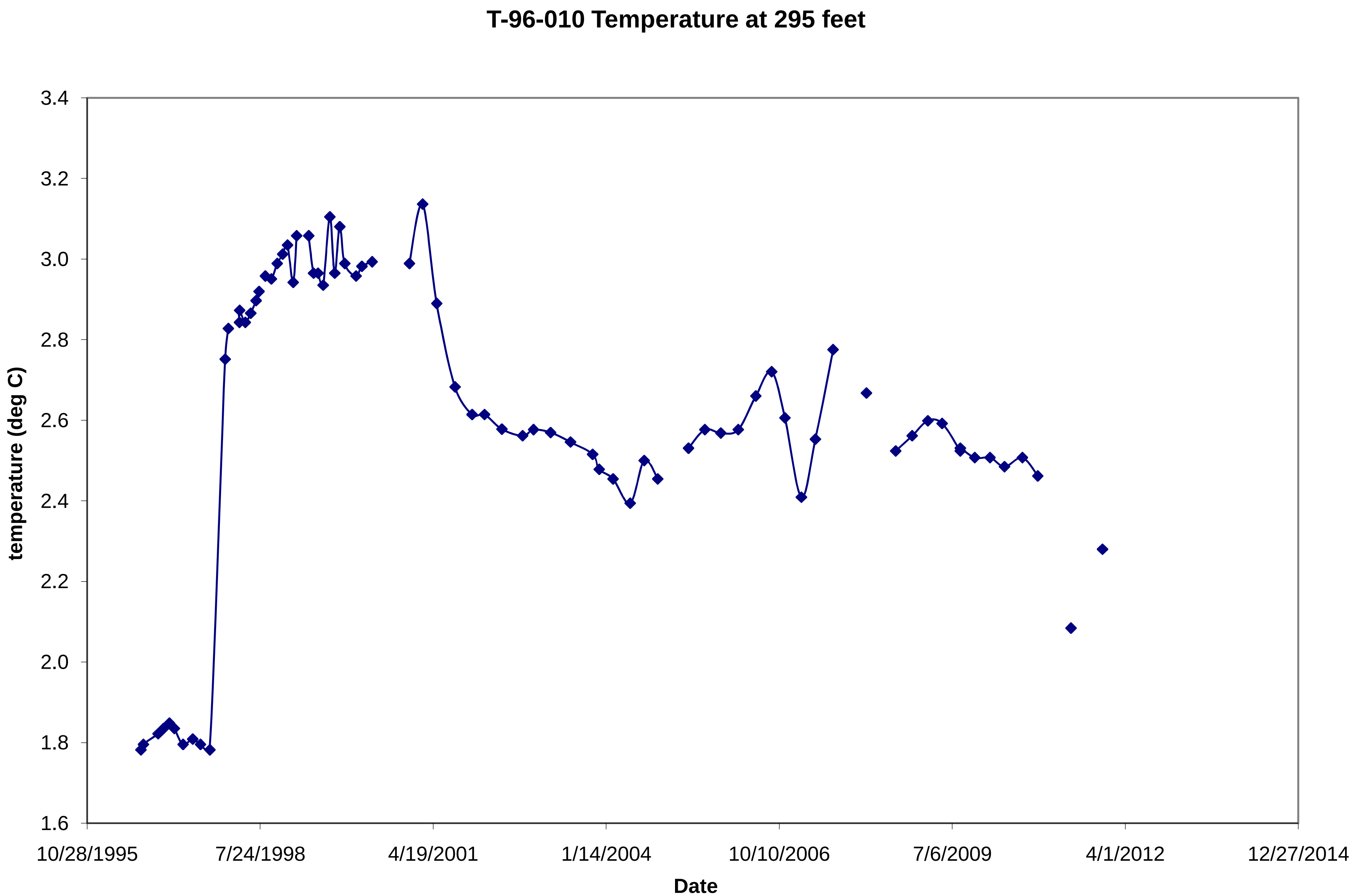


T-96-010 Temperature at 250 feet
temperature (deg C)
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

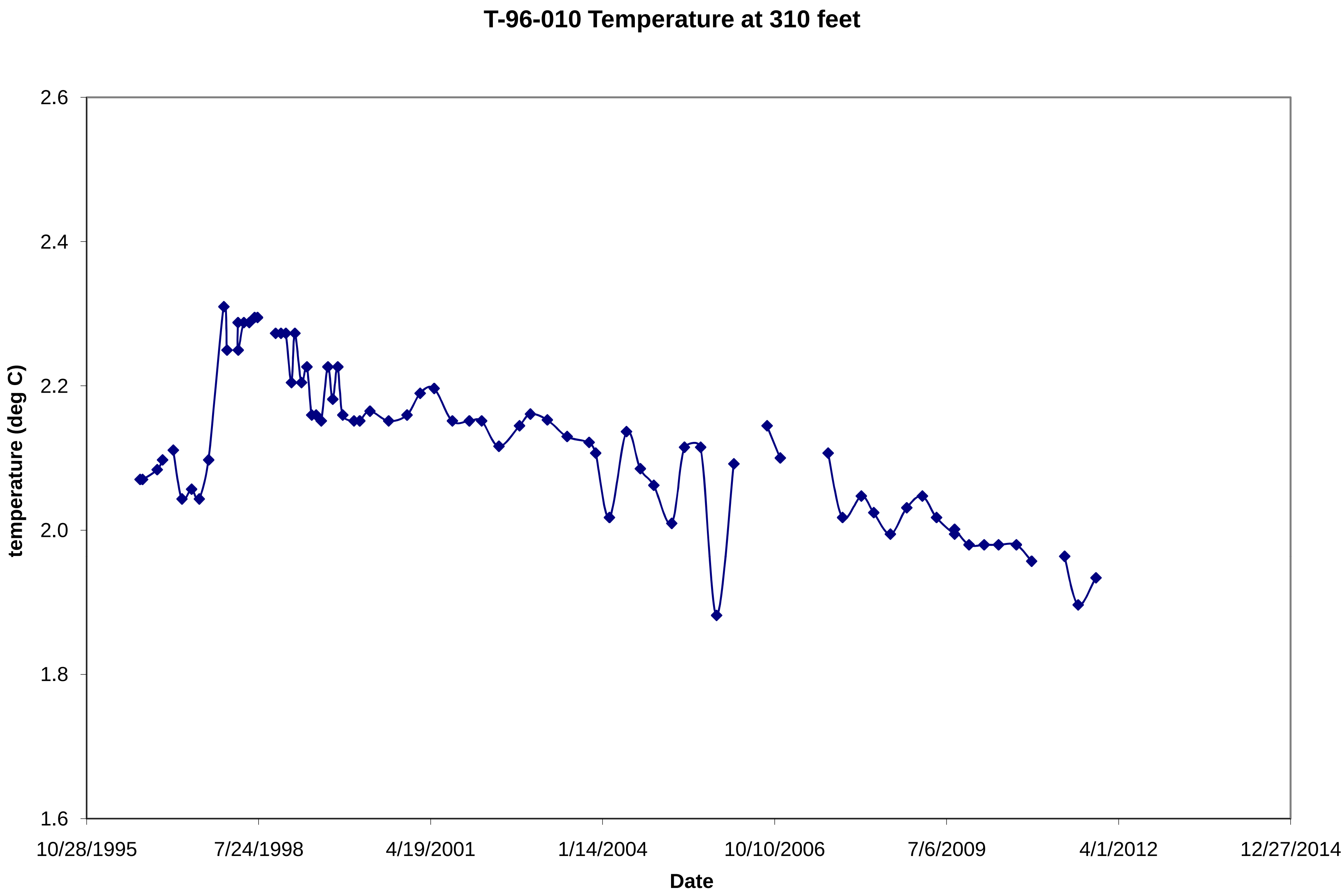

T-96-010 Temperature at 265 feet
temperature (deg C)
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

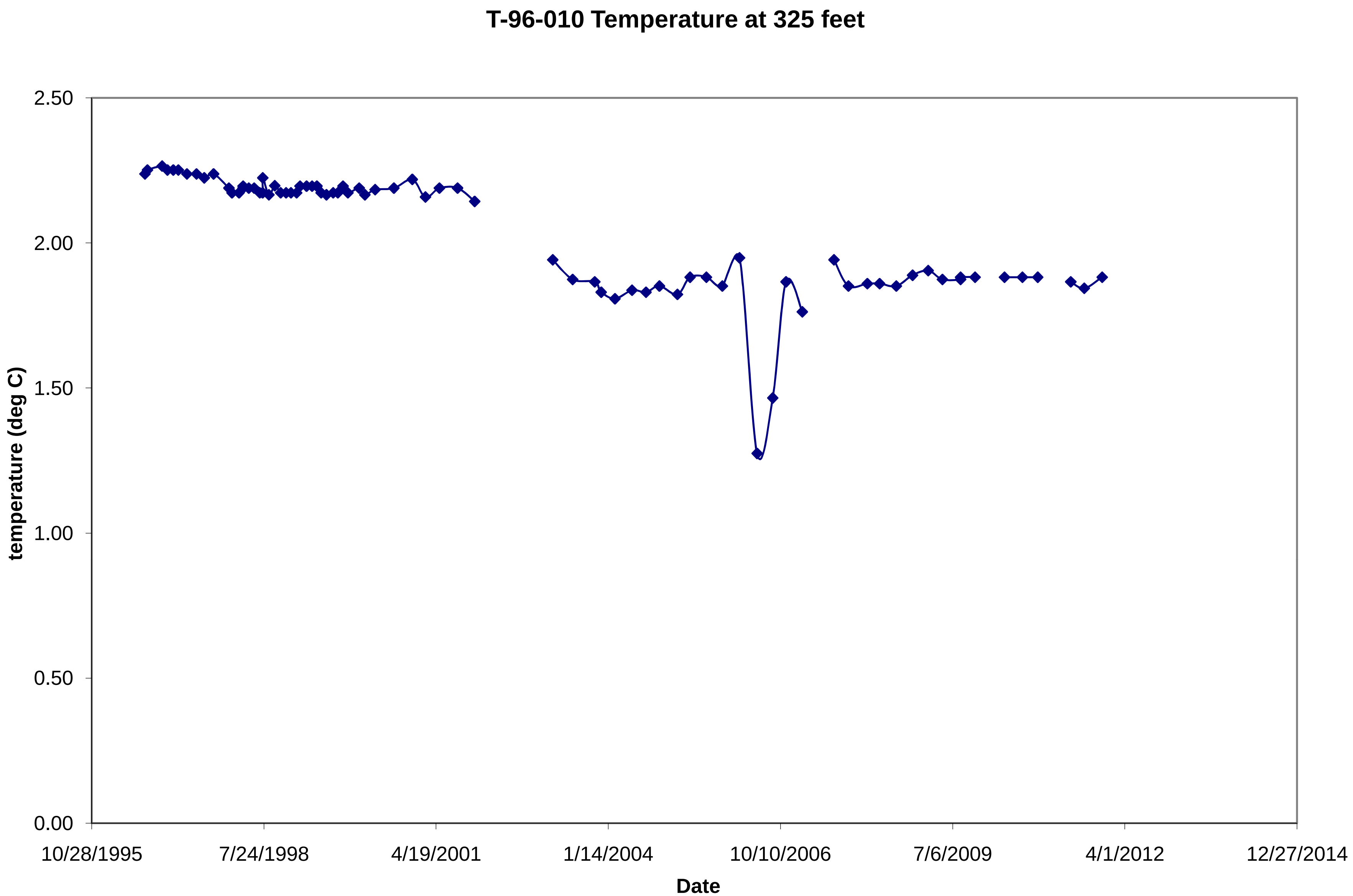


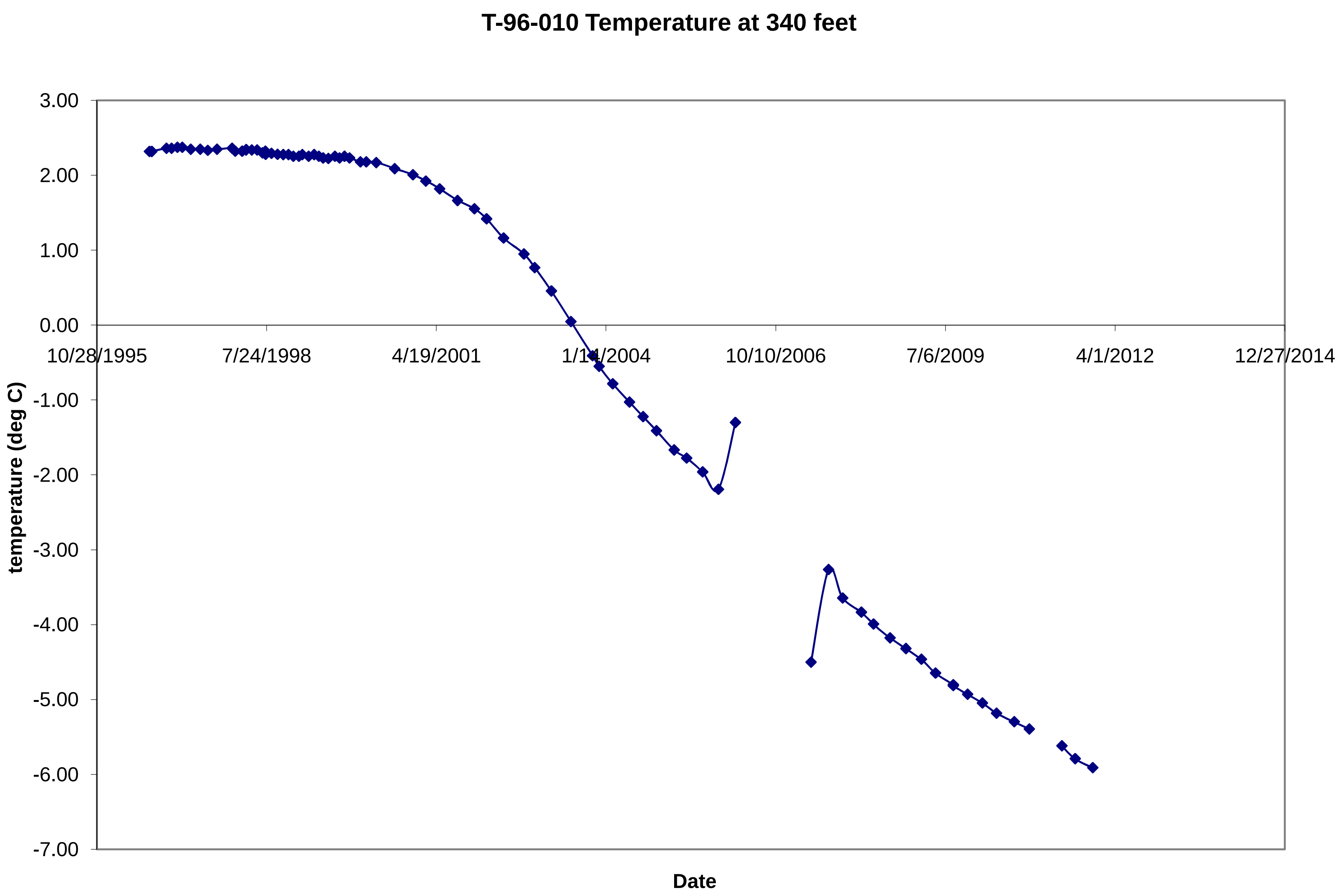
T-96-010 Temperature at 280 feet
temperature (deg C)
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

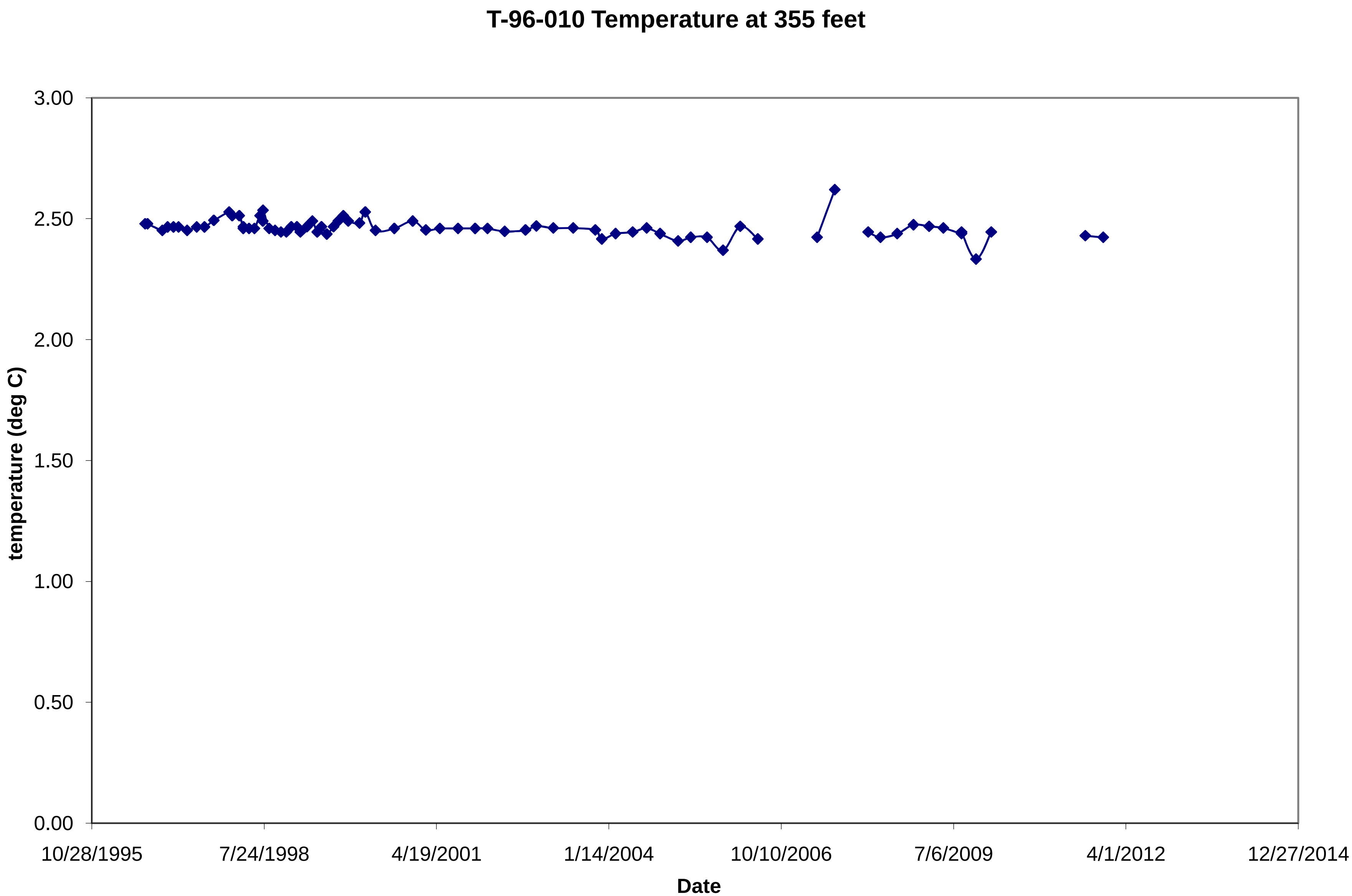


T-96-010 Temperature at 295 feet
temperature (deg C)
3.4
3.2
3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

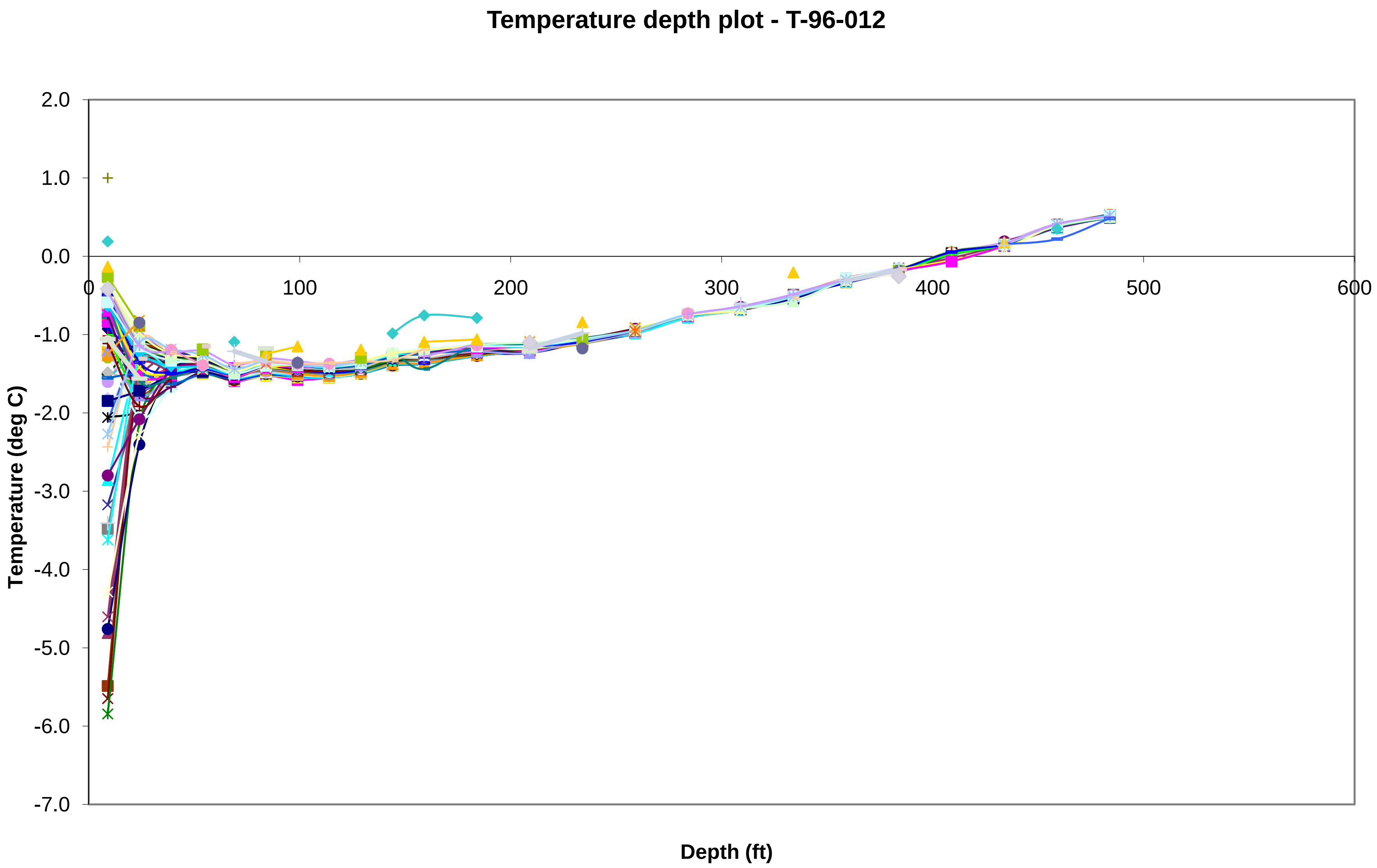

T-96-010 Temperature at 310 feet
temperature (deg C)
2.6
2.4
2.2
2.0
1.8
1.6
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-010 Temperature at 325 feet
temperature (deg C)
2.50
2.00
1.50
1.00
0.50
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

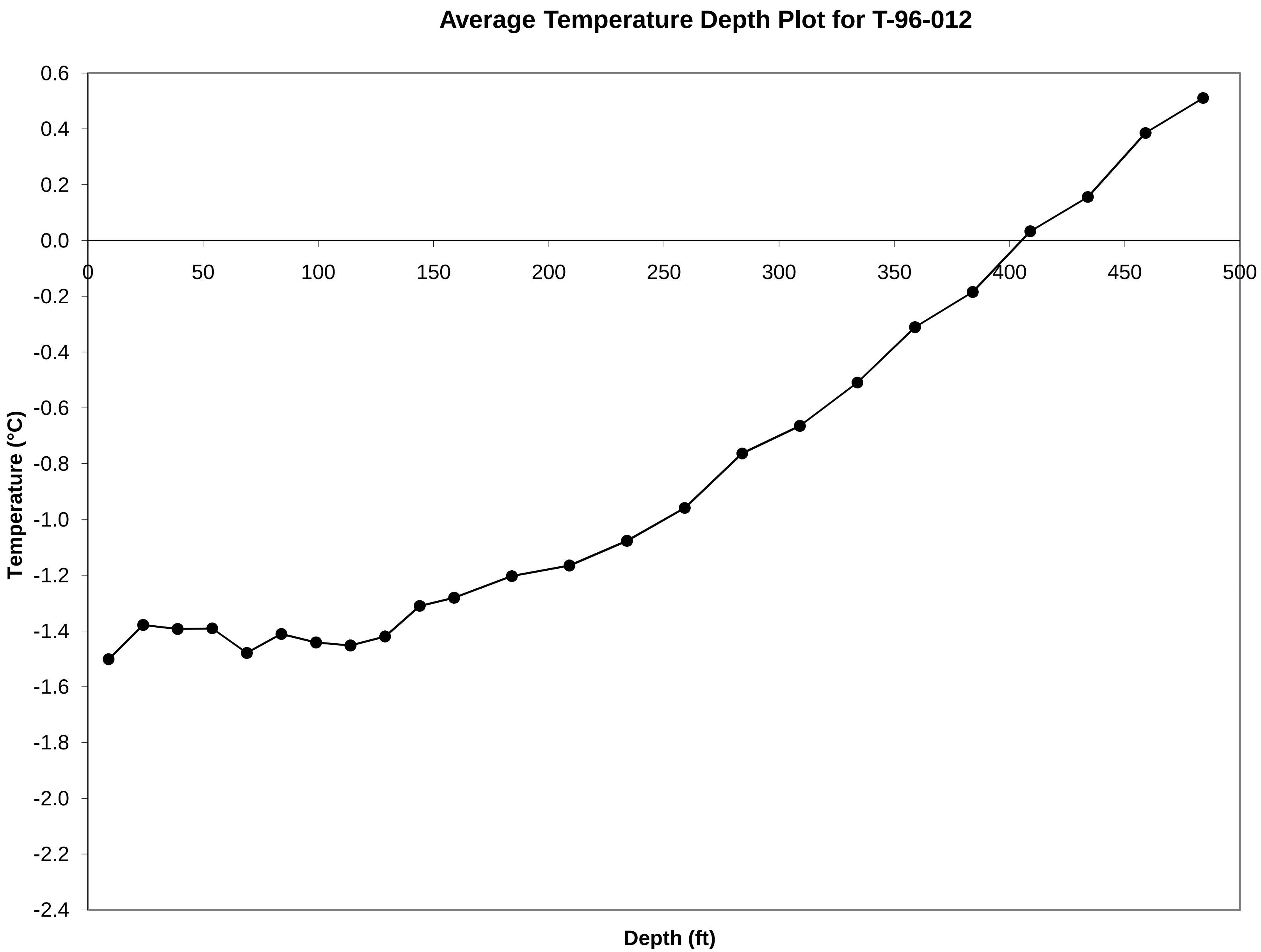

T-96-010 Temperature at 340 feet
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
-4.00
-5.00
-6.00
-7.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
temperature (deg C)
Date


T-96-010 Temperature at 355 feet
temperature (deg C)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

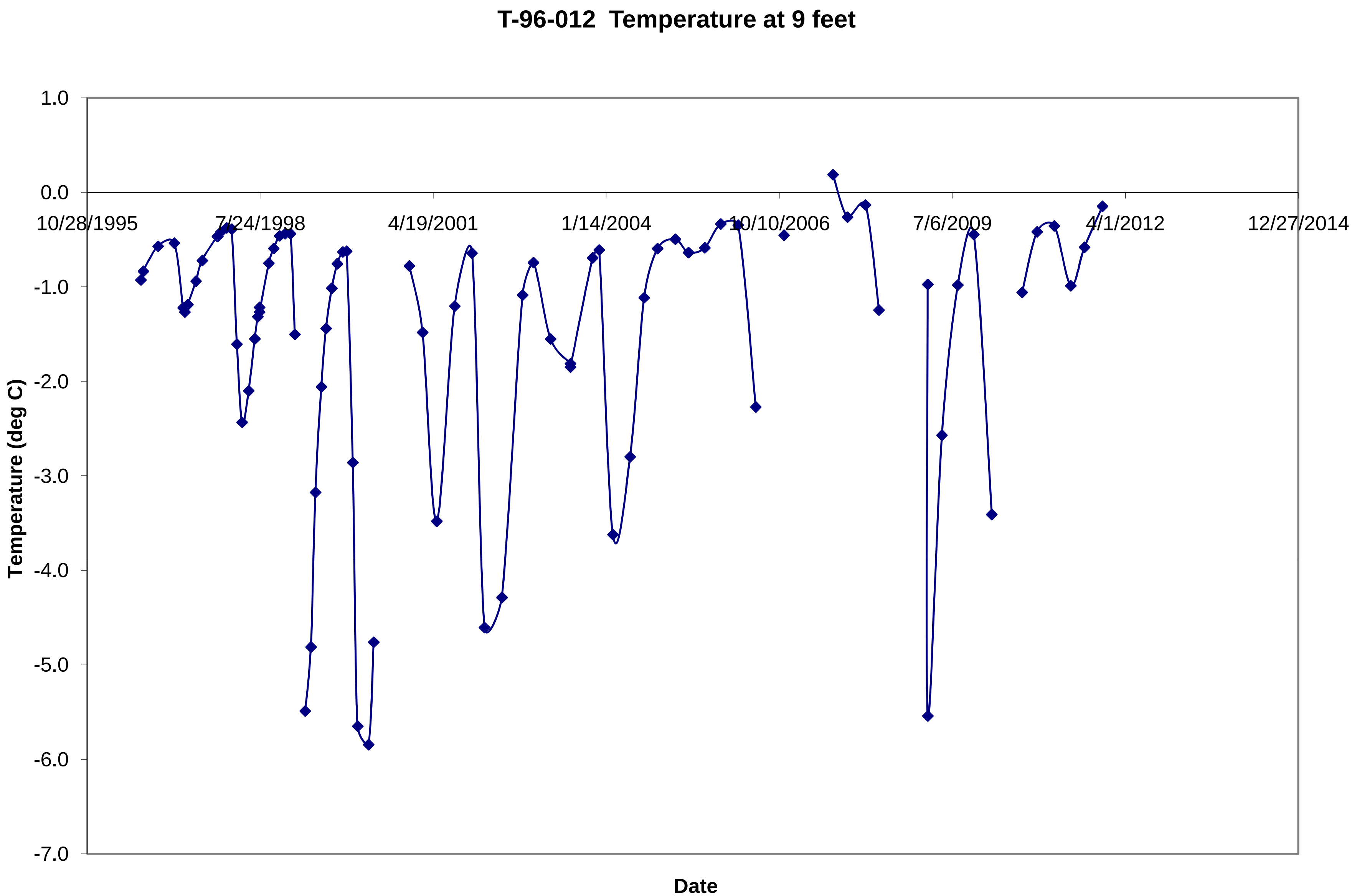
T-96-012



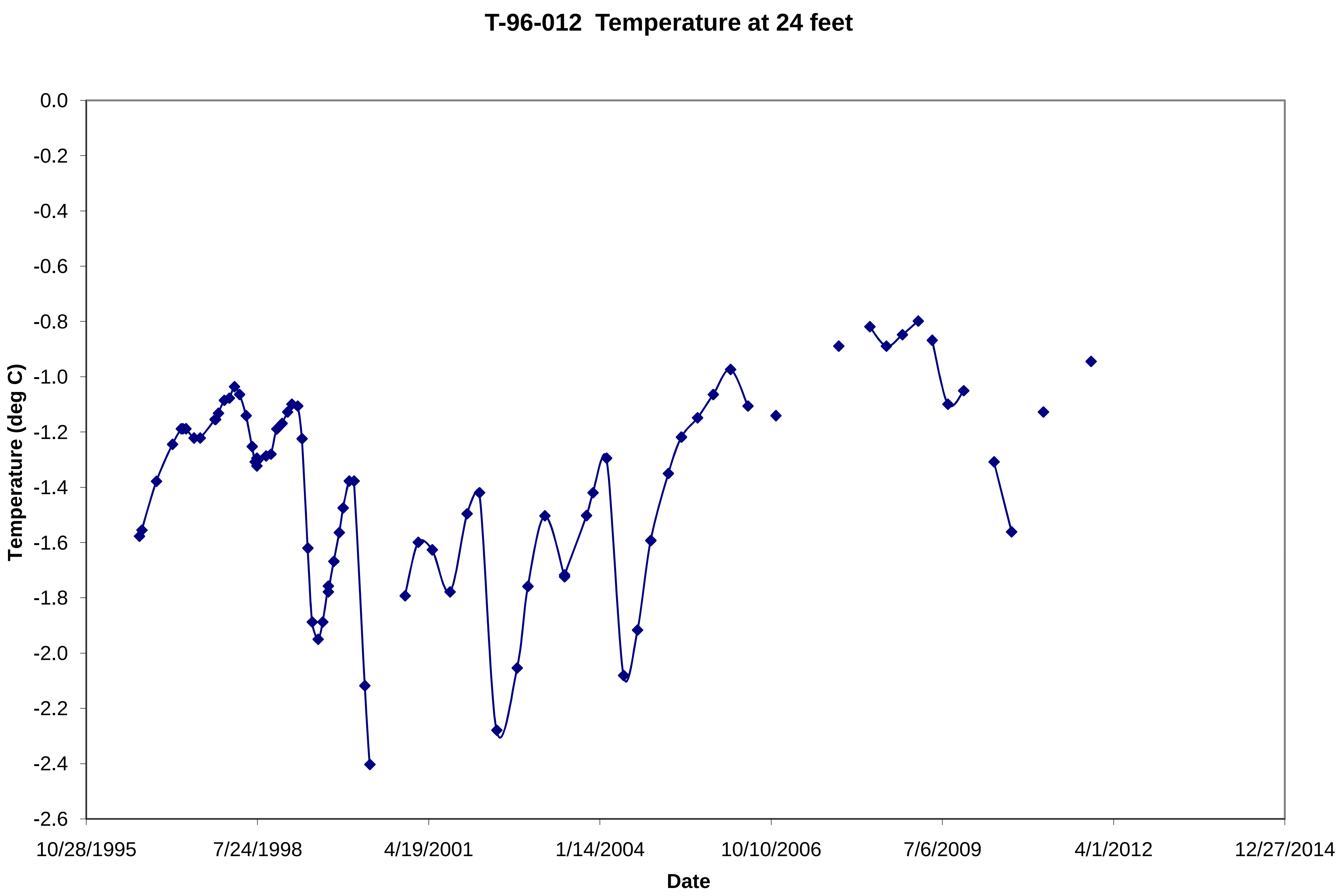
Temperature depth plot - T-96-012
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
-6.0
-7.0
0
100
200
300
400
500
600
Temperature (deg C)
Depth (ft)



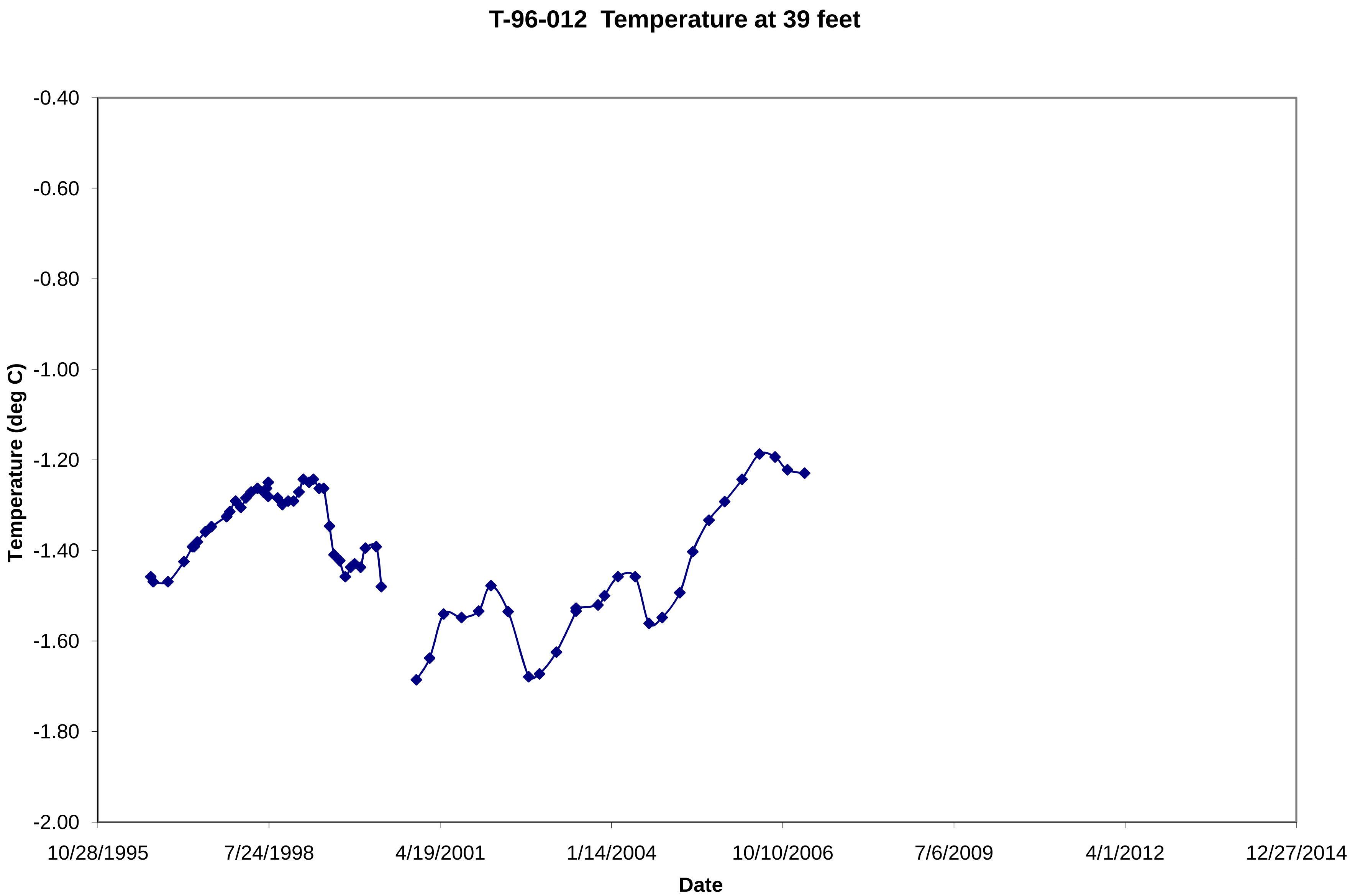
Average Temperature Depth Plot for T-96-012
Temperature (°C)
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
-1.8
-2.0
-2.2
-2.4
0
50
100
150
200
250
300
350
400
450
500
Depth (ft)

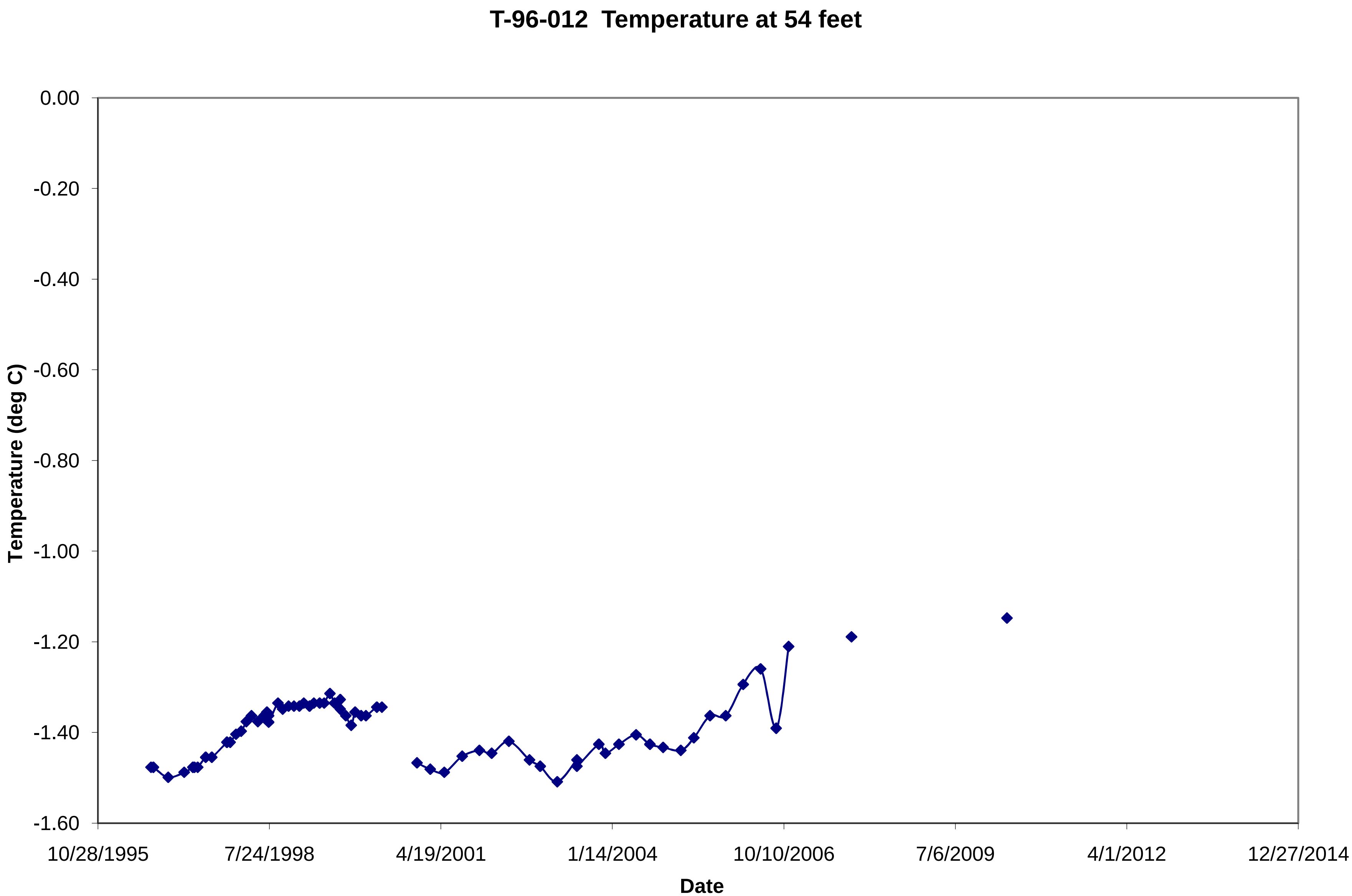


T-96-012 Temperature at 9 feet
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
-6.0
-7.0
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

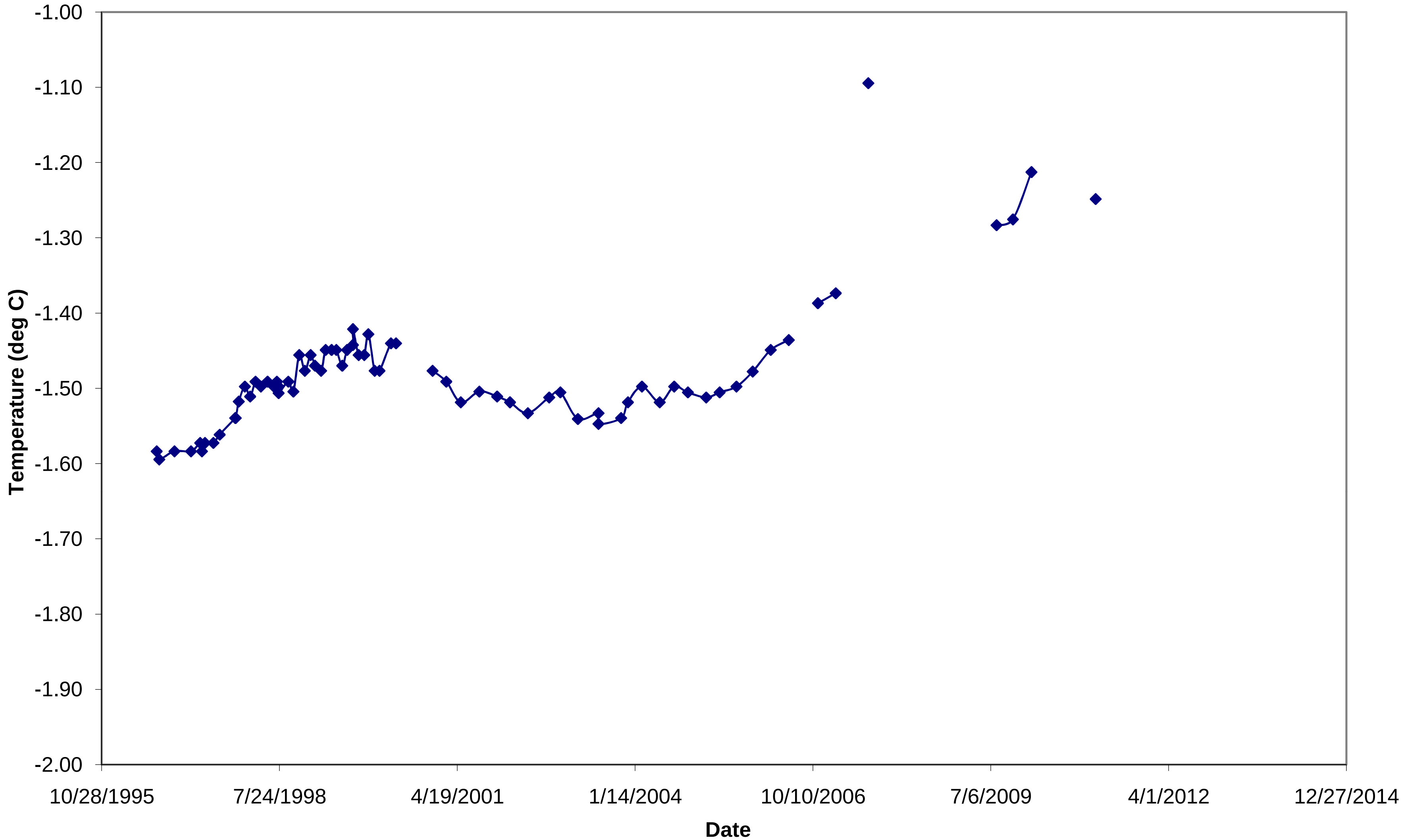


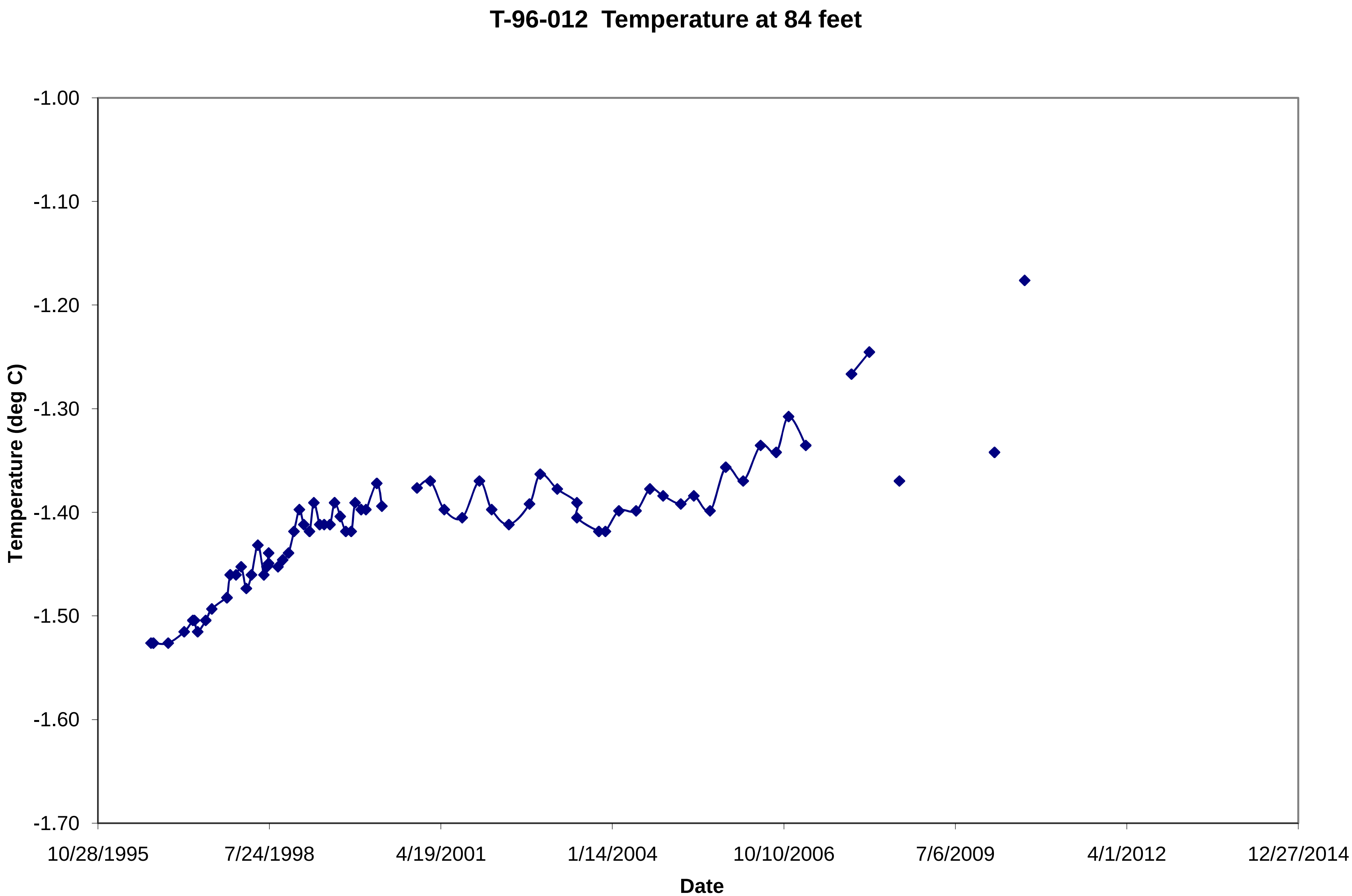
T-96-012 Temperature at 24 feet
Temperature (deg C)
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
-1.8
-2.0
-2.2
-2.4
-2.6
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-012 Temperature at 39 feet
Temperature (deg C)
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-012 Temperature at 54 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

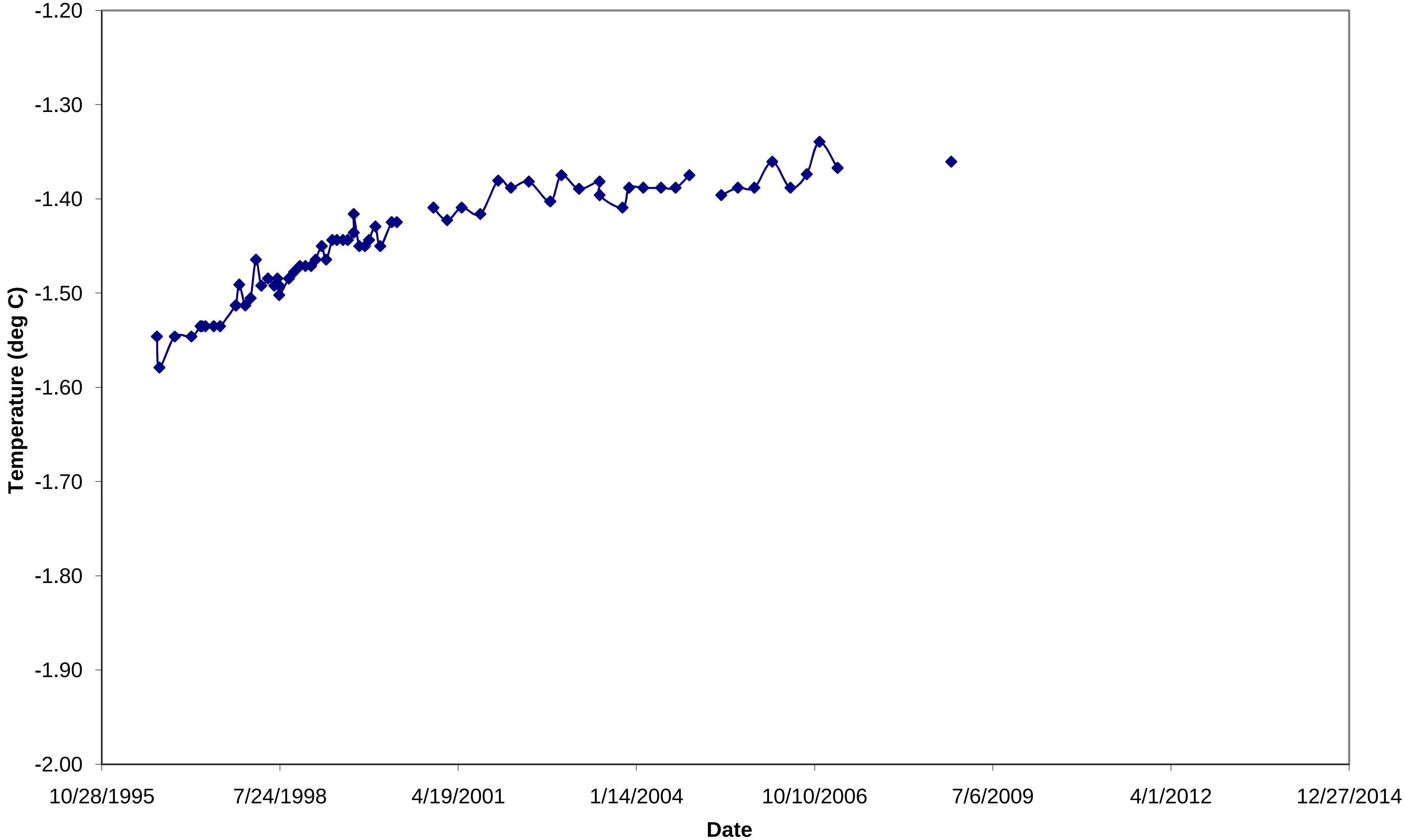
T-96-012 Temperature at 69 feet

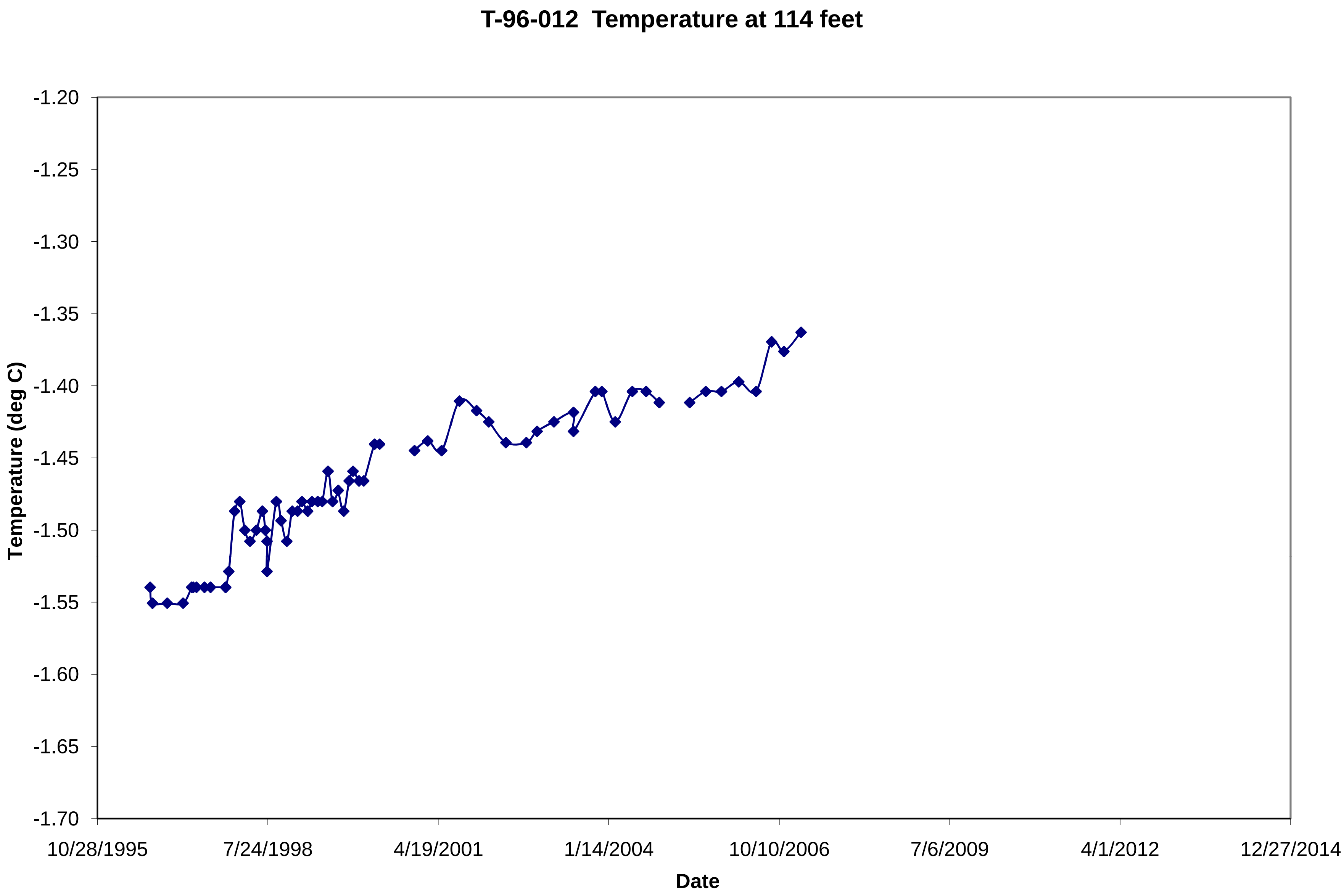


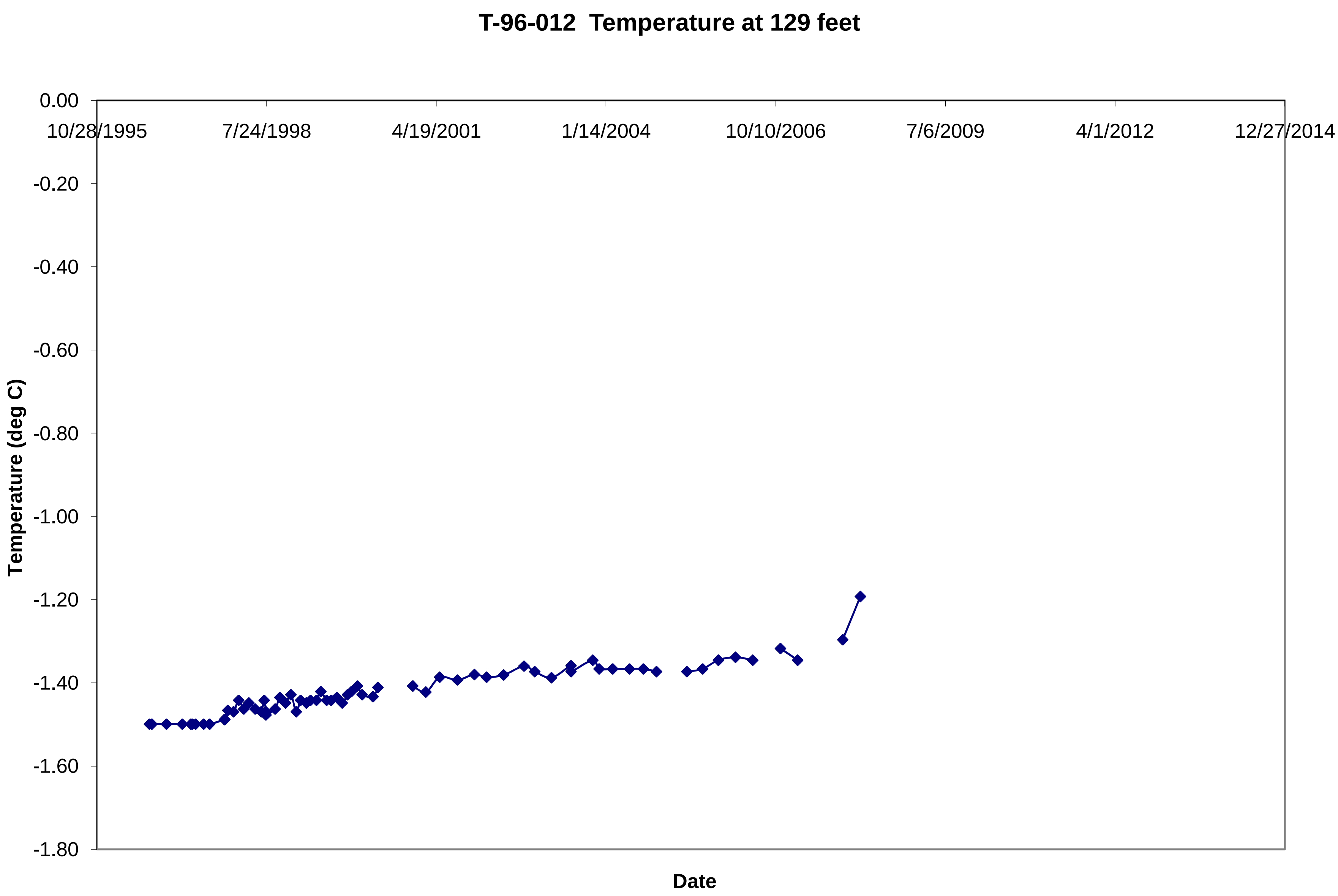


T-96-012 Temperature at 84 feet
Temperature (deg C)
-1.00
-1.10
-1.20
-1.30
-1.40
-1.50
-1.60
-1.70
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

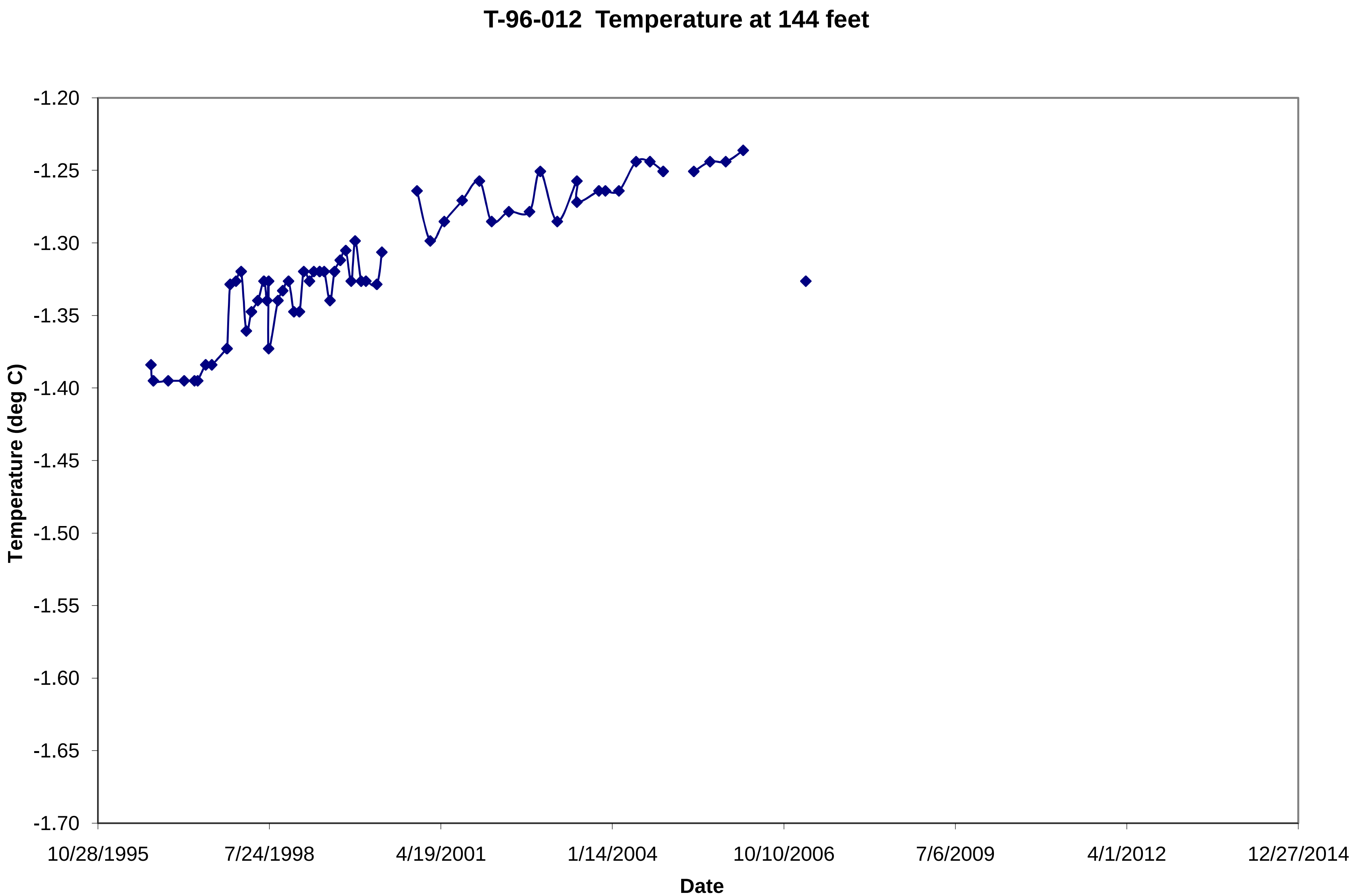
T-96-012 Temperature at 99 feet

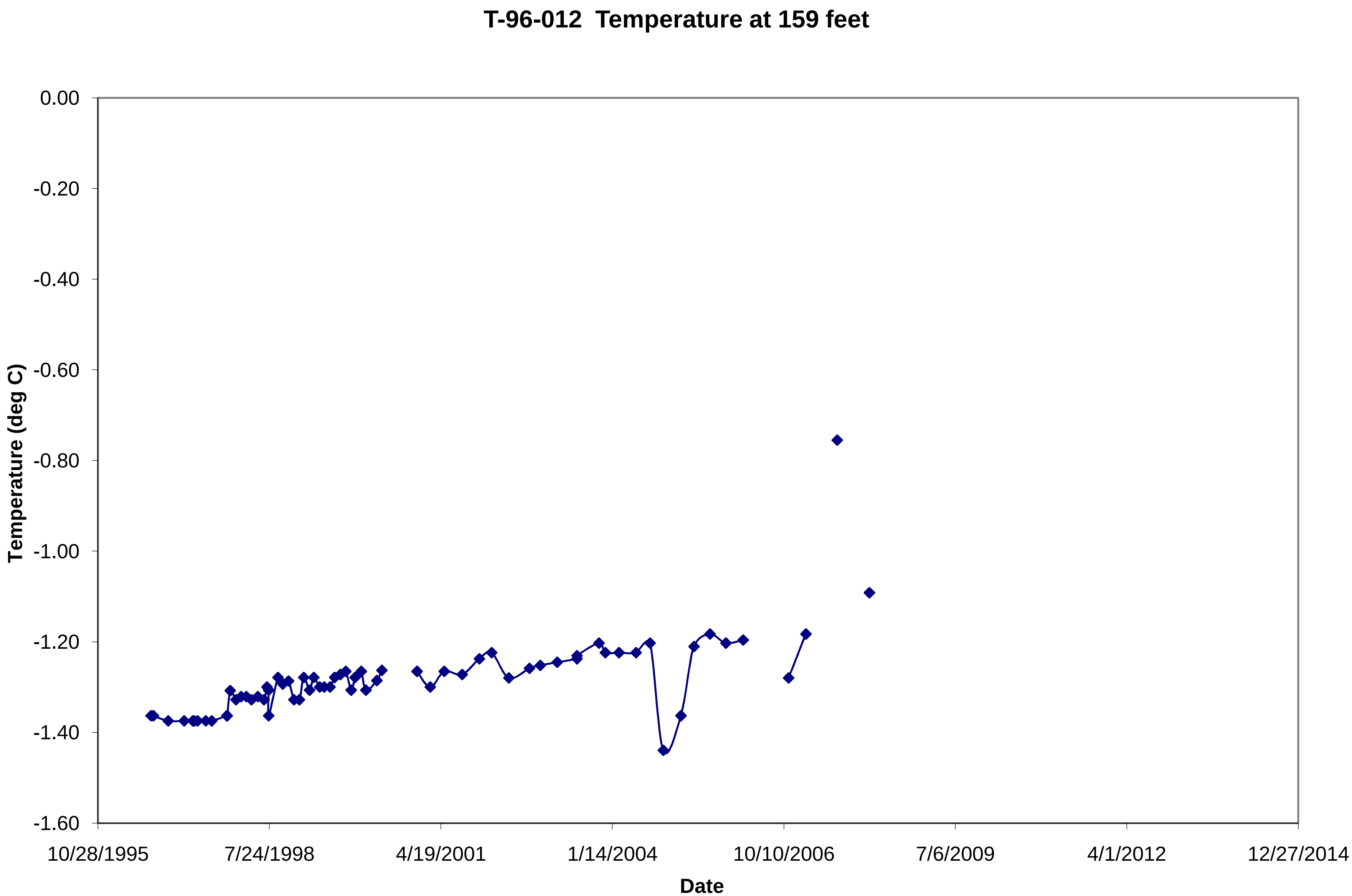



T-96-012 Temperature at 114 feet
-1.20
-1.25
-1.30
-1.35
-1.40
-1.45
-1.50
-1.55
-1.60
-1.65
-1.70
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

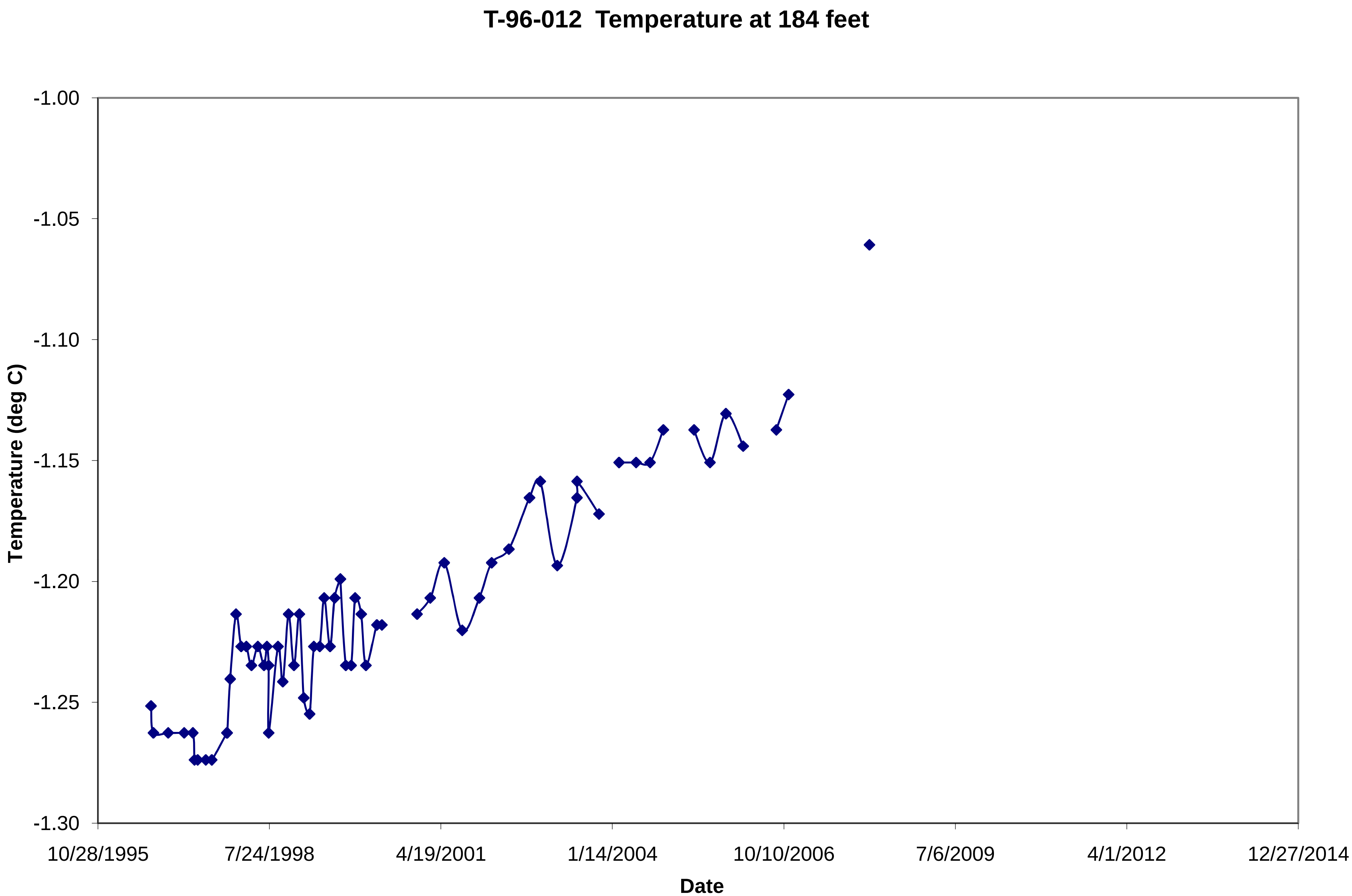


T-96-012 Temperature at 129 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

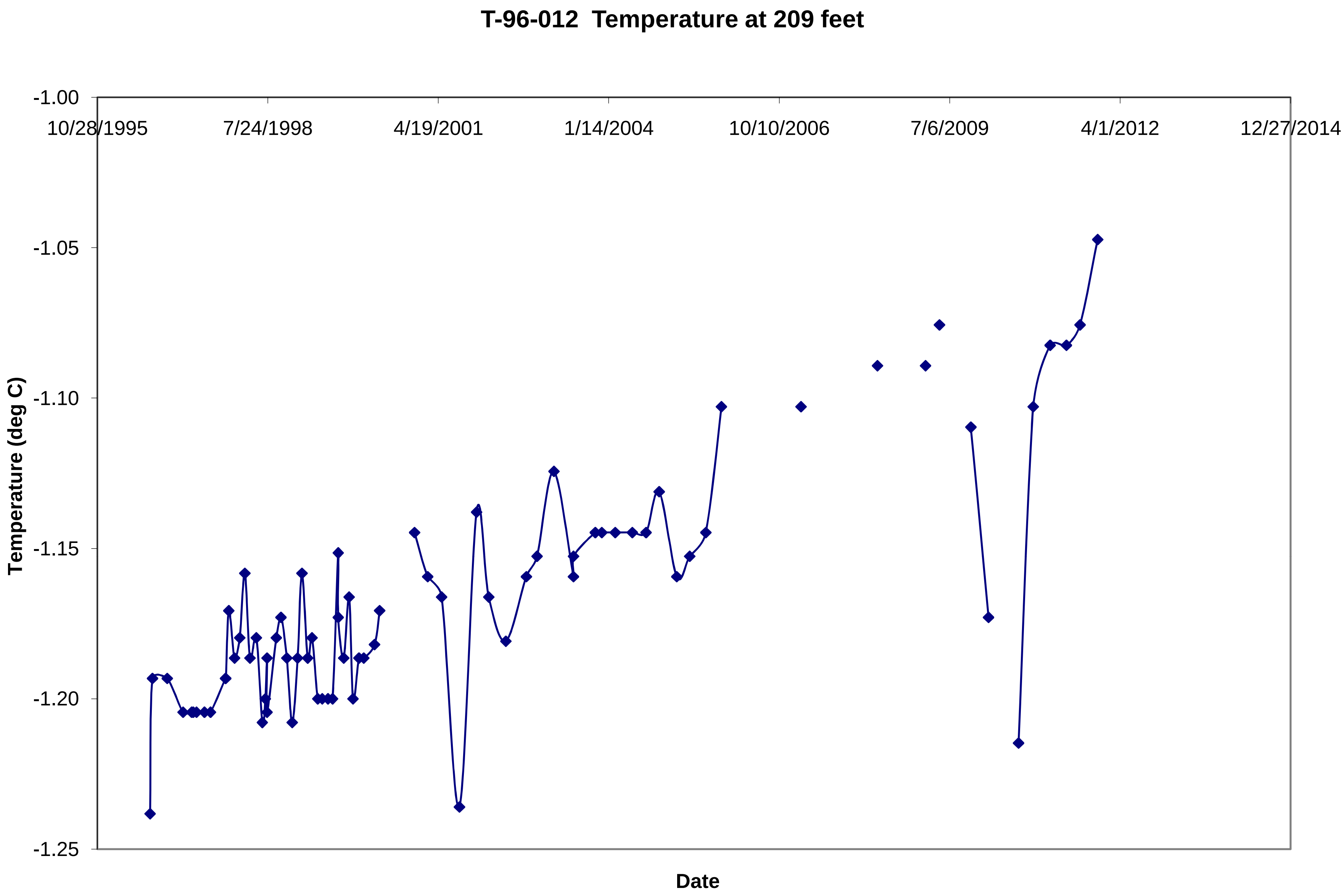

T-96-012 Temperature at 144 feet
-1.20
-1.25
-1.30
-1.35
-1.40
-1.45
-1.50
-1.55
-1.60
-1.65
-1.70
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

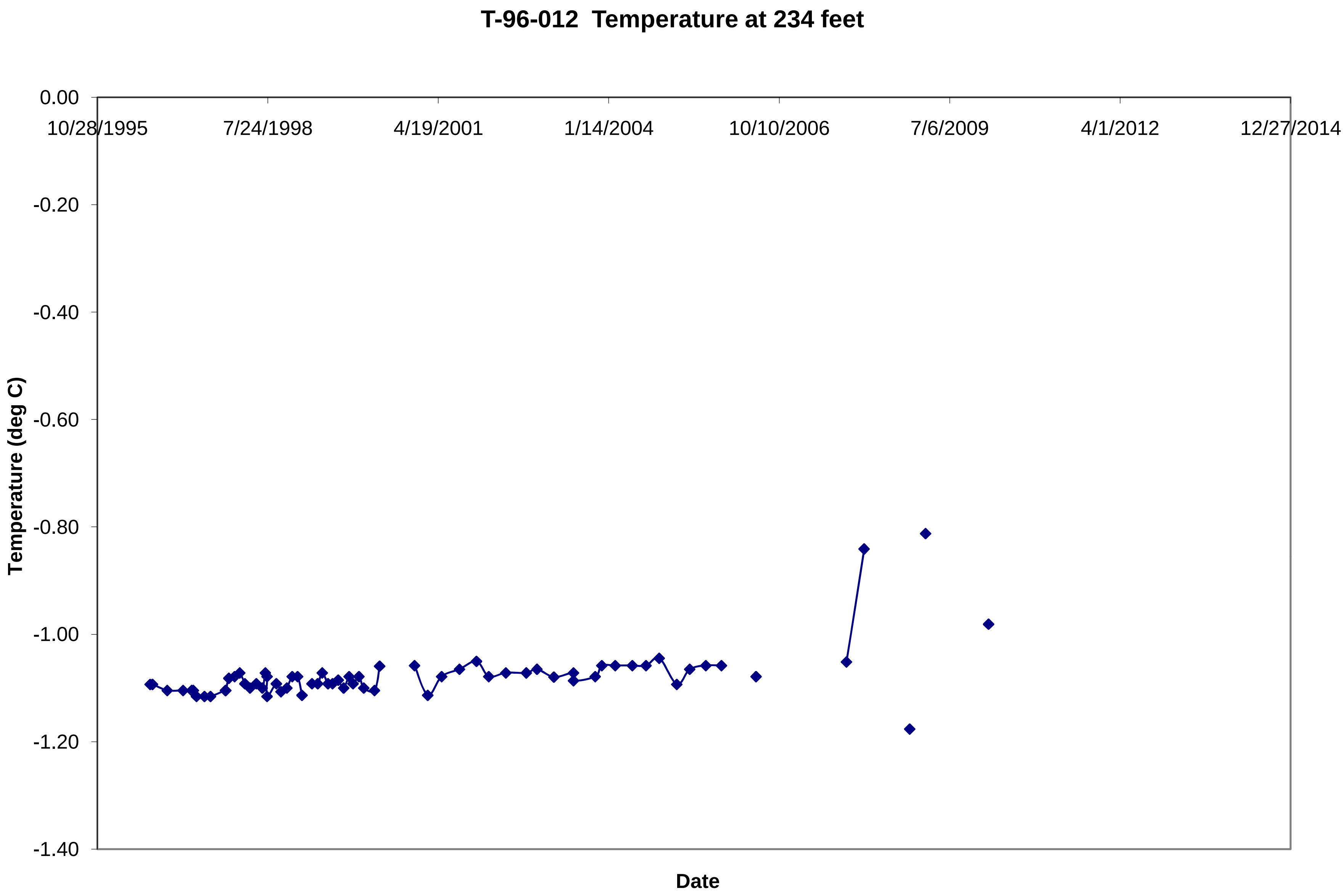


T-96-012 Temperature at 159 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

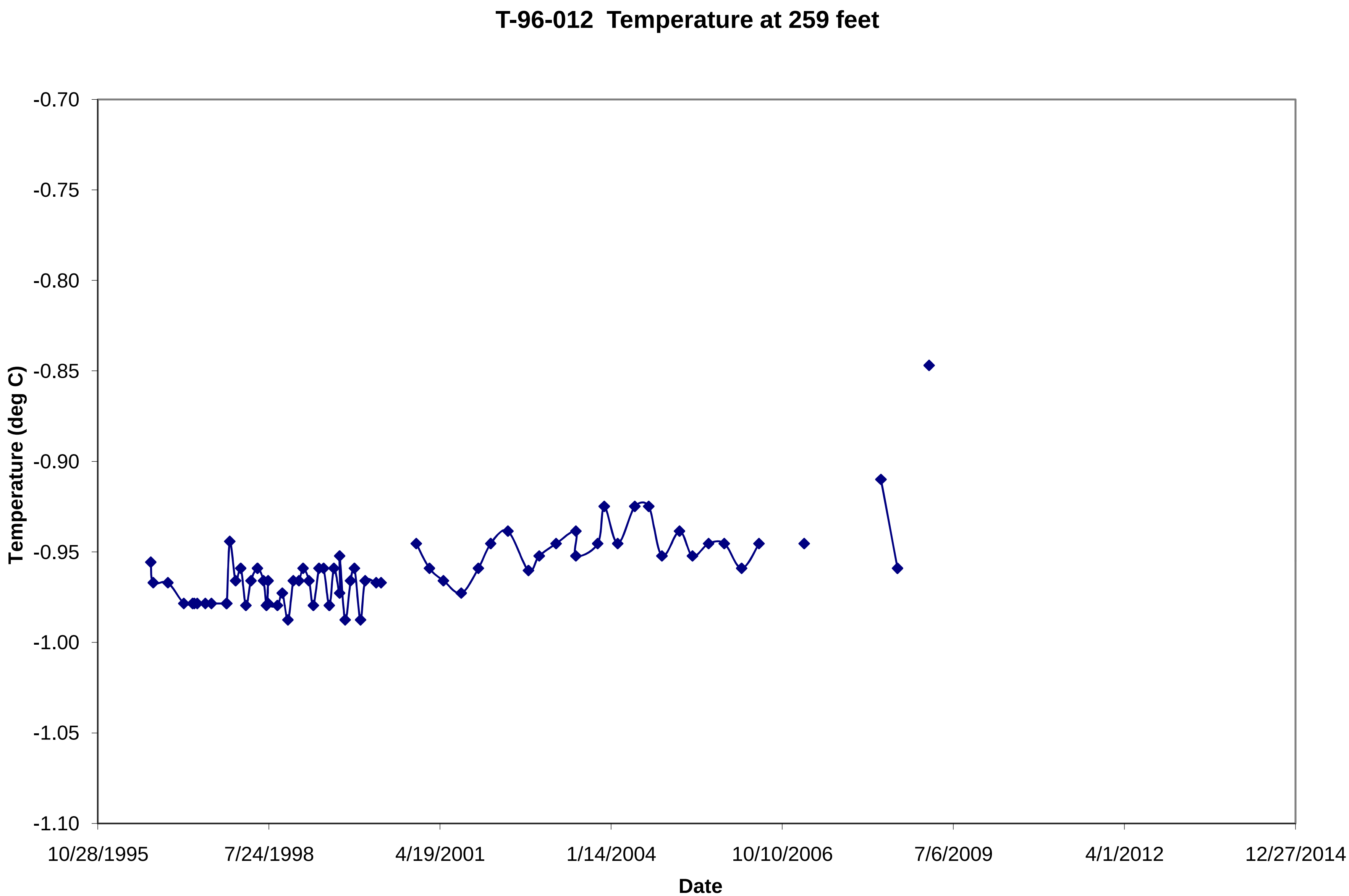


T-96-012 Temperature at 184 feet
Temperature (deg C)
-1.00
-1.05
-1.10
-1.15
-1.20
-1.25
-1.30
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

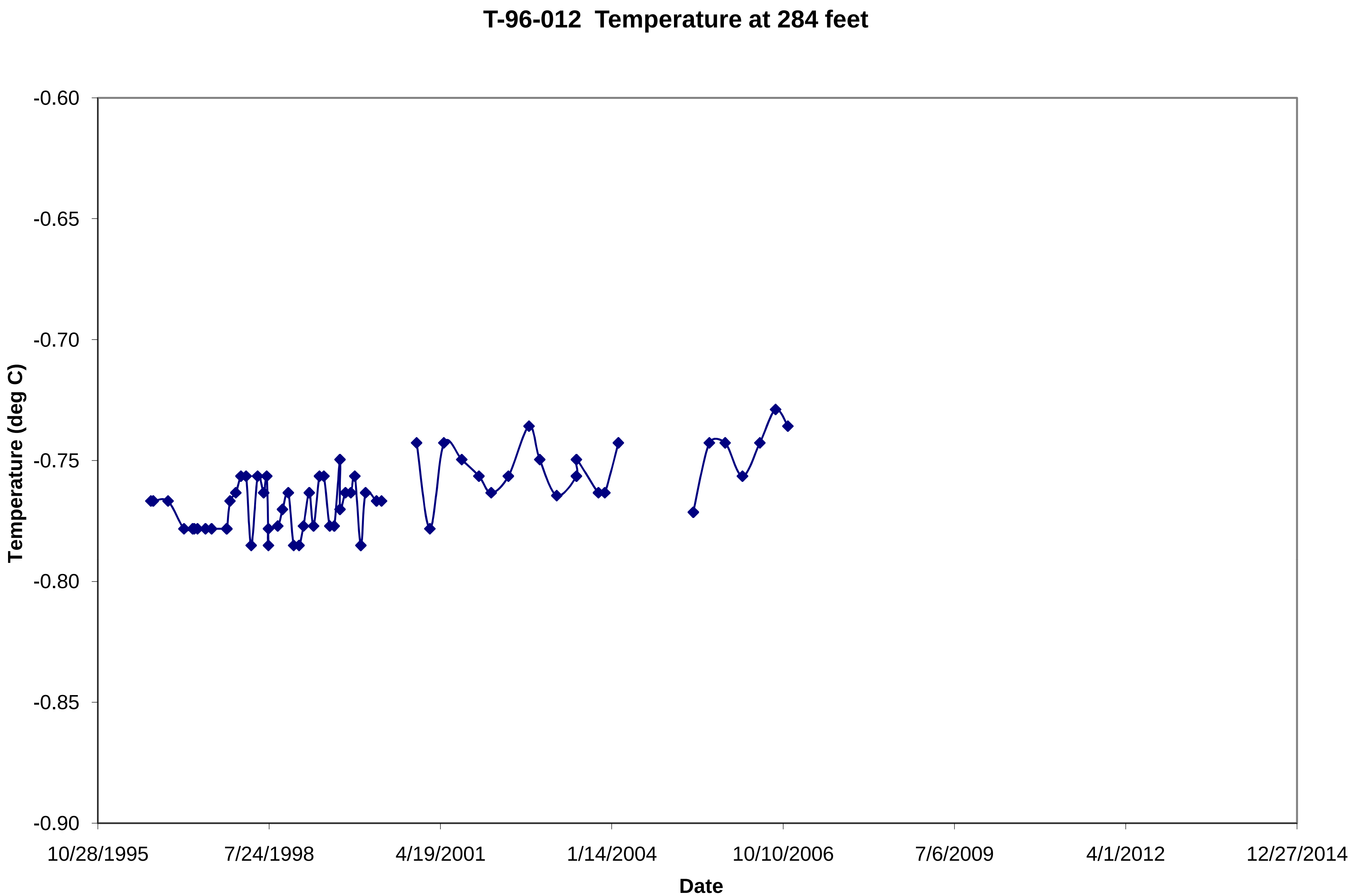

T-96-012 Temperature at 209 feet
Temperature (deg C)
-1.00
-1.05
-1.10
-1.15
-1.20
-1.25
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

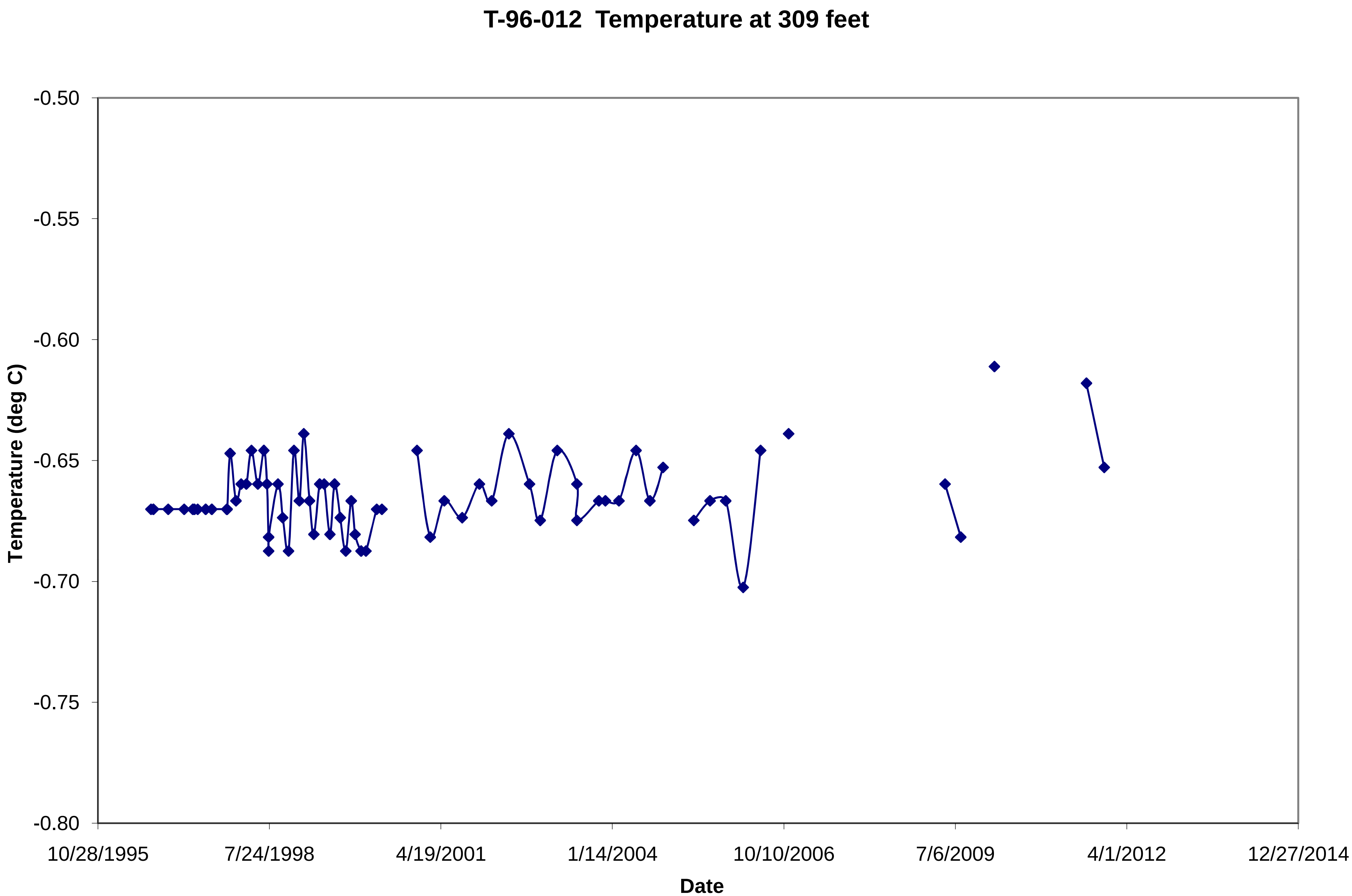


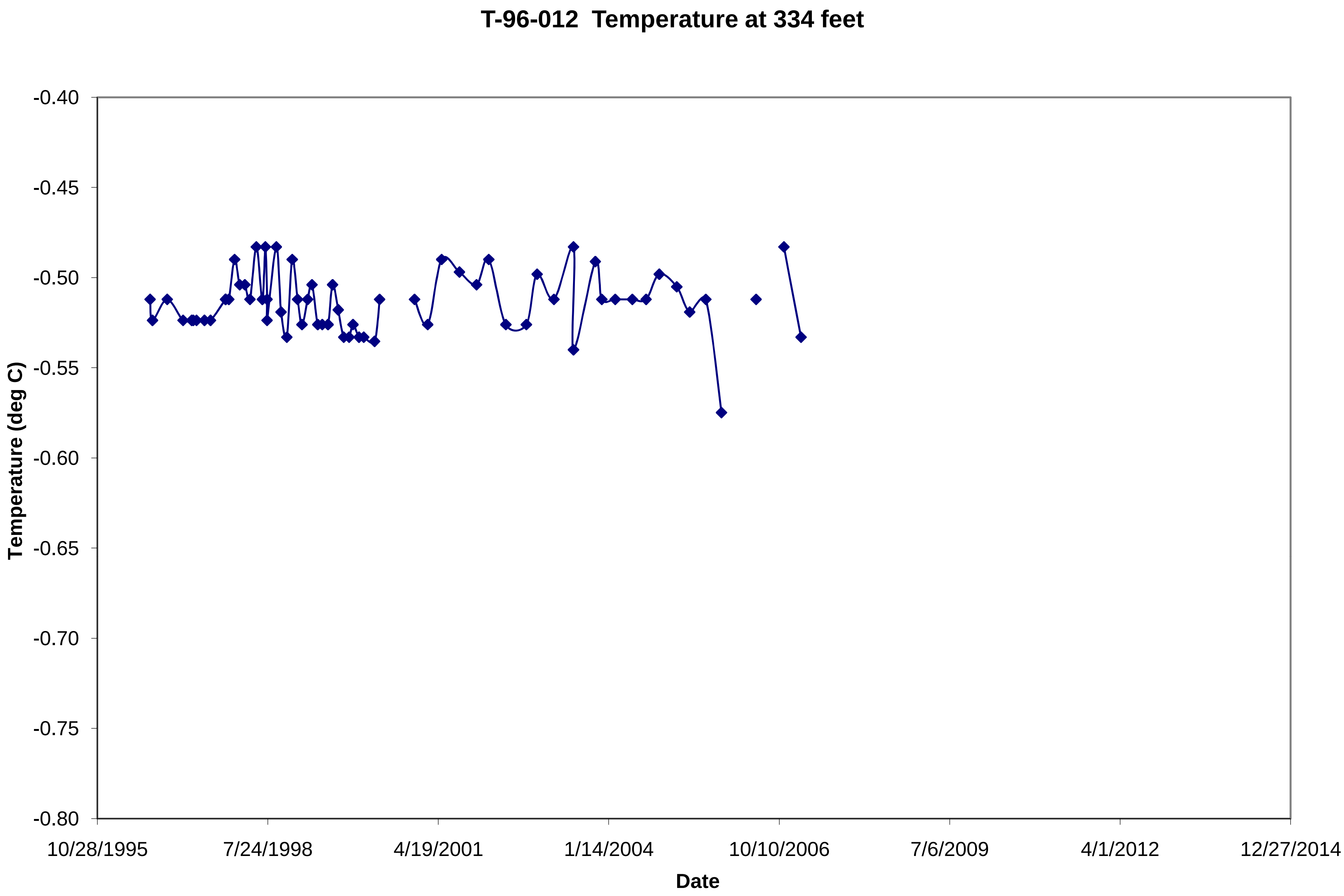
T-96-012 Temperature at 234 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

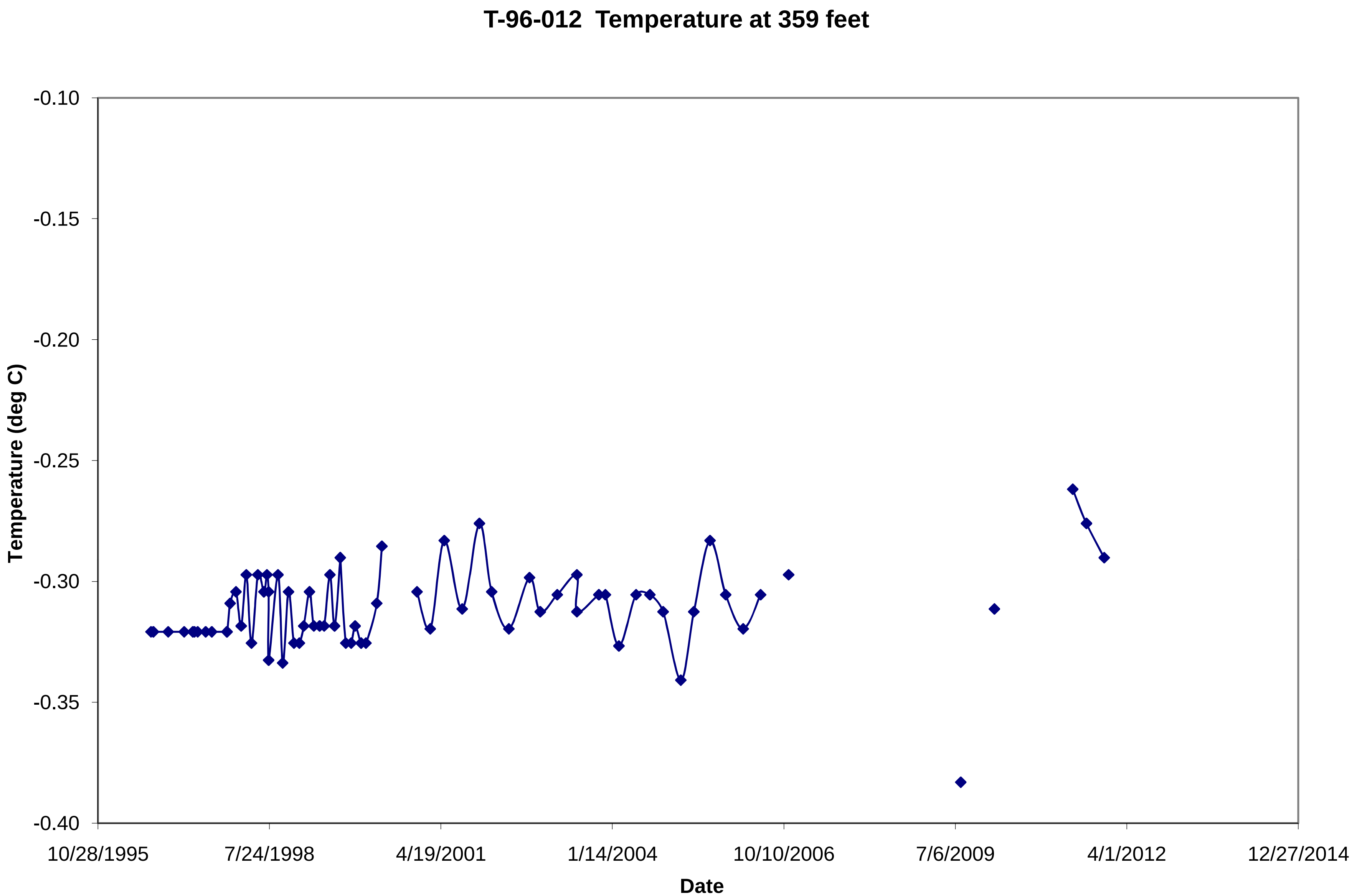


T-96-012 Temperature at 259 feet
Temperature (deg C)
-0.70
-0.75
-0.80
-0.85
-0.90
-0.95
-1.00
-1.05
-1.10
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

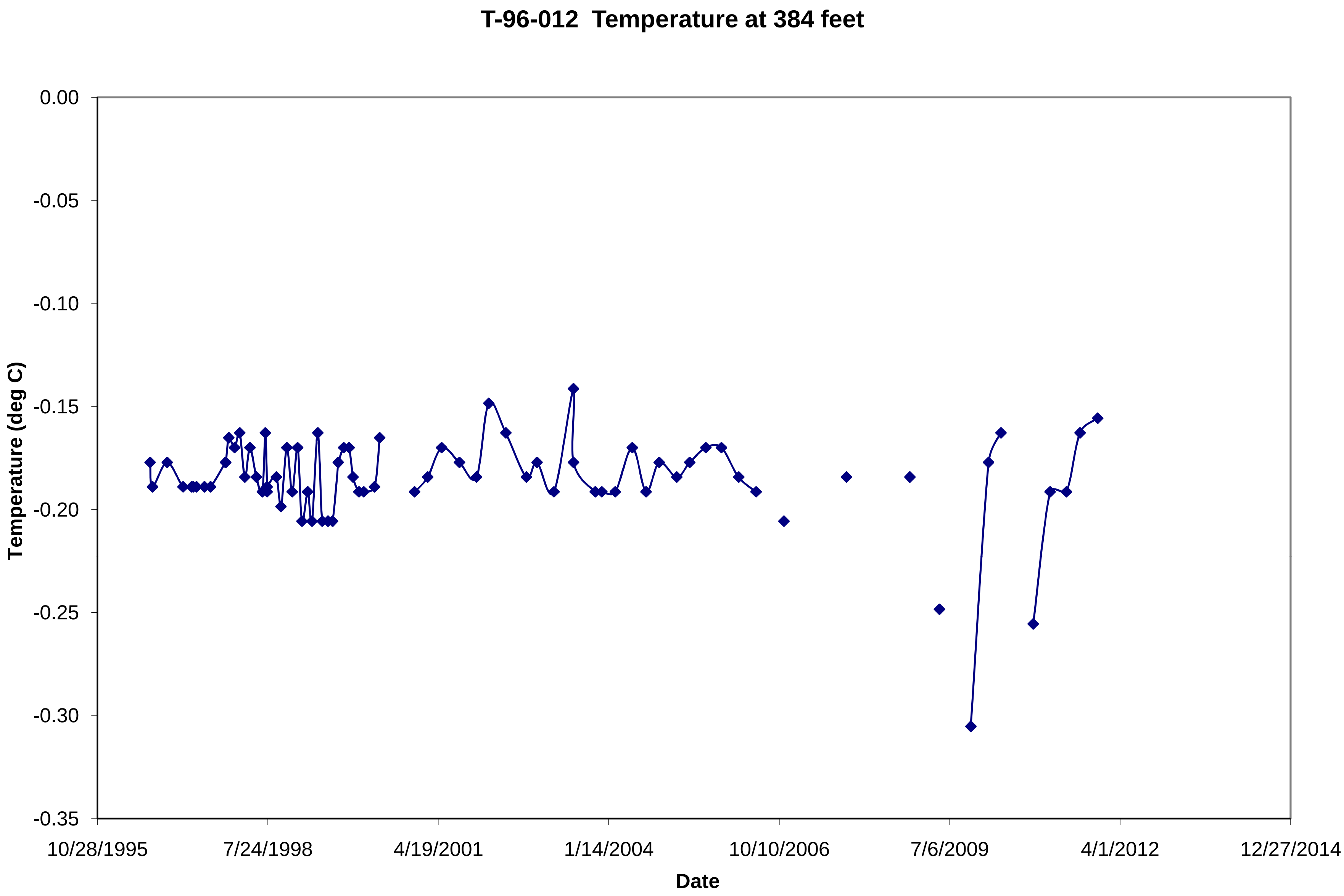

T-96-012 Temperature at 284 feet
Temperature (deg C)
-0.60
-0.65
-0.70
-0.75
-0.80
-0.85
-0.90
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-012 Temperature at 309 feet
-0.50
-0.55
-0.60
-0.65
-0.70
-0.75
-0.80
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

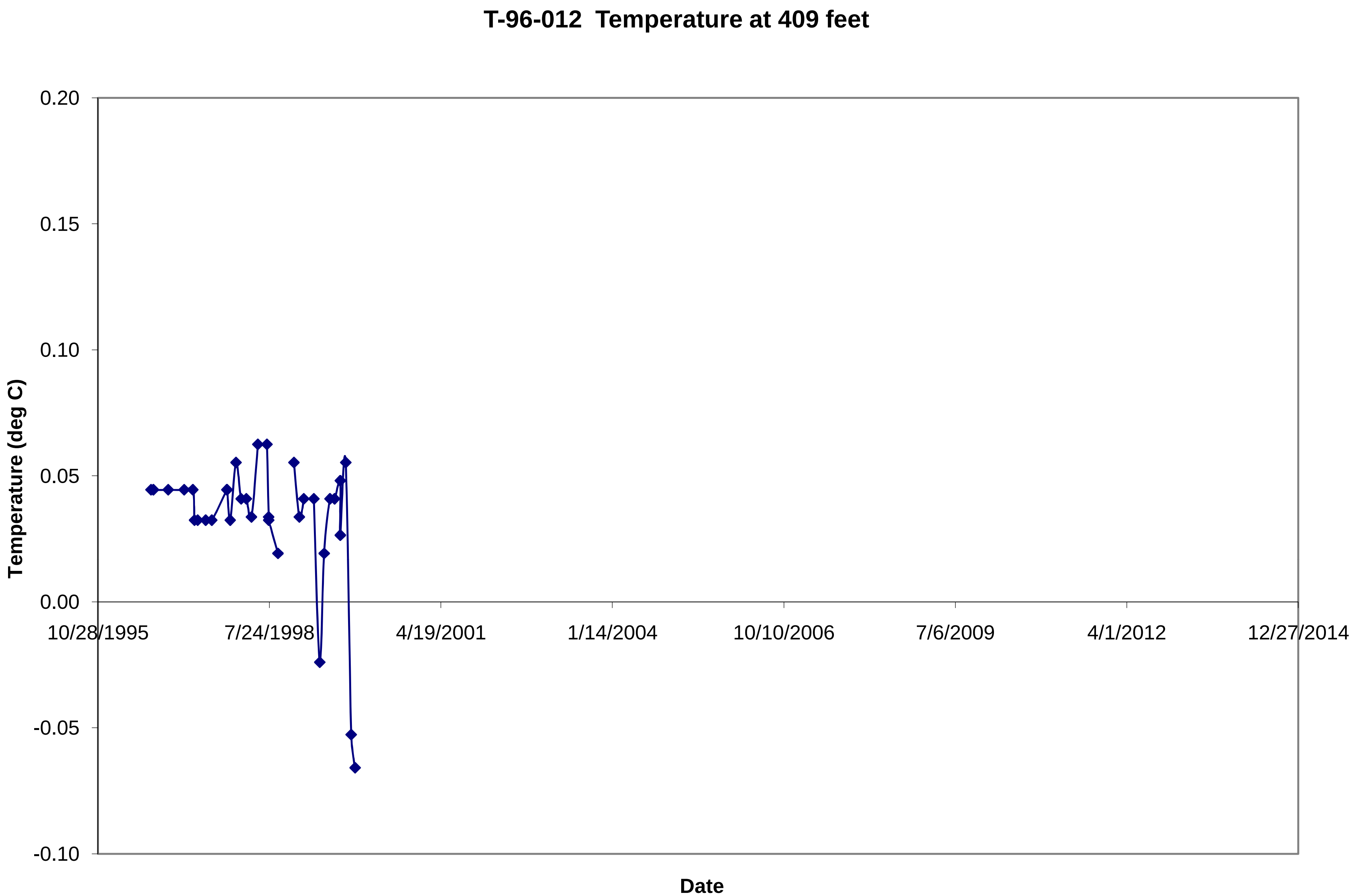

T-96-012 Temperature at 334 feet
Temperature (deg C)
-0.40
-0.45
-0.50
-0.55
-0.60
-0.65
-0.70
-0.75
-0.80
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

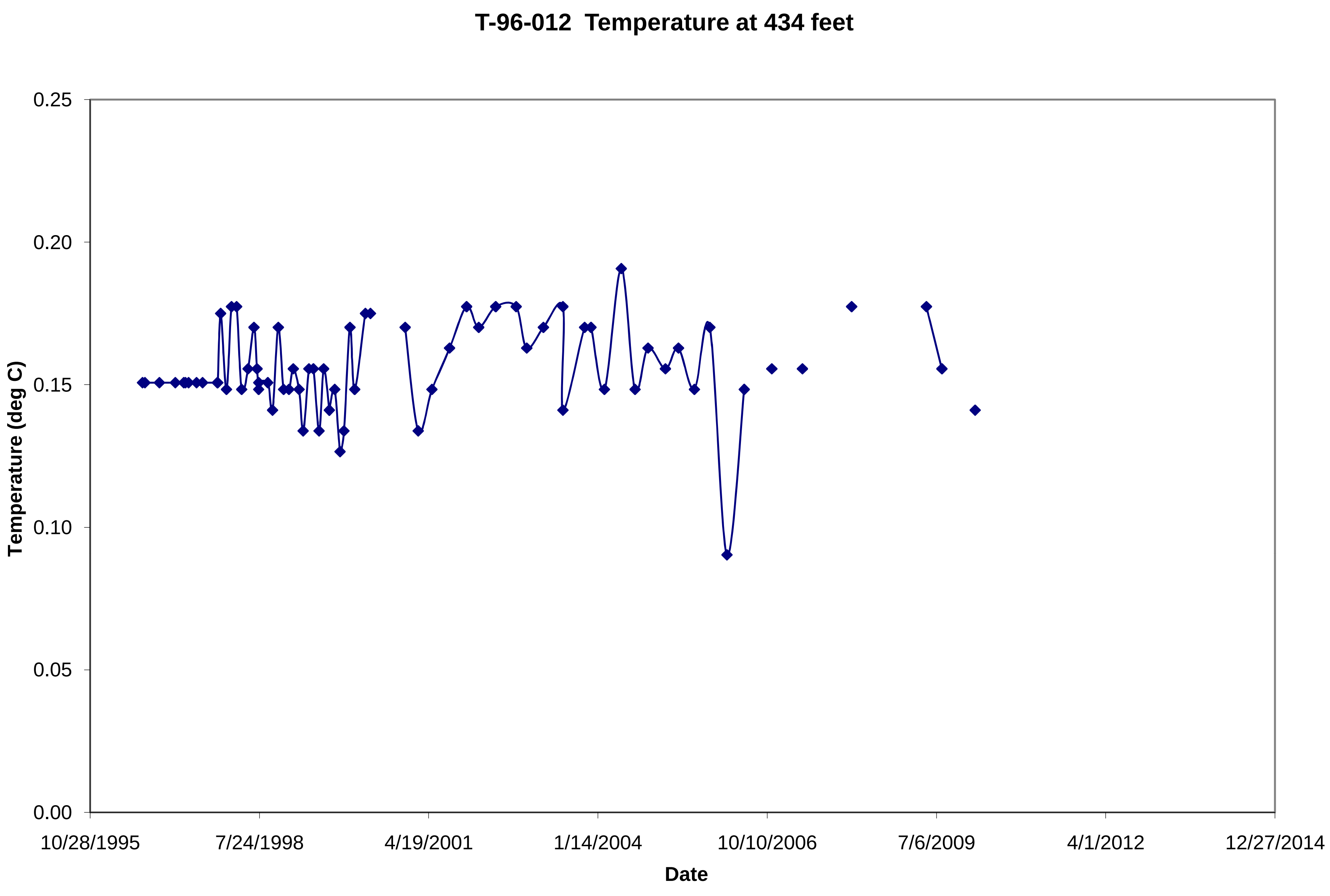


T-96-012 Temperature at 359 feet
Temperature (deg C)
-0.10
-0.15
-0.20
-0.25
-0.30
-0.35
-0.40
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

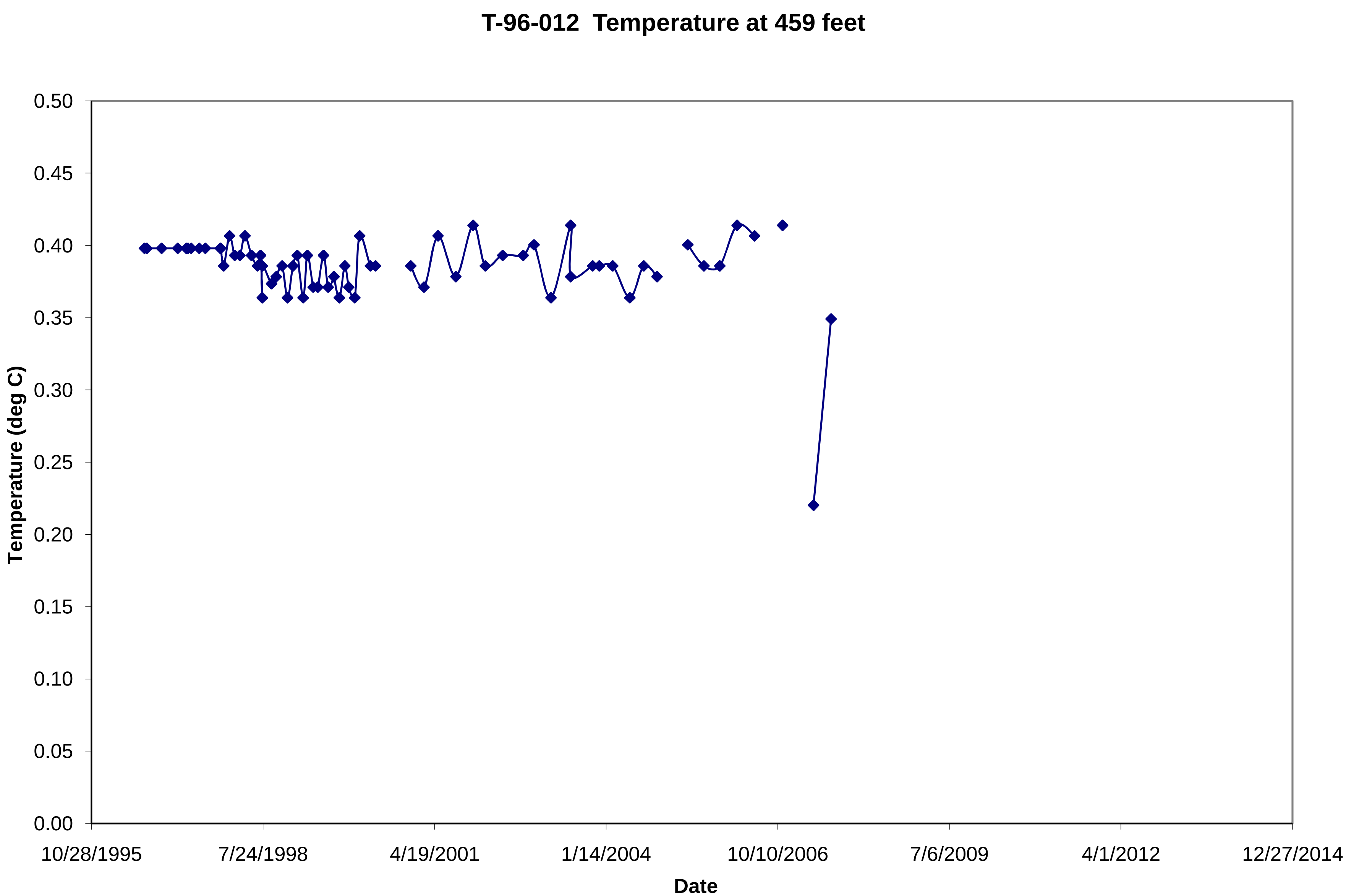


T-96-012 Temperature at 384 feet
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
-0.35
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

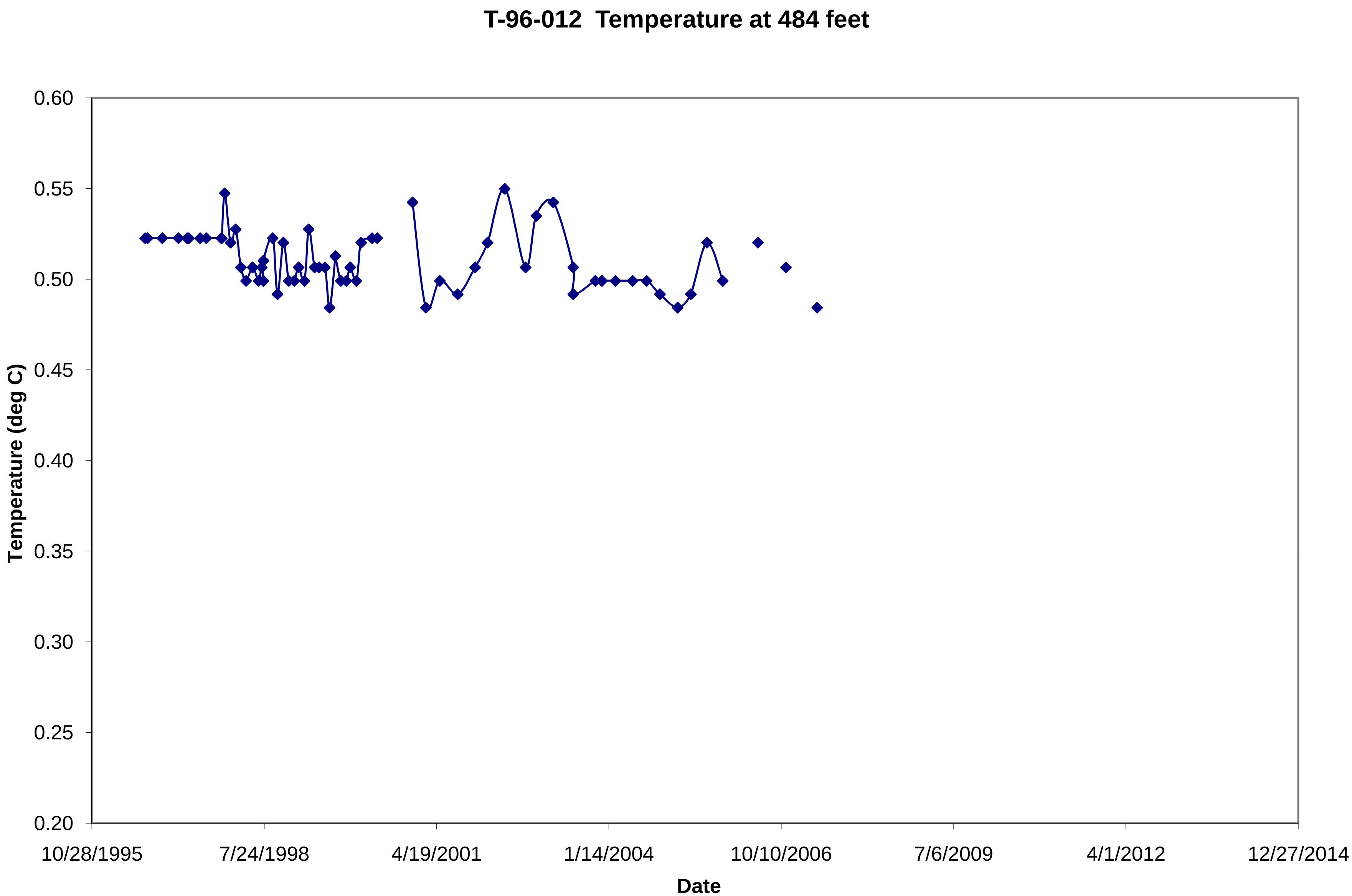

T-96-012 Temperature at 409 feet
Temperature (deg C)
0.20
0.15
0.10
0.05
0.00
-0.05
-0.10
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



T-96-012 Temperature at 434 feet
Temperature (deg C)
0.25
0.20
0.15
0.10
0.05
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

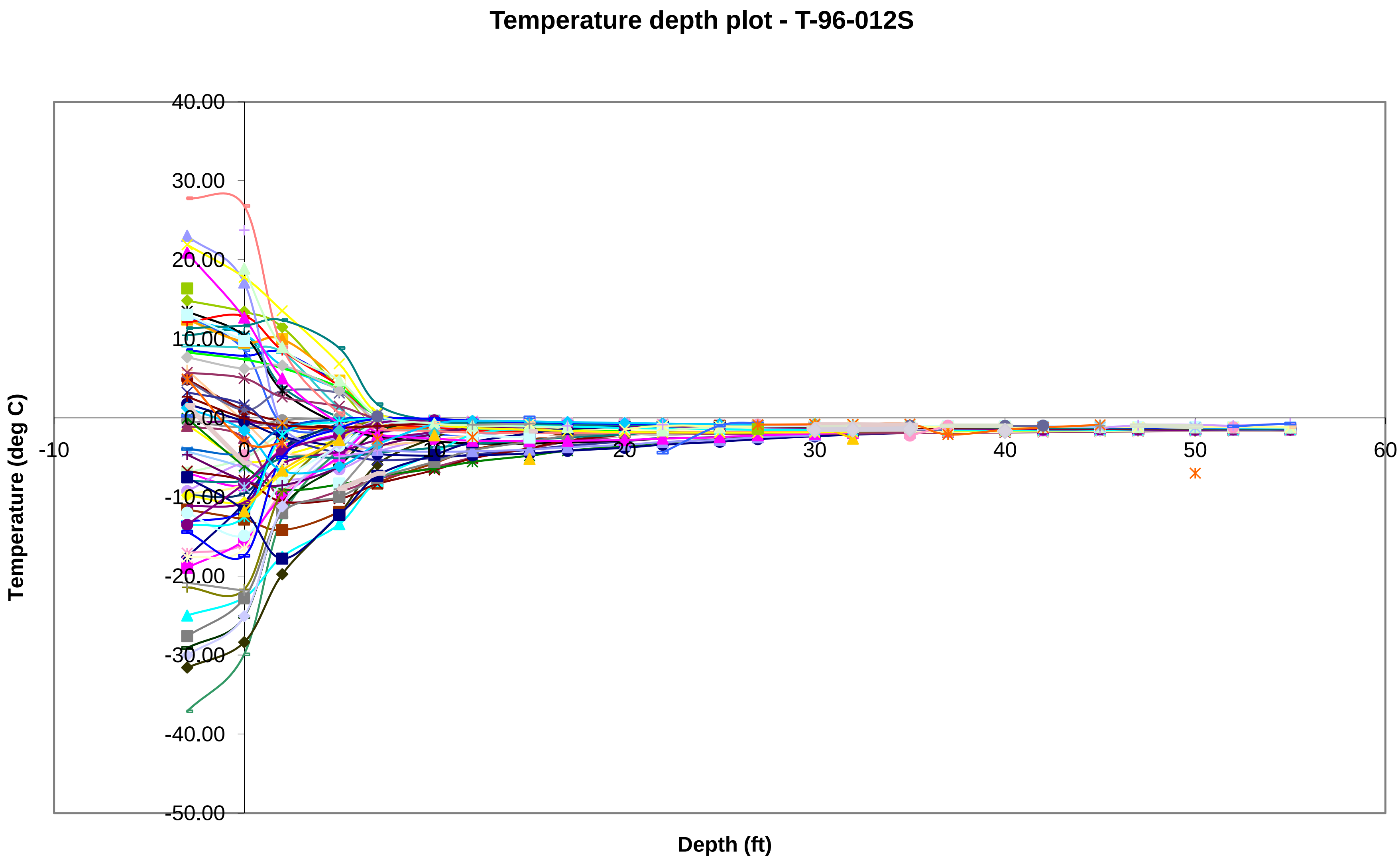


T-96-012 Temperature at 459 feet
Temperature (deg C)
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

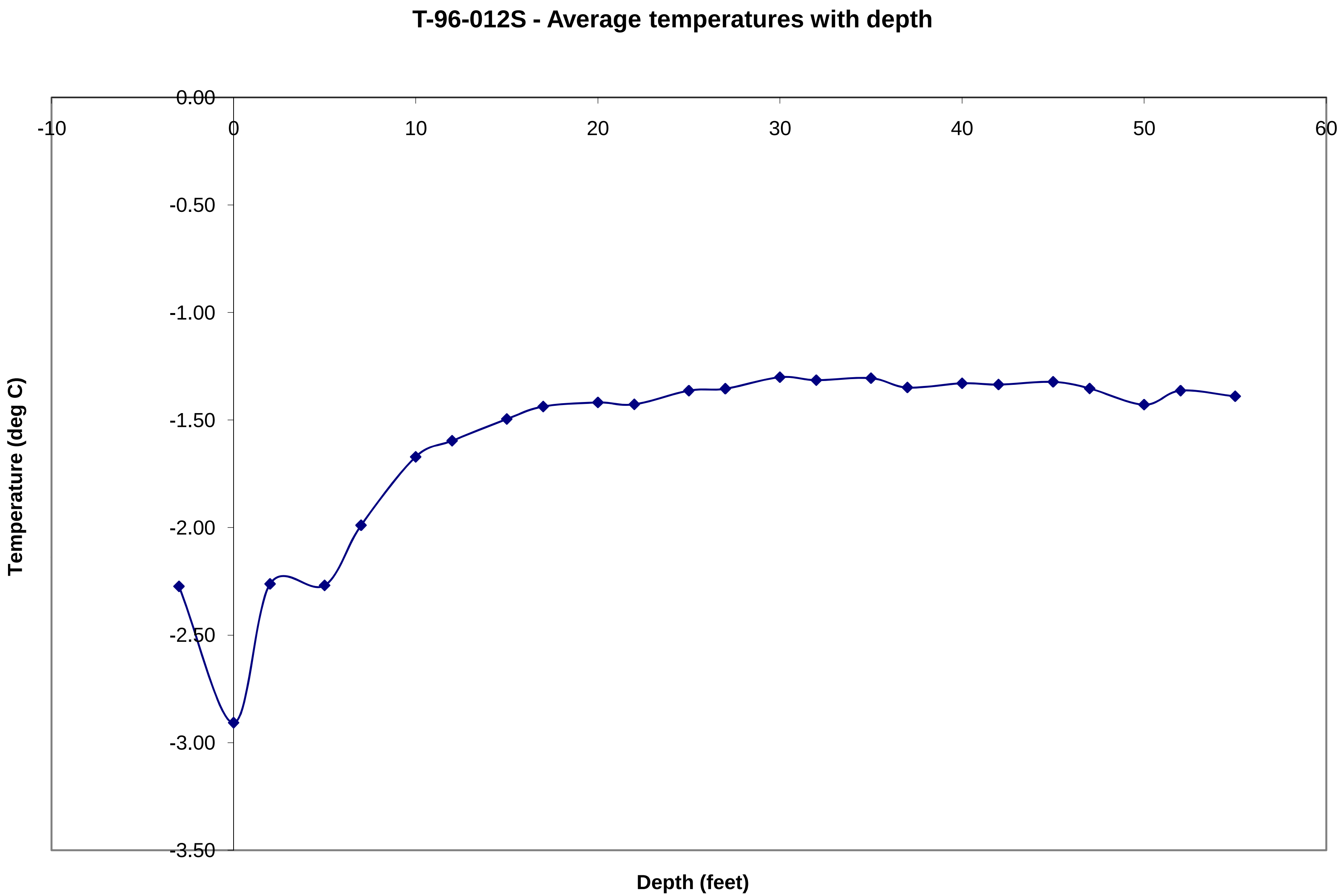


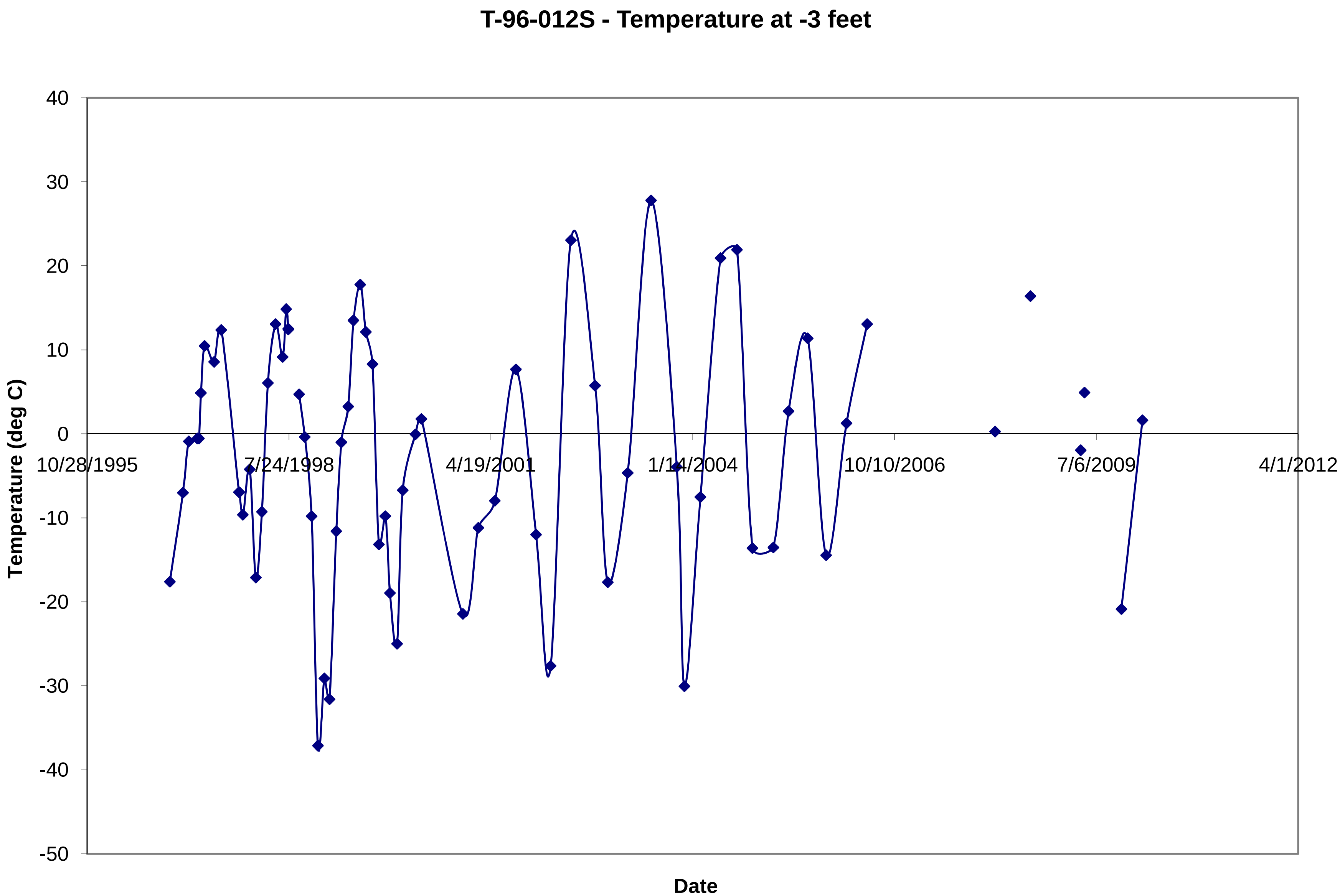
T-96-012 Temperature at 484 feet
Temperature (deg C)
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

T-96-012S



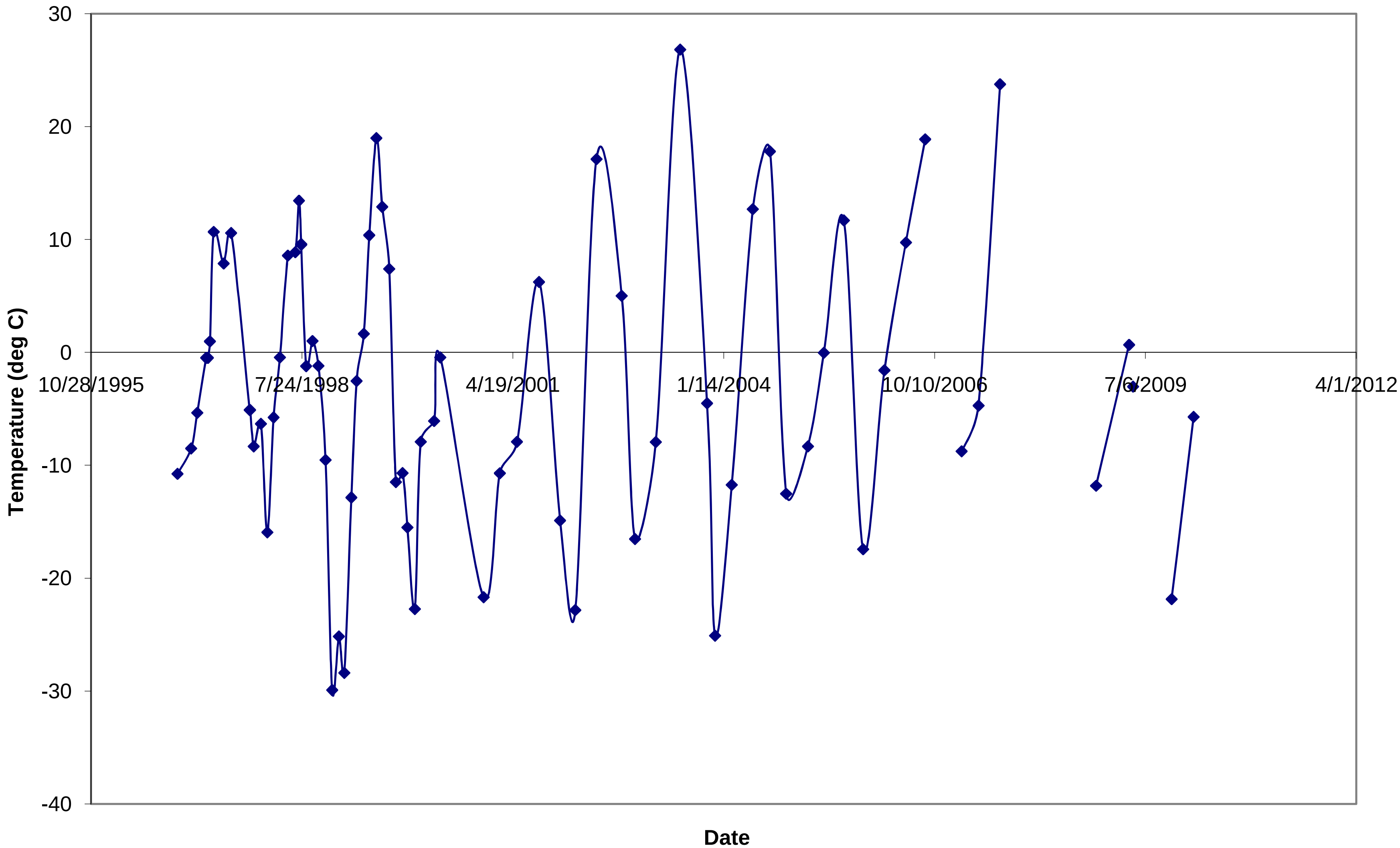
Temperature depth plot - T-96-012S
Temperature (deg C)
Depth (ft)
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00
-50.00
-10
0
10
20
30
40
50
60

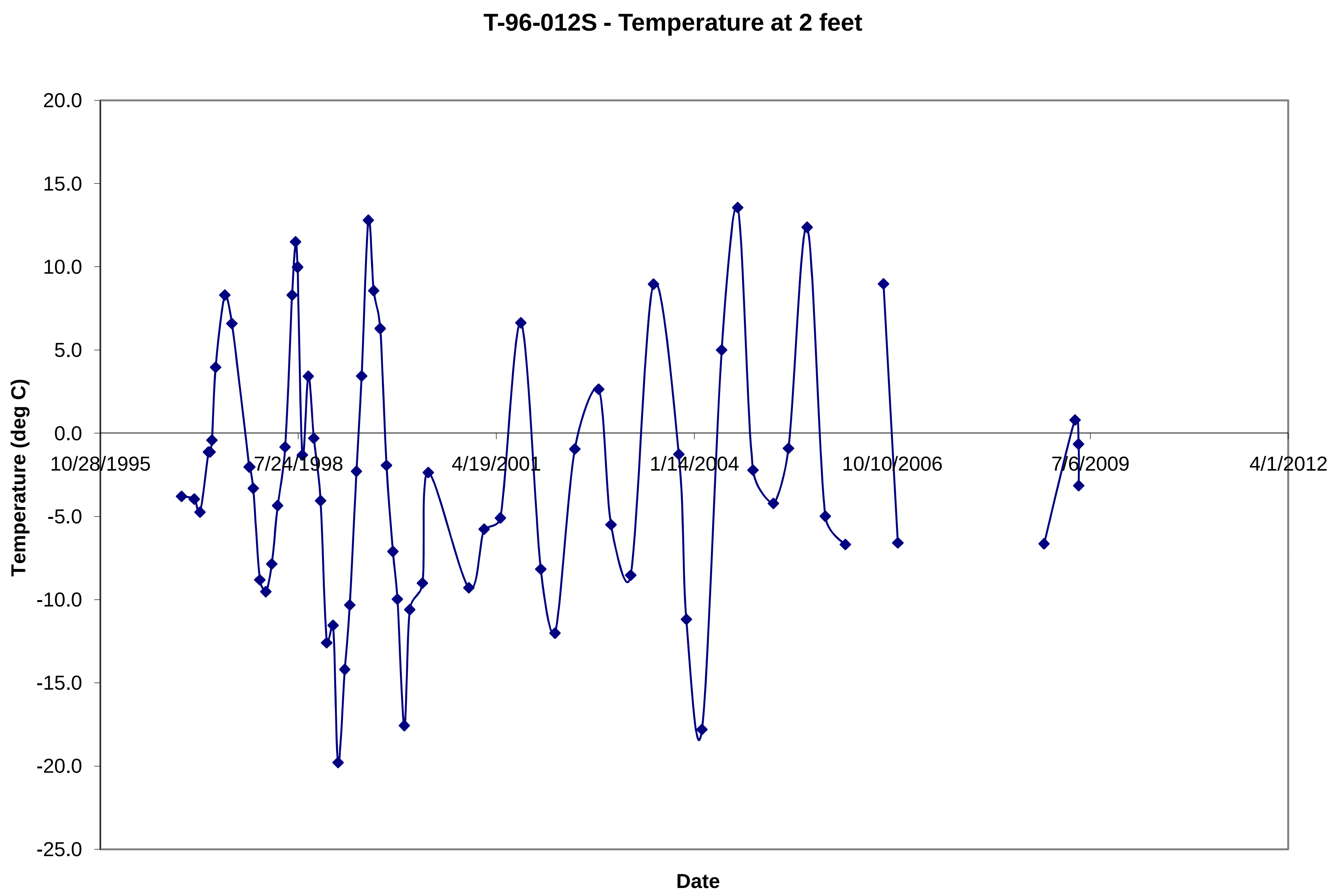

T-96-012S - Average temperatures with depth
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
-10
0
10
20
30
40
50
60
Temperature (deg C)
Depth (feet)

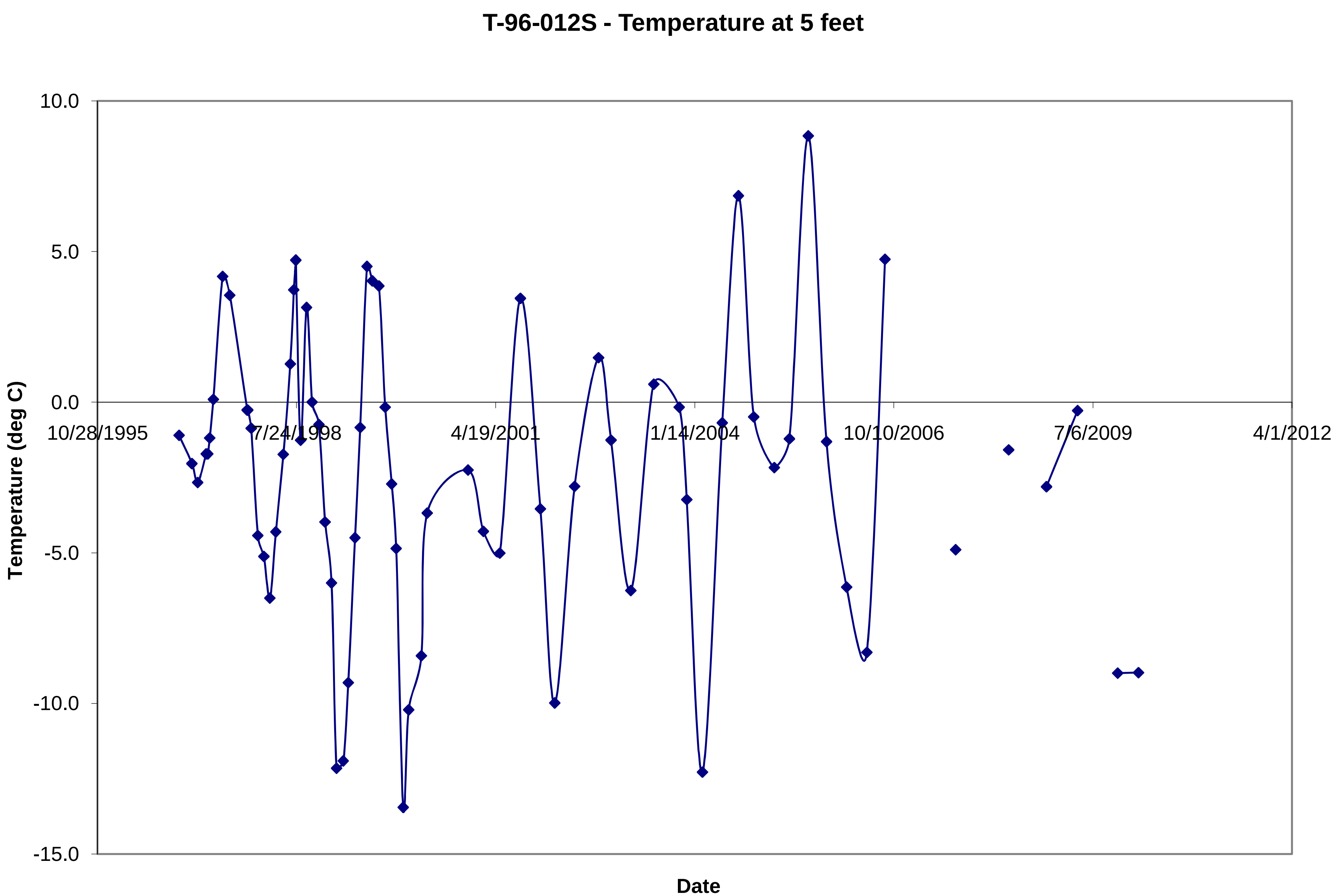


T-96-012S - Temperature at -3 feet
Temperature (deg C)
40
30
20
10
0
-10
-20
-30
-40
-50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date

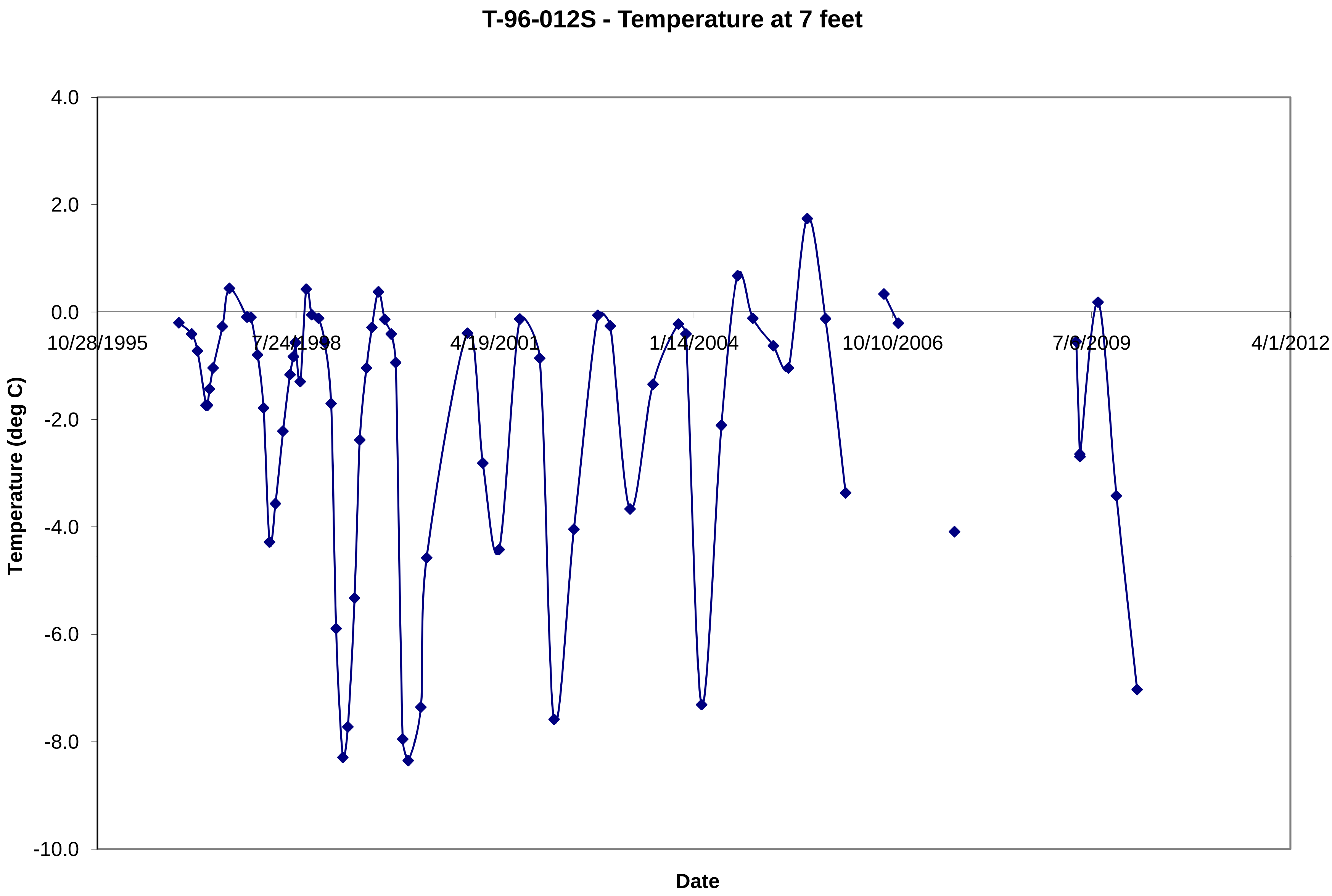
T-96-012S - Temperature at 0 feet



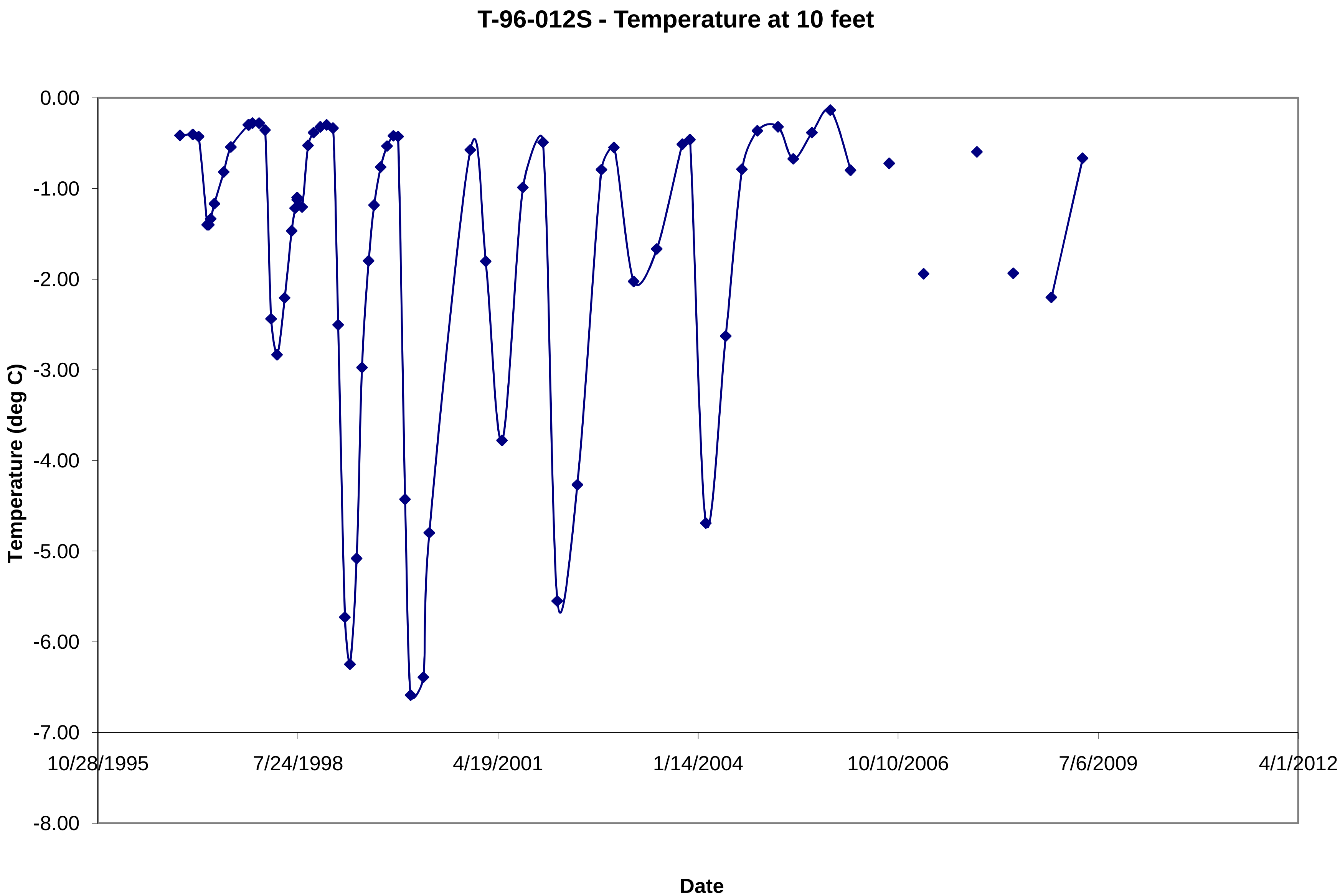

T-96-012S - Temperature at 2 feet
20.0
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
-20.0
-25.0
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date



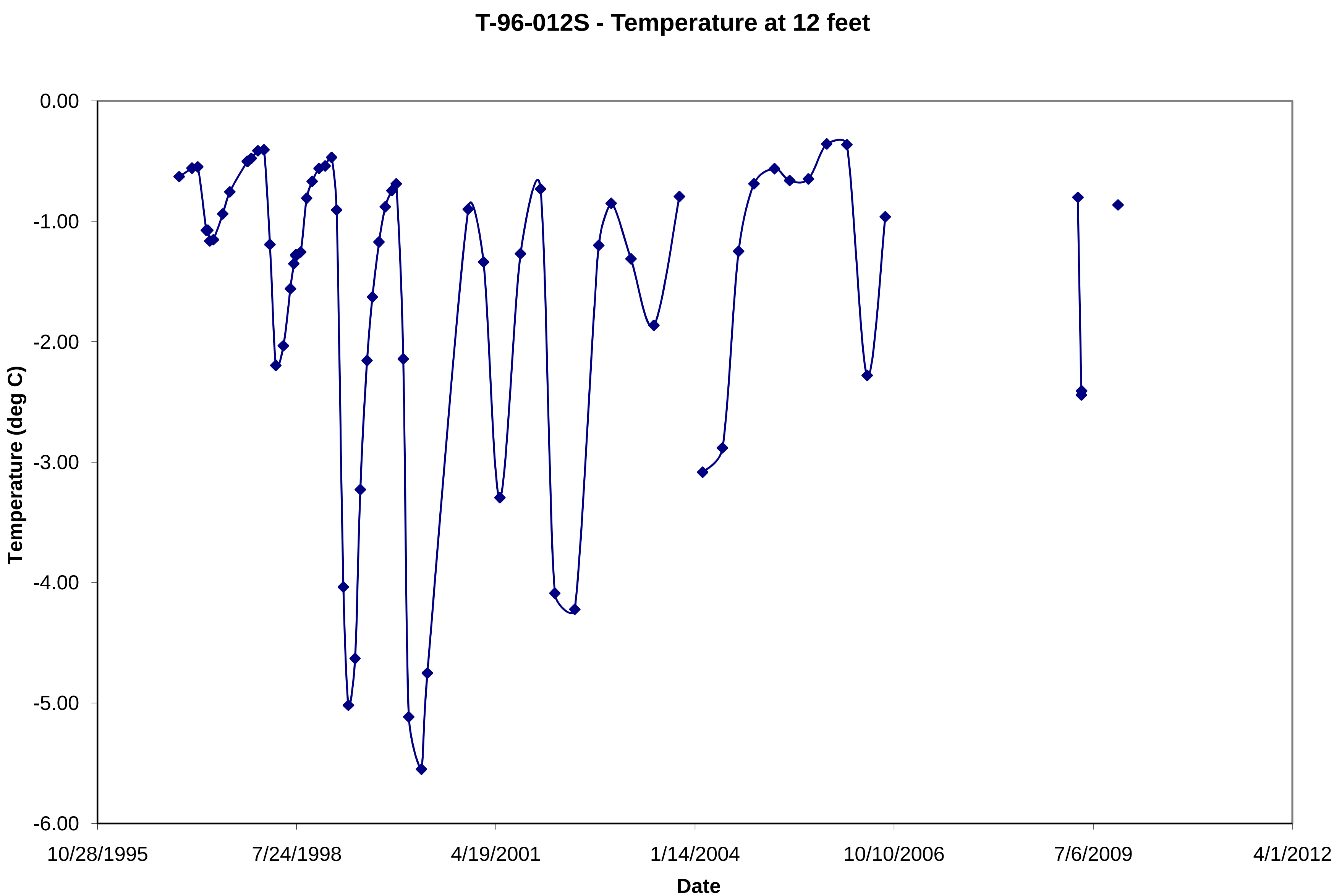
T-96-012S - Temperature at 5 feet
10.0
5.0
0.0
-5.0
-10.0
-15.0
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date



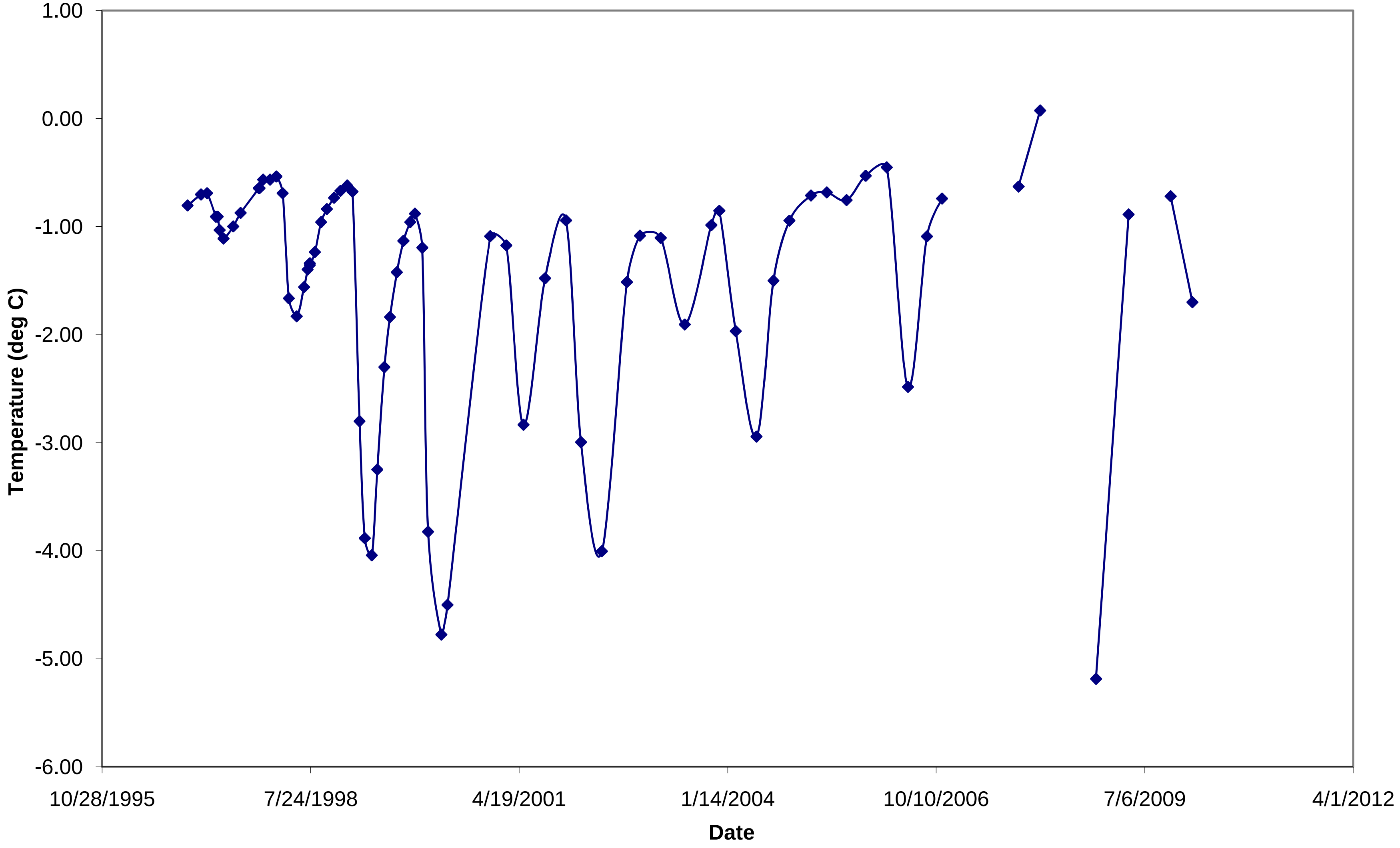
T-96-012S - Temperature at 7 feet
Temperature (deg C)
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
-10.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date

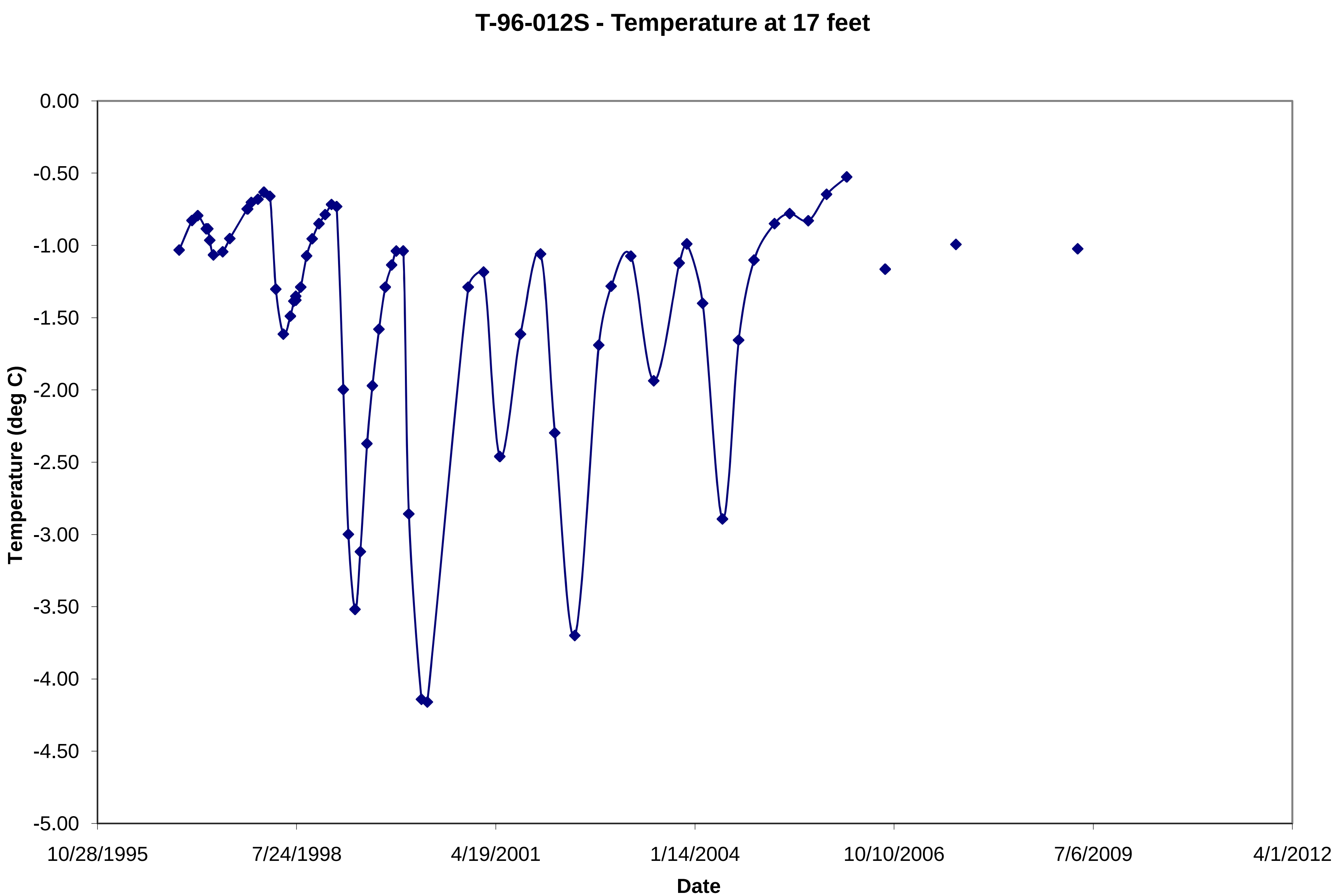


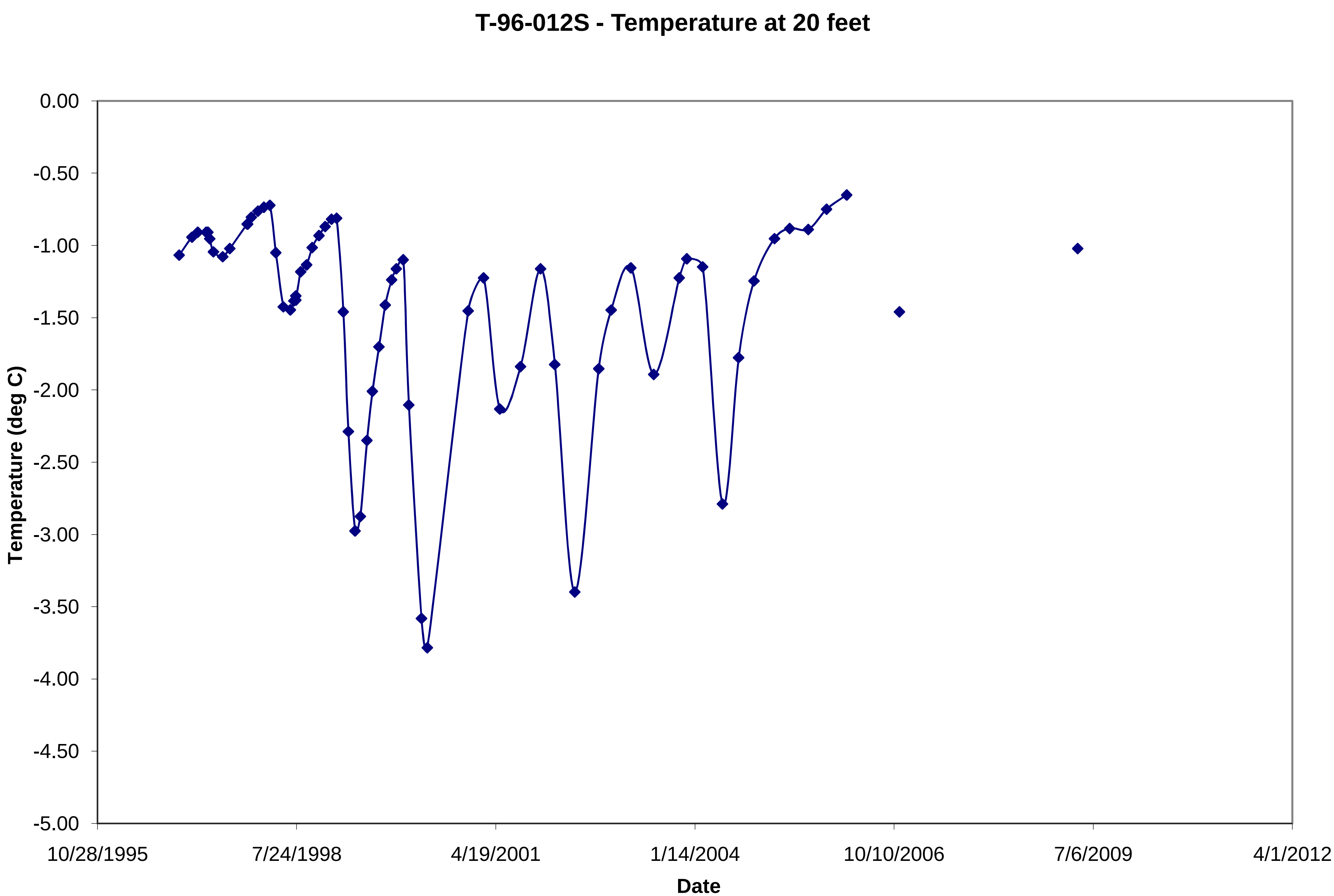
T-96-012S - Temperature at 10 feet
Temperature (deg C)
0.00
-1.00
-2.00
-3.00
-4.00
-5.00
-6.00
-7.00
-8.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date

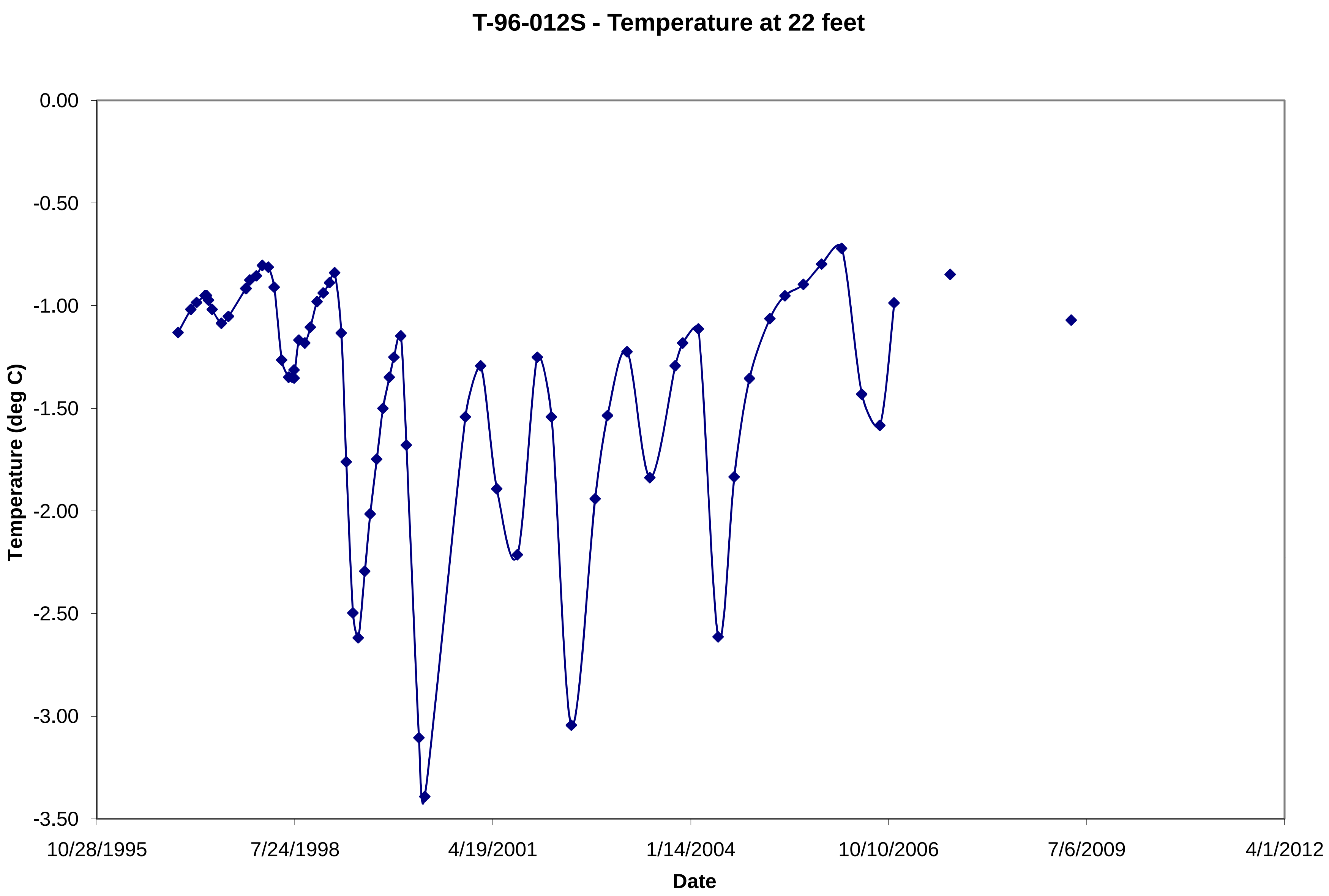

T-96-012S - Temperature at 12 feet
0.00
-1.00
-2.00
-3.00
-4.00
-5.00
-6.00
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date

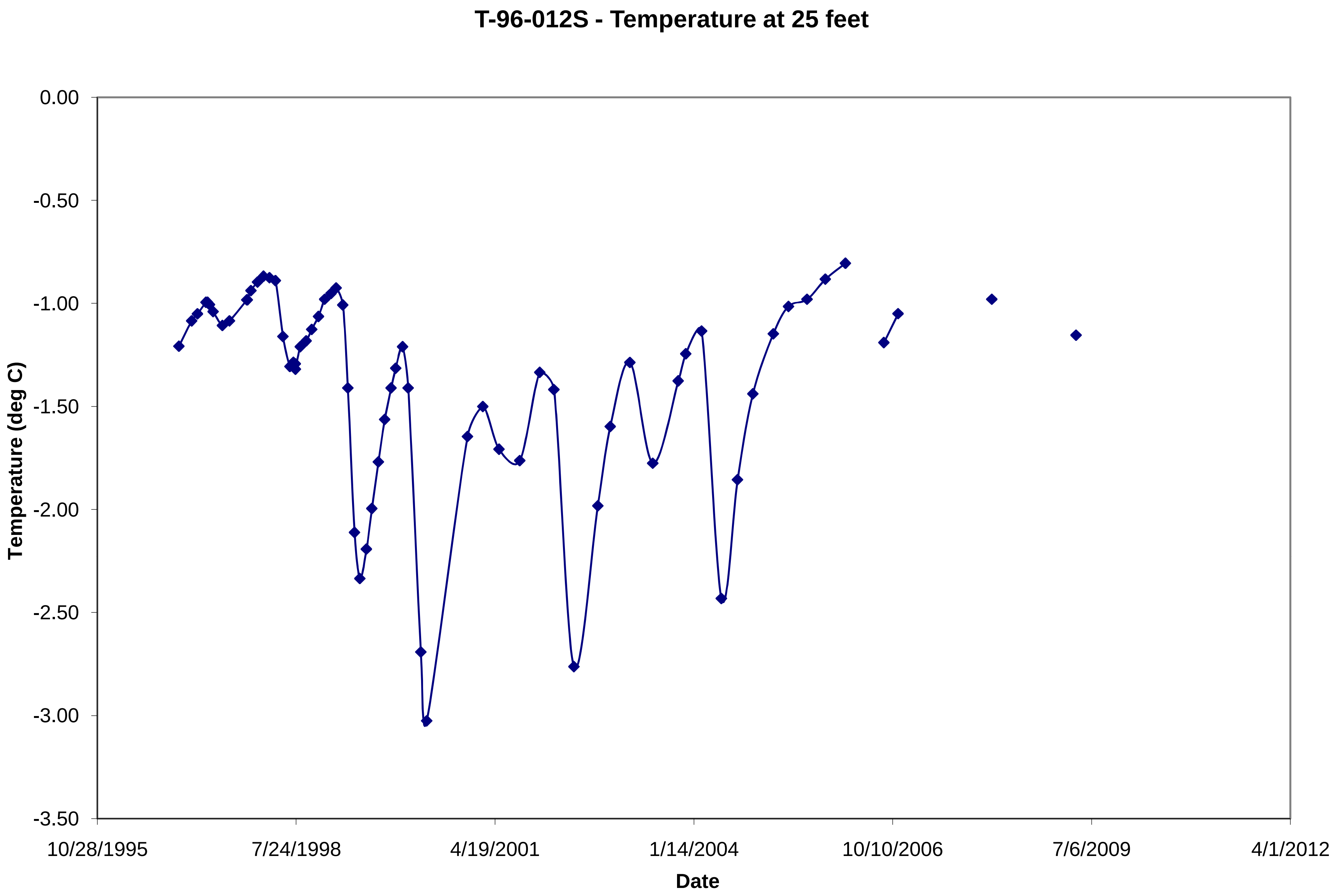
T-96-012S - Temperature at 15 feet




T-96-012S - Temperature at 17 feet
Temperature (deg C)
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
-4.00
-4.50
-5.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date

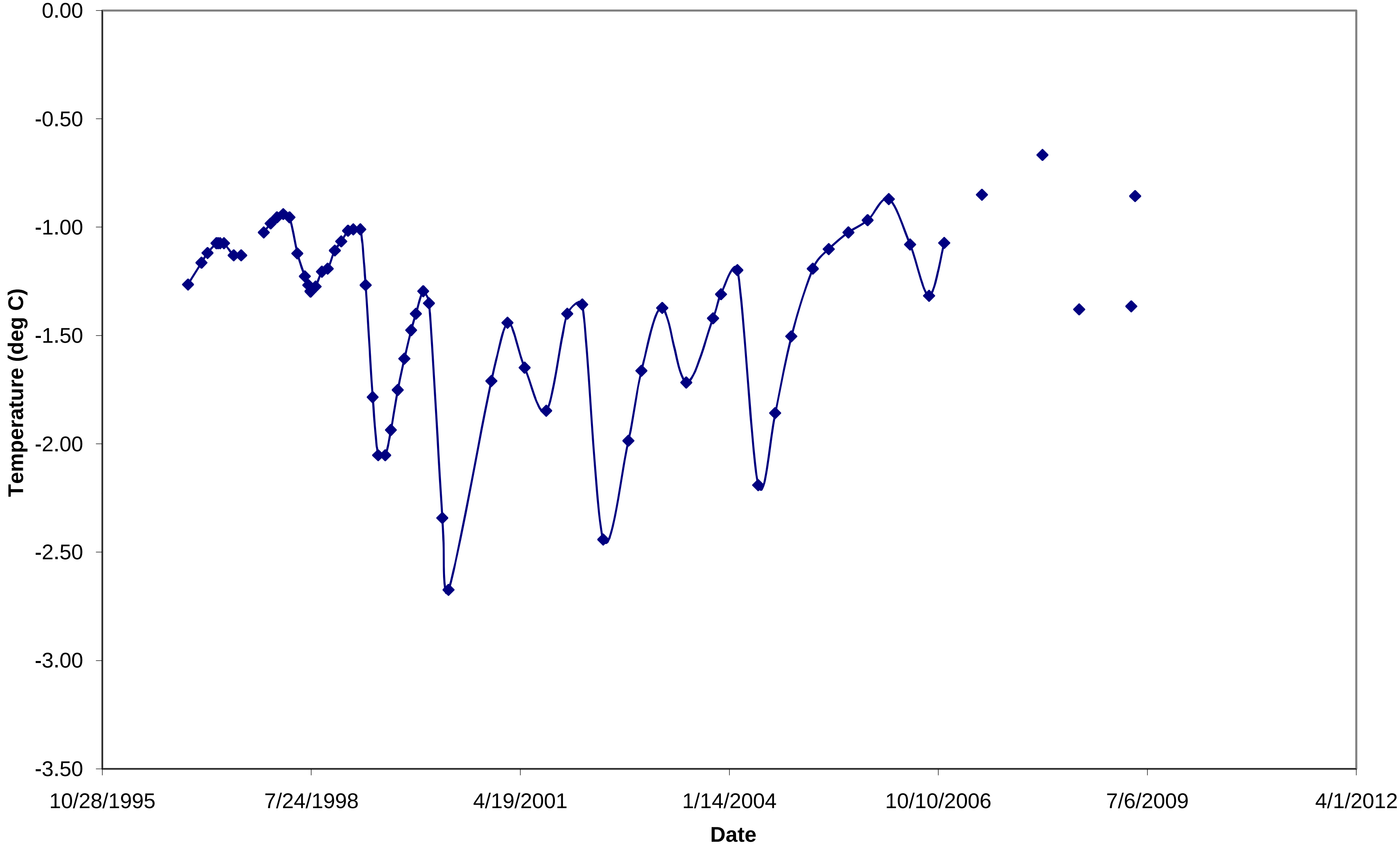

T-96-012S - Temperature at 20 feet
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
-4.00
-4.50
-5.00
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date

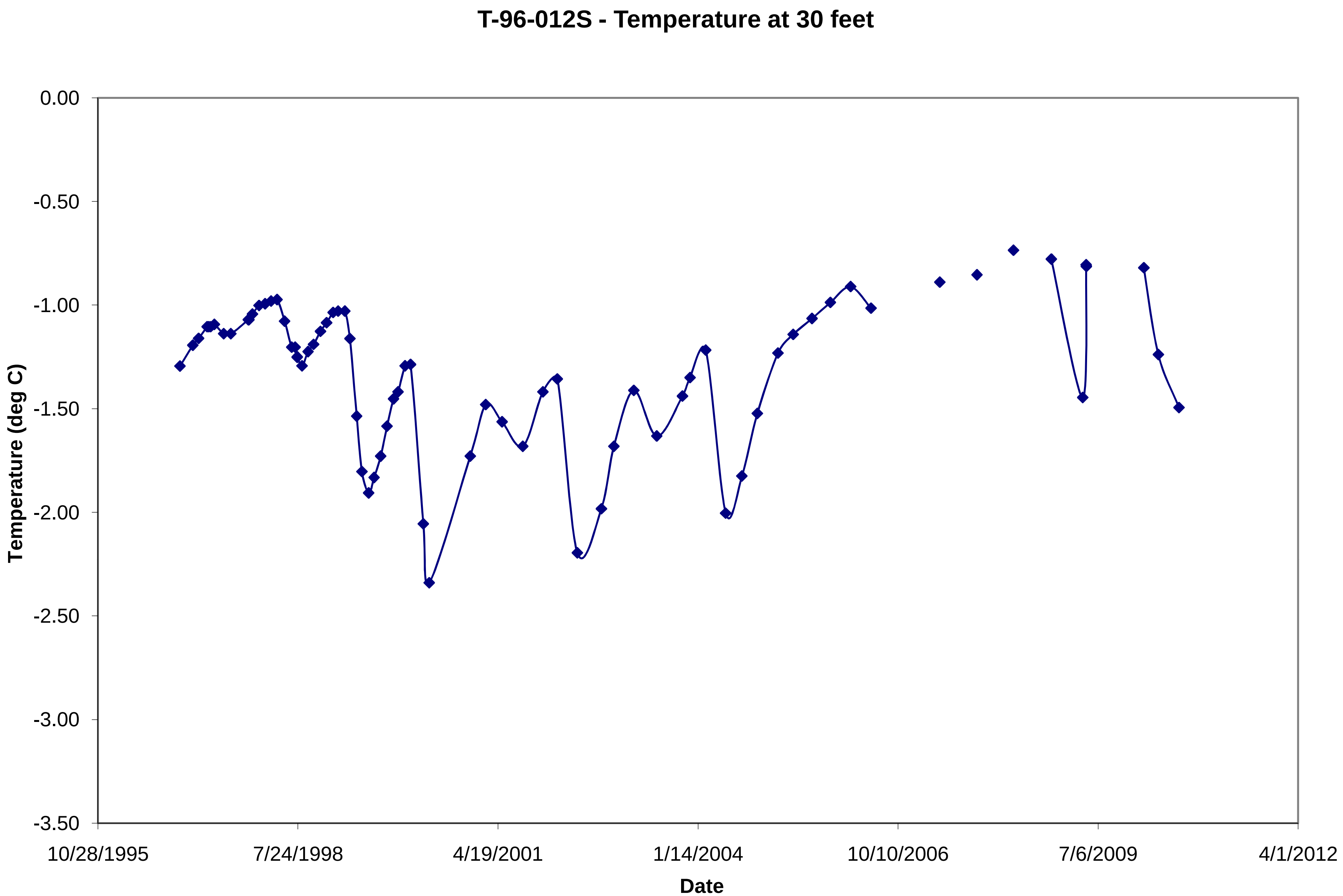

T-96-012S - Temperature at 22 feet
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date

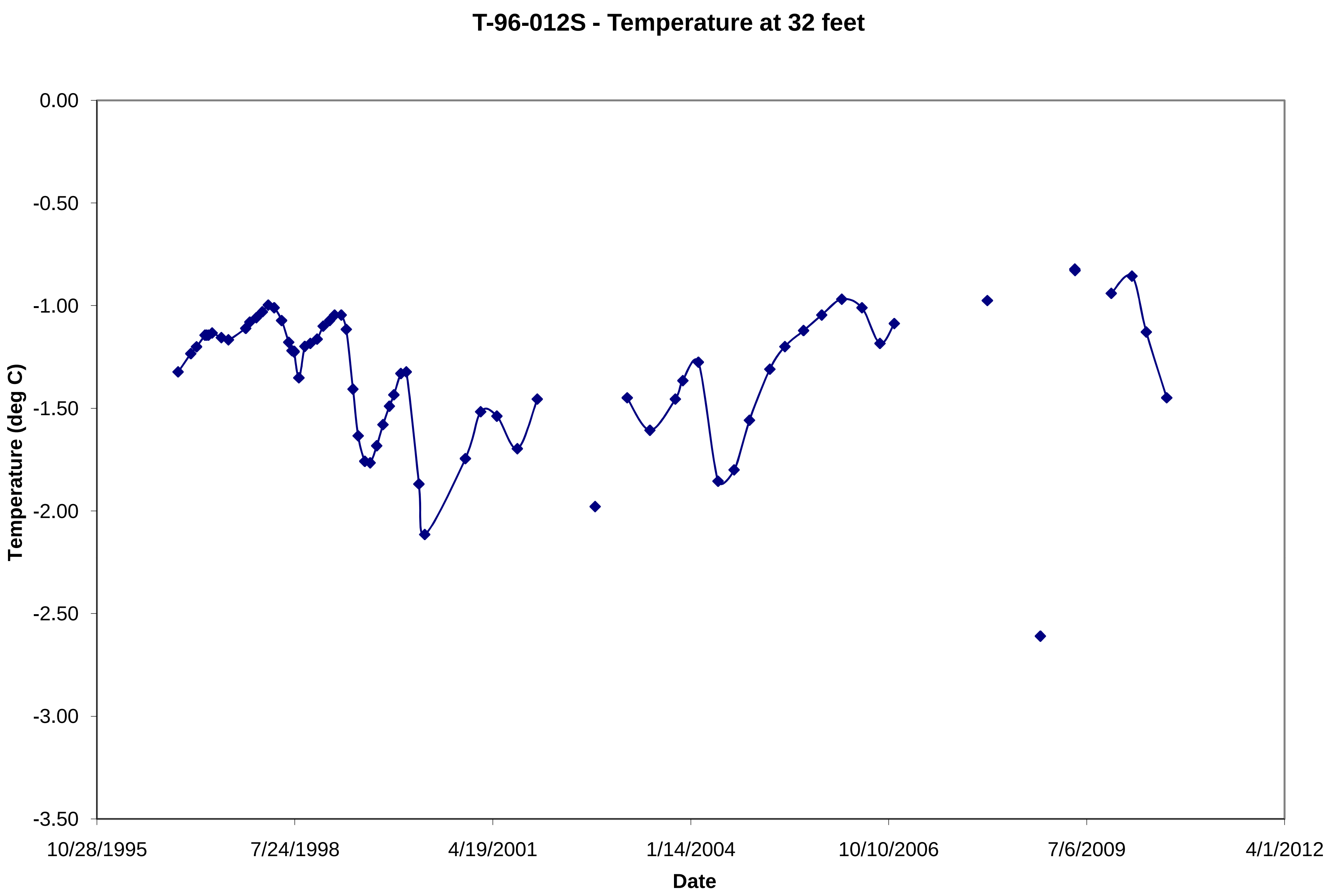


T-96-012S - Temperature at 25 feet
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date

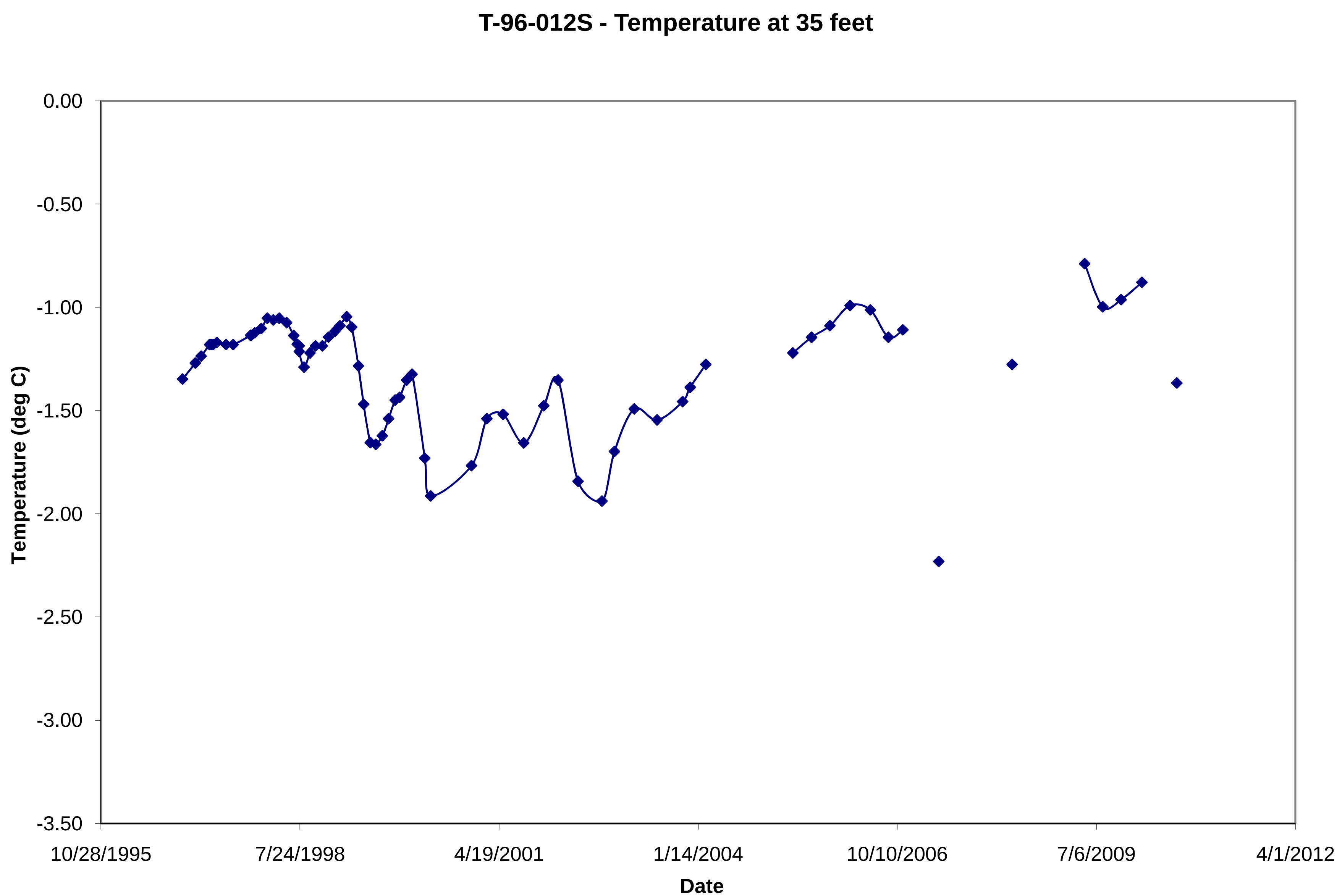
T-96-012S - Temperature at 27 feet

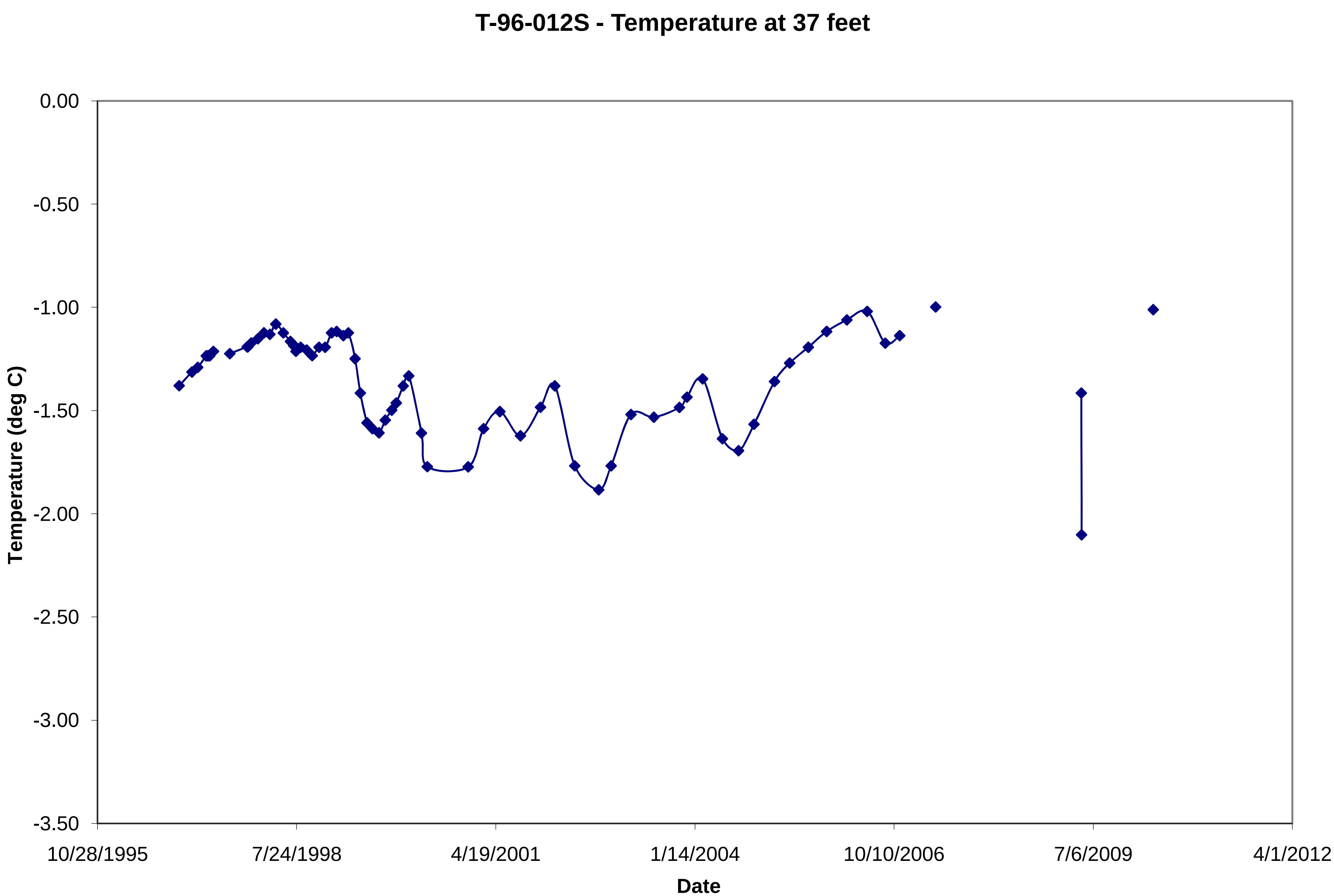



T-96-012S - Temperature at 30 feet
Temperature (deg C)
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date

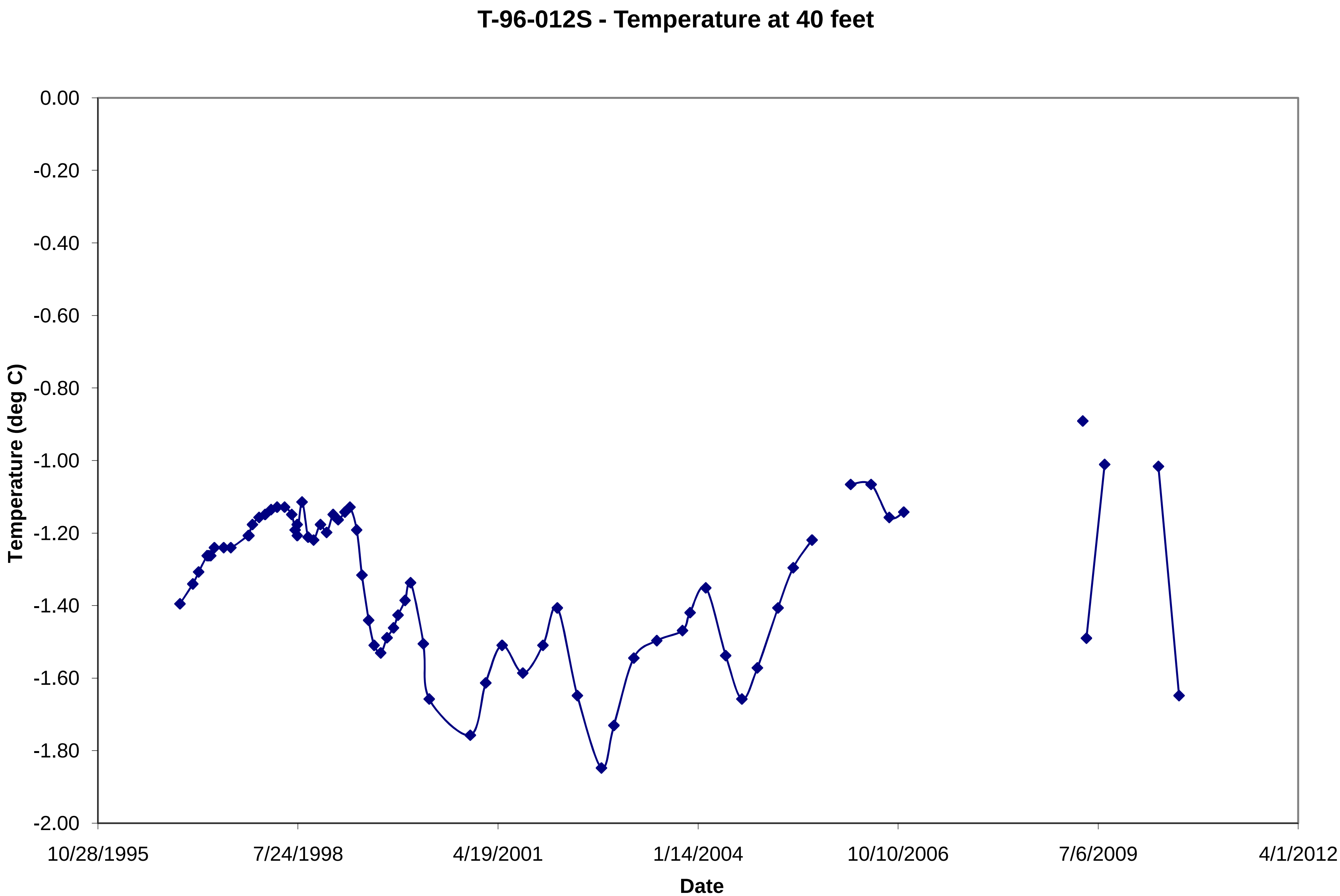


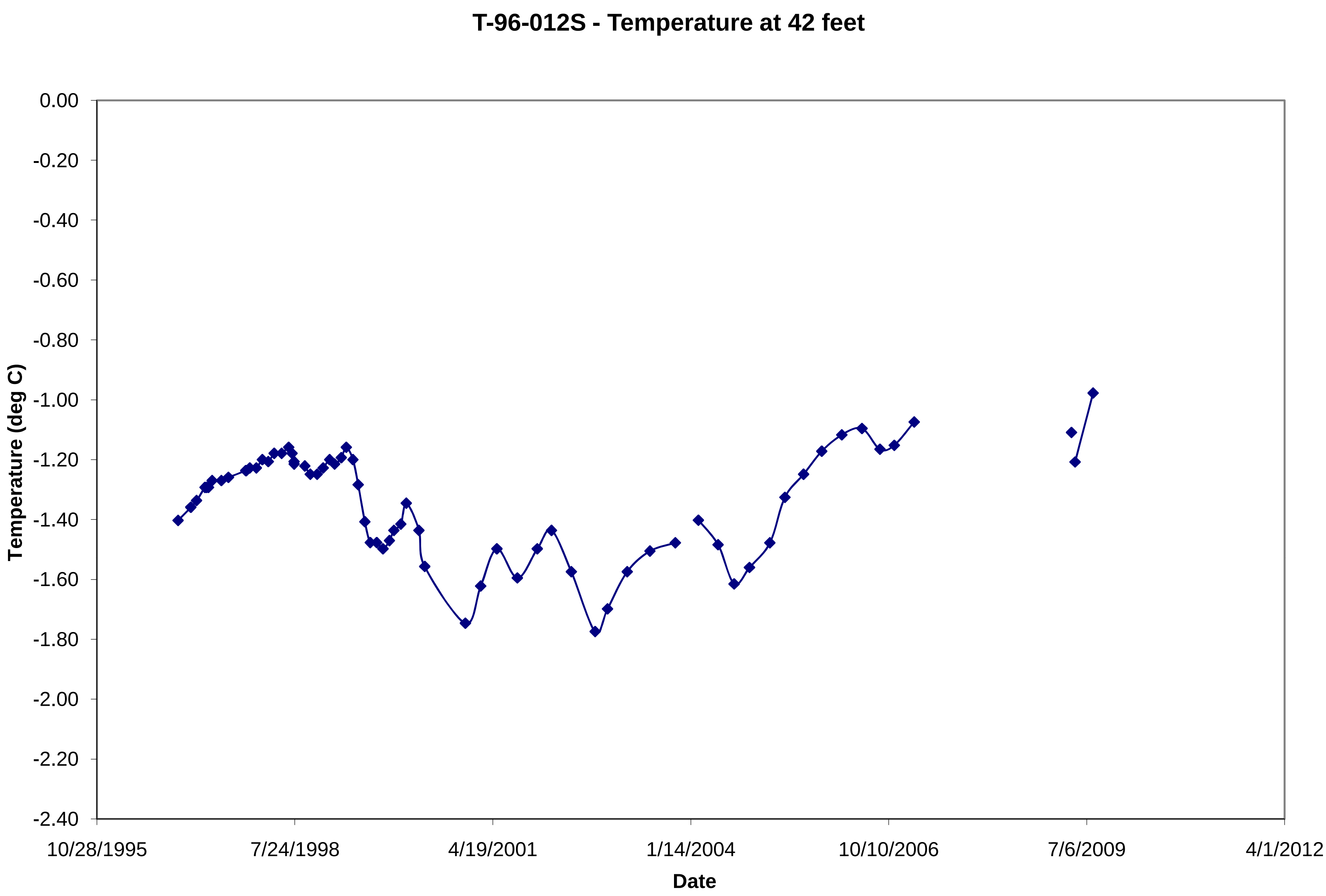
T-96-012S - Temperature at 32 feet
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date


T-96-012S - Temperature at 35 feet
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date

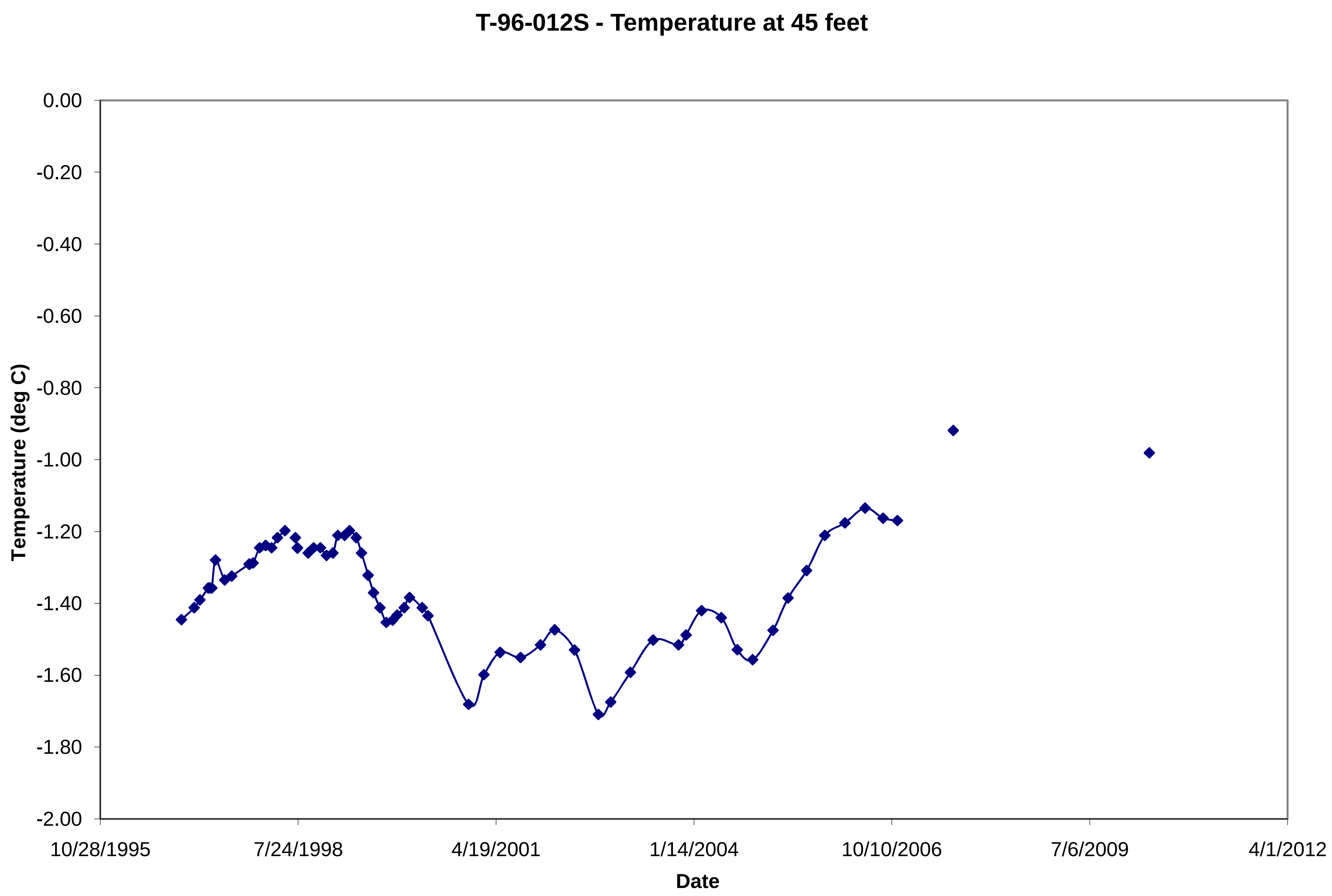


T-96-012S - Temperature at 37 feet
Temperature (deg C)
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date

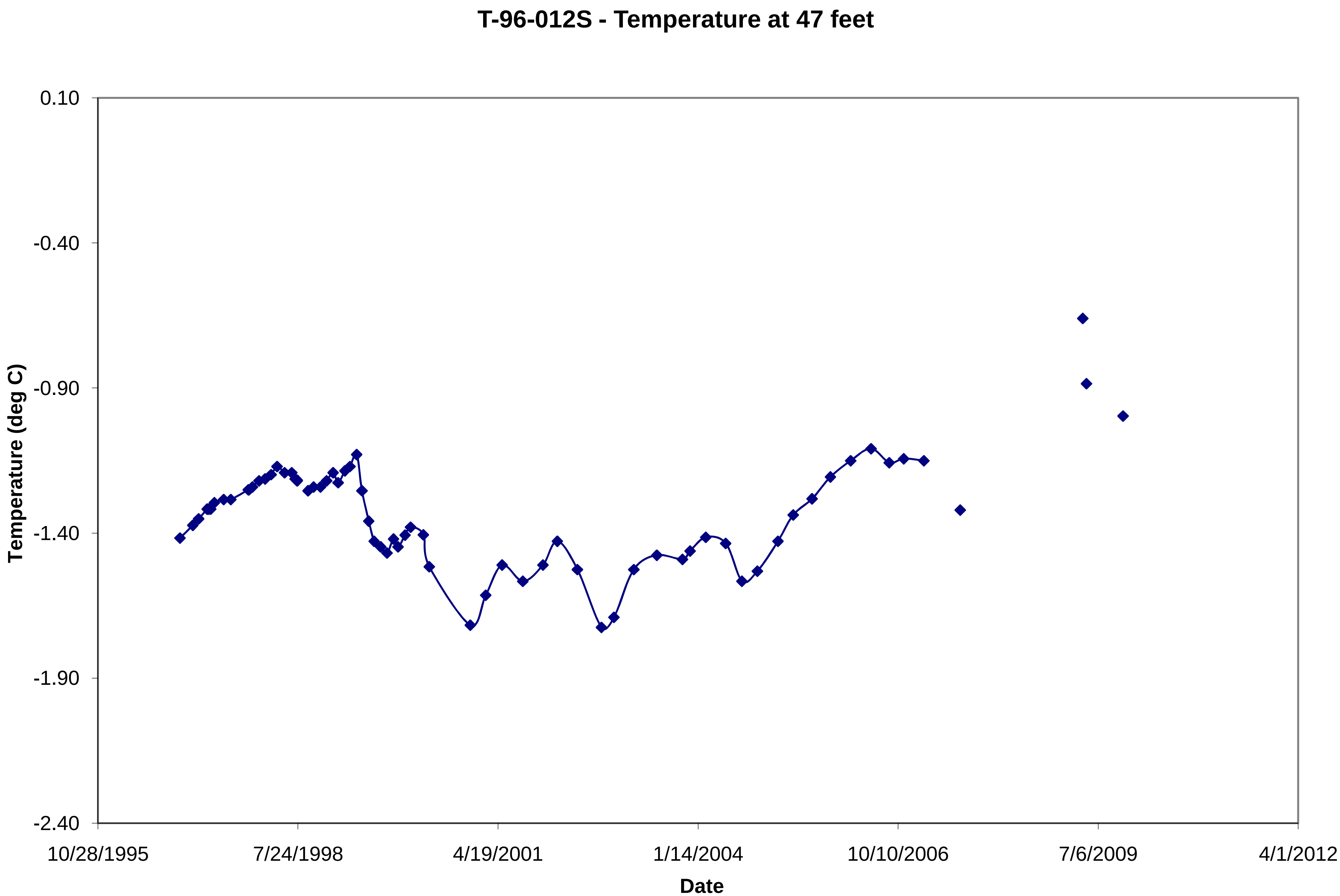

T-96-012S - Temperature at 40 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date



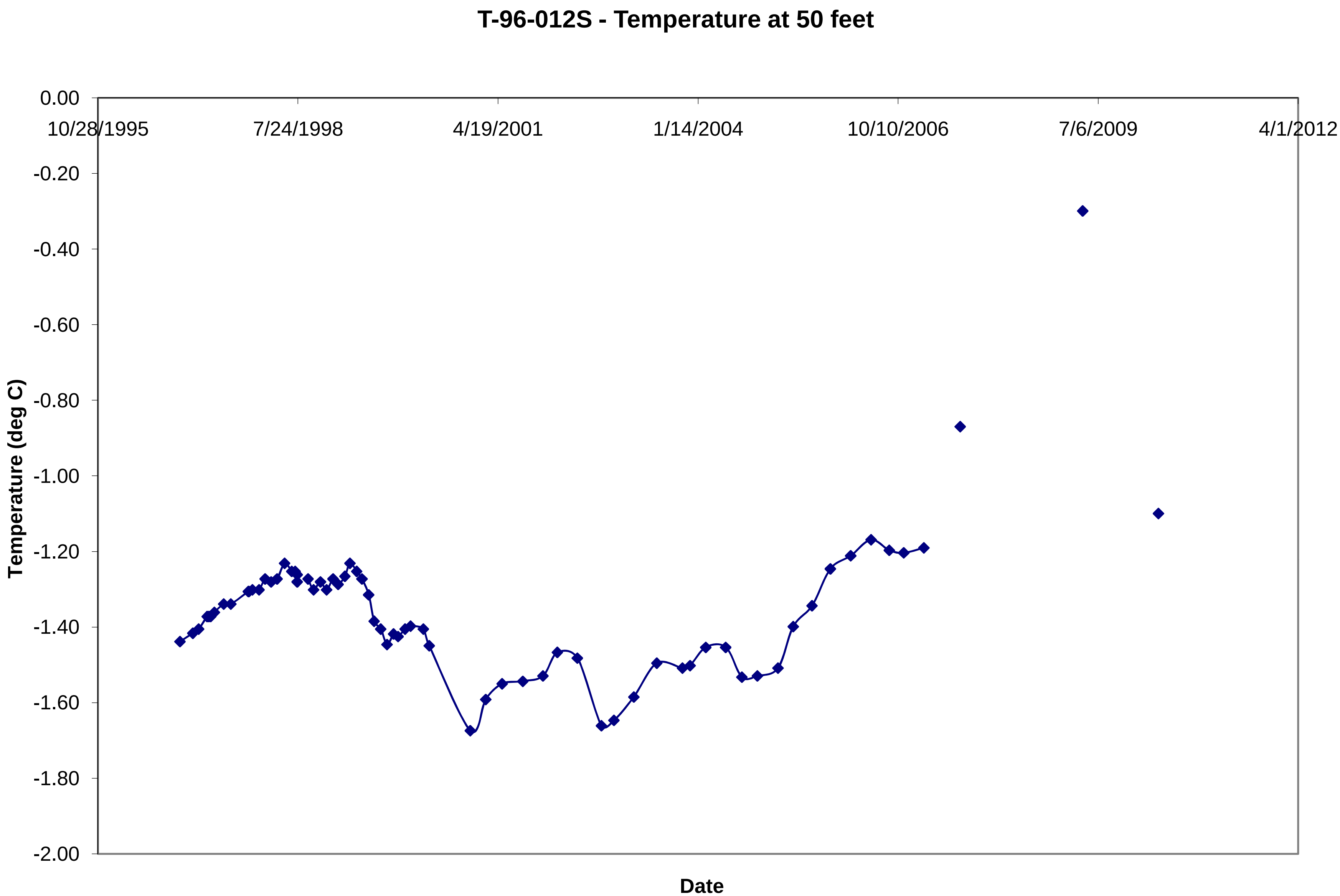
T-96-012S - Temperature at 42 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
-2.20
-2.40
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date



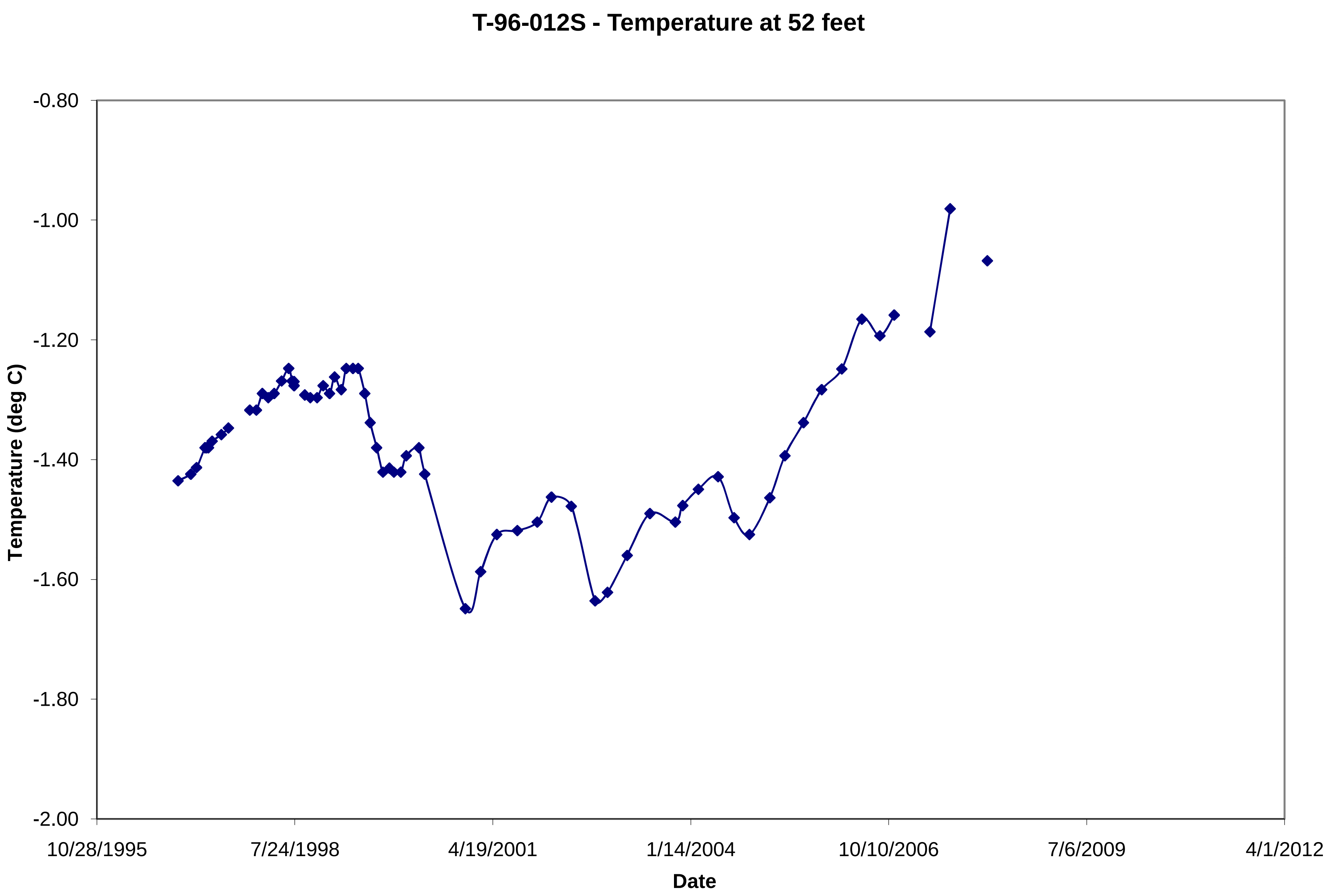
T-96-012S - Temperature at 45 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date



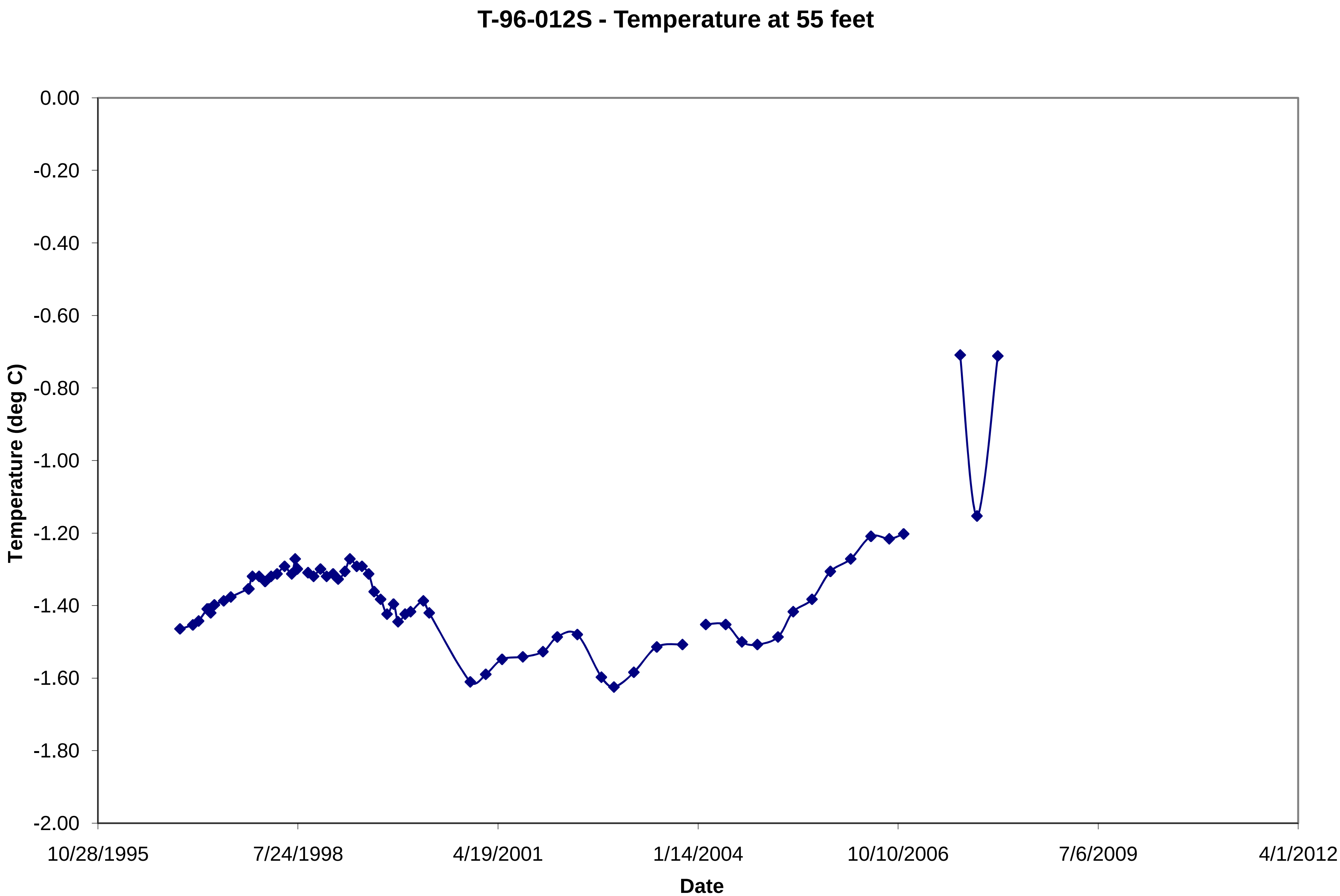
T-96-012S - Temperature at 47 feet
Temperature (deg C)
0.10
-0.40
-0.90
-1.40
-1.90
-2.40
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date



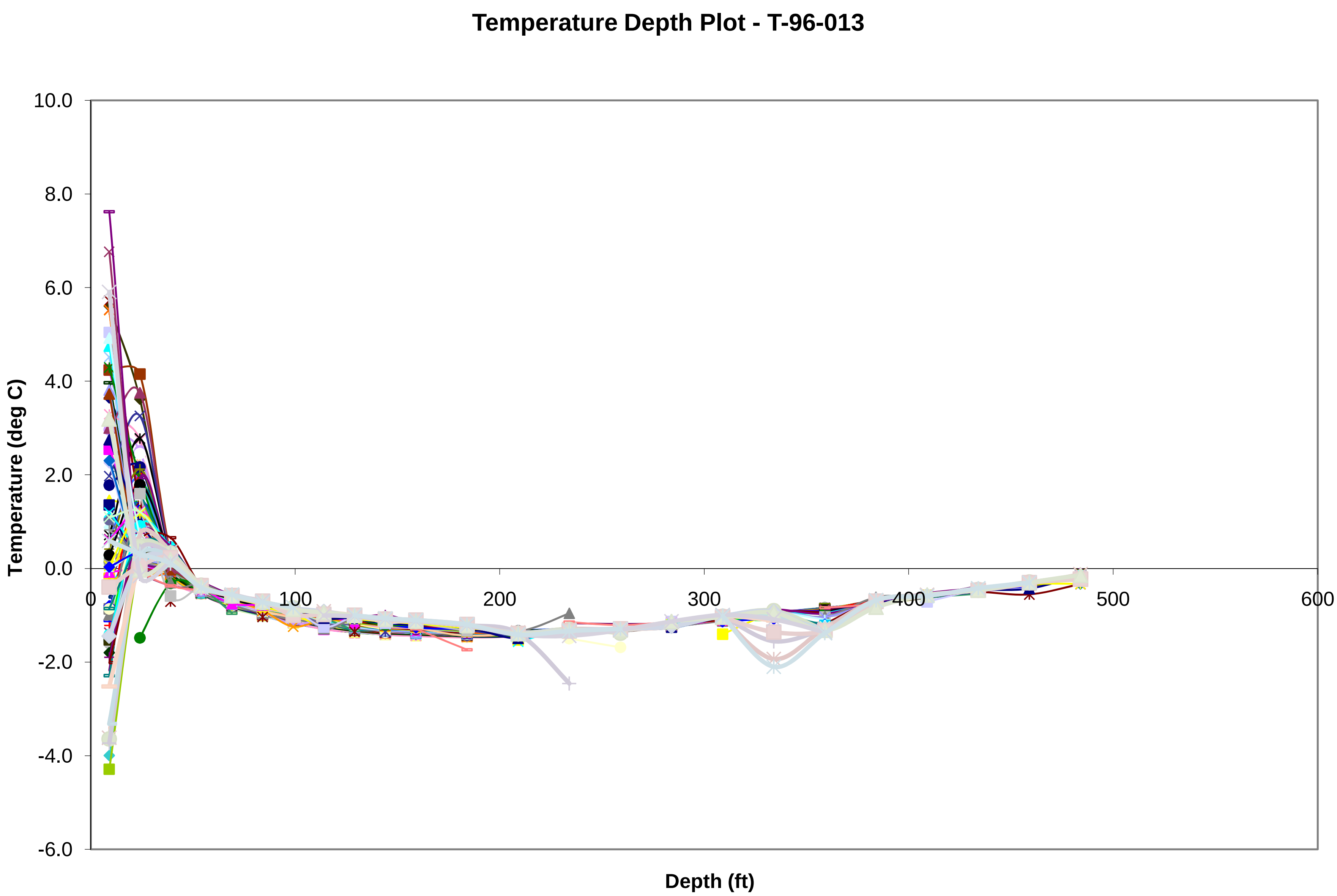
T-96-012S - Temperature at 50 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date



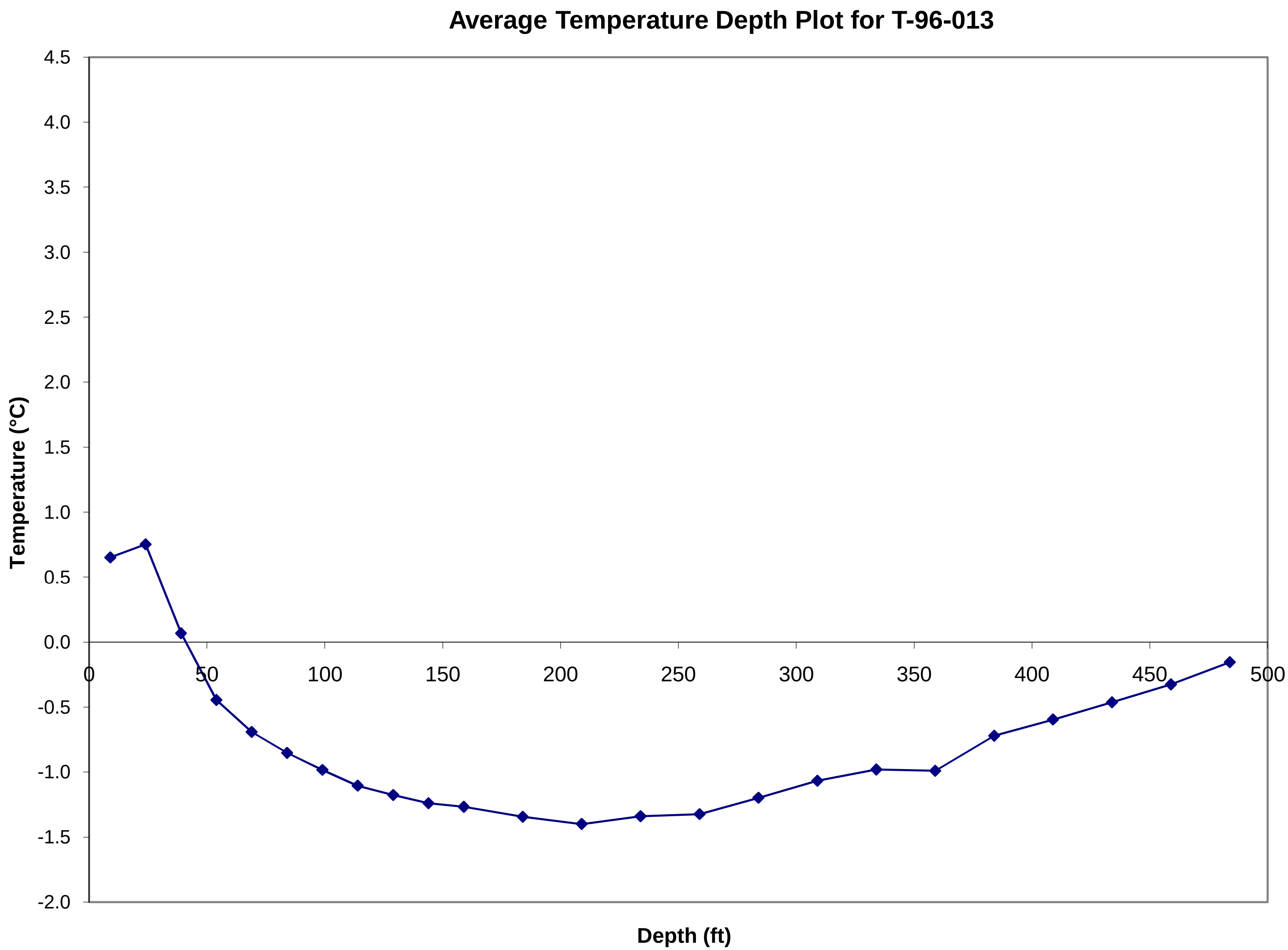
T-96-012S - Temperature at 52 feet
Temperature (deg C)
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date


T-96-012S - Temperature at 55 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
Date

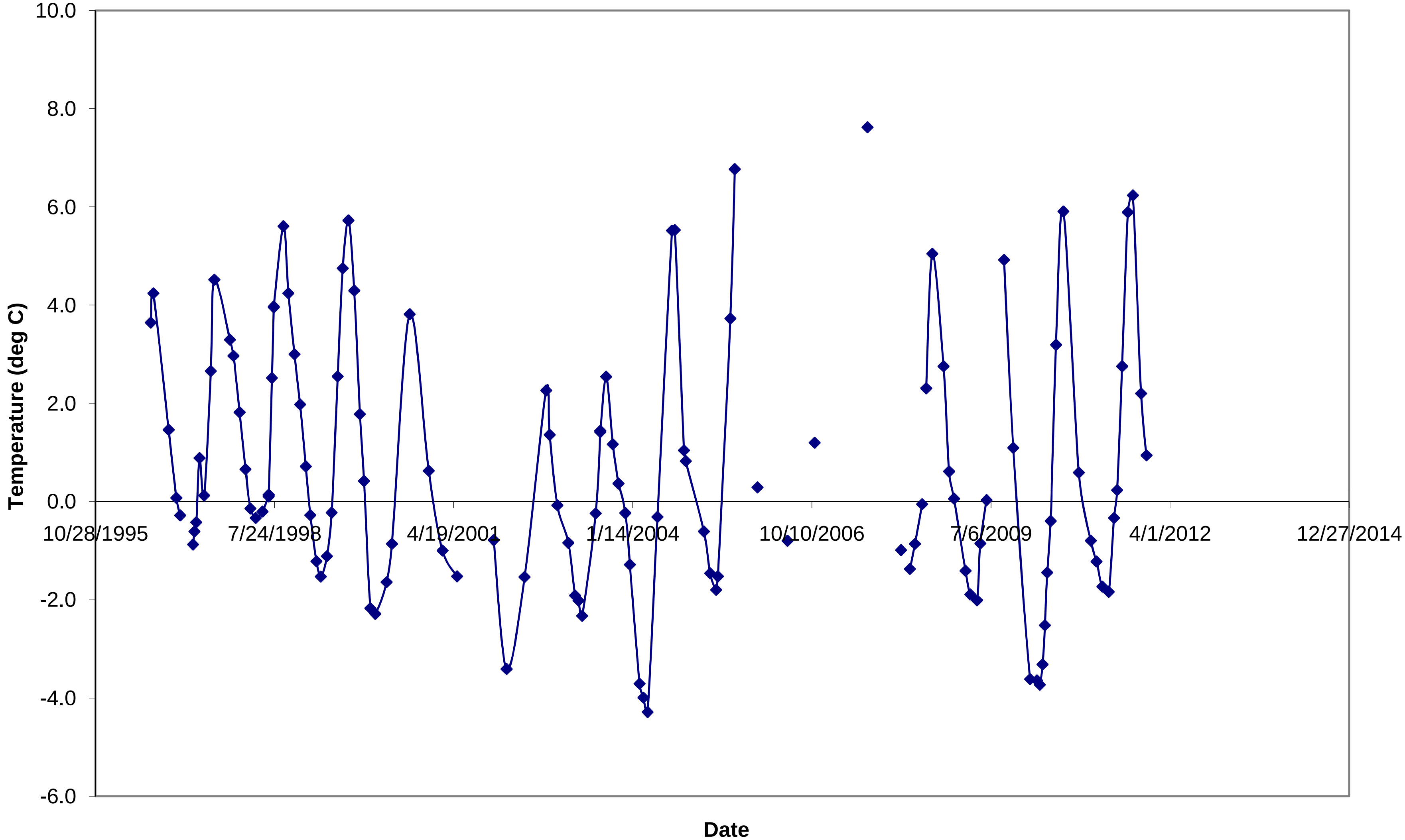
T-96-013

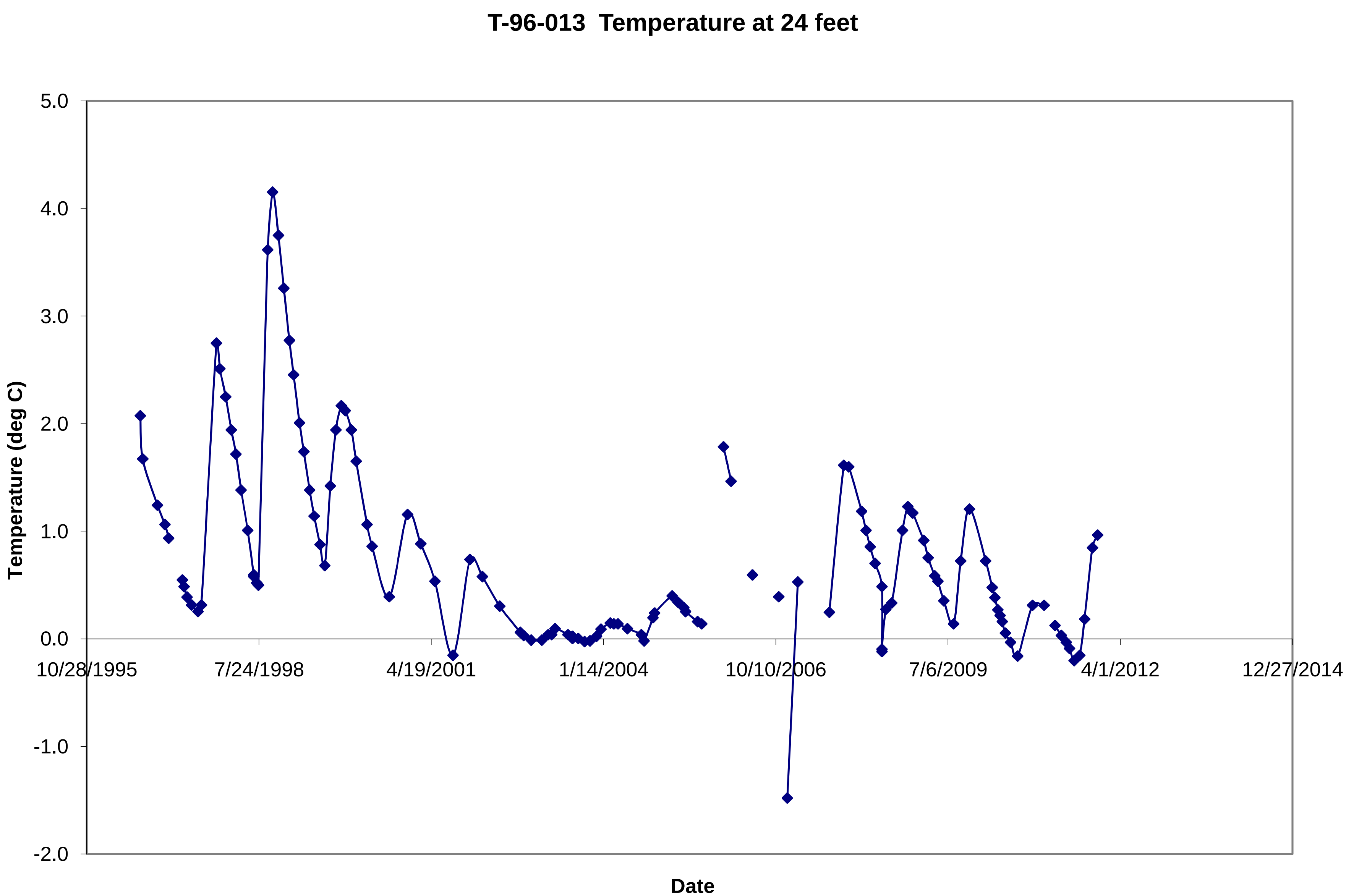


Temperature Depth Plot - T-96-013
Temperature (deg C)
10.0
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
0
100
200
300
400
500
600
Depth (ft)

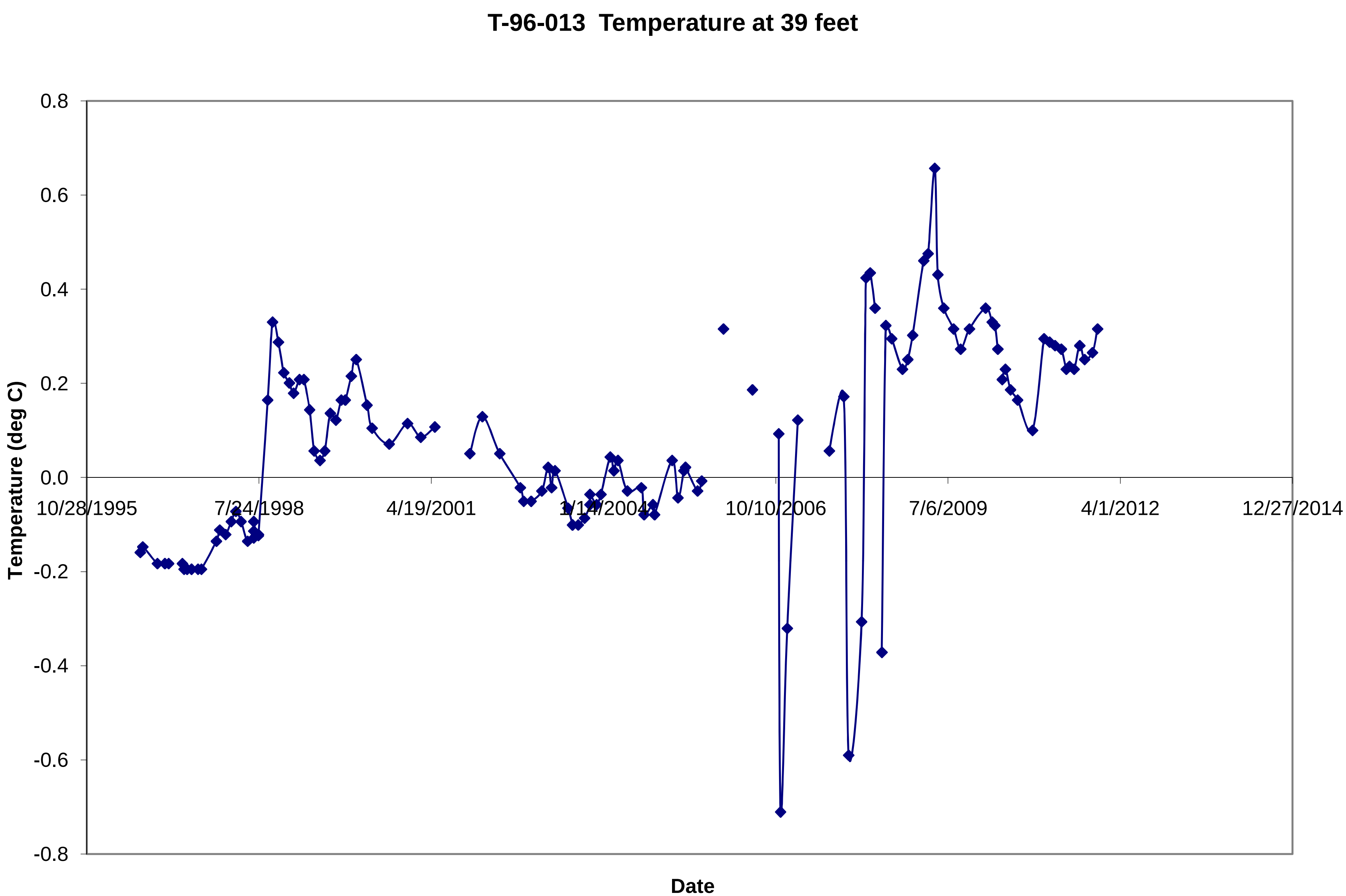

Average Temperature Depth Plot for T-96-013
Temperature (°C)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
0
50
100
150
200
250
300
350
400
450
500
Depth (ft)

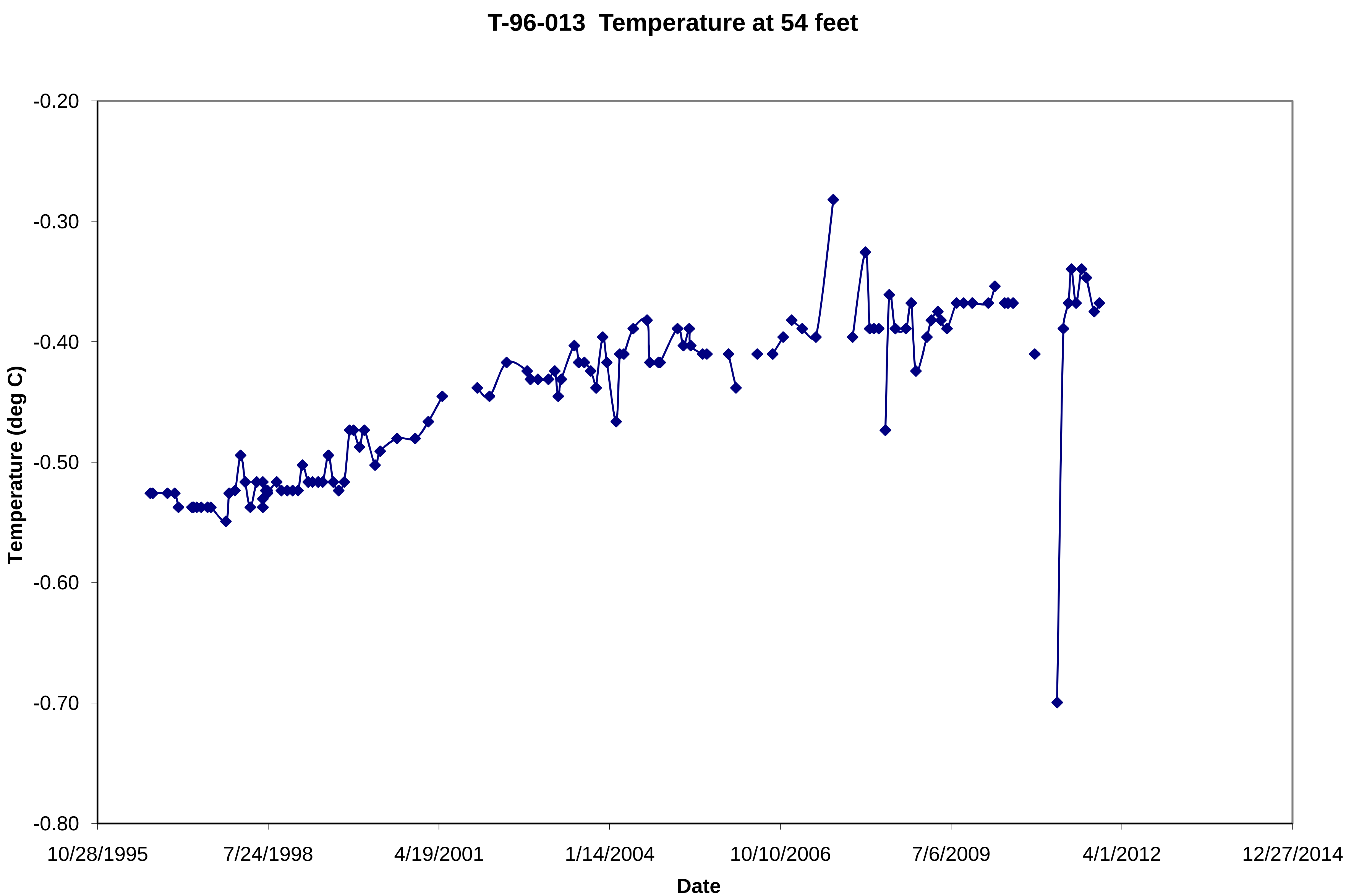
T-96-013 Temperature at 9 feet

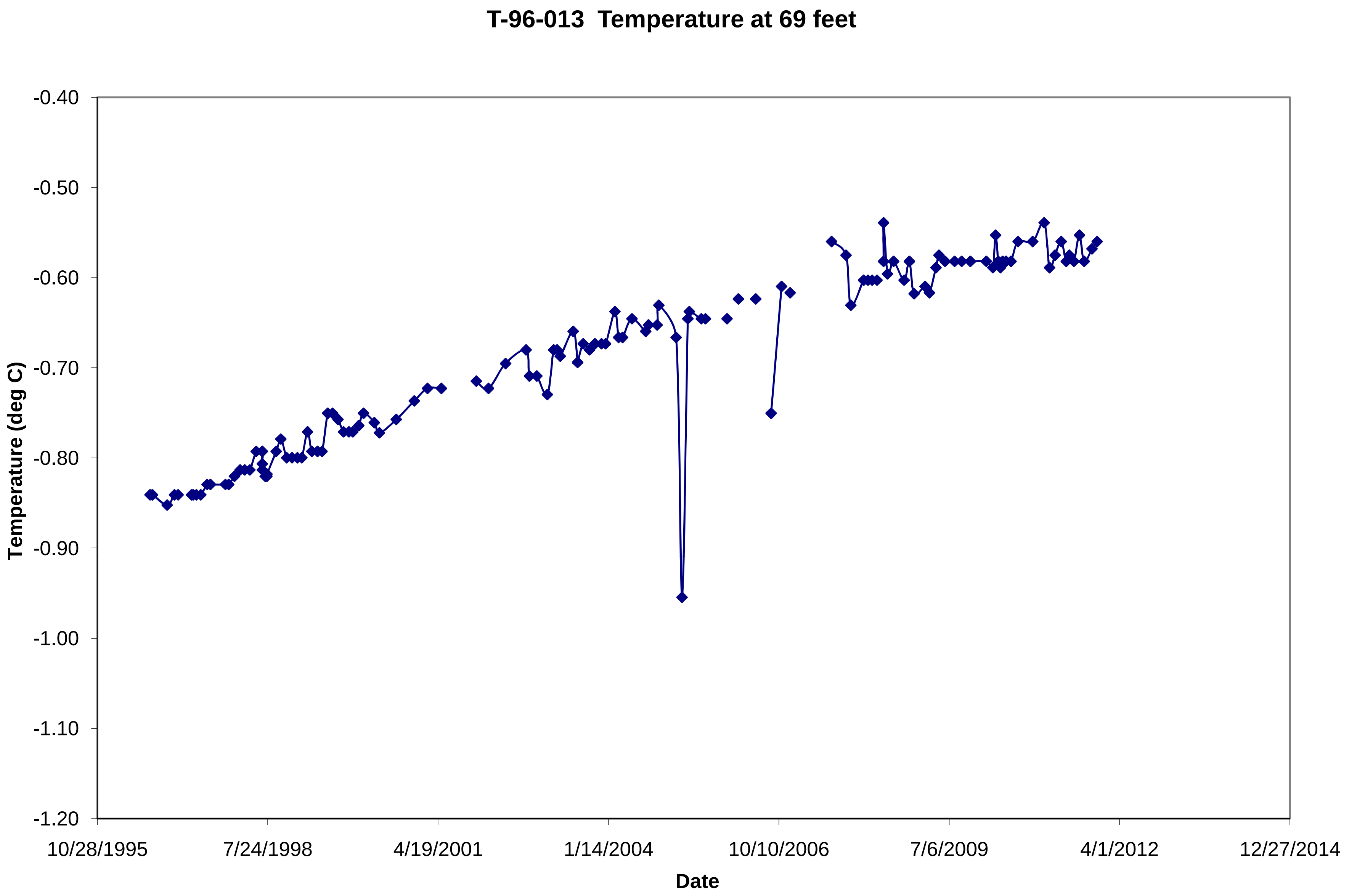




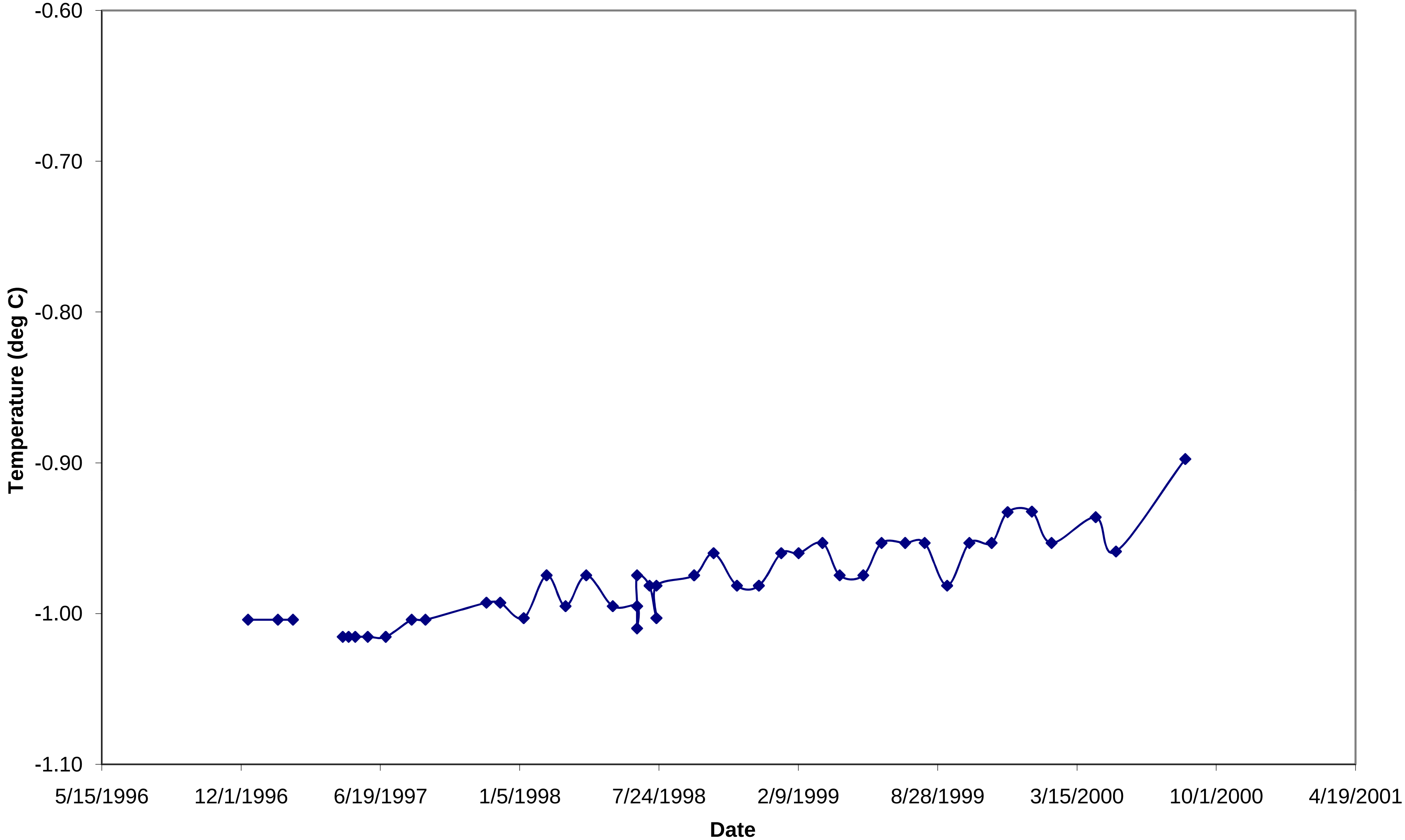
T-96-013 Temperature at 24 feet
Temperature (deg C)
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

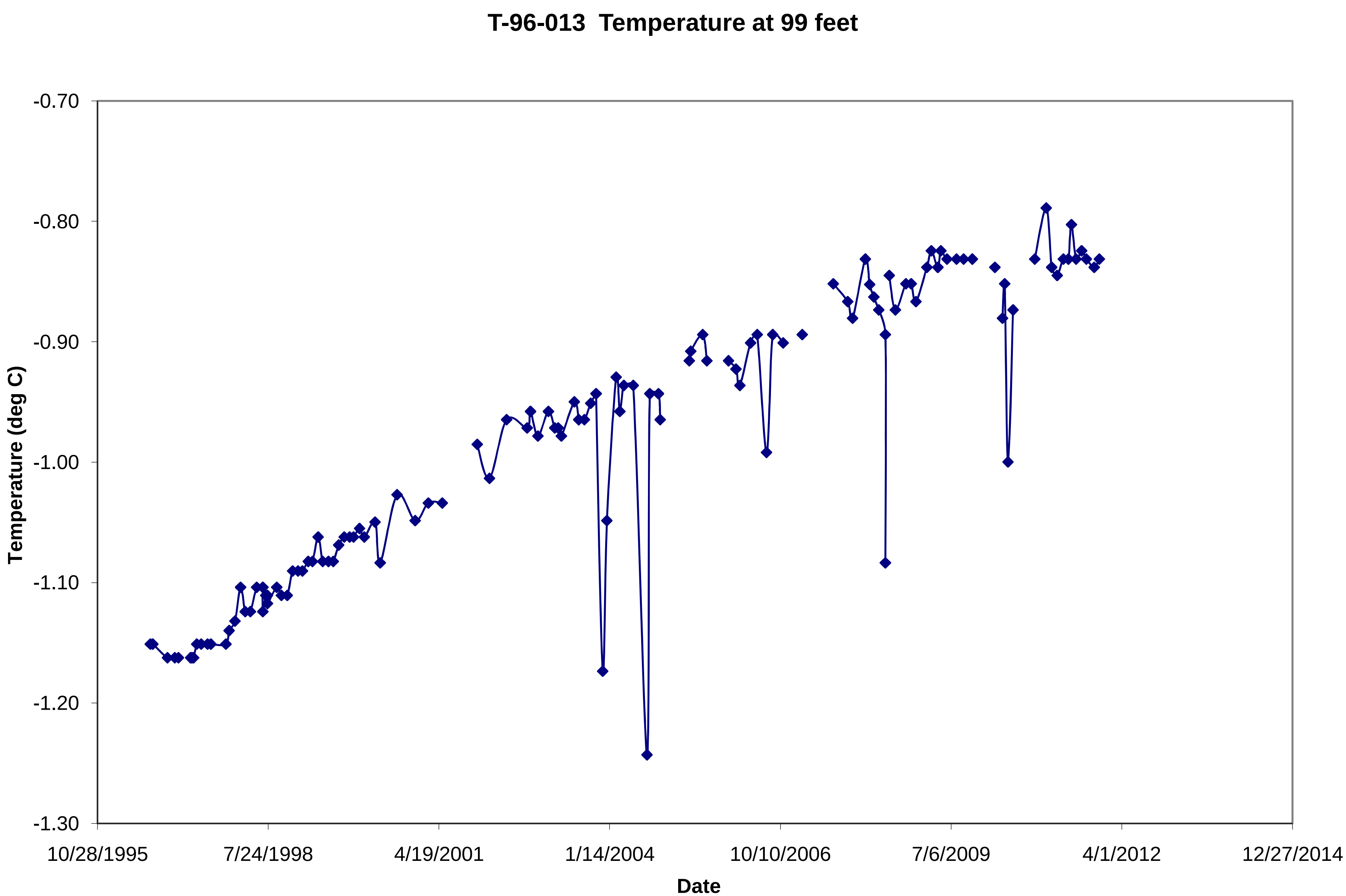

T-96-013 Temperature at 39 feet
Temperature (deg C)
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

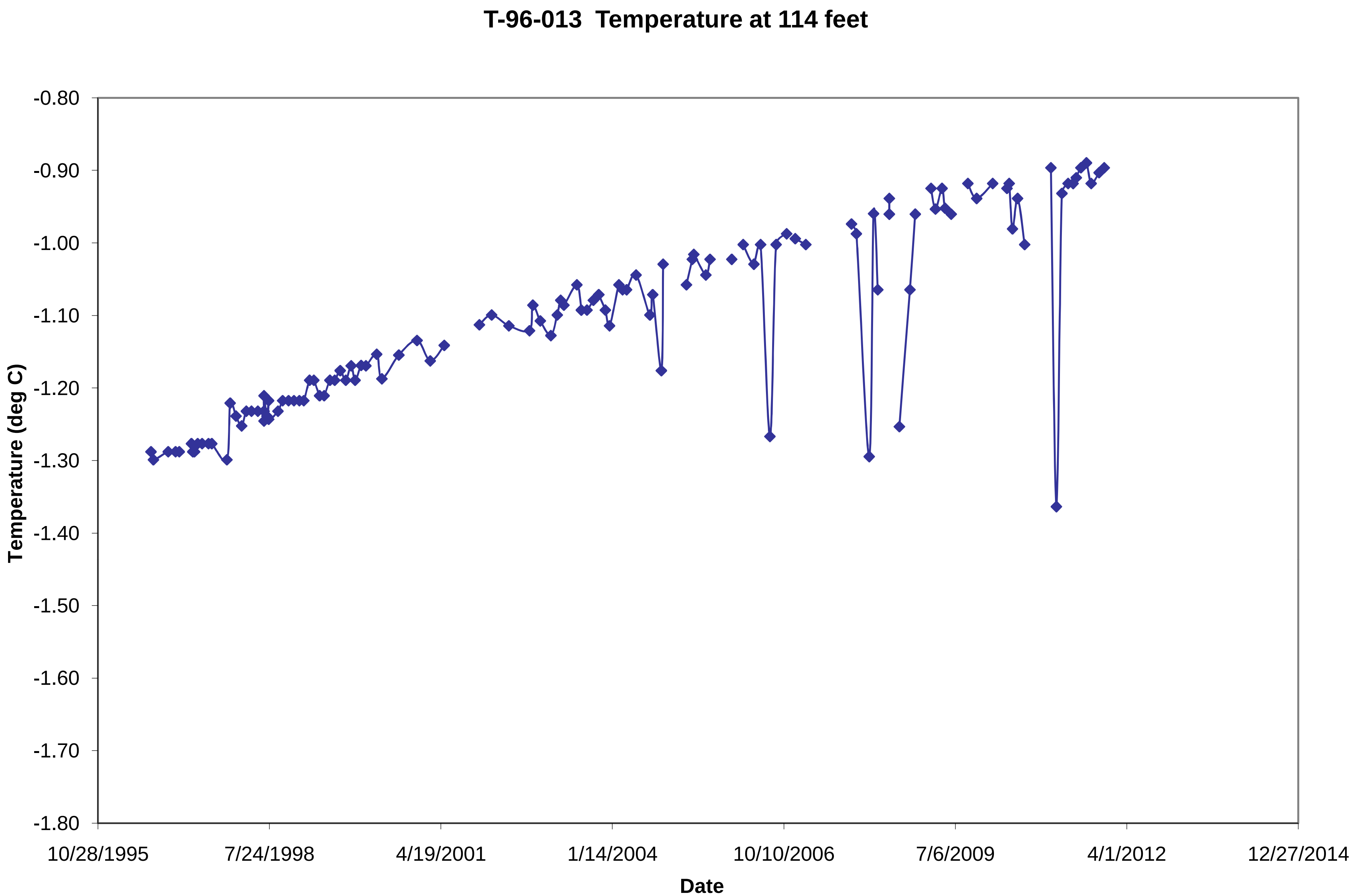

T-96-013 Temperature at 54 feet
Temperature (deg C)
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-013 Temperature at 69 feet
Temperature (deg C)
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
-1.00
-1.10
-1.20
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

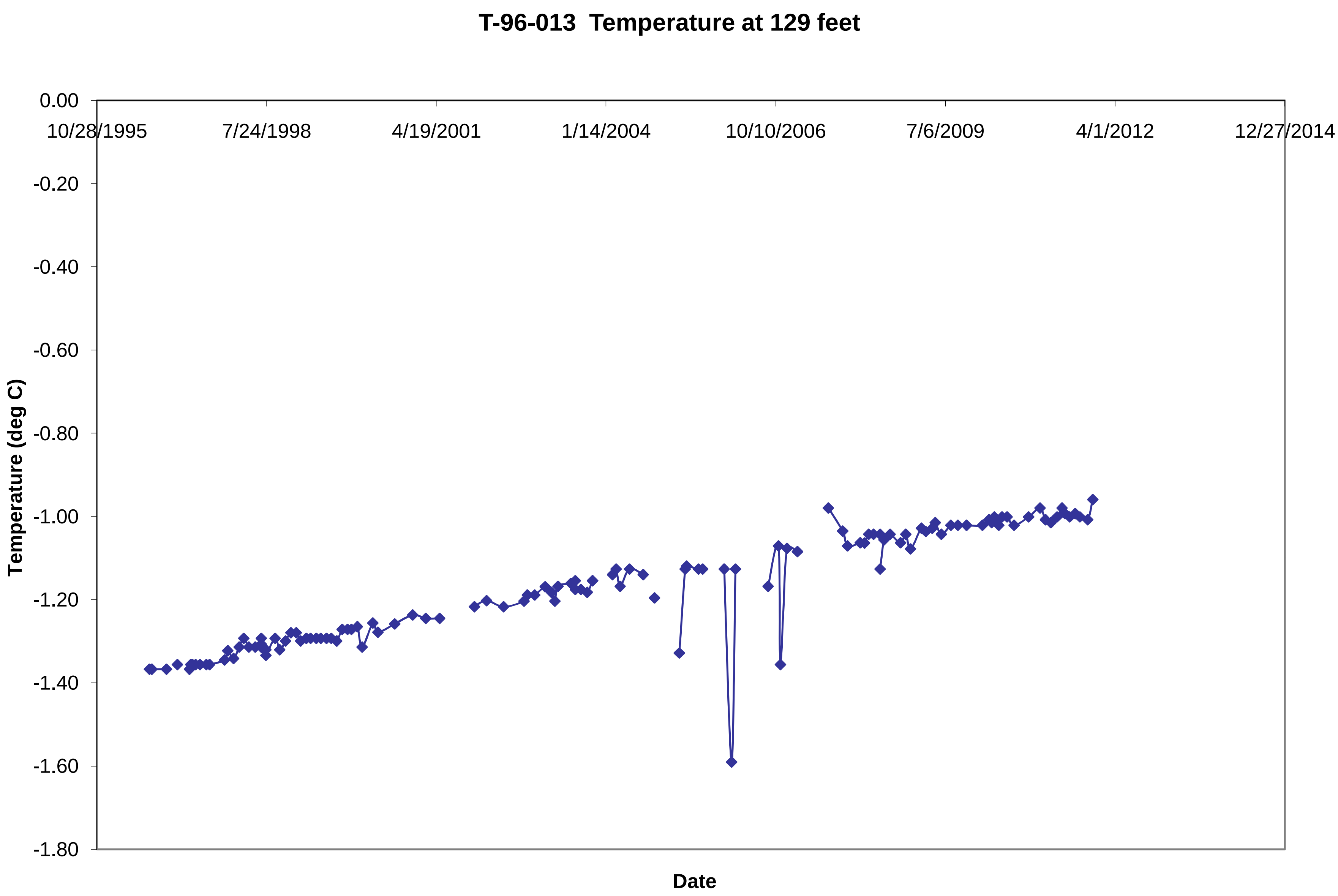
T-96-013 Temperature at 84 feet



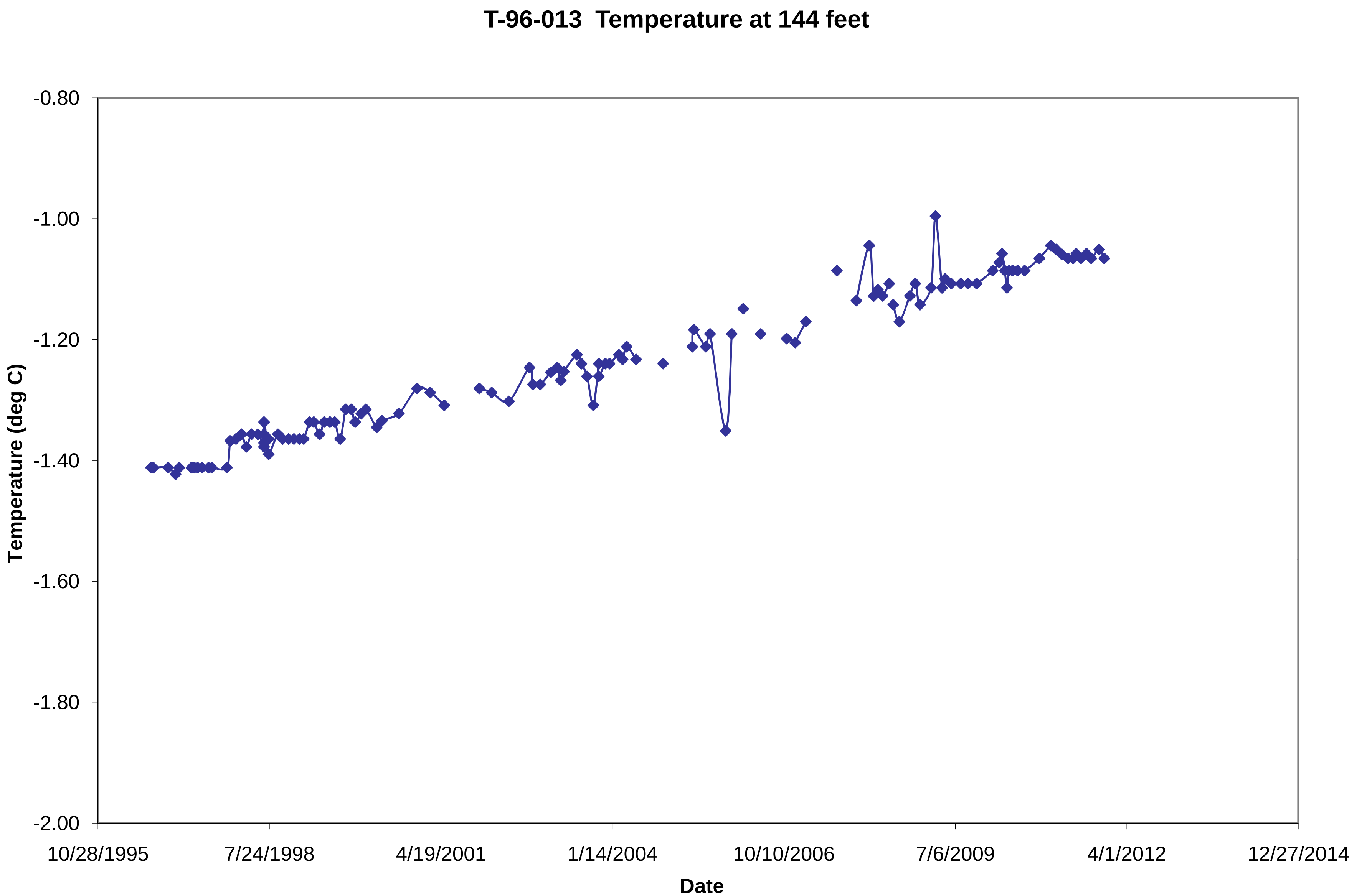

T-96-013 Temperature at 99 feet
Temperature (deg C)
-0.70
-0.80
-0.90
-1.00
-1.10
-1.20
-1.30
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



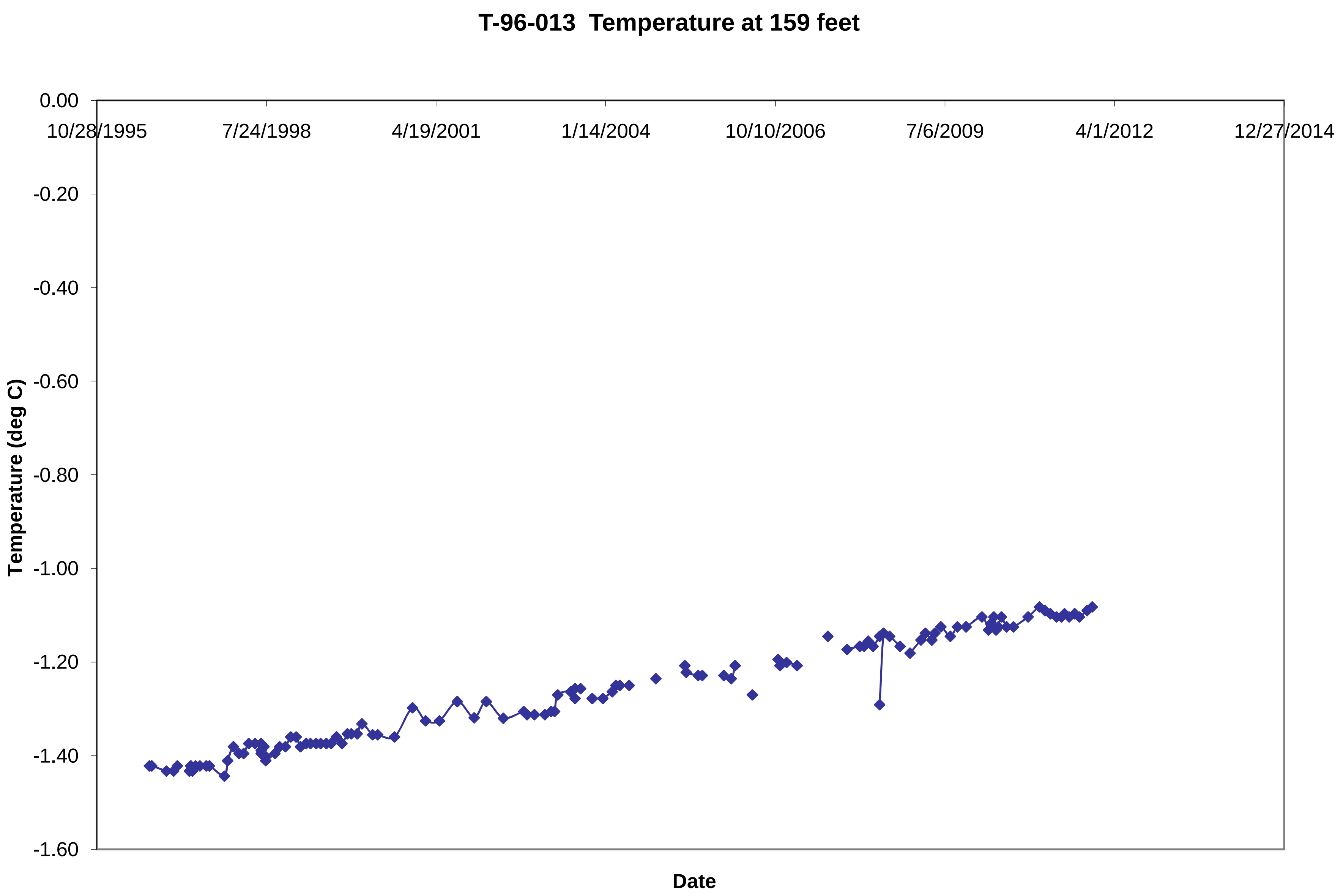
T-96-013 Temperature at 114 feet
Temperature (deg C)
-0.80
-0.90
-1.00
-1.10
-1.20
-1.30
-1.40
-1.50
-1.60
-1.70
-1.80
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



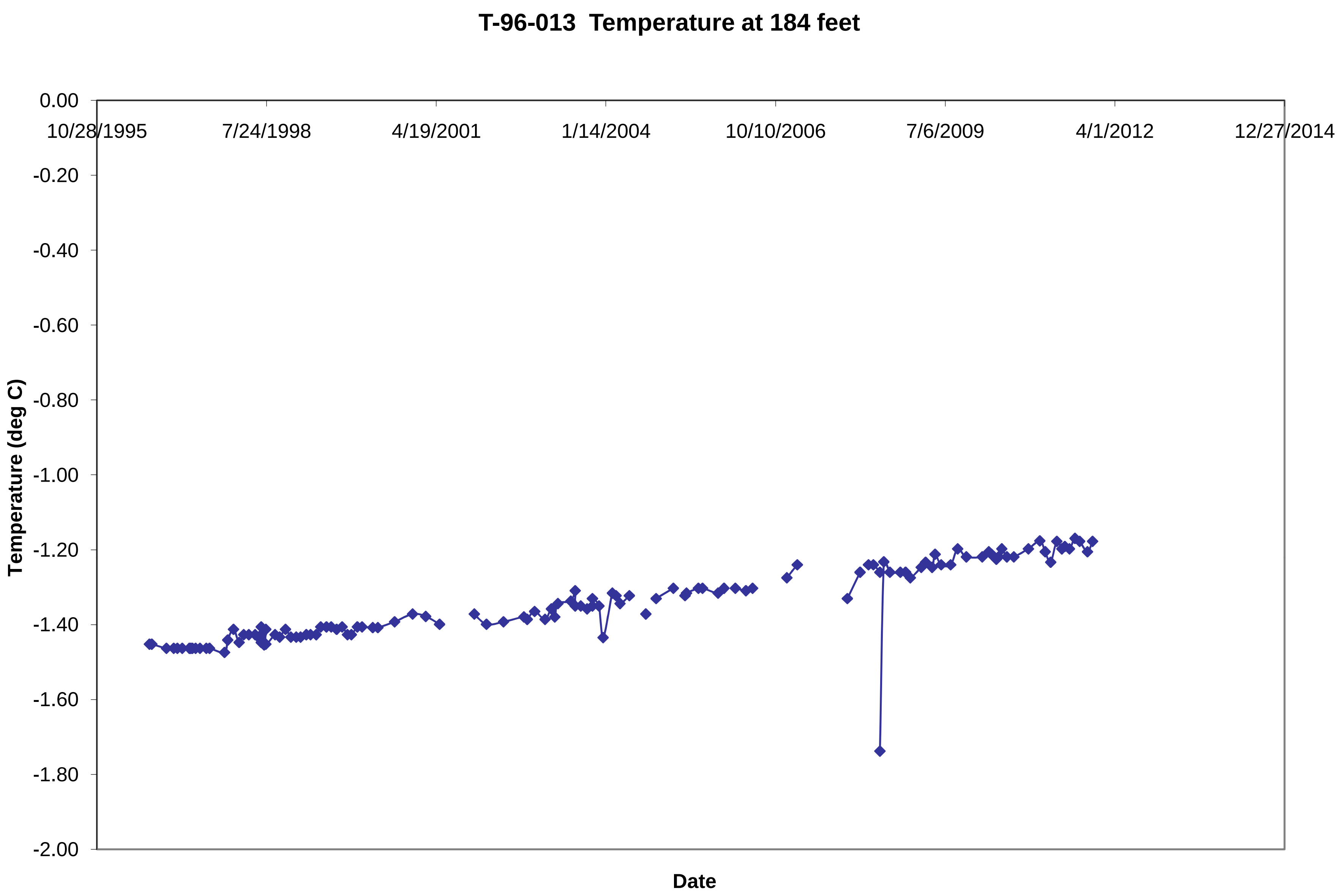
T-96-013 Temperature at 129 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date



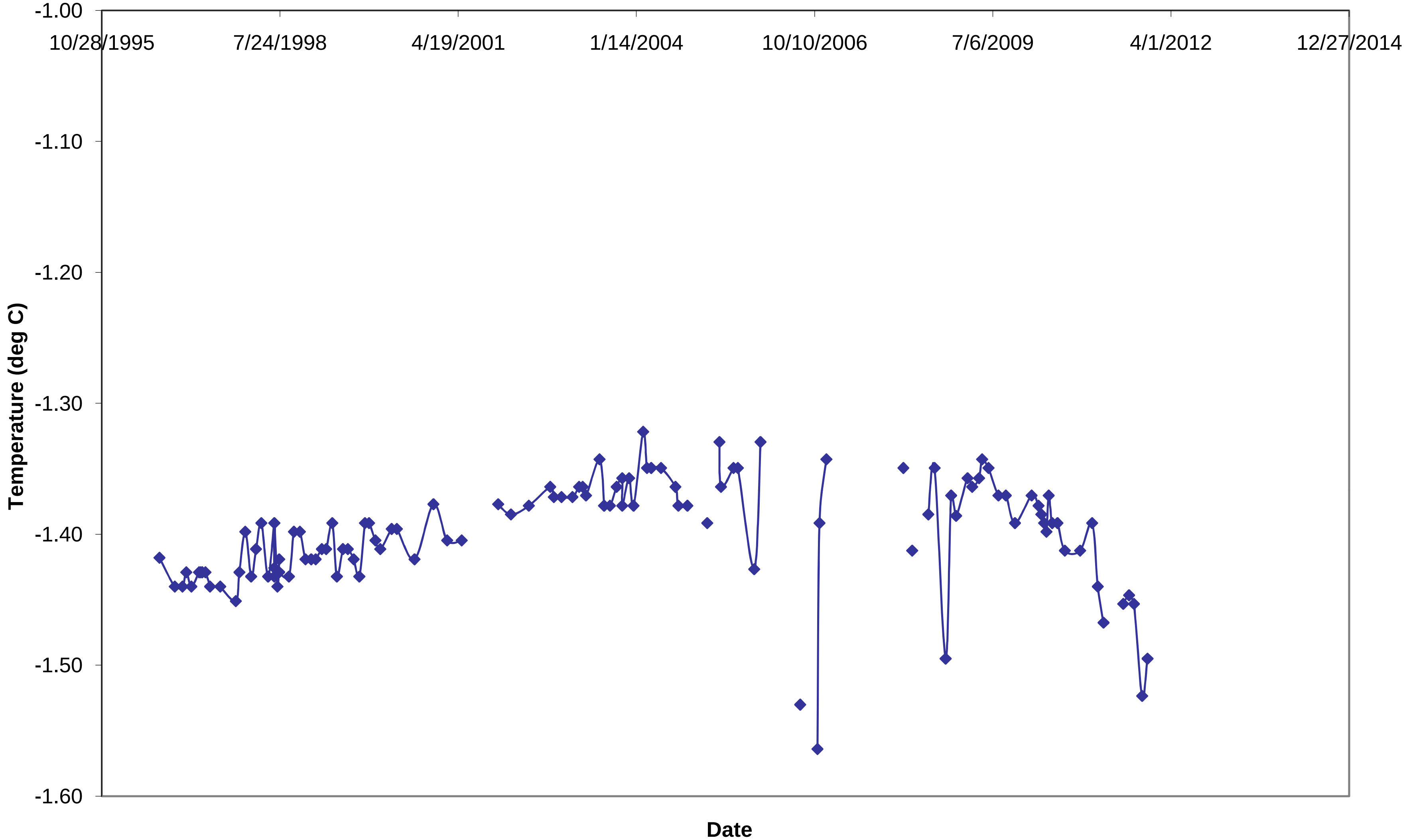
T-96-013 Temperature at 144 feet
Temperature (deg C)
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

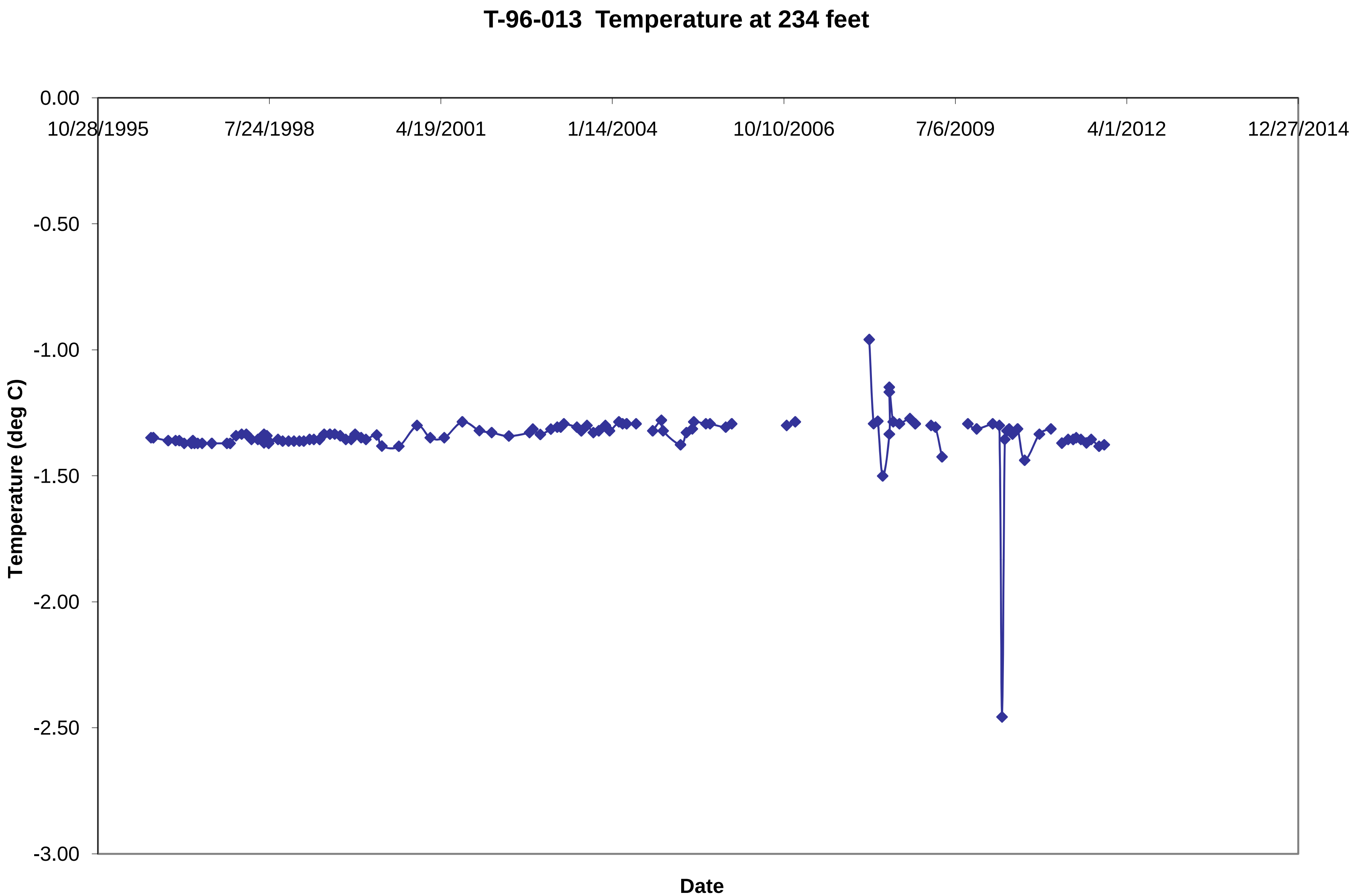


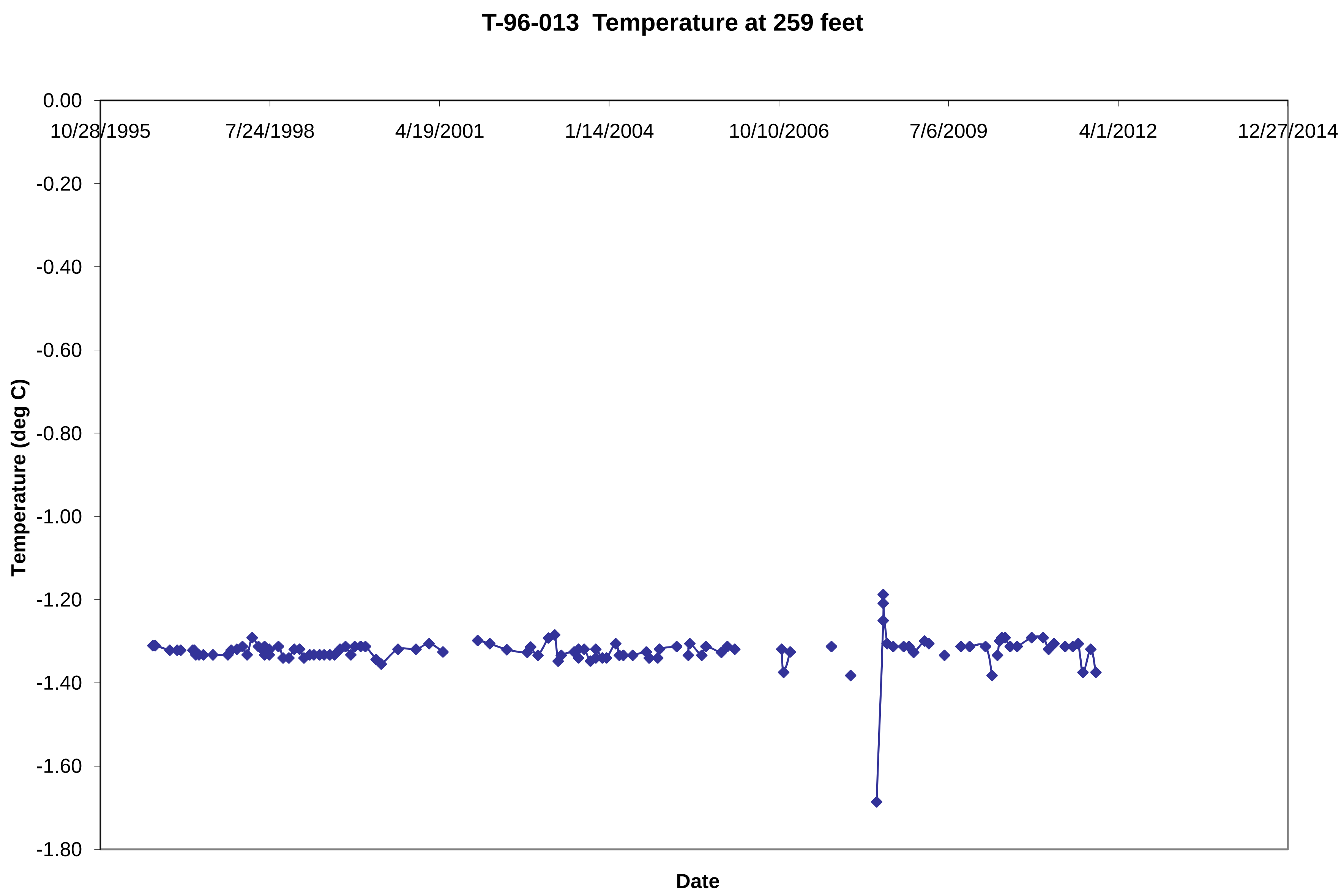
T-96-013 Temperature at 159 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date


T-96-013 Temperature at 184 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

T-96-013 Temperature at 209 feet

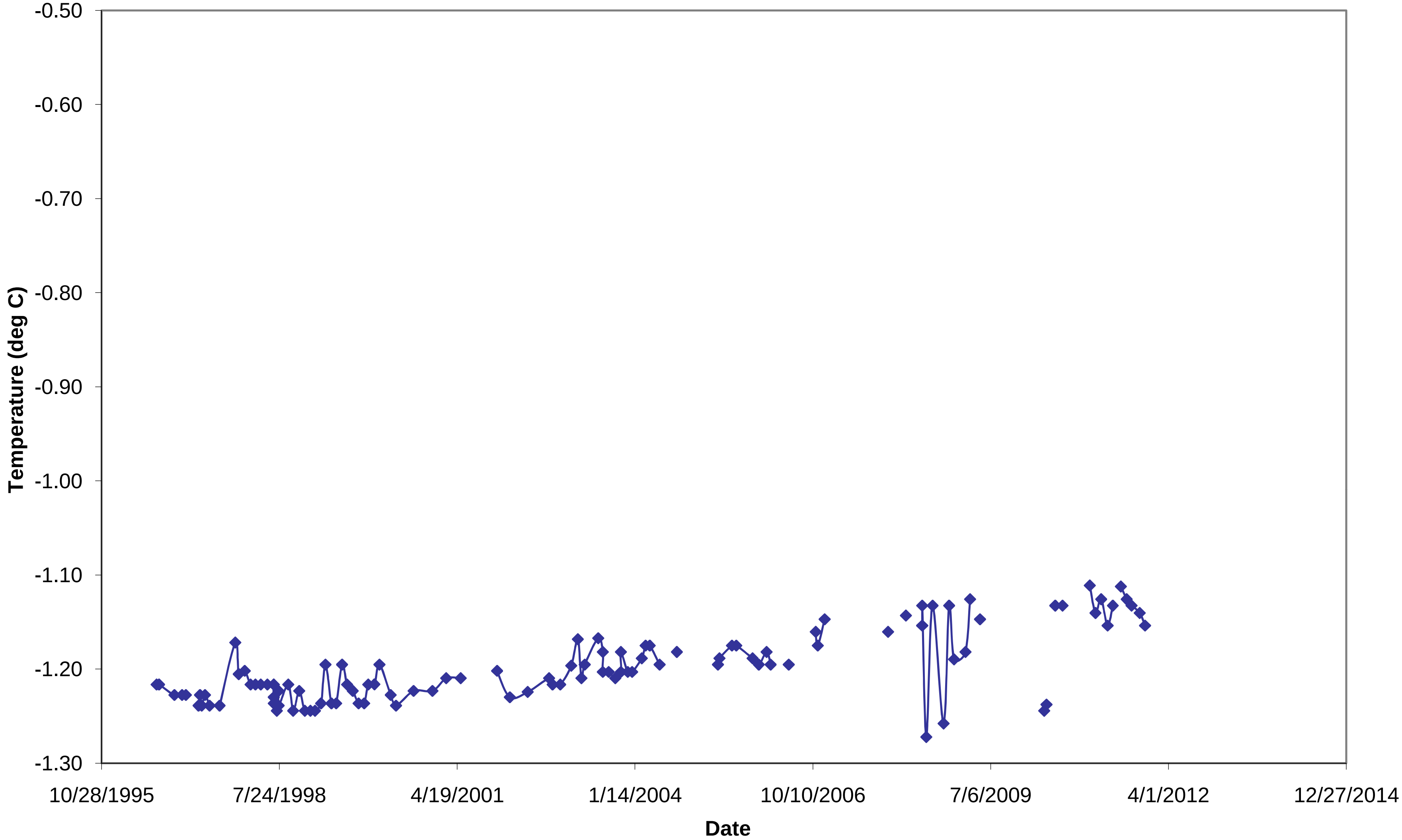


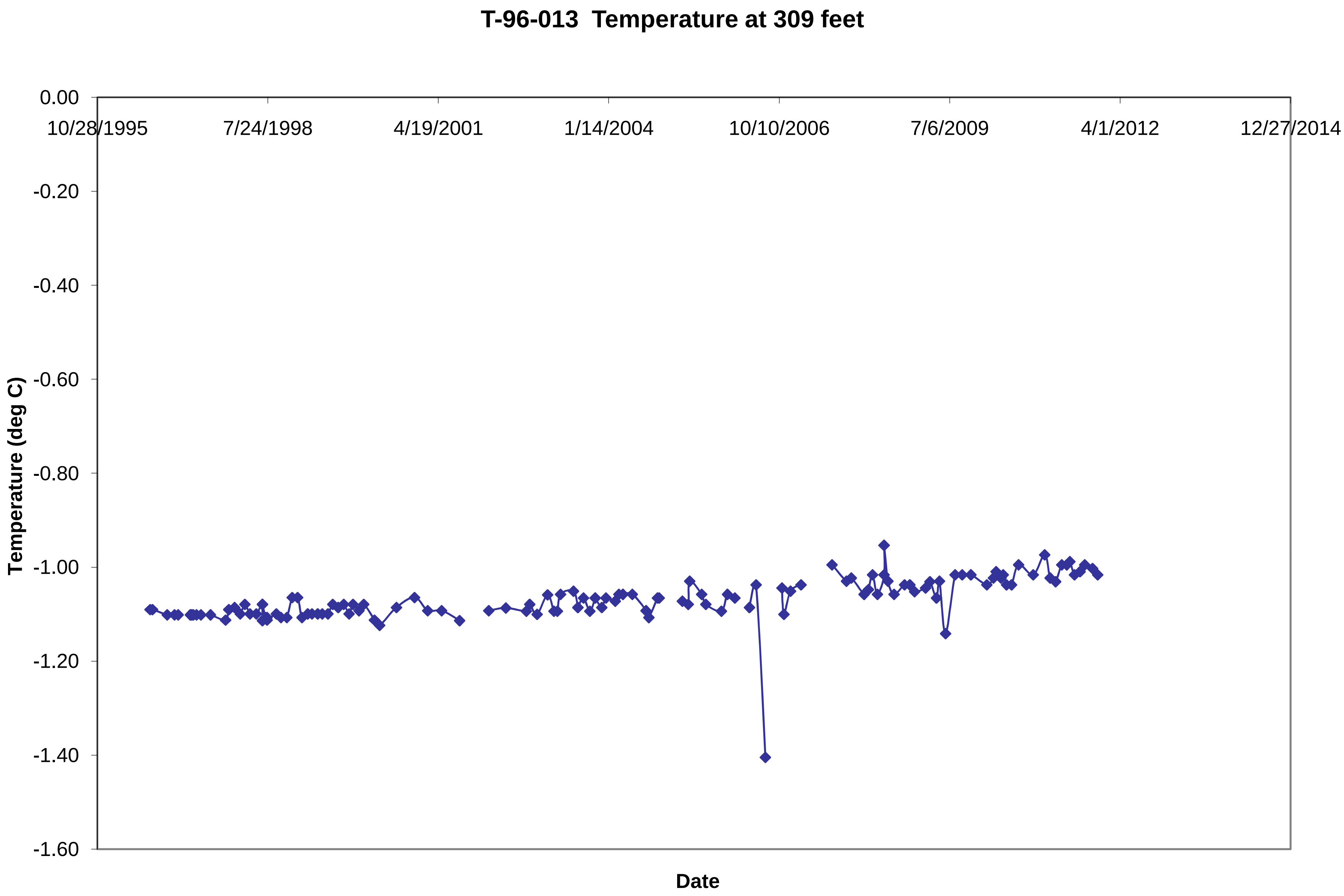

T-96-013 Temperature at 234 feet
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date



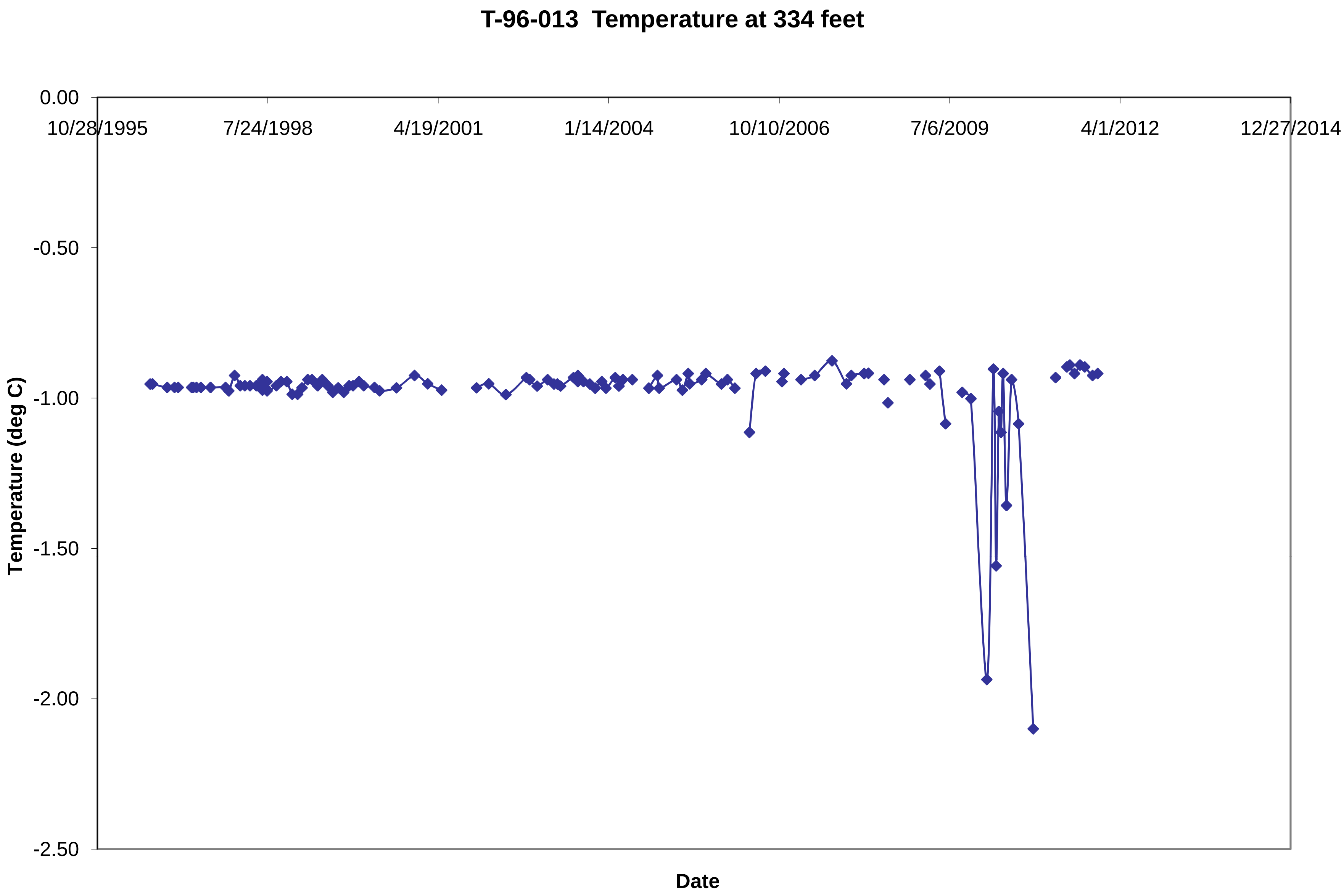
T-96-013 Temperature at 259 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

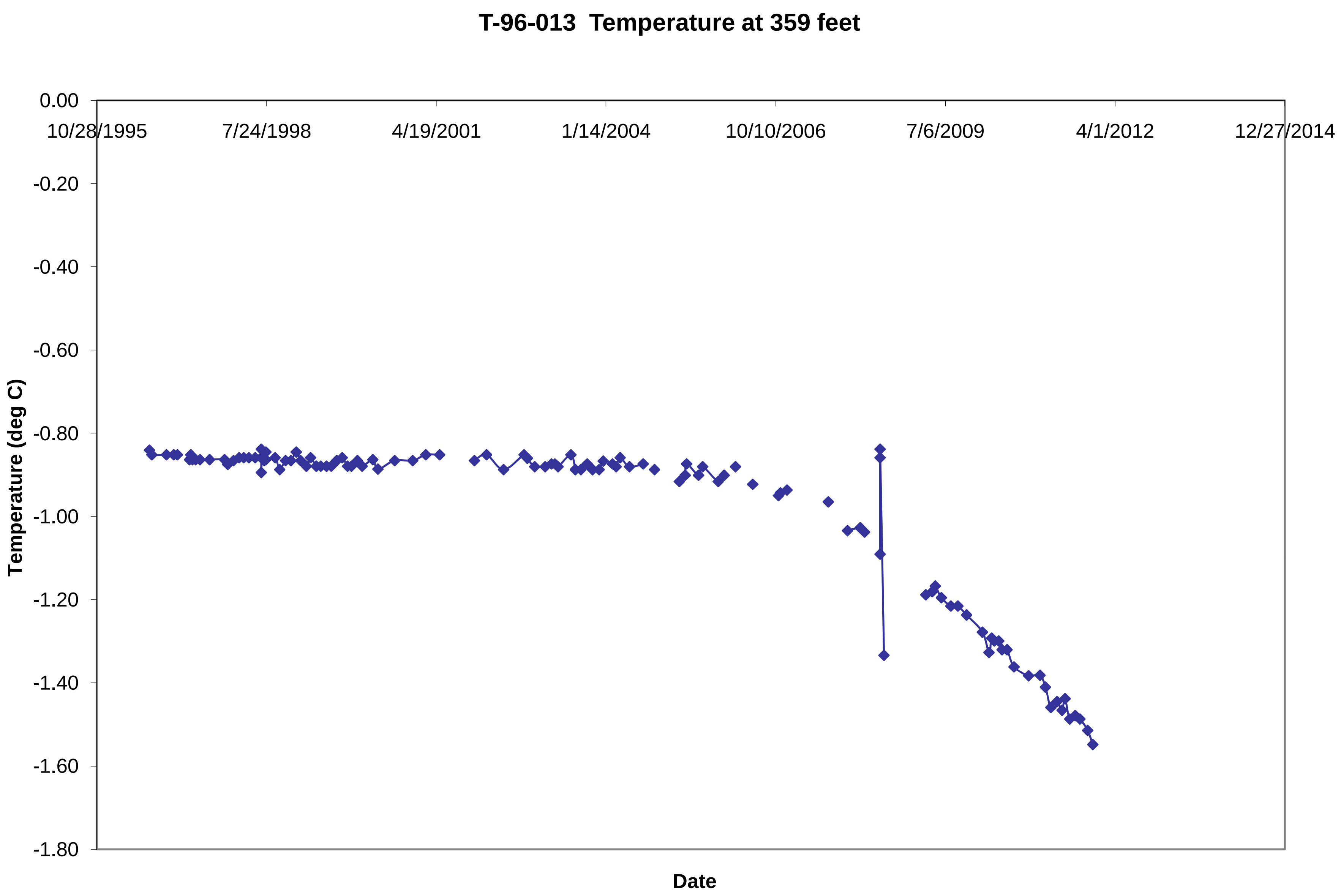
T-96-013 Temperature at 284 feet



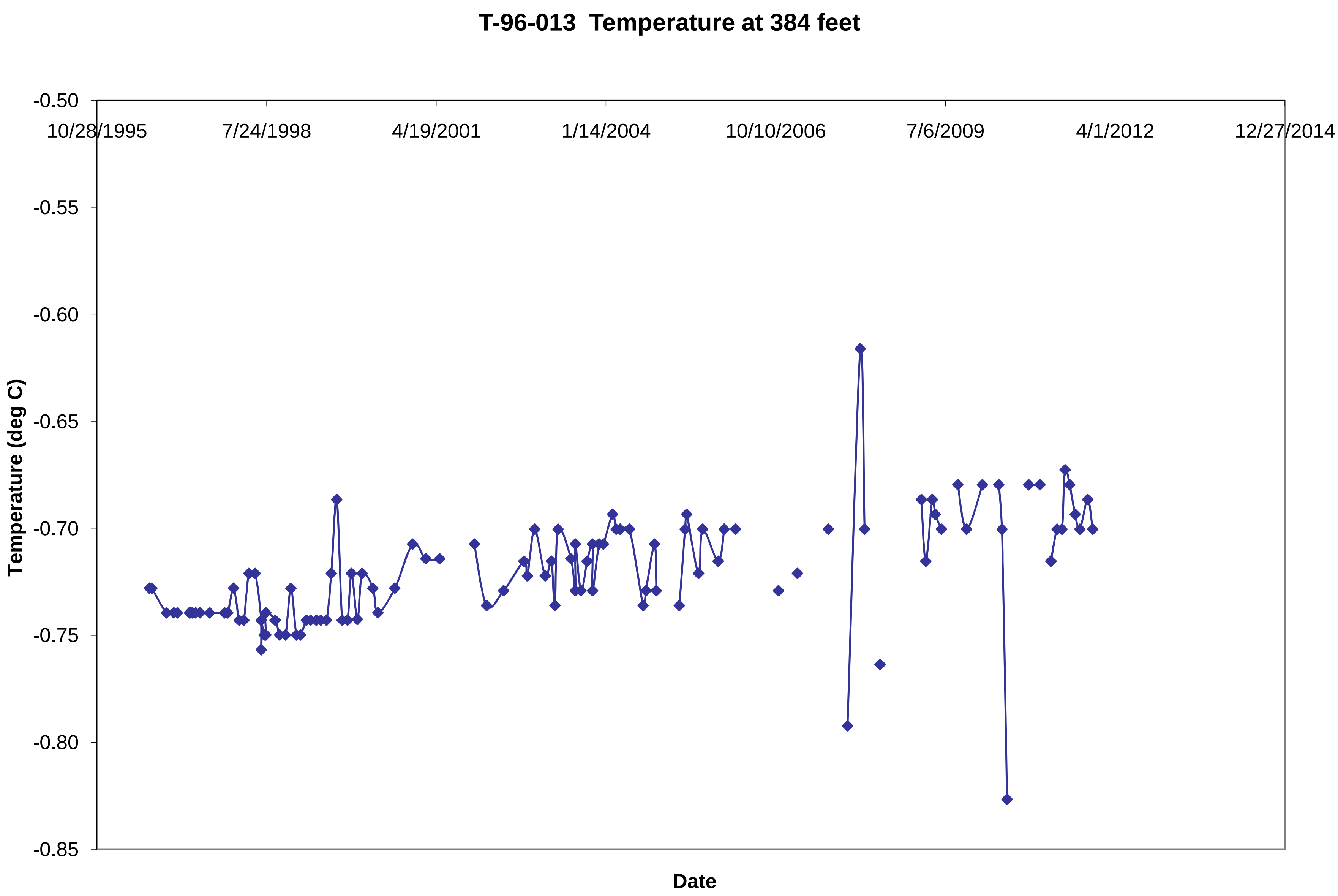


T-96-013 Temperature at 309 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

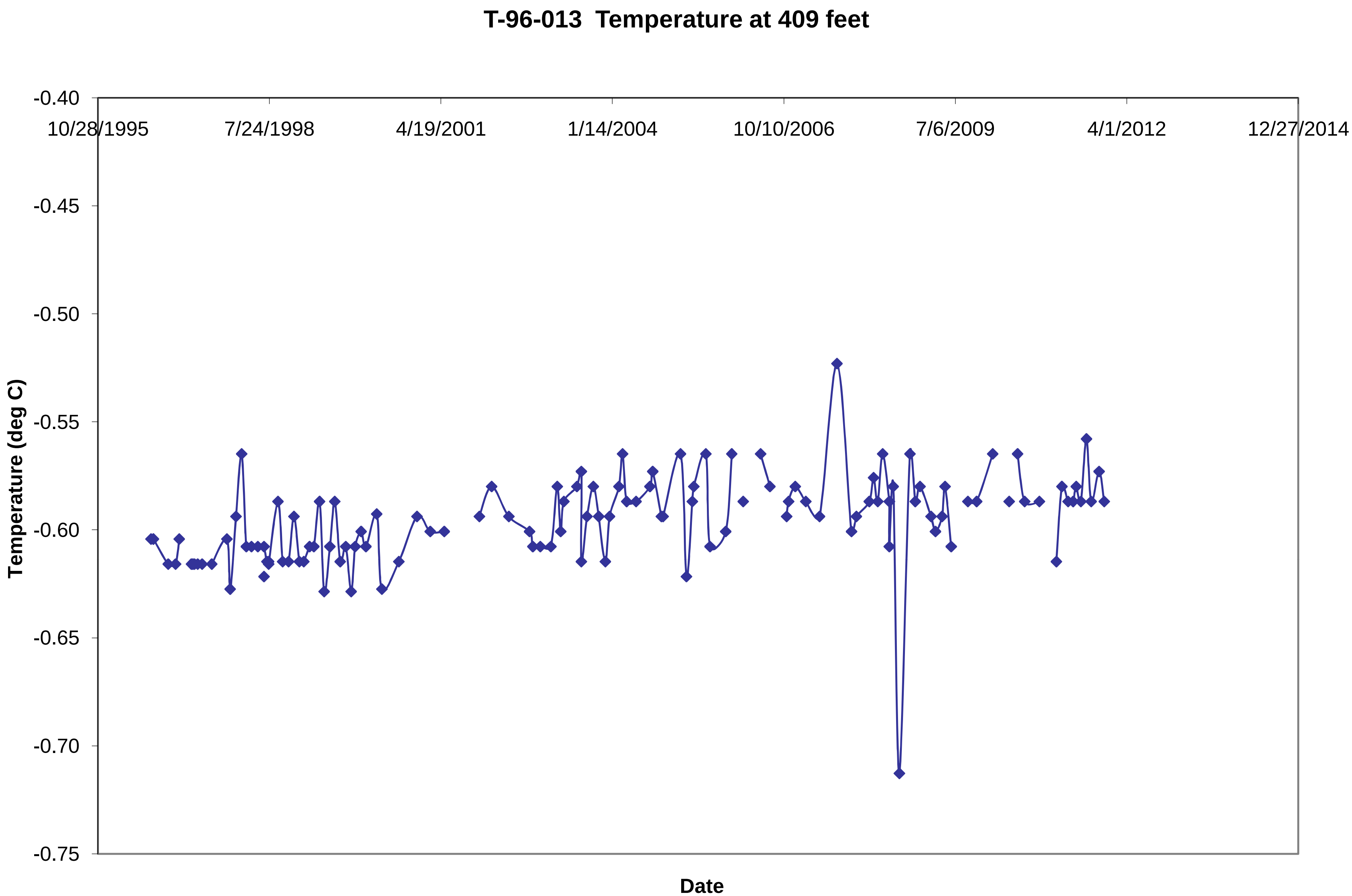

T-96-013 Temperature at 334 feet
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date



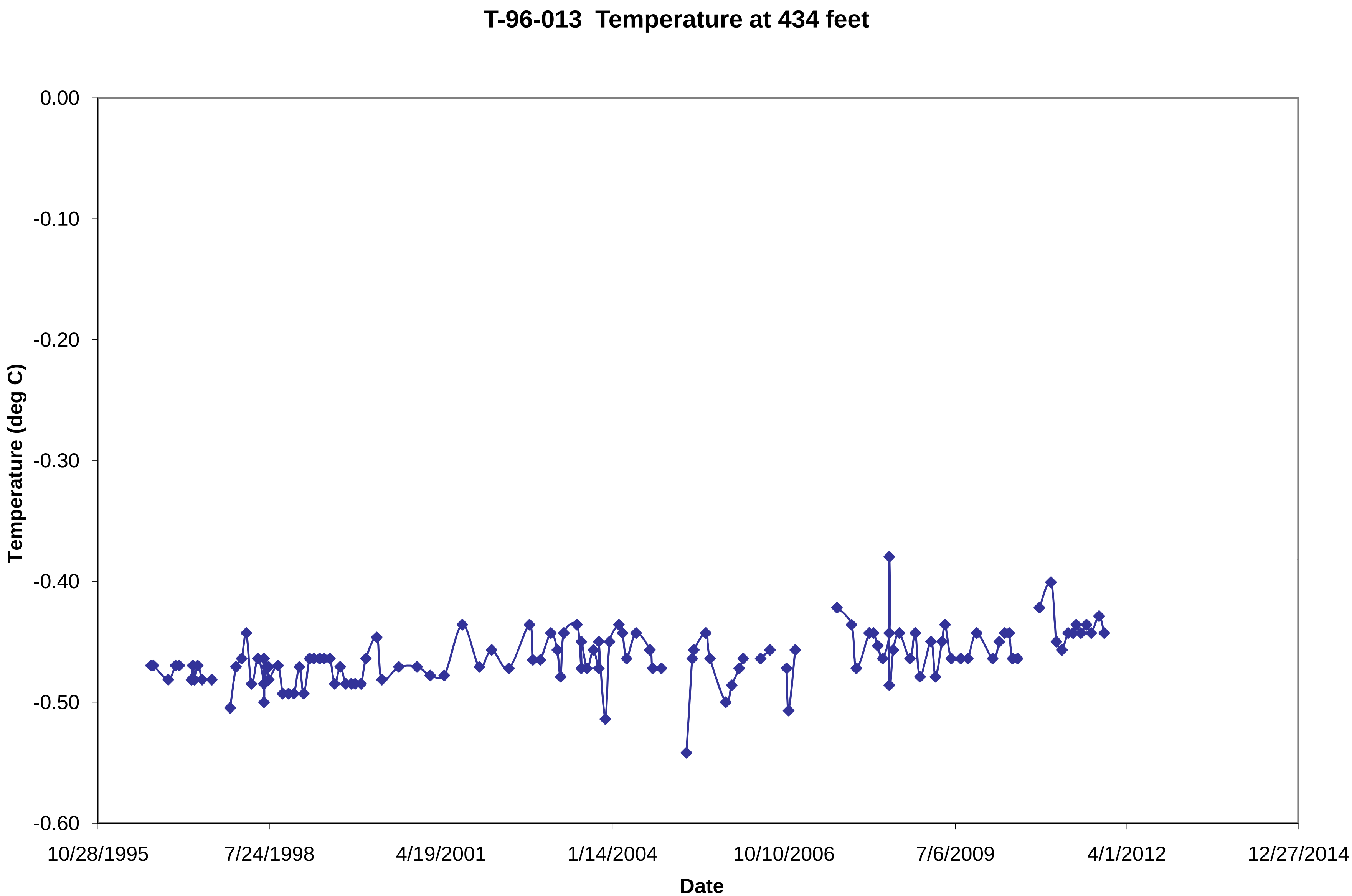
T-96-013 Temperature at 359 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

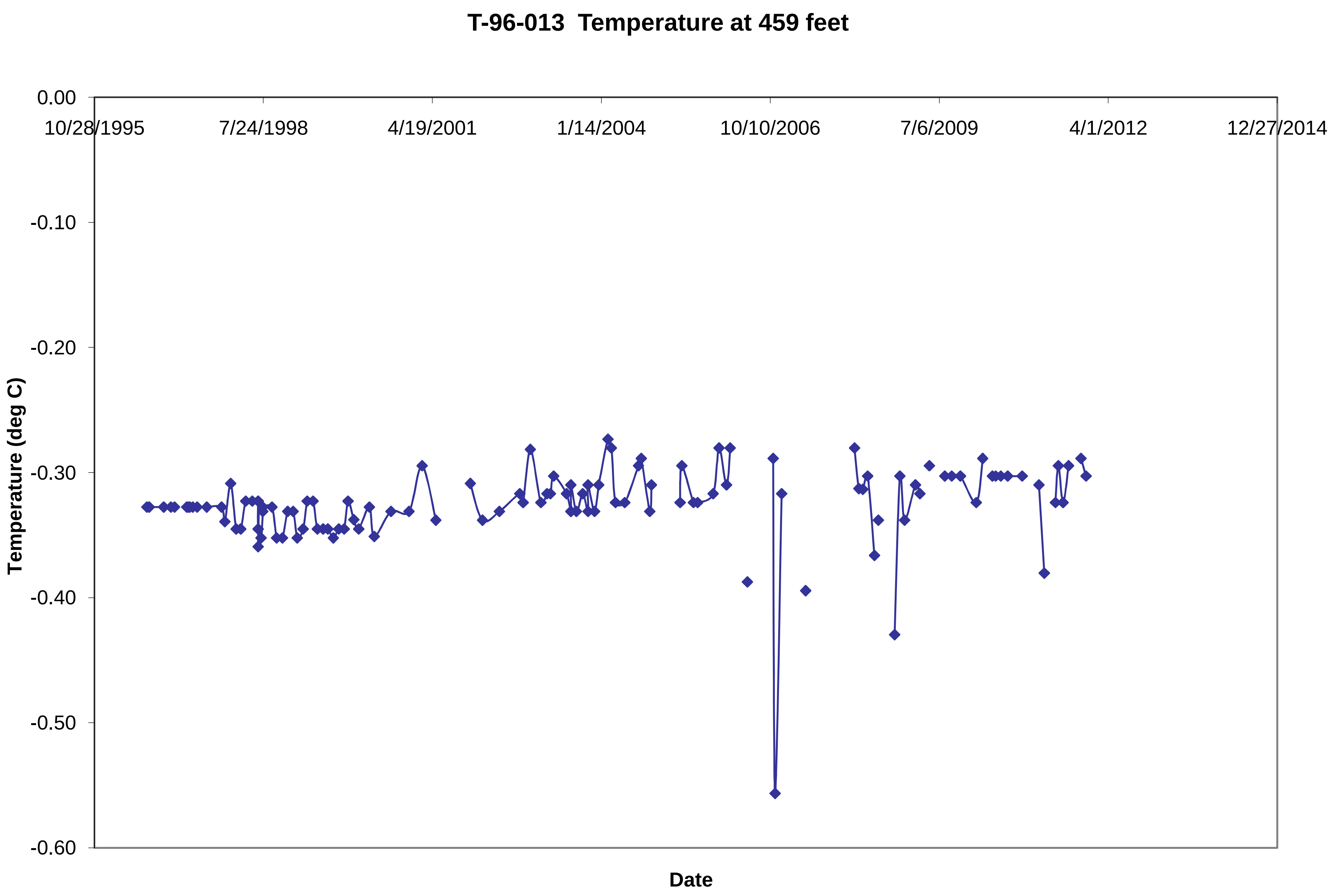


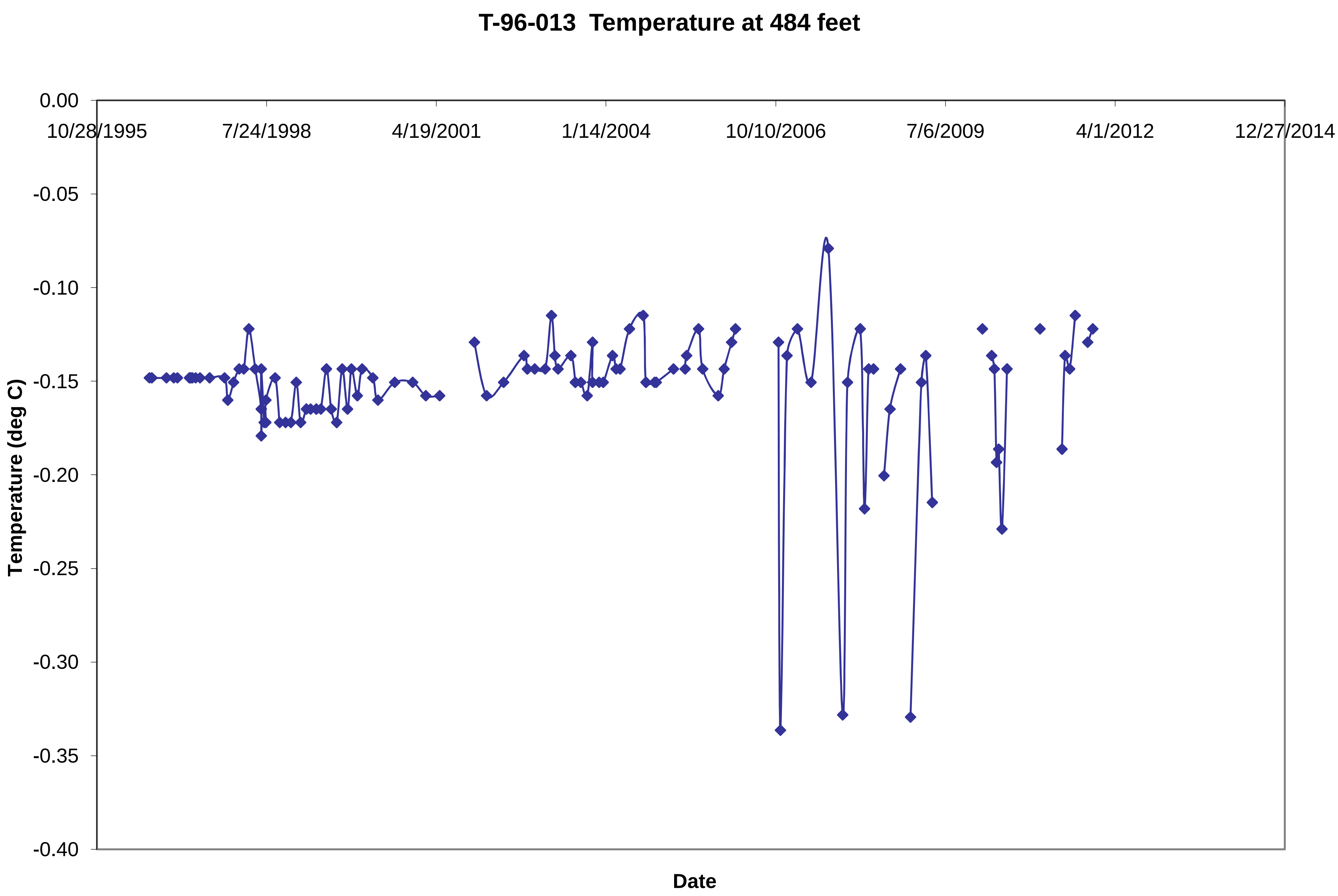
T-96-013 Temperature at 384 feet
Temperature (deg C)
-0.50
-0.55
-0.60
-0.65
-0.70
-0.75
-0.80
-0.85
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



T-96-013 Temperature at 409 feet
-0.40
-0.45
-0.50
-0.55
-0.60
-0.65
-0.70
-0.75
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

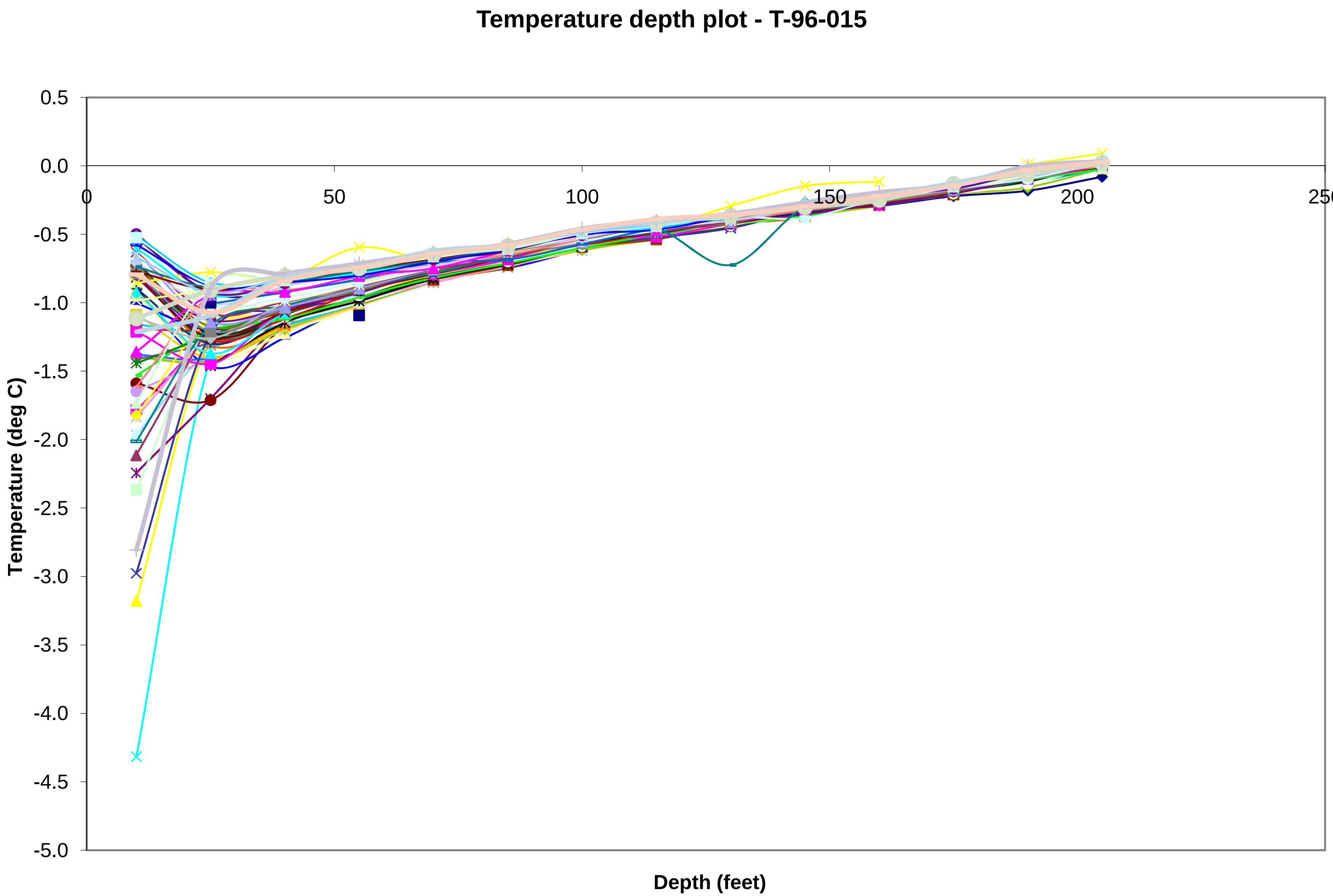

T-96-013 Temperature at 434 feet
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

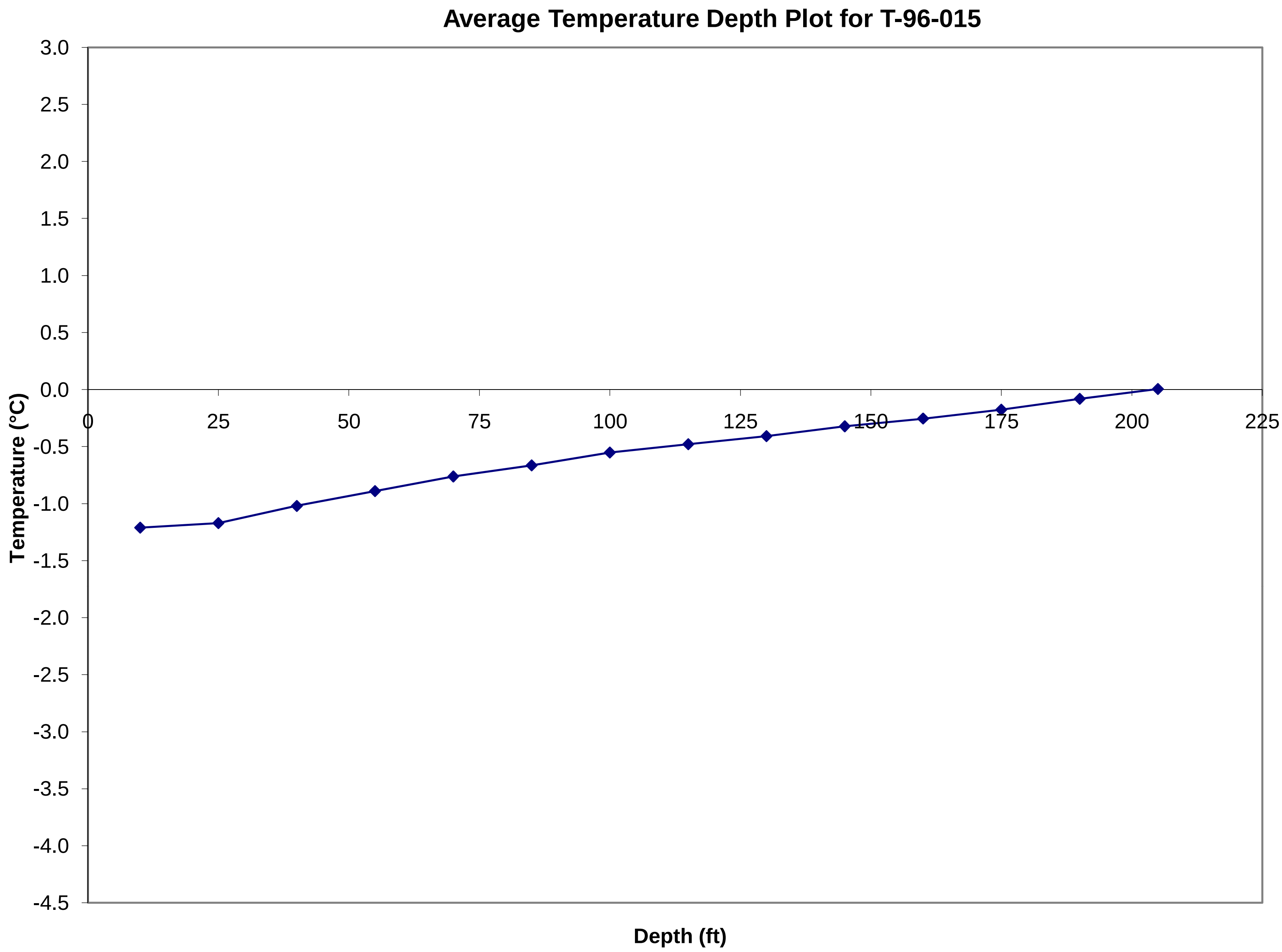

T-96-013 Temperature at 459 feet
Temperature (deg C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

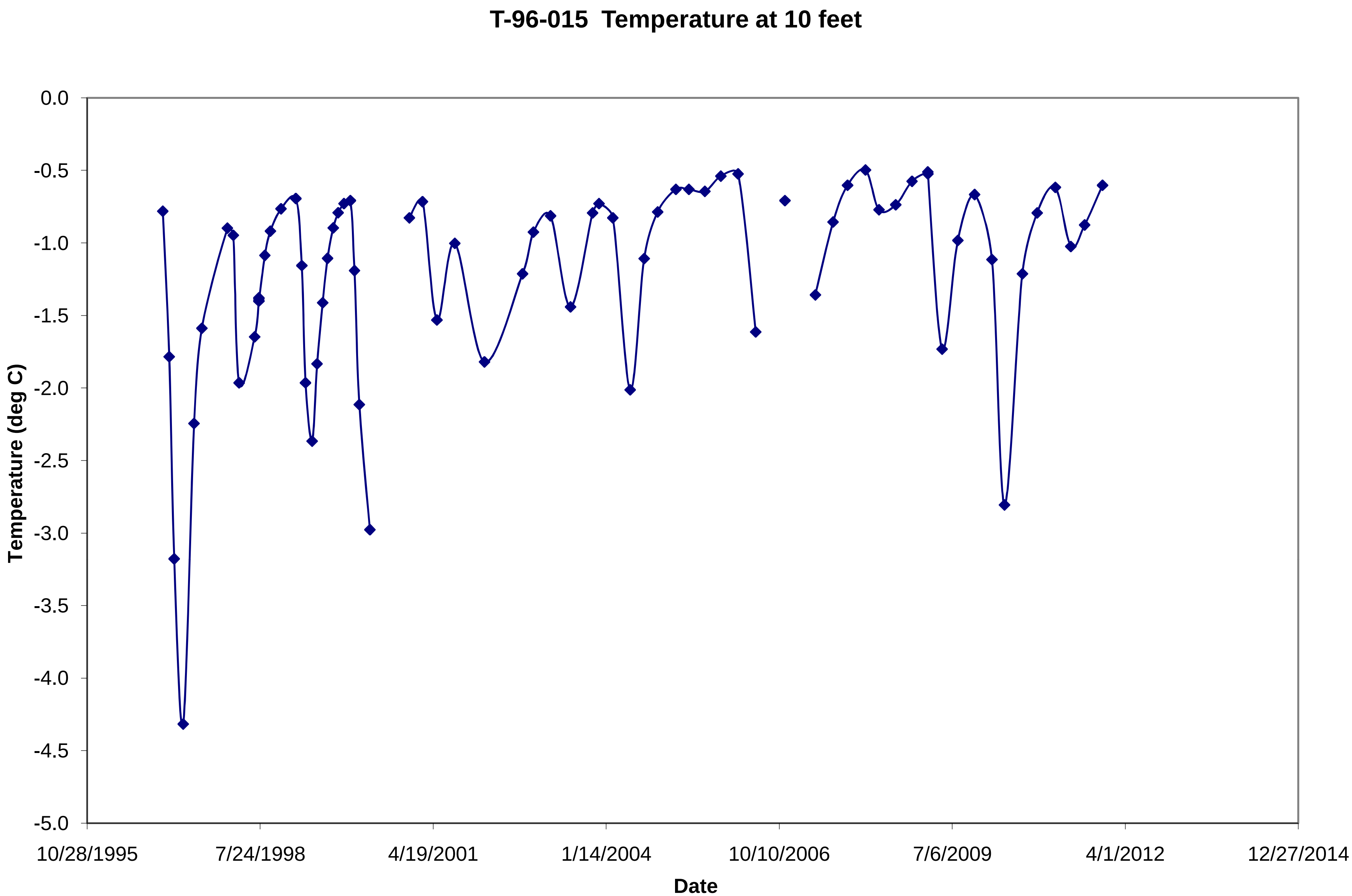


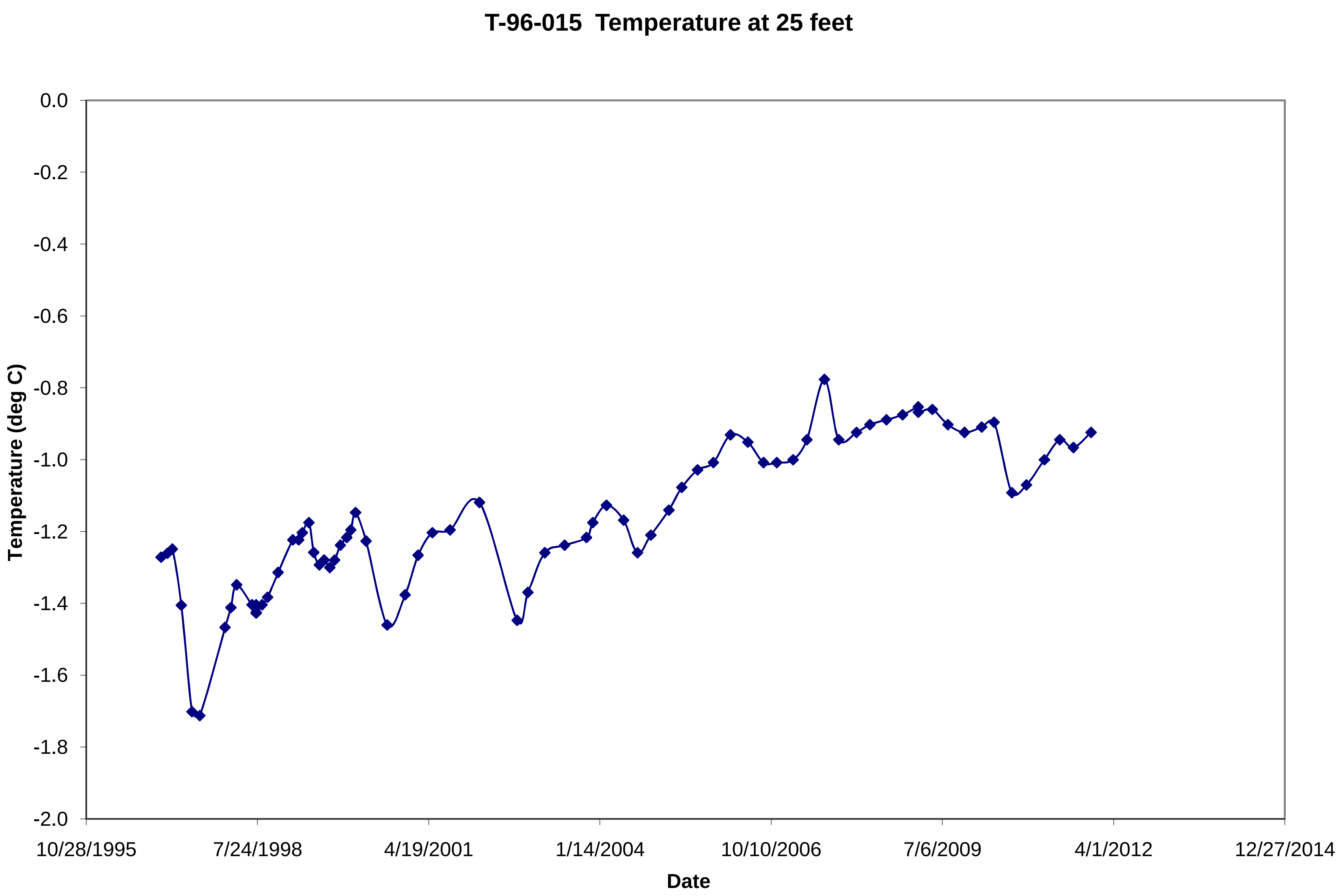
T-96-013 Temperature at 484 feet
Temperature (deg C)
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
-0.35
-0.40
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

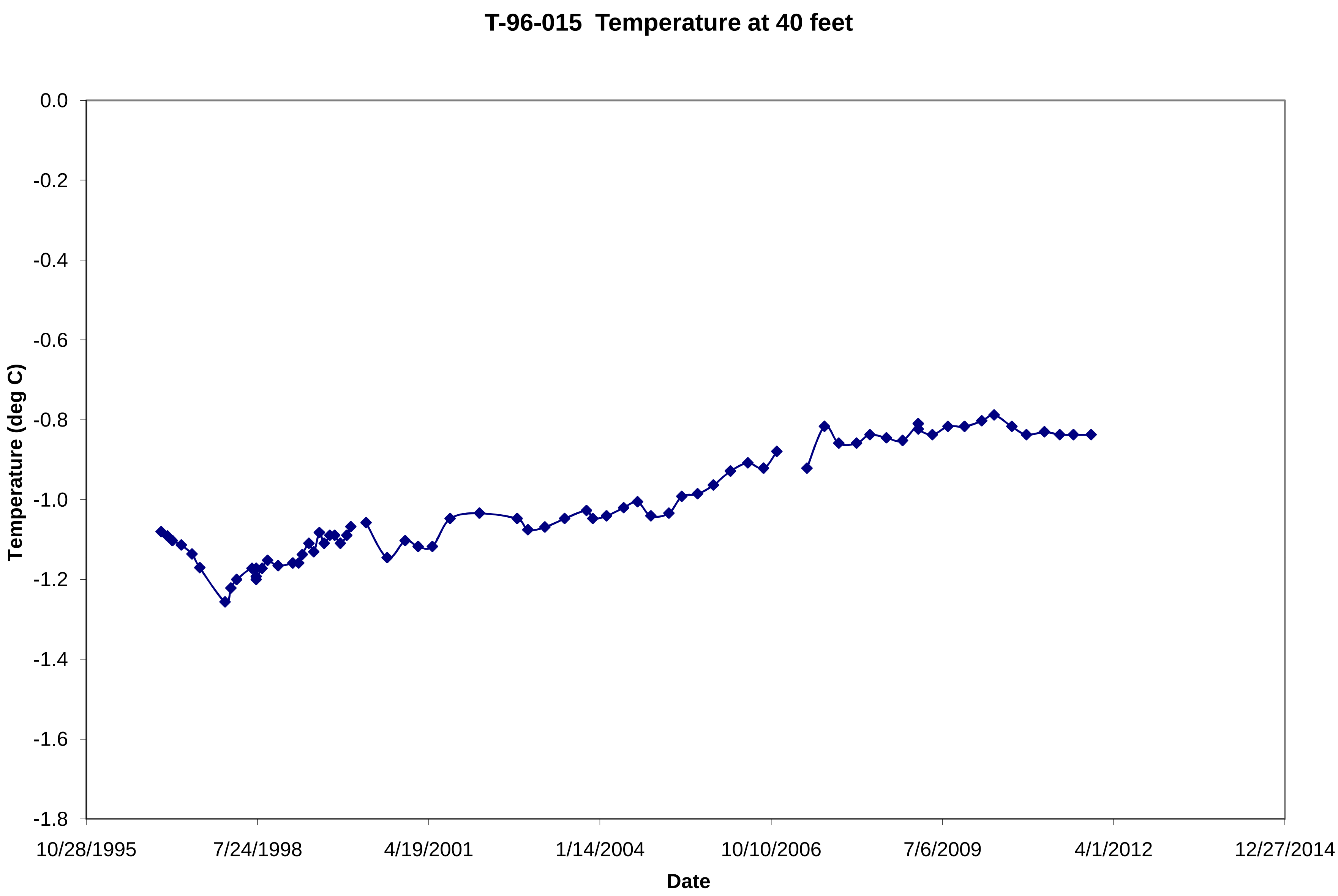
T-96-015

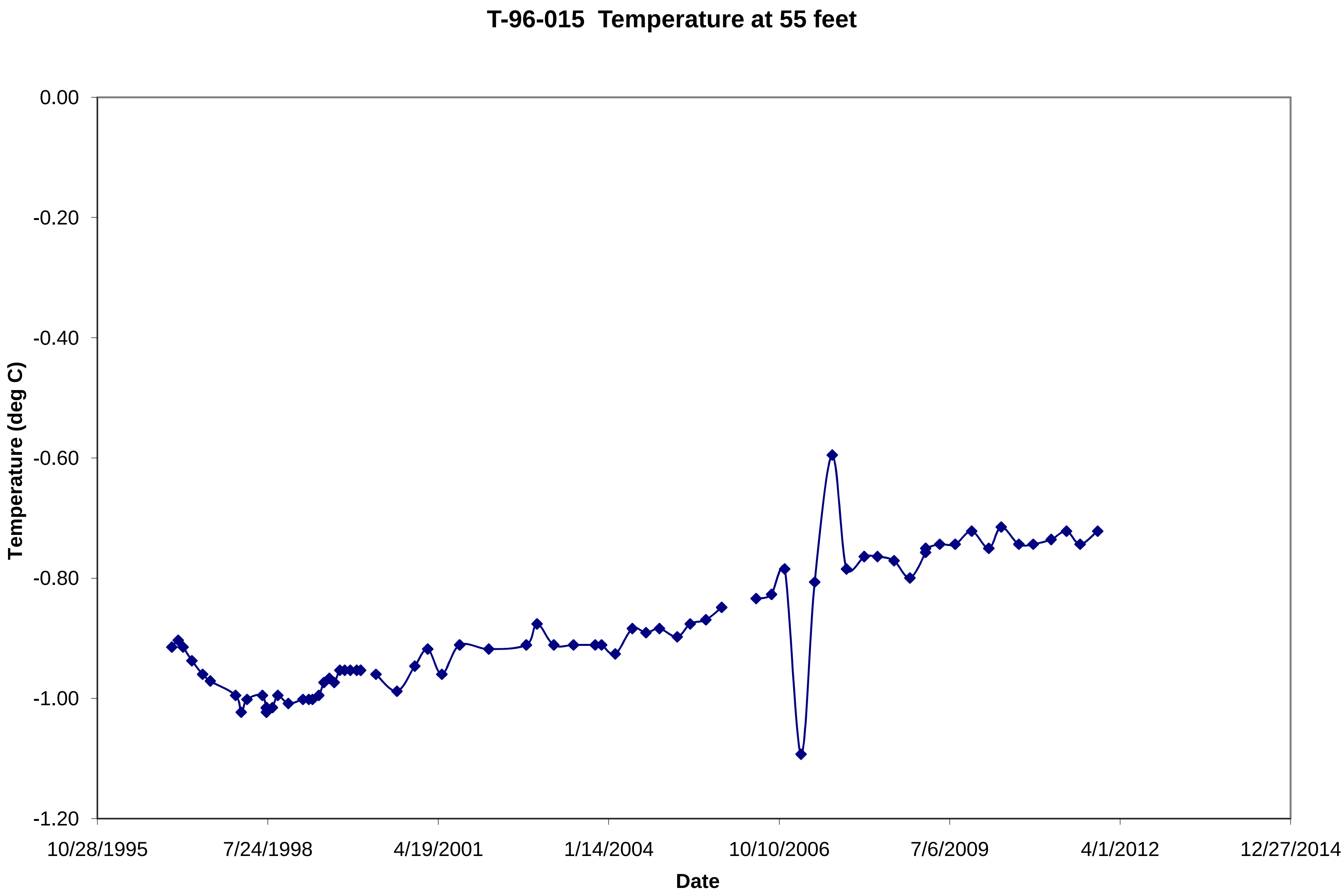

Temperature depth plot - T-96-015
Temperature (deg C)
Depth (feet)
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
-4.5
-5.0
0
50
100
150
200
250

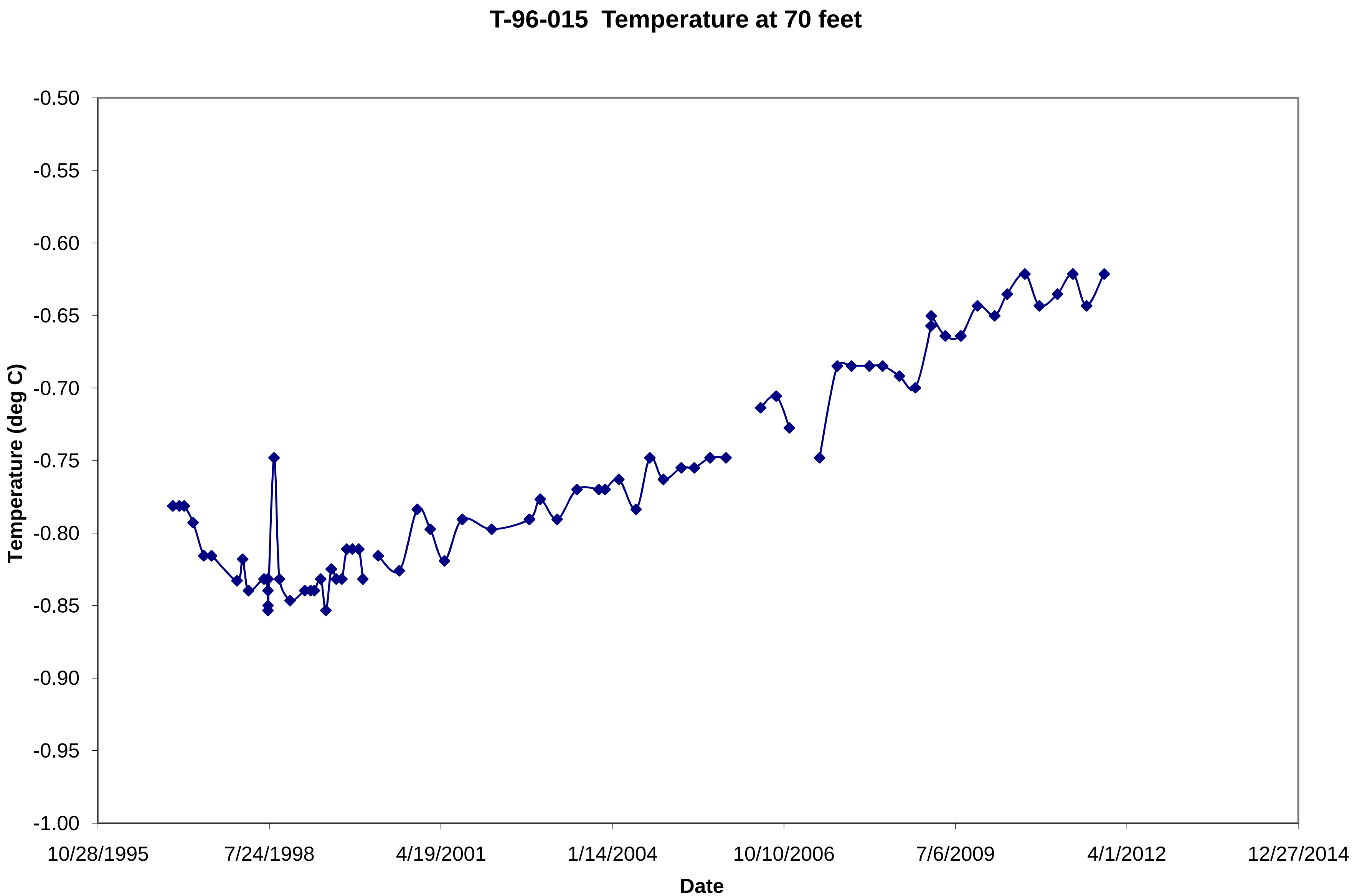

Average Temperature Depth Plot for T-96-015
Temperature (°C)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
-4.5
0
25
50
75
100
125
150
175
200
225
Depth (ft)

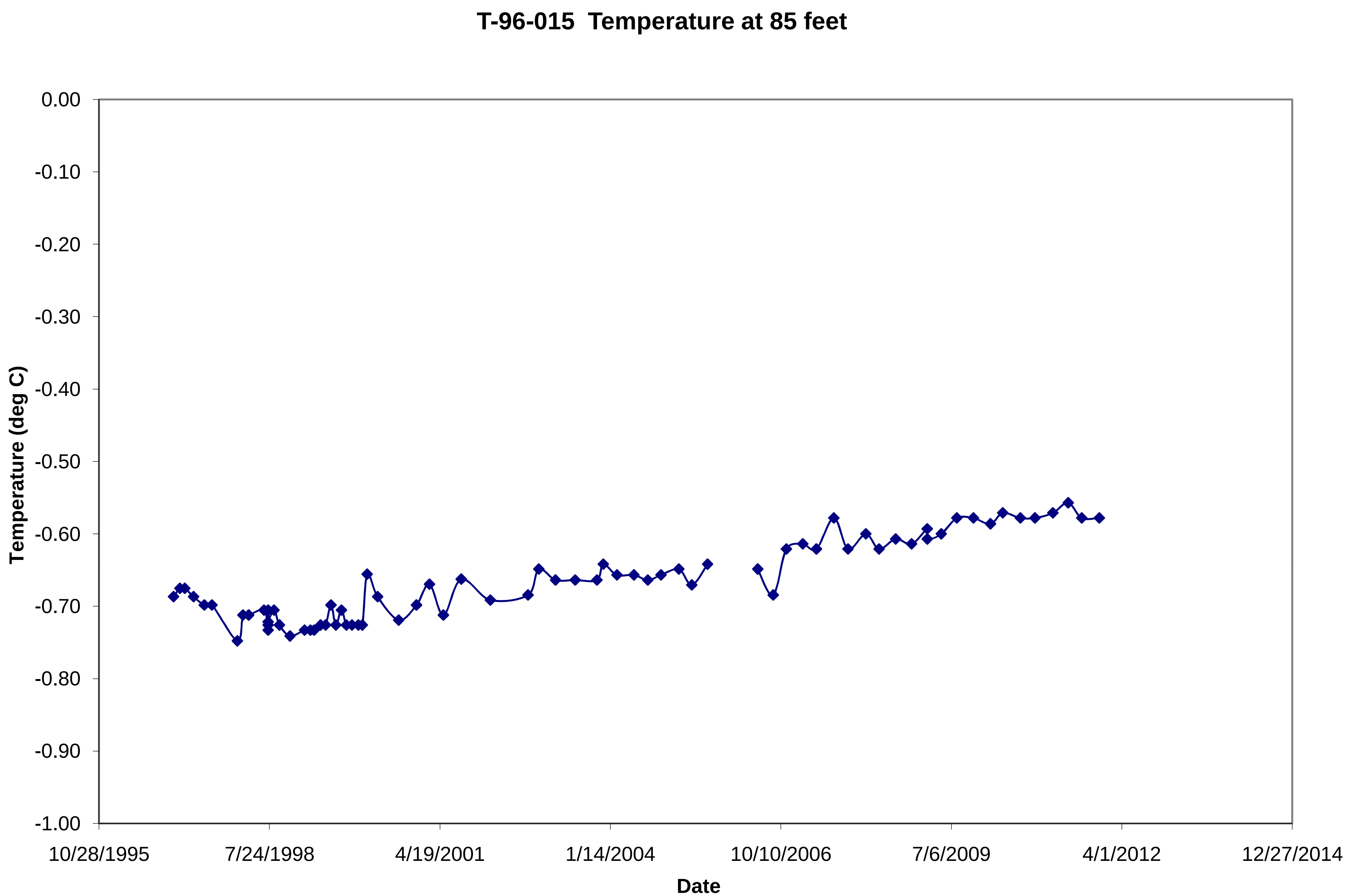

T-96-015 Temperature at 10 feet
Temperature (deg C)
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
-4.5
-5.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

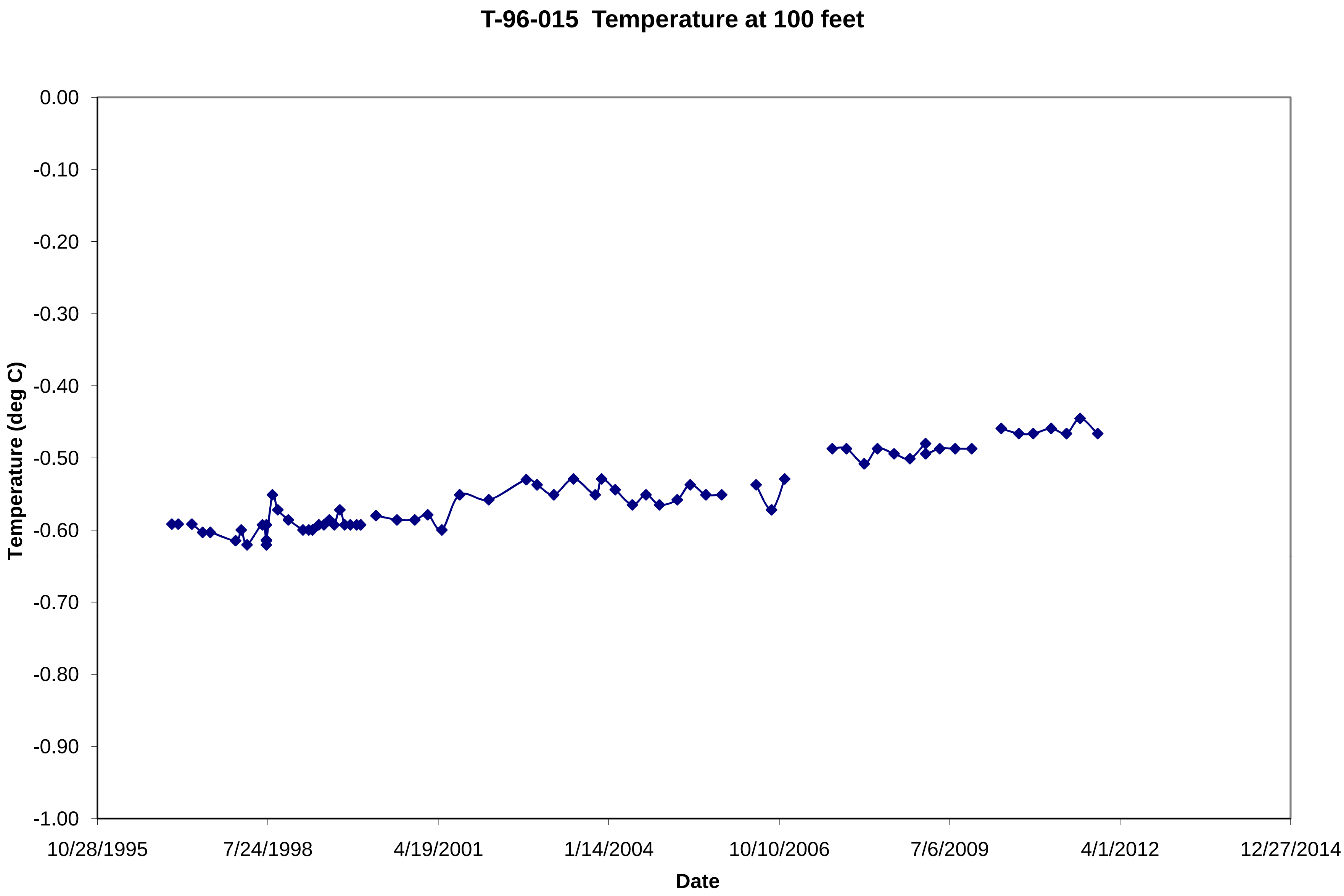

T-96-015 Temperature at 25 feet
Temperature (deg C)
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
-1.8
-2.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

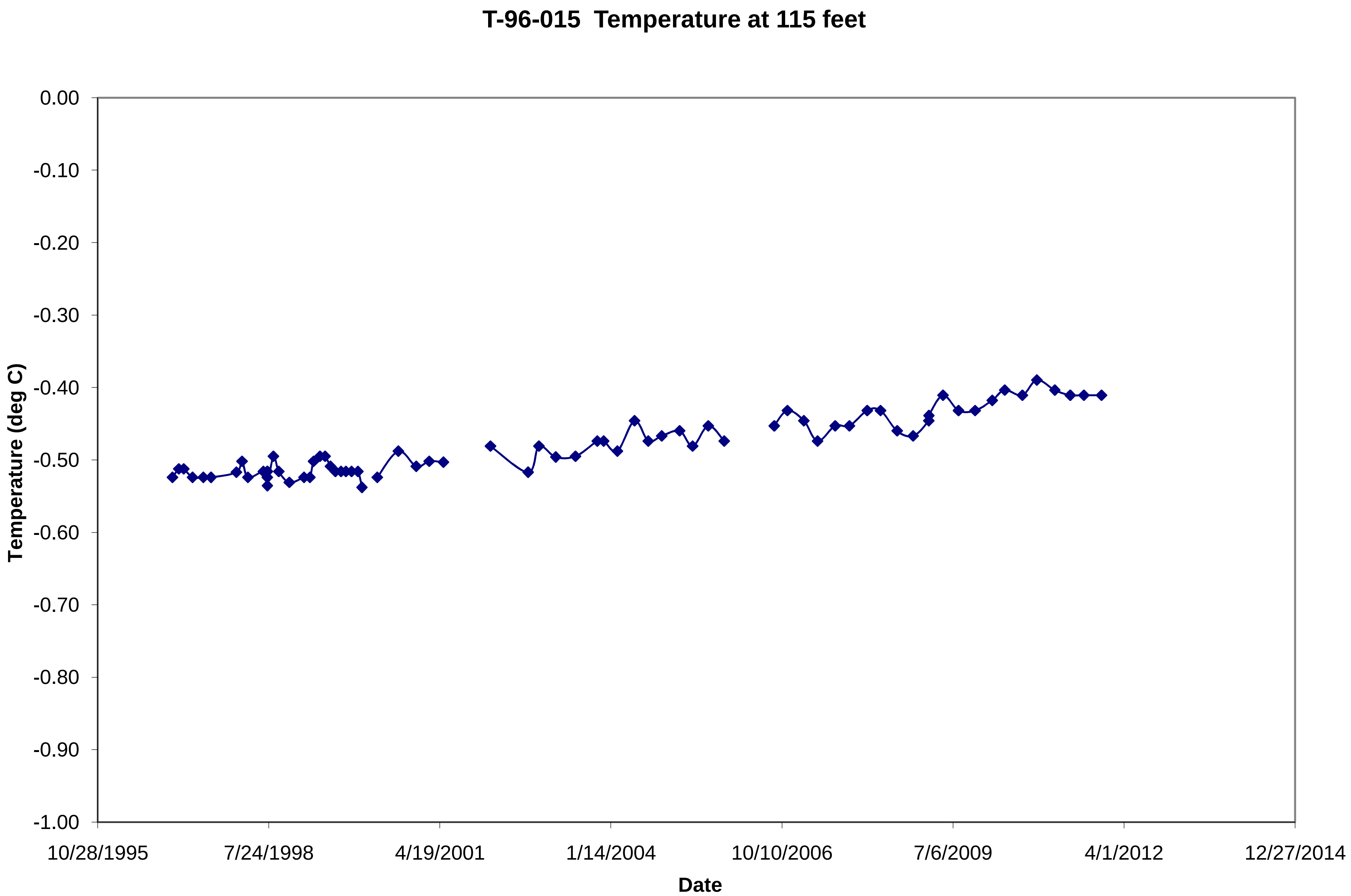

T-96-015 Temperature at 40 feet
Temperature (deg C)
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
-1.8
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

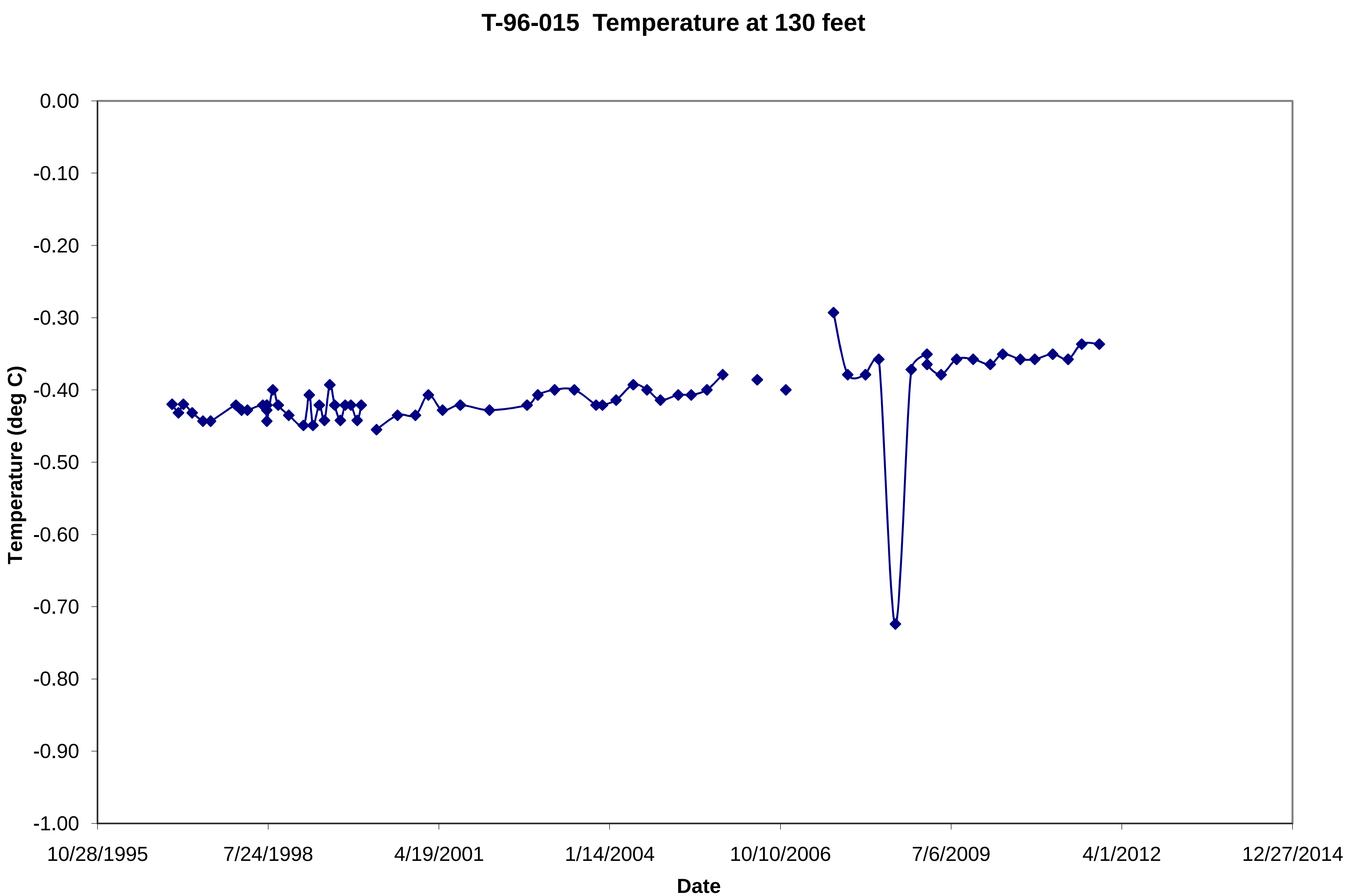

T-96-015 Temperature at 55 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

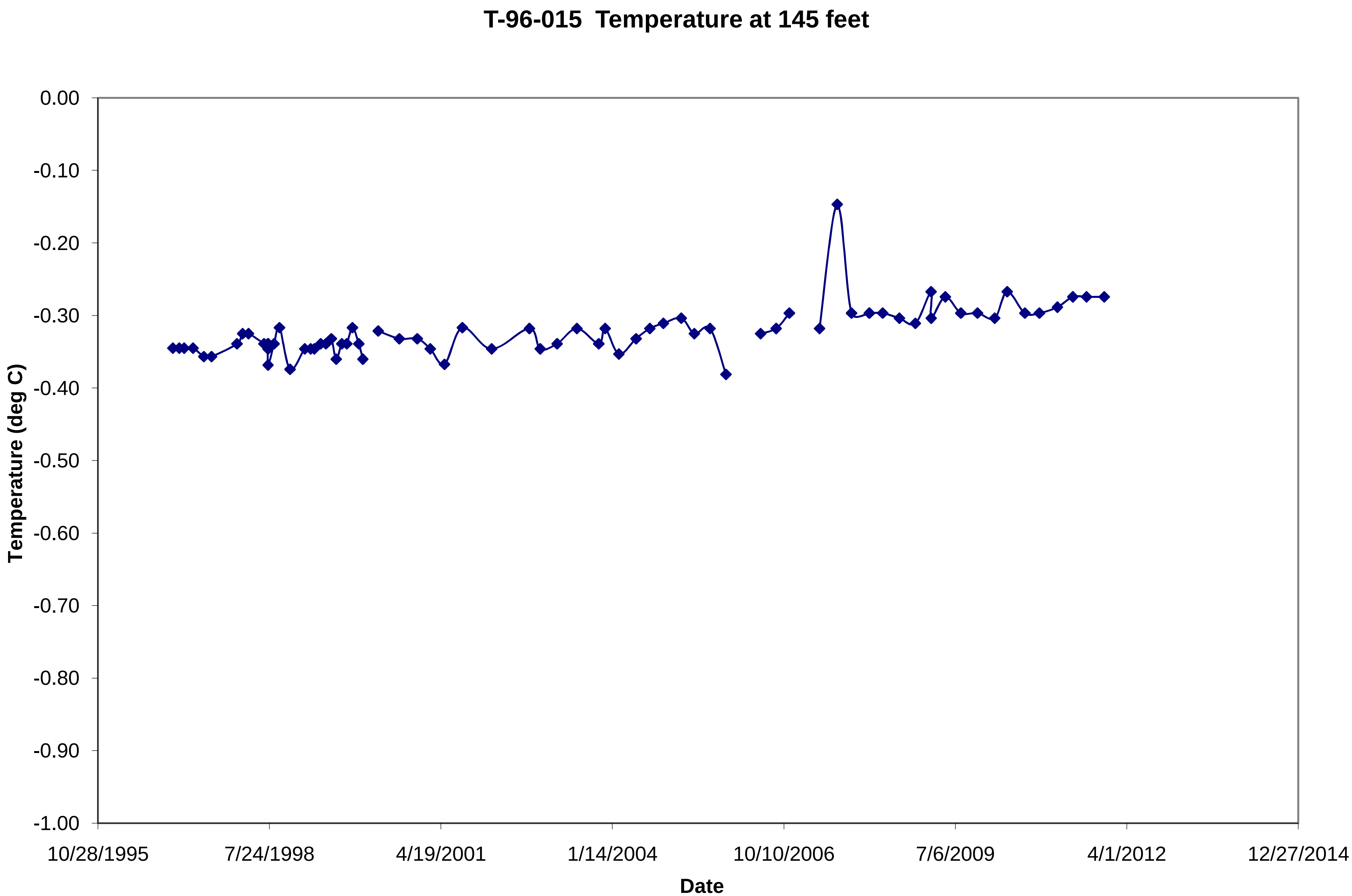

T-96-015 Temperature at 70 feet
Temperature (deg C)
-0.50
-0.55
-0.60
-0.65
-0.70
-0.75
-0.80
-0.85
-0.90
-0.95
-1.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

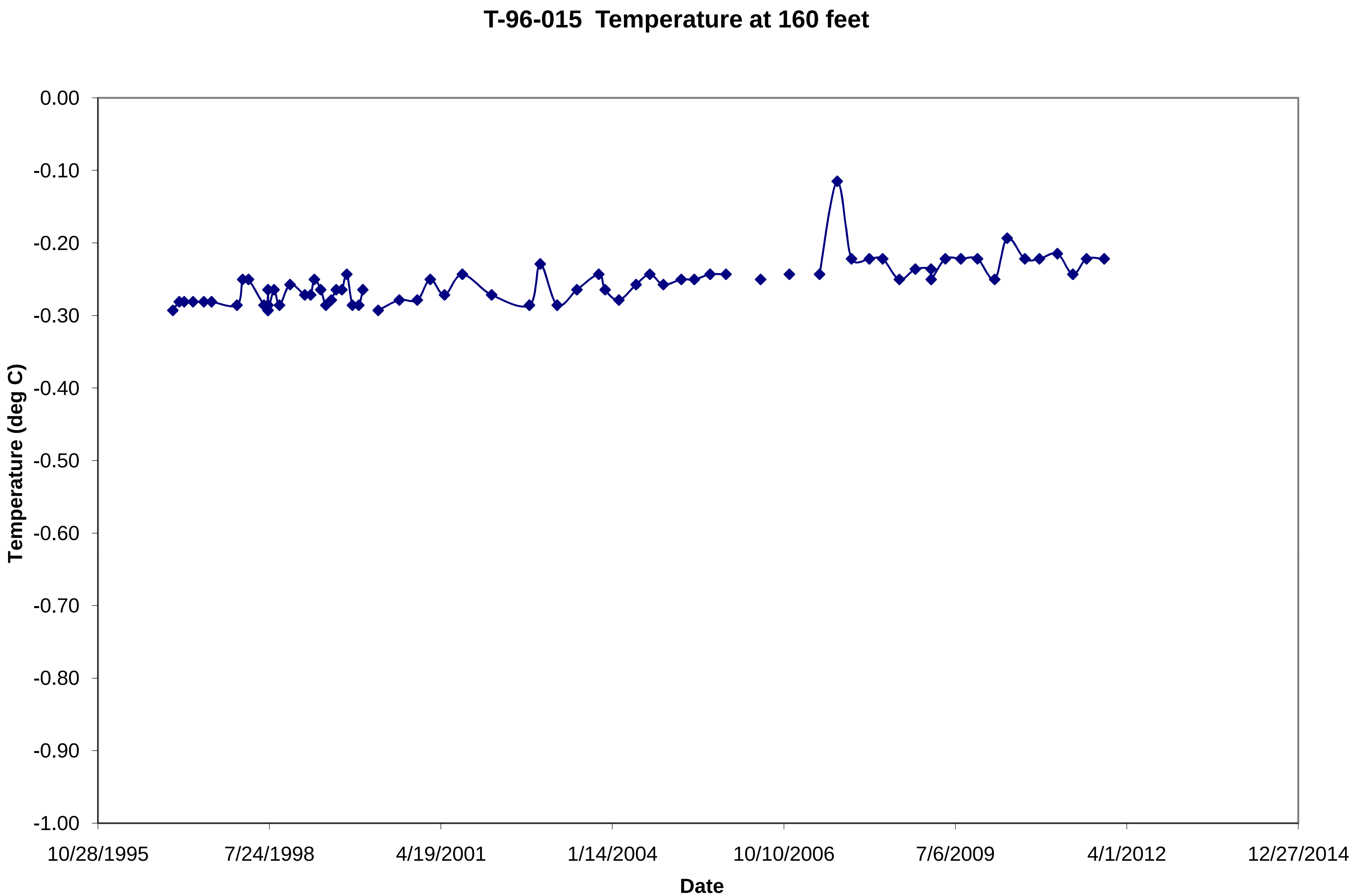

T-96-015 Temperature at 85 feet
Temperature (deg C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
-1.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

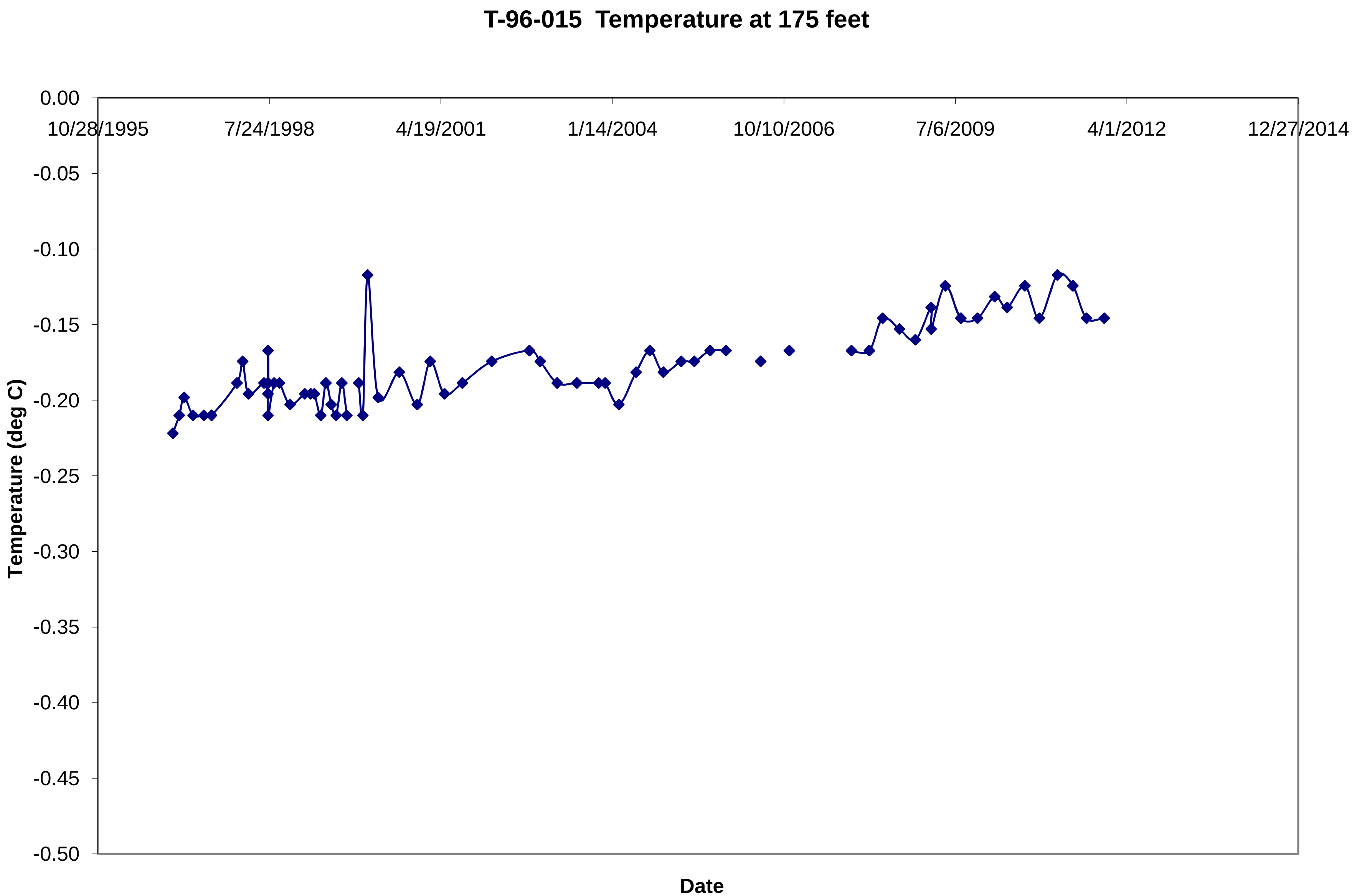

T-96-015 Temperature at 100 feet
Temperature (deg C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
-1.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

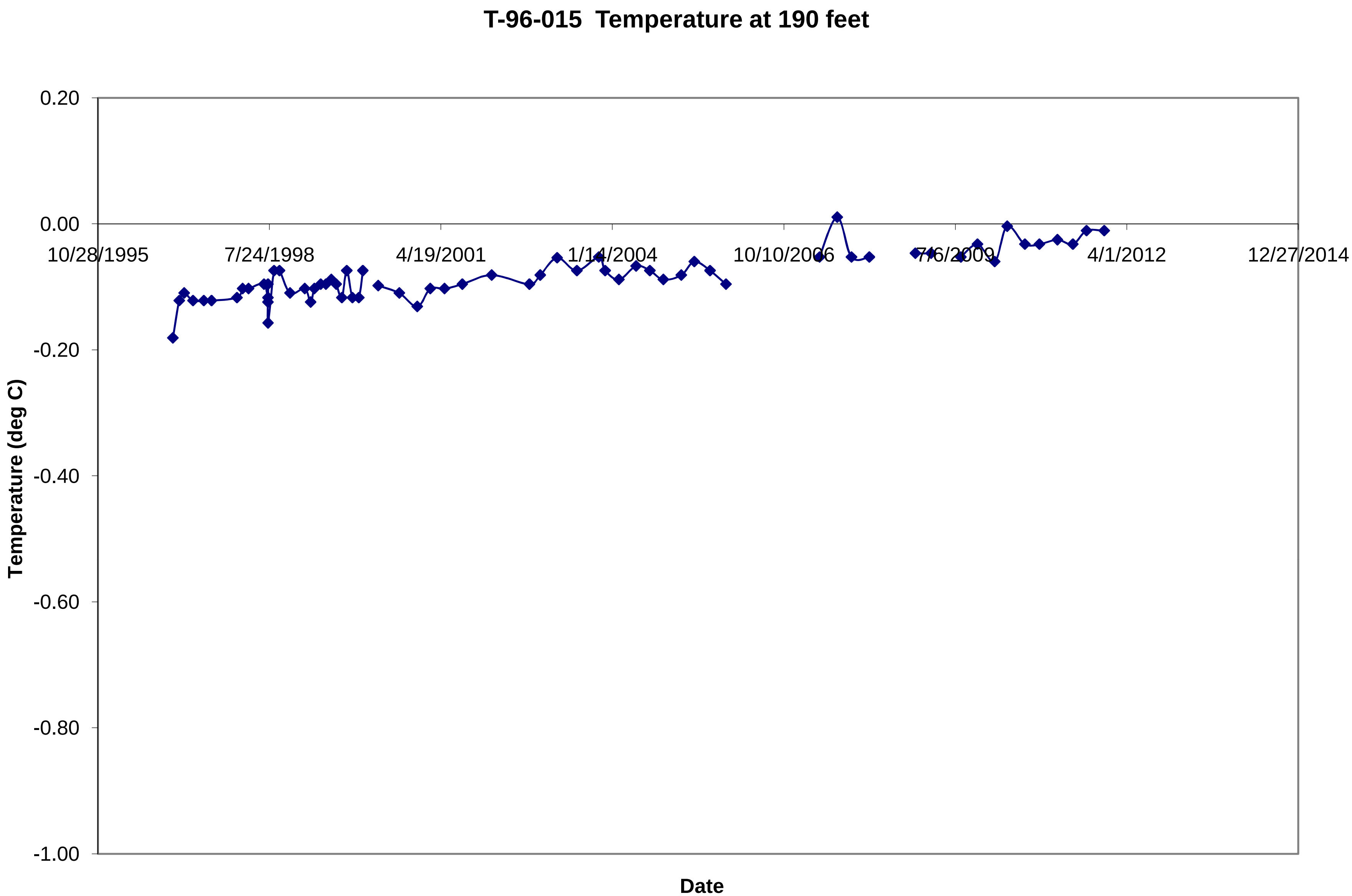

T-96-015 Temperature at 115 feet
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
-1.00
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

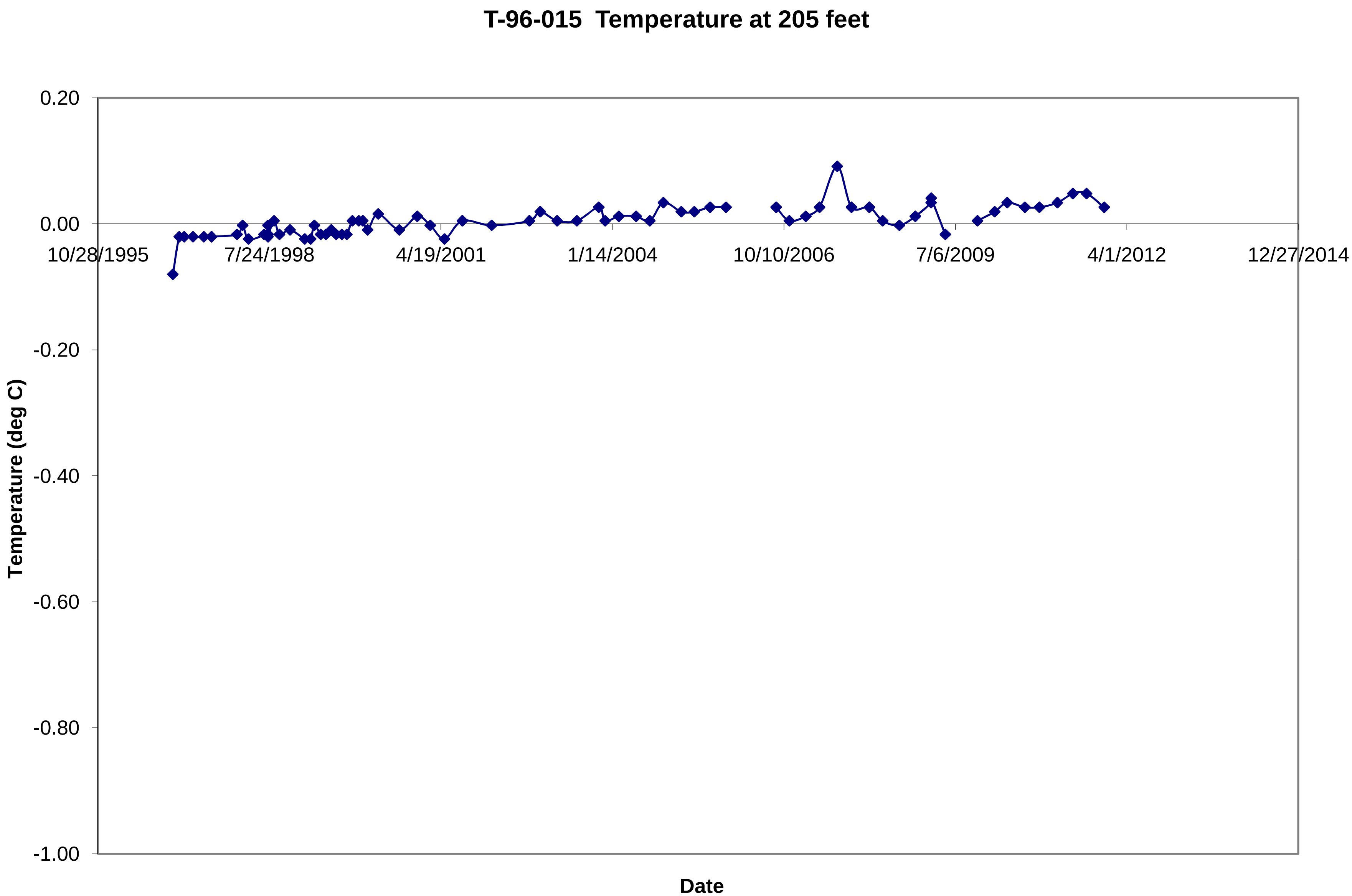

T-96-015 Temperature at 130 feet
Temperature (deg C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
-1.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-015 Temperature at 145 feet
Temperature (deg C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
-1.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

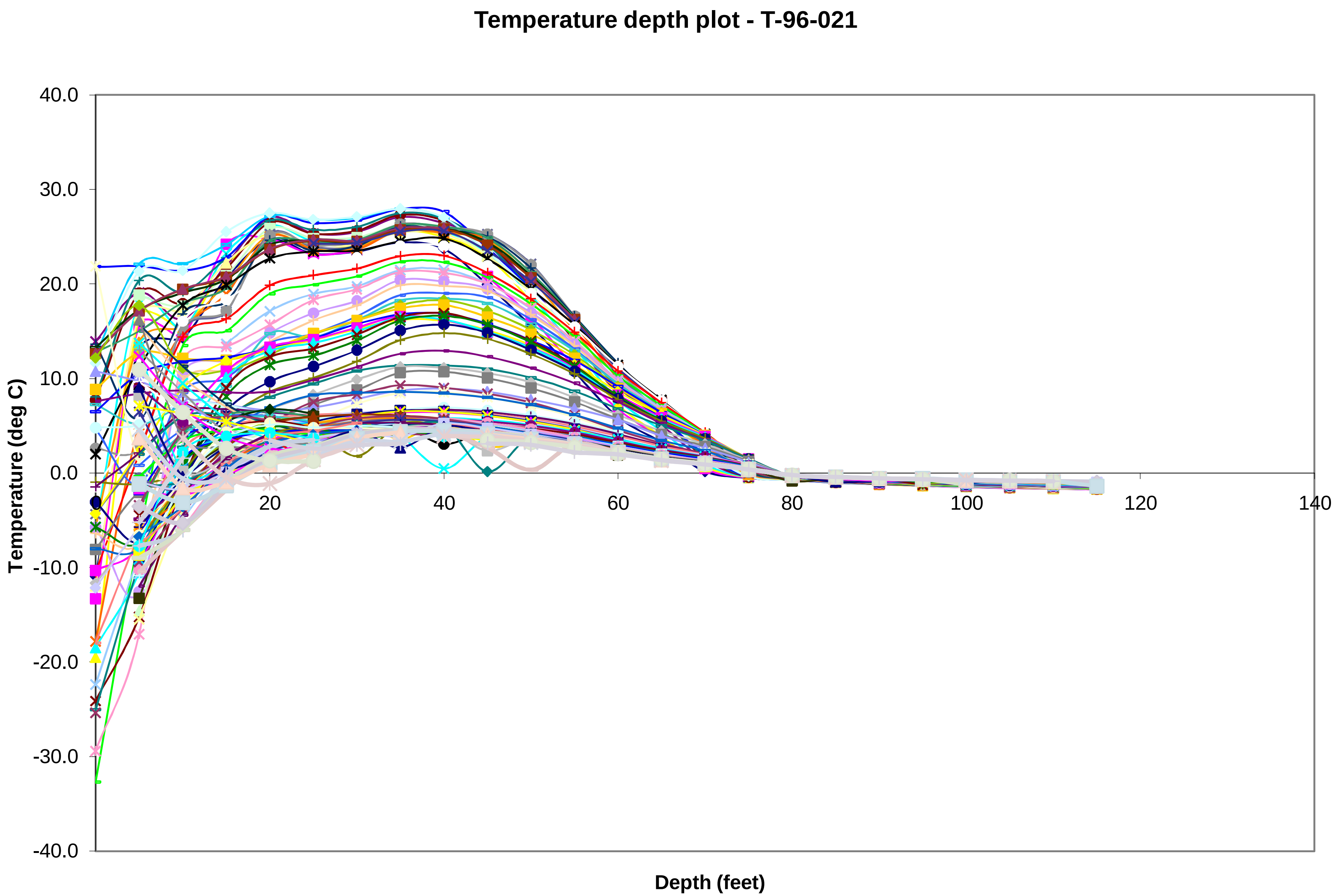

T-96-015 Temperature at 160 feet
Temperature (deg C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
-0.90
-1.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-015 Temperature at 175 feet
Temperature (deg C)
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
-0.35
-0.40
-0.45
-0.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

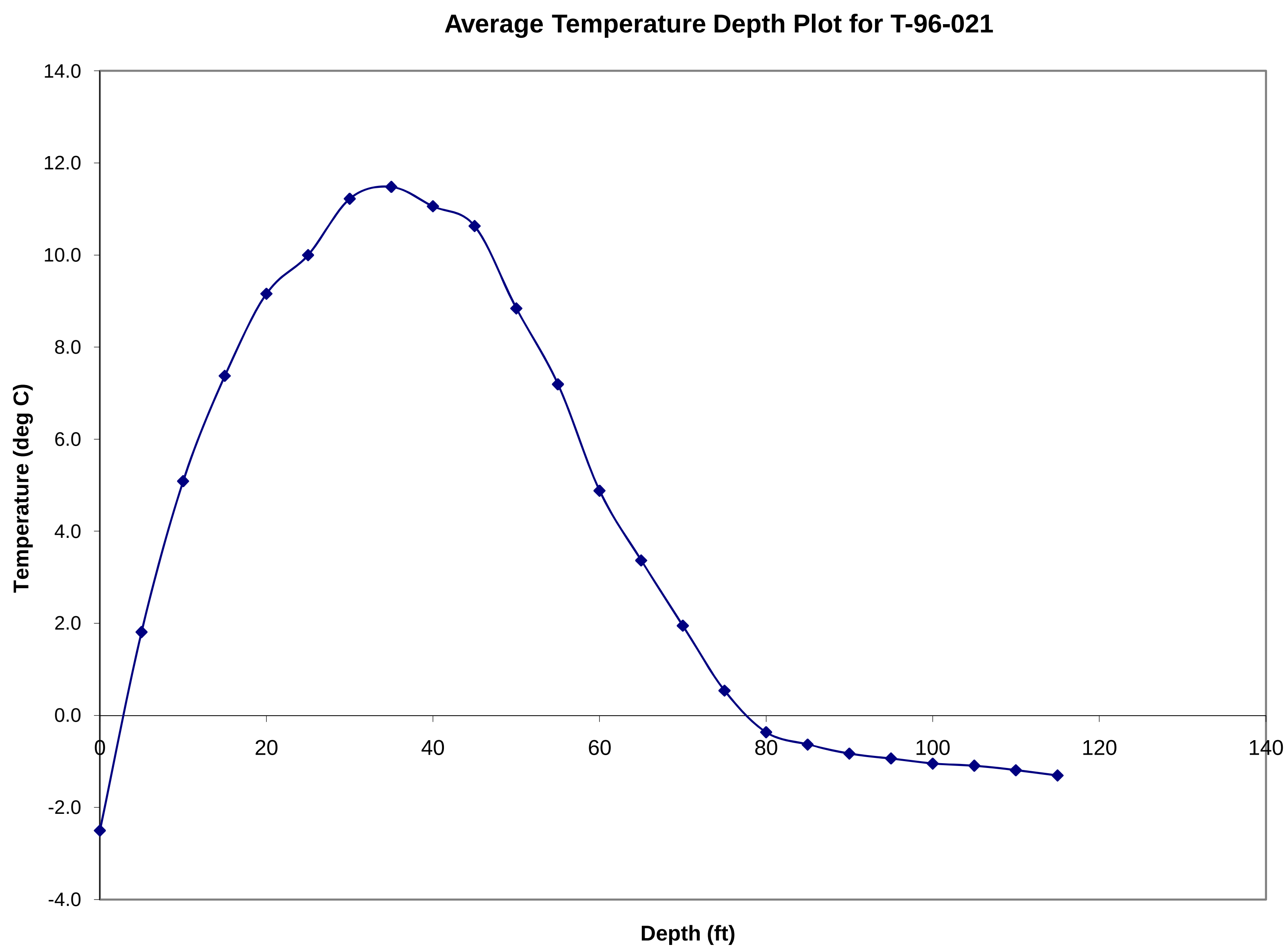

T-96-015 Temperature at 190 feet
0.20
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

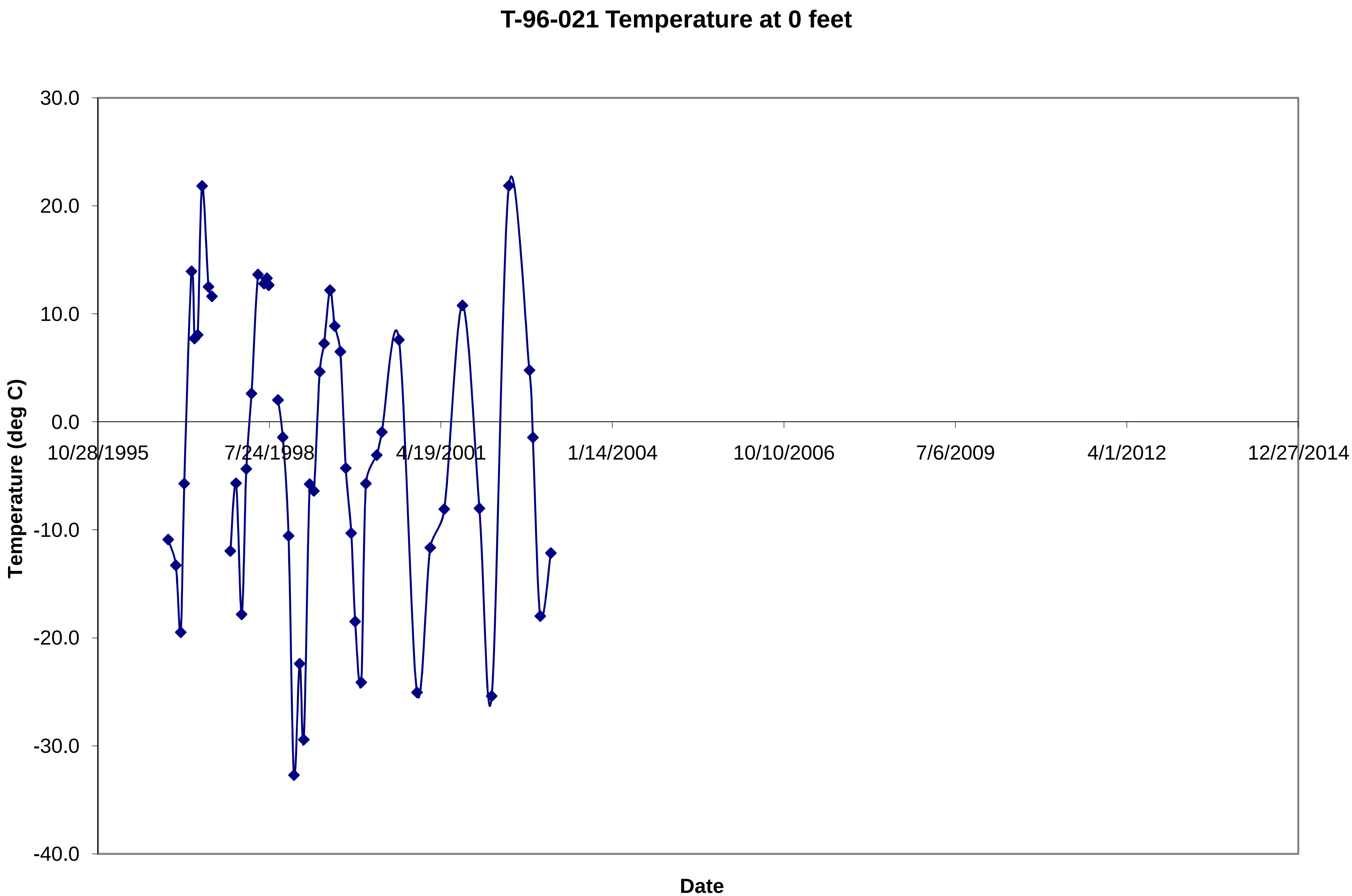

T-96-015 Temperature at 205 feet
0.20
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

T-96-021

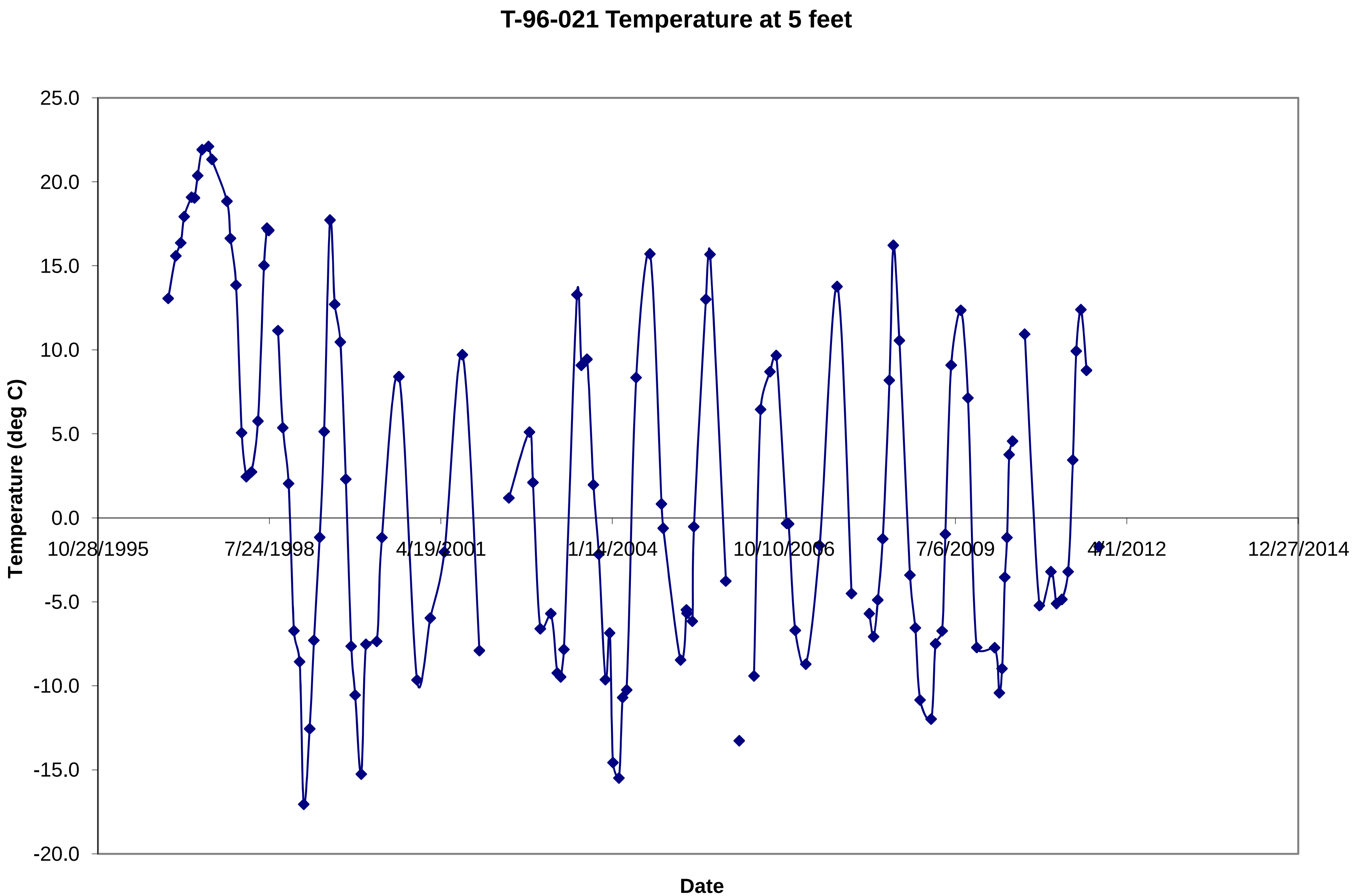


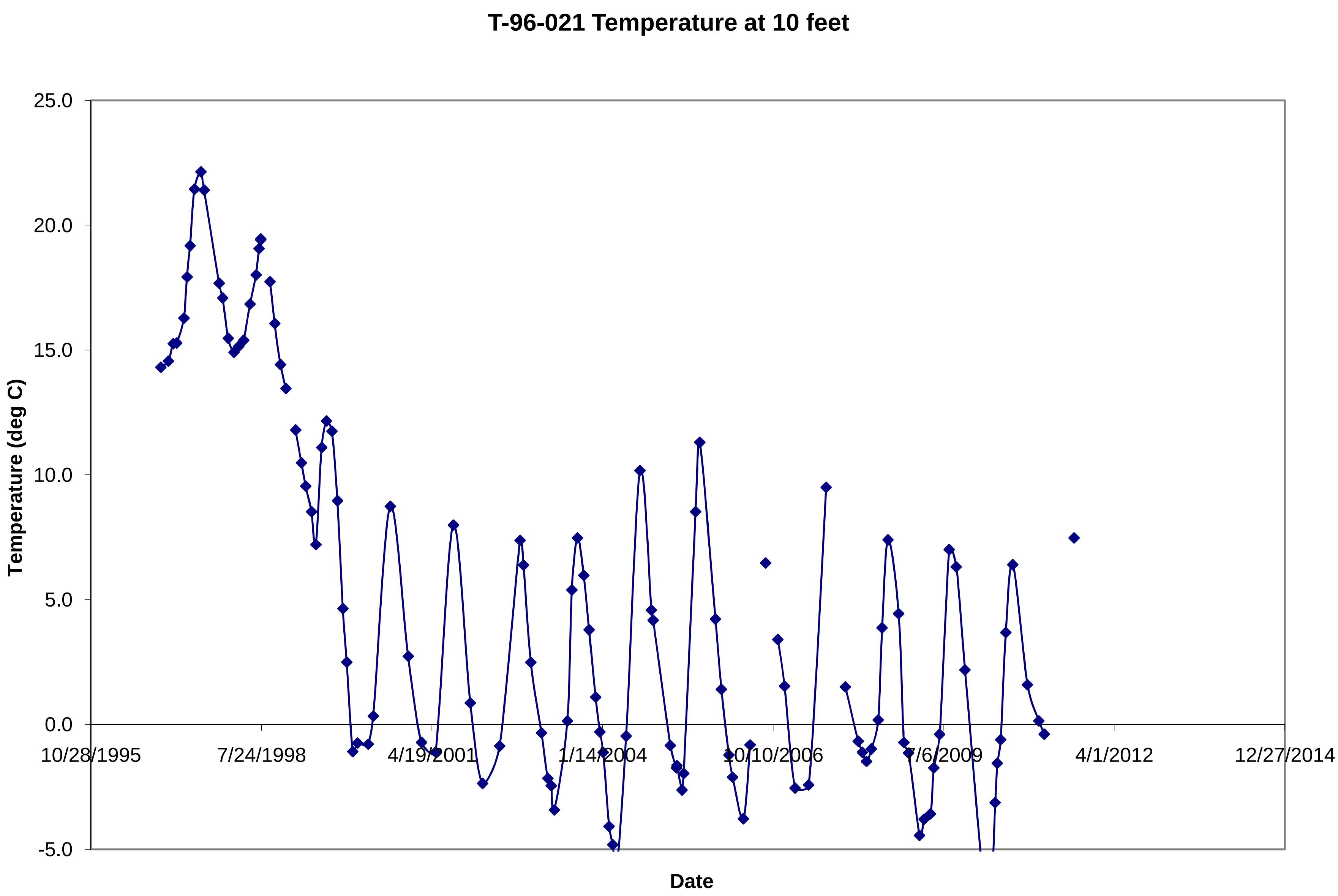
Temperature depth plot - T-96-021
Temperature (deg C)
Depth (feet)
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
-40.0
20
40
60
80
100
120
140

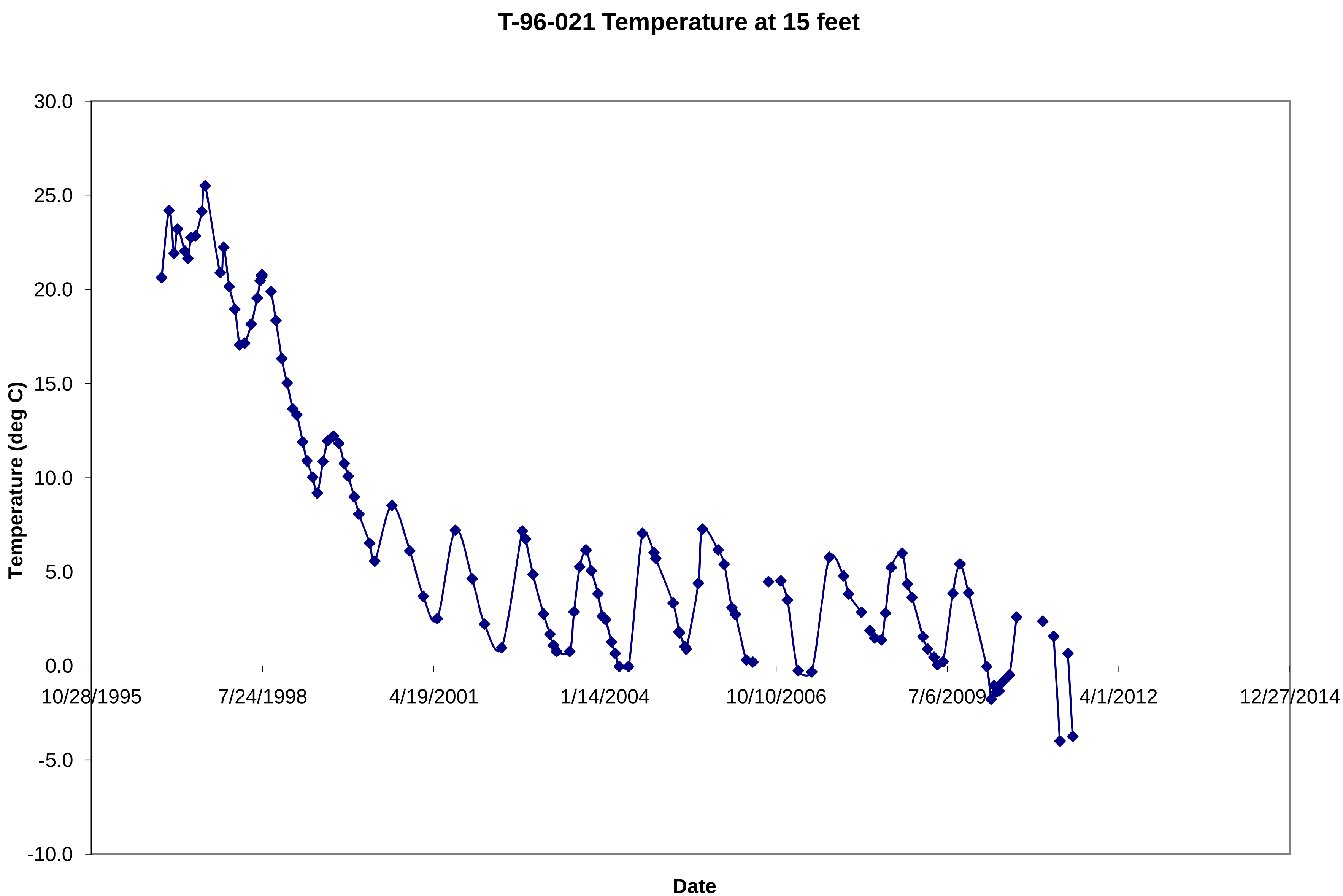

Average Temperature Depth Plot for T-96-021
Temperature (deg C)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
0
20
40
60
80
100
120
140
Depth (ft)



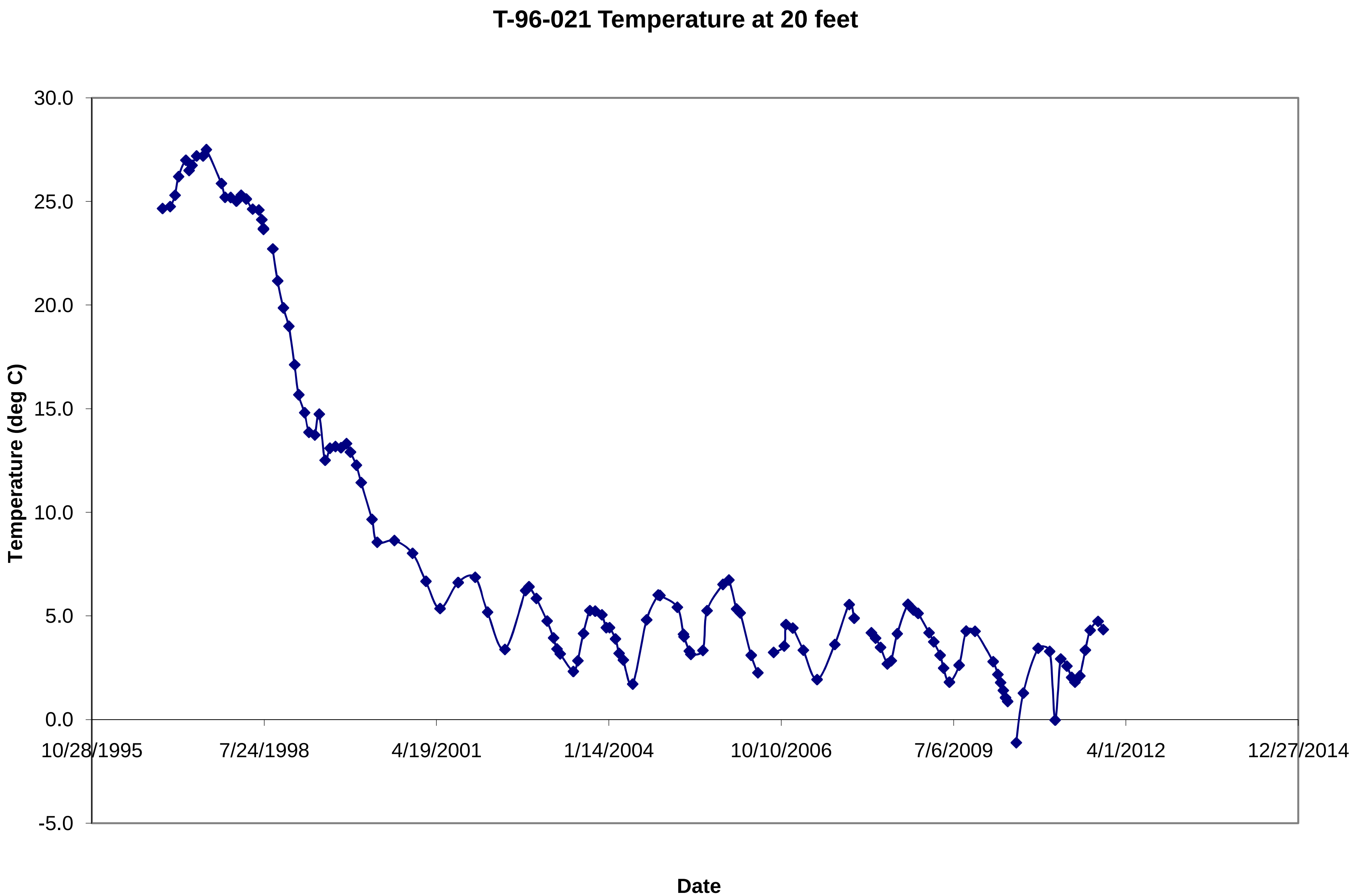
T-96-021 Temperature at 0 feet
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
-40.0
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-021 Temperature at 5 feet
Temperature (deg C)
25.0
20.0
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
-20.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

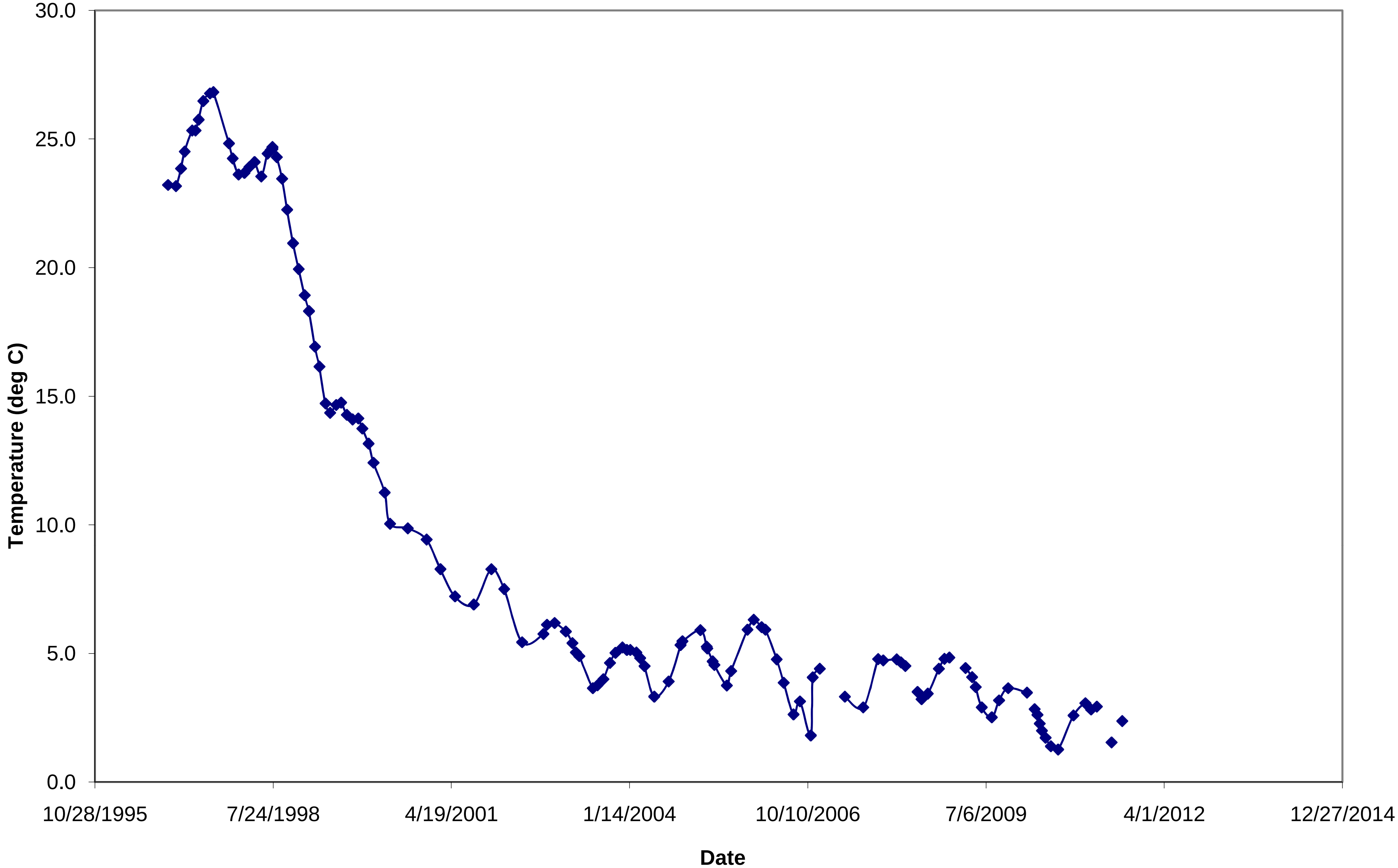

T-96-021 Temperature at 10 feet
Temperature (deg C)
25.0
20.0
15.0
10.0
5.0
0.0
-5.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



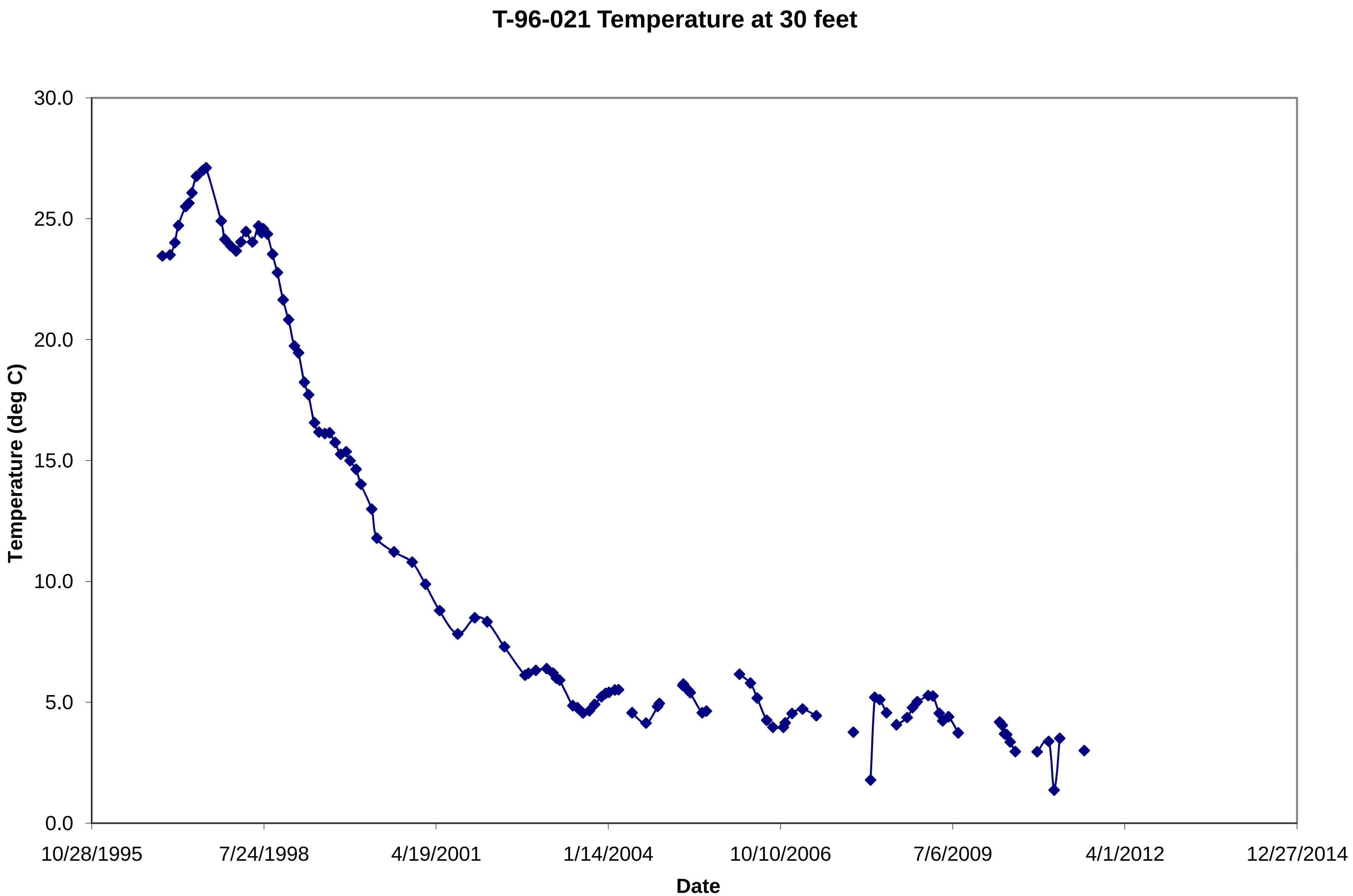
T-96-021 Temperature at 15 feet
Temperature (deg C)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
-5.0
-10.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



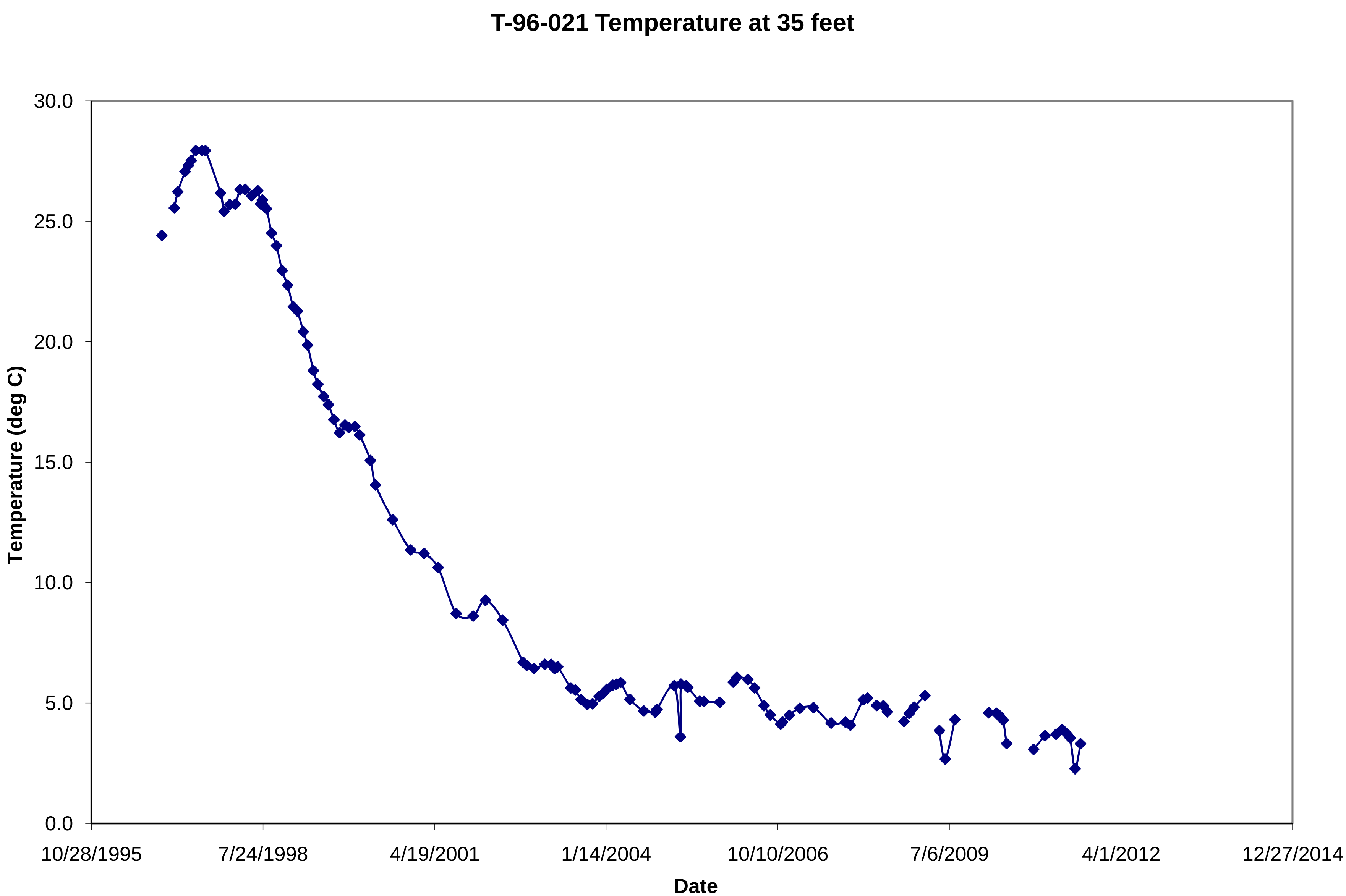
T-96-021 Temperature at 20 feet
Temperature (deg C)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
-5.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



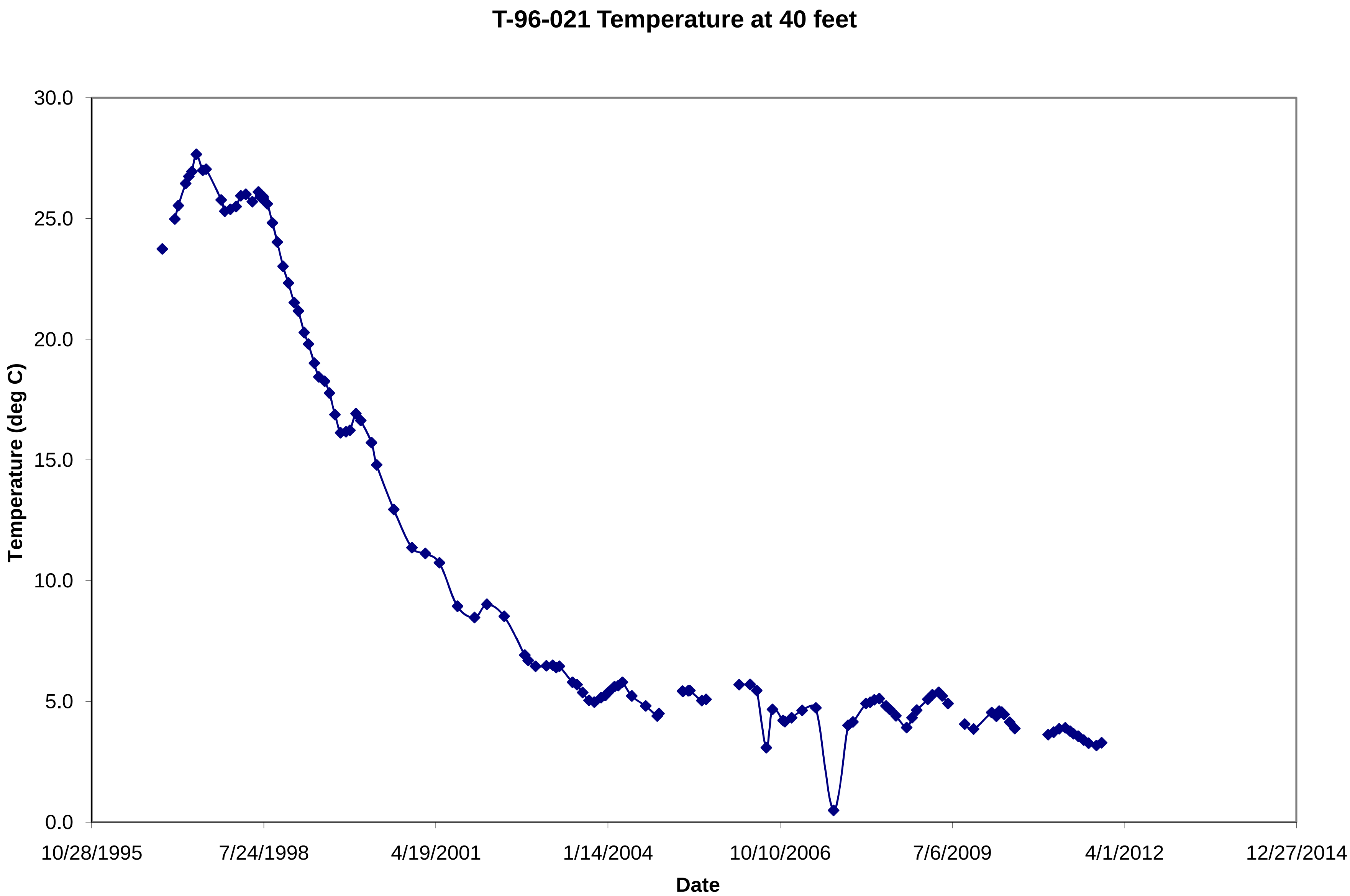
30.0
25.0
20.0
15.0
10.0
5.0
0.0
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

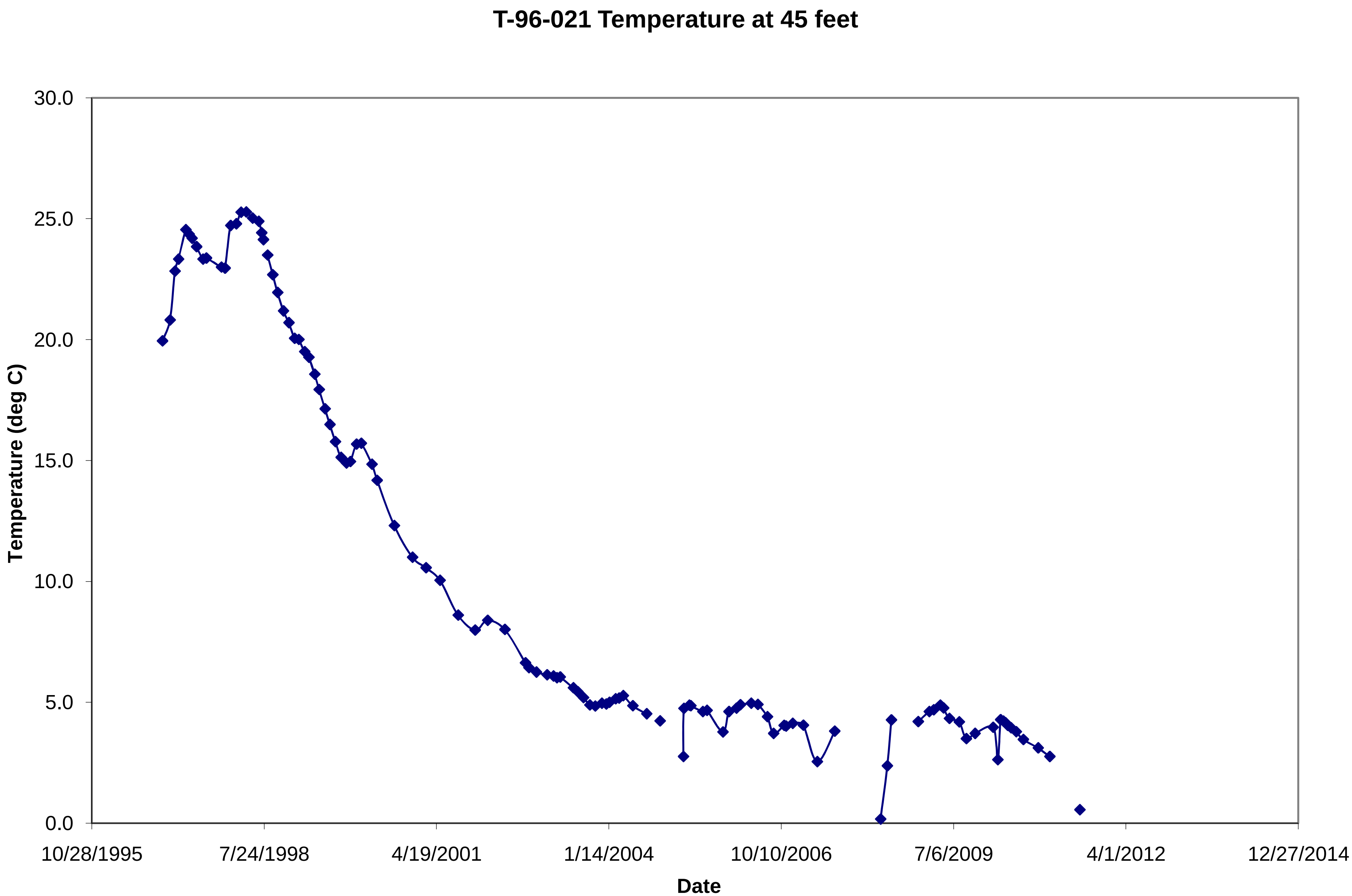


T-96-021 Temperature at 30 feet
Temperature (deg C)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

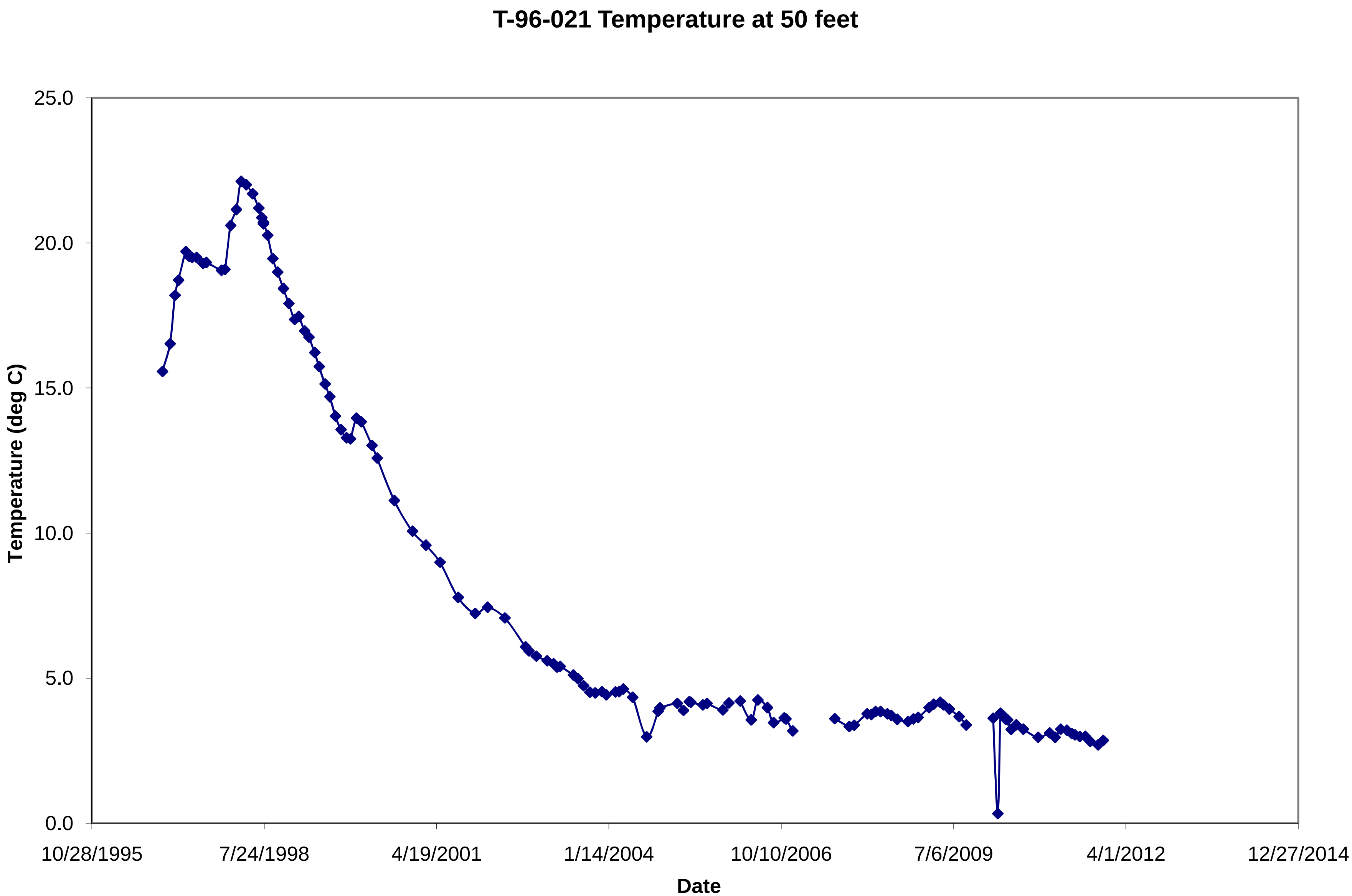


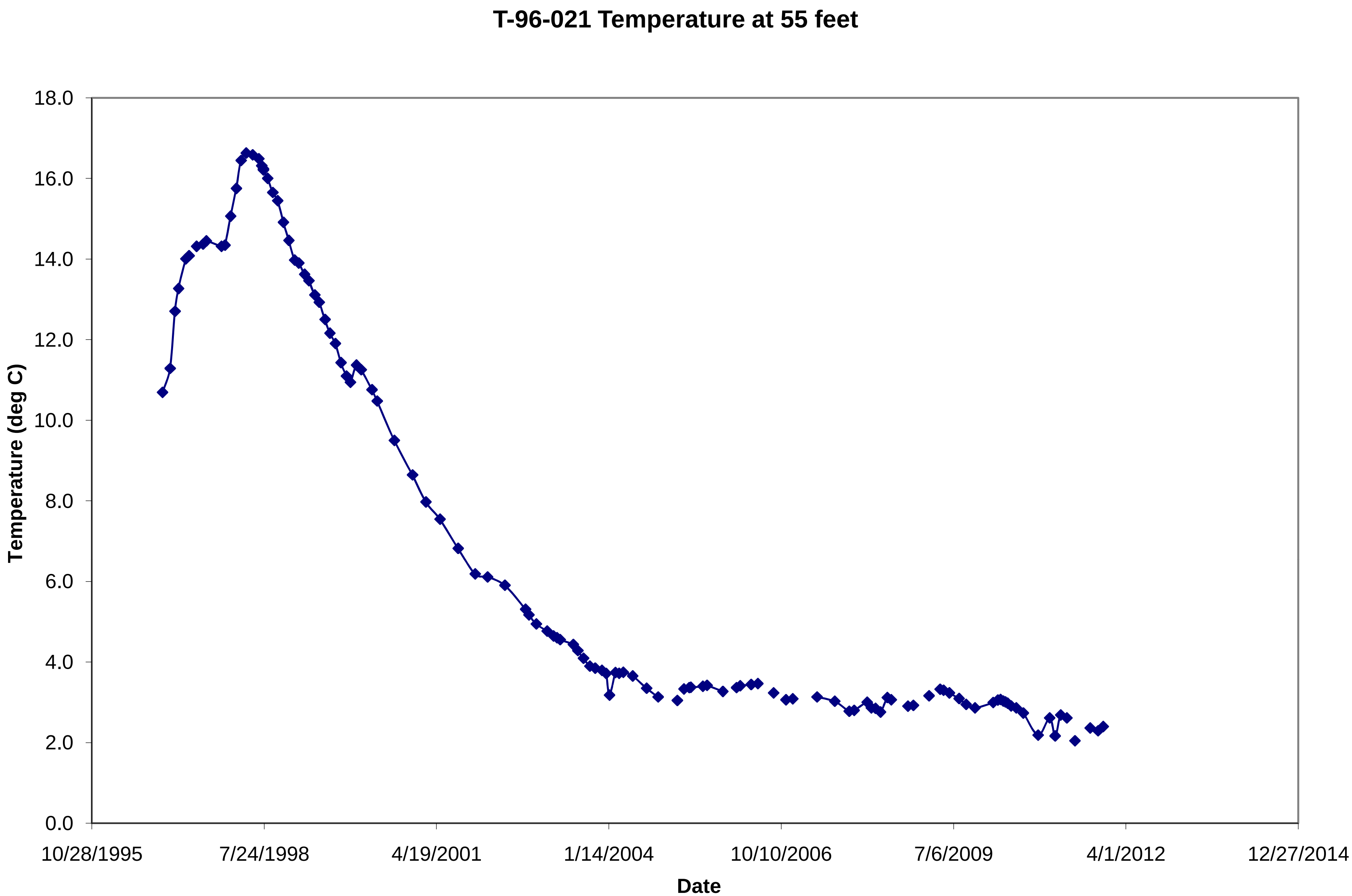
T-96-021 Temperature at 35 feet
Temperature (deg C)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

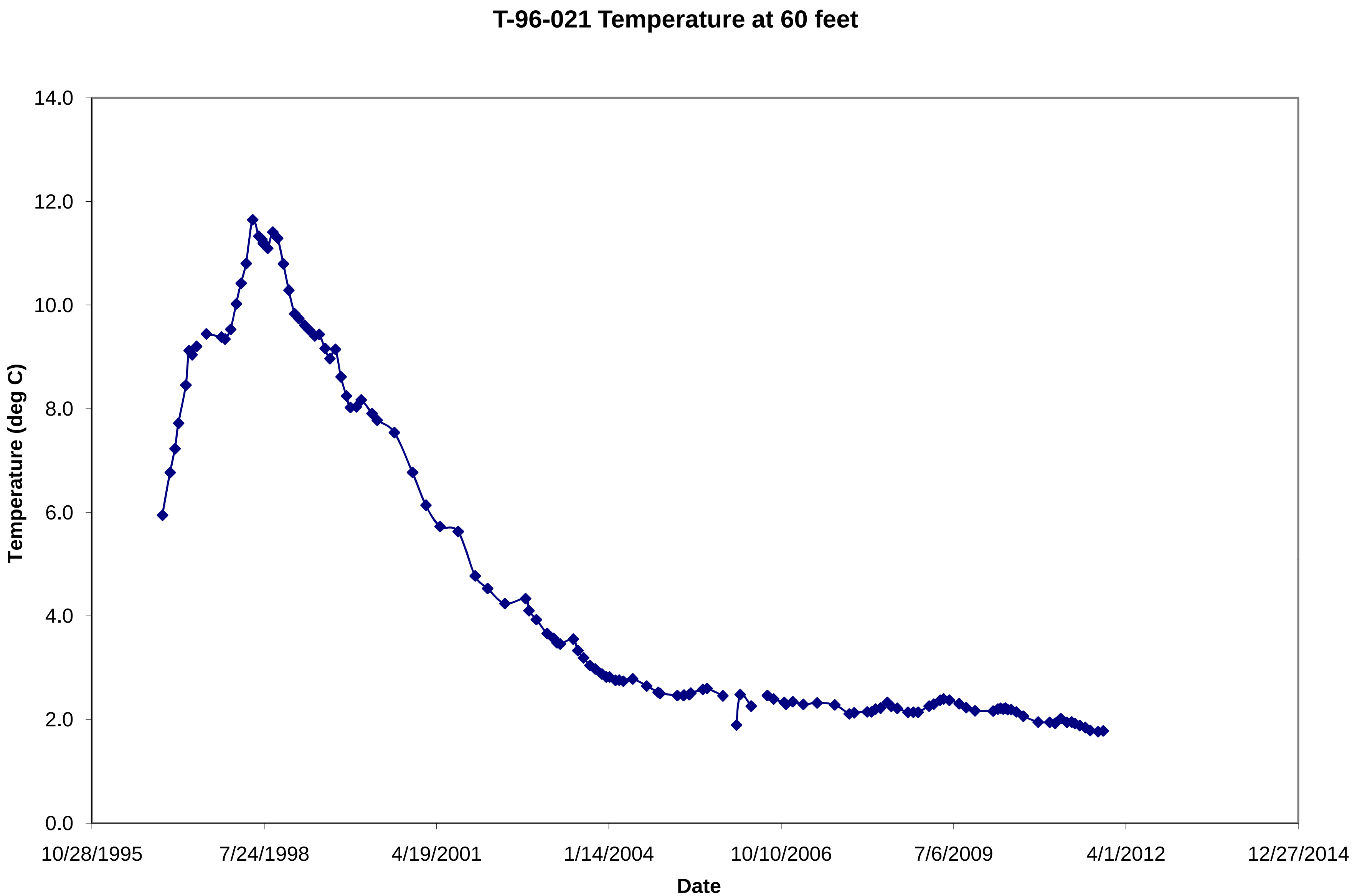

T-96-021 Temperature at 40 feet
Temperature (deg C)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



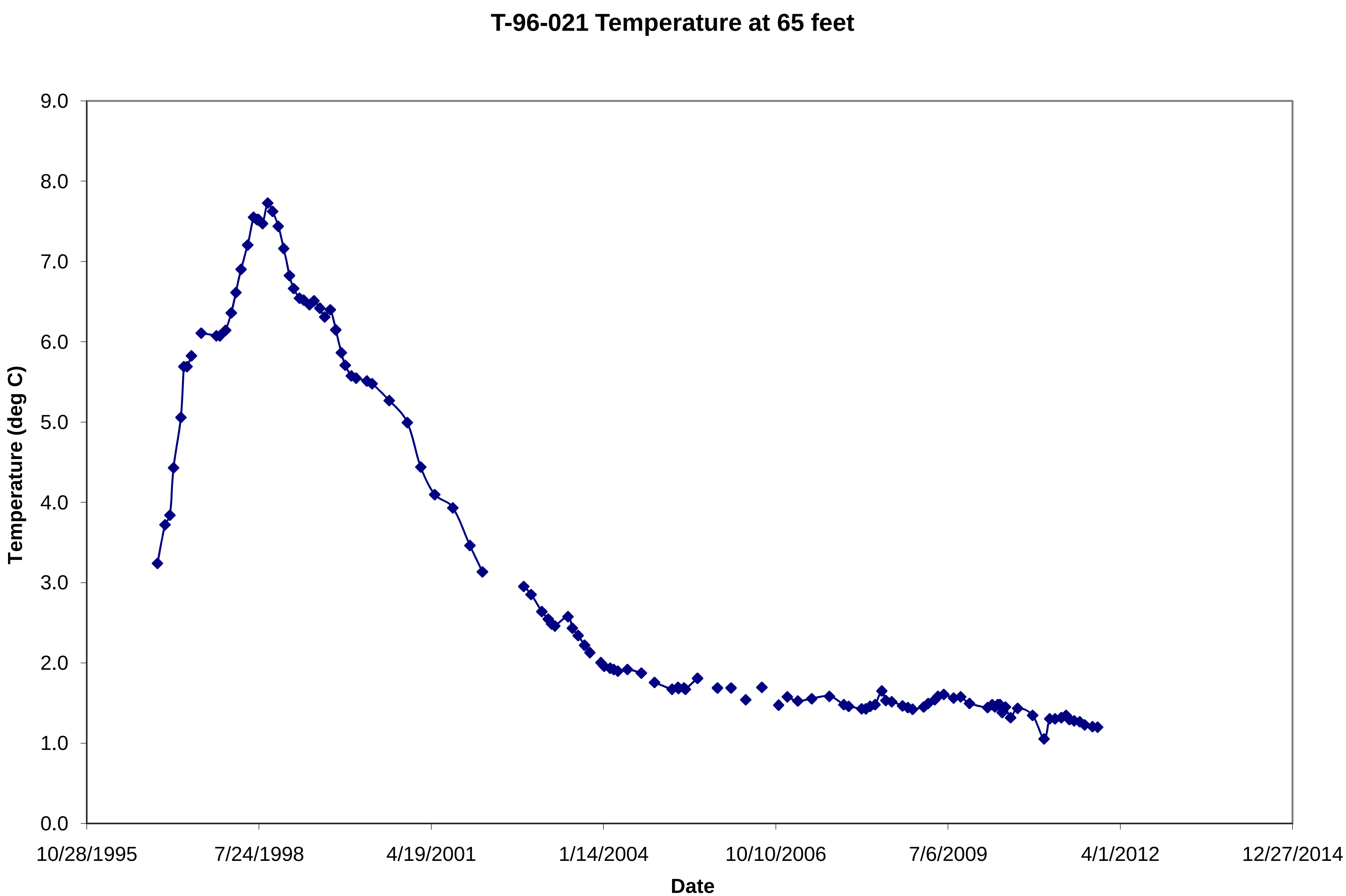
T-96-021 Temperature at 45 feet
Temperature (deg C)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

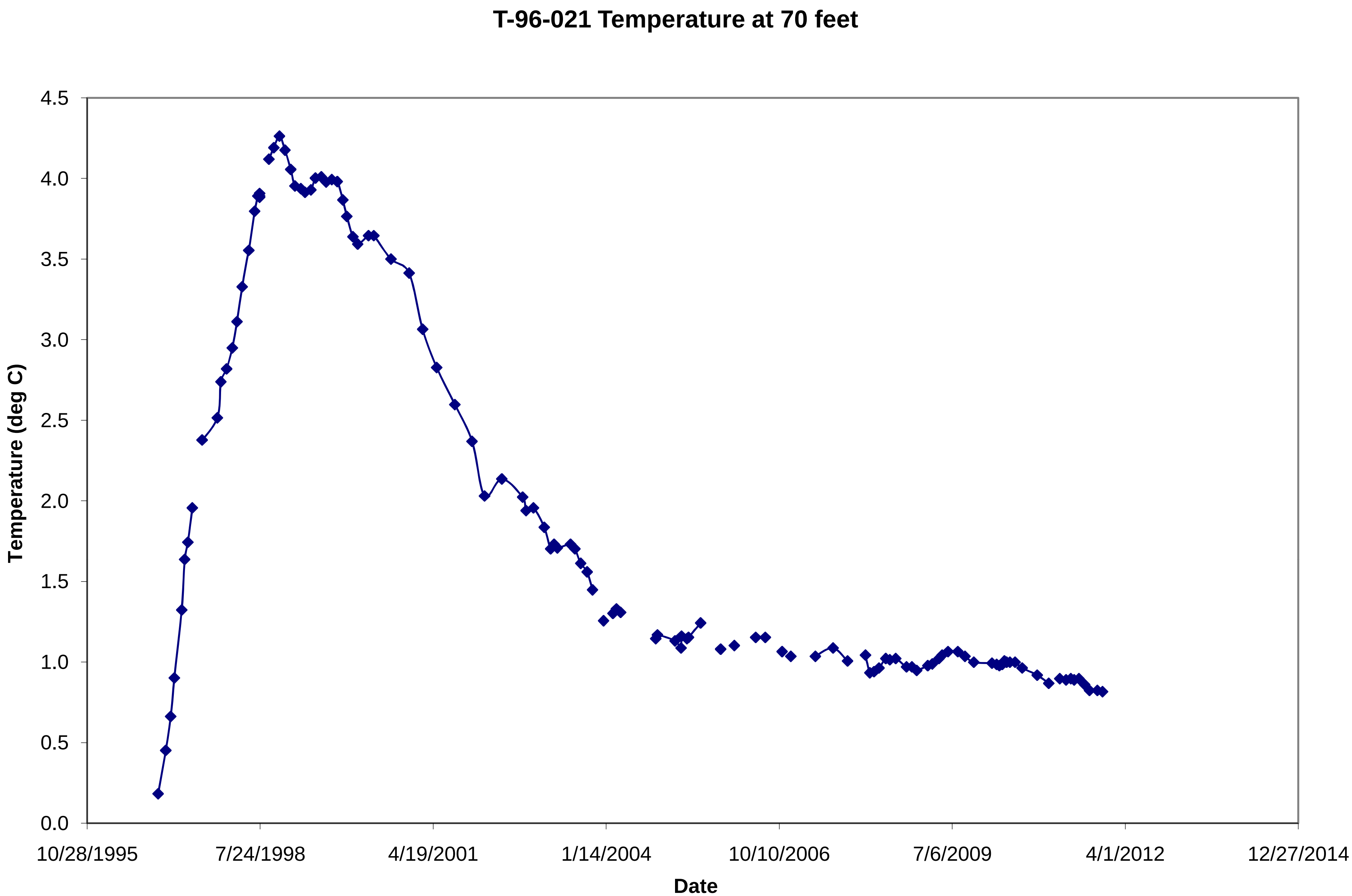

T-96-021 Temperature at 50 feet
Temperature (deg C)
25.0
20.0
15.0
10.0
5.0
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

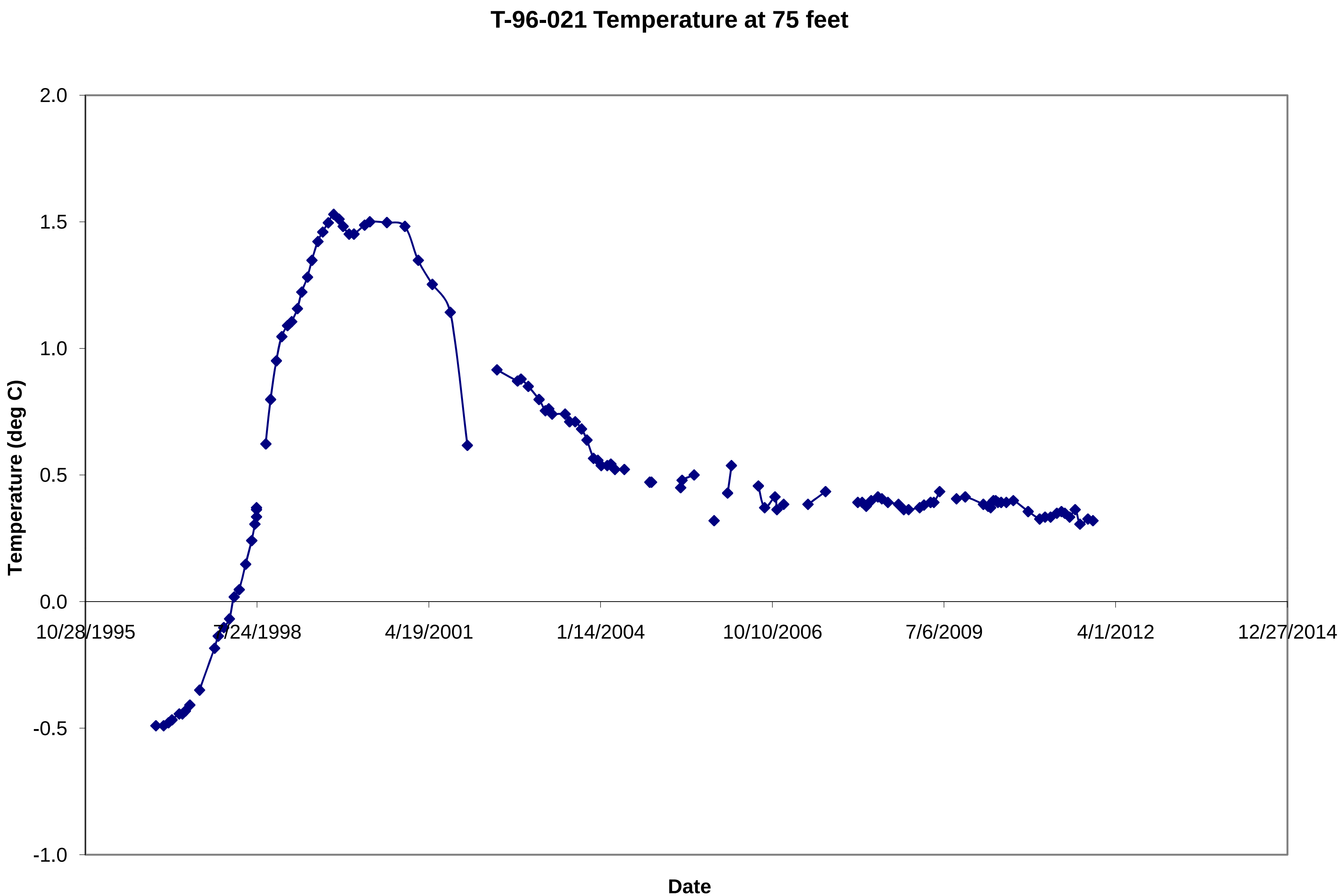

T-96-021 Temperature at 55 feet
Temperature (deg C)
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

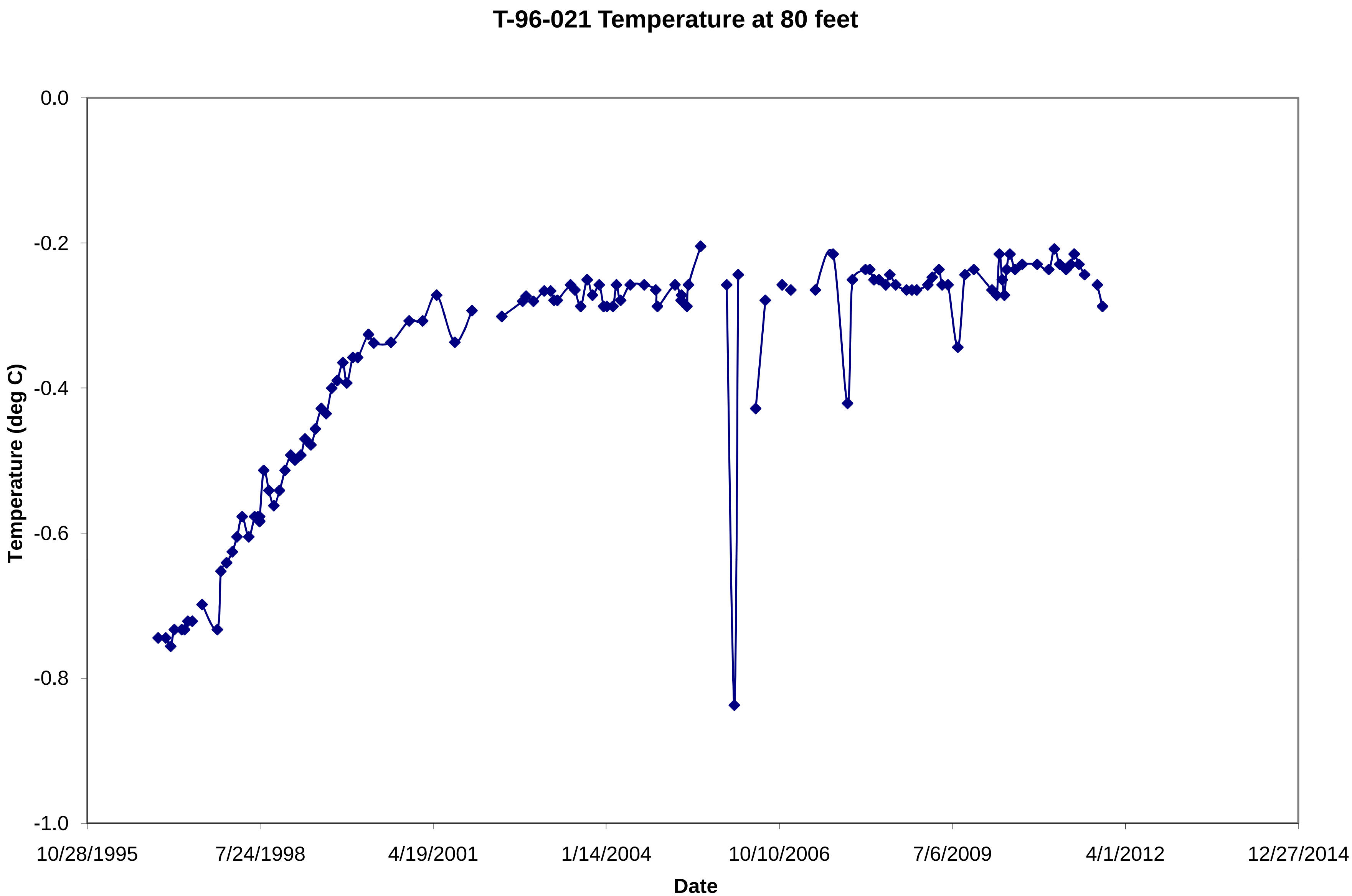


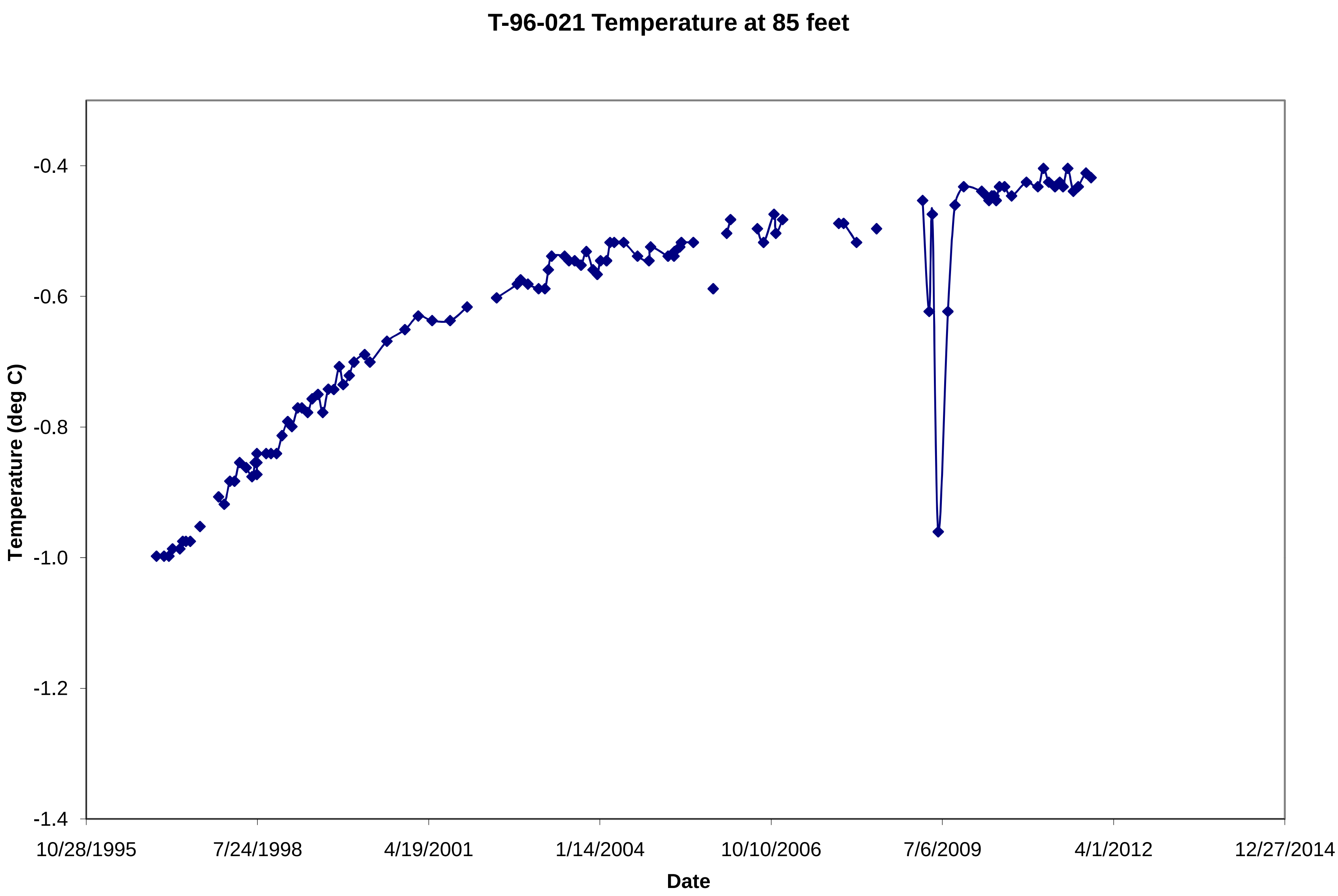
T-96-021 Temperature at 60 feet
Temperature (deg C)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

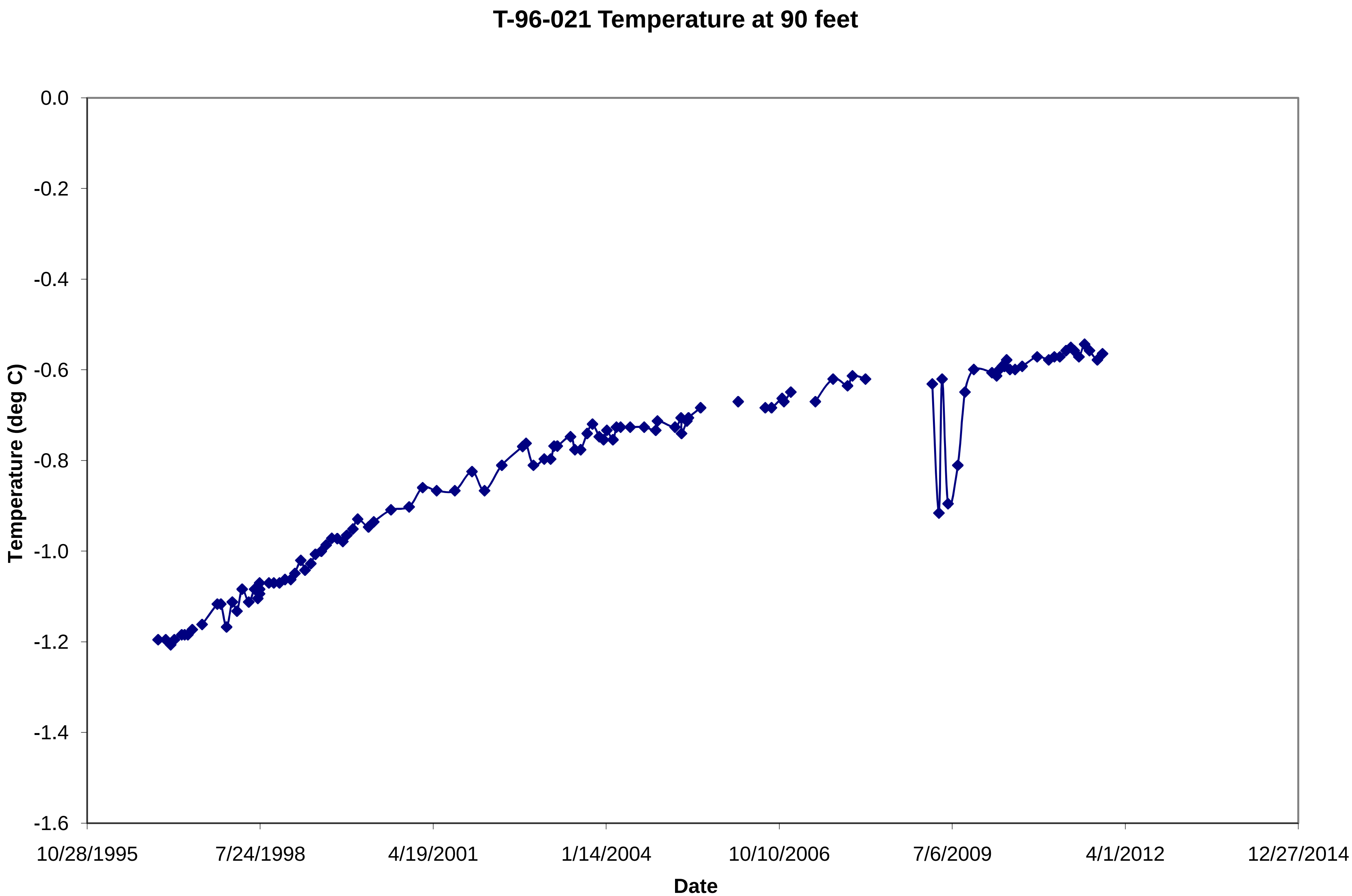

T-96-021 Temperature at 65 feet
Temperature (deg C)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-021 Temperature at 70 feet
Temperature (deg C)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

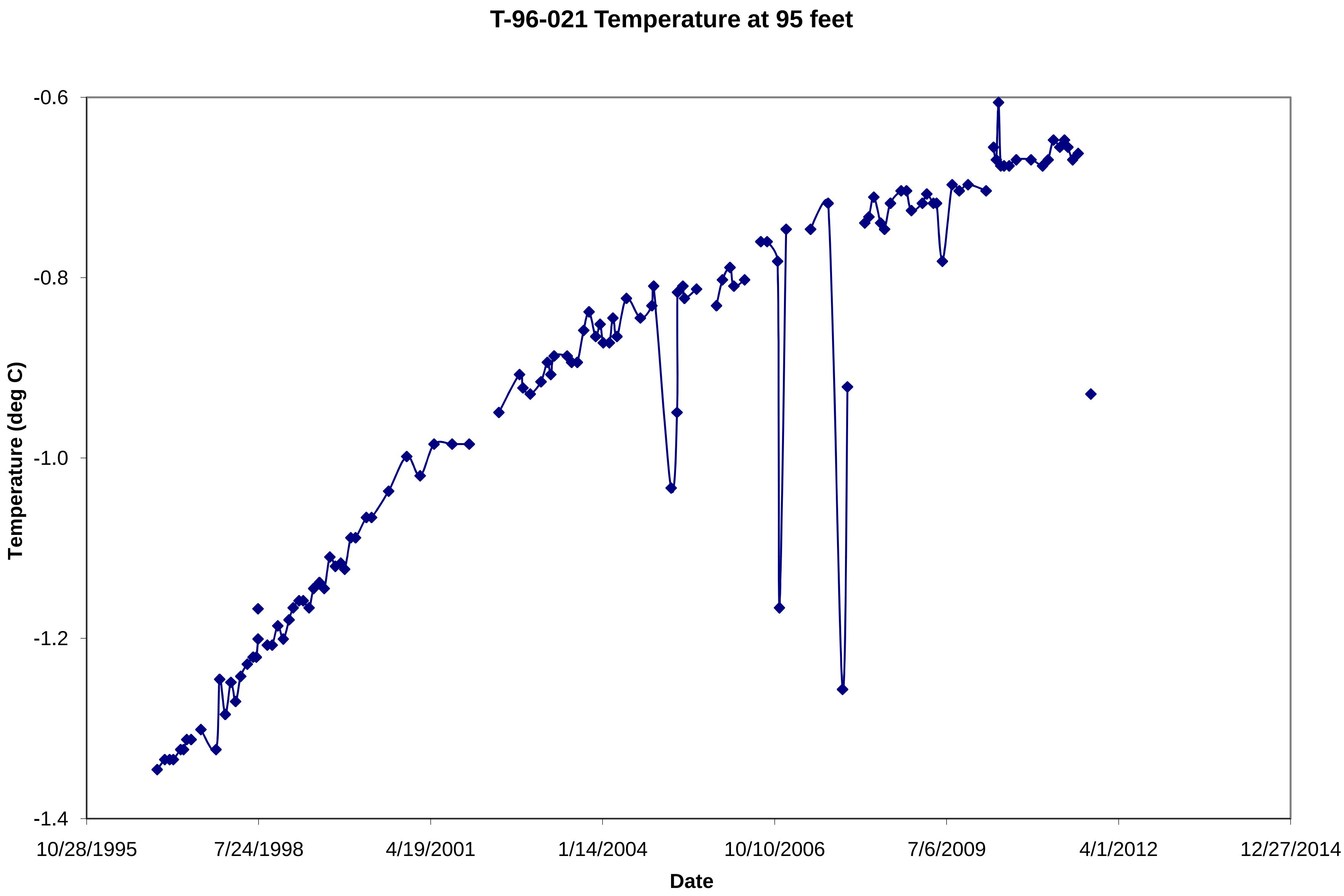

T-96-021 Temperature at 75 feet
Temperature (deg C)
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

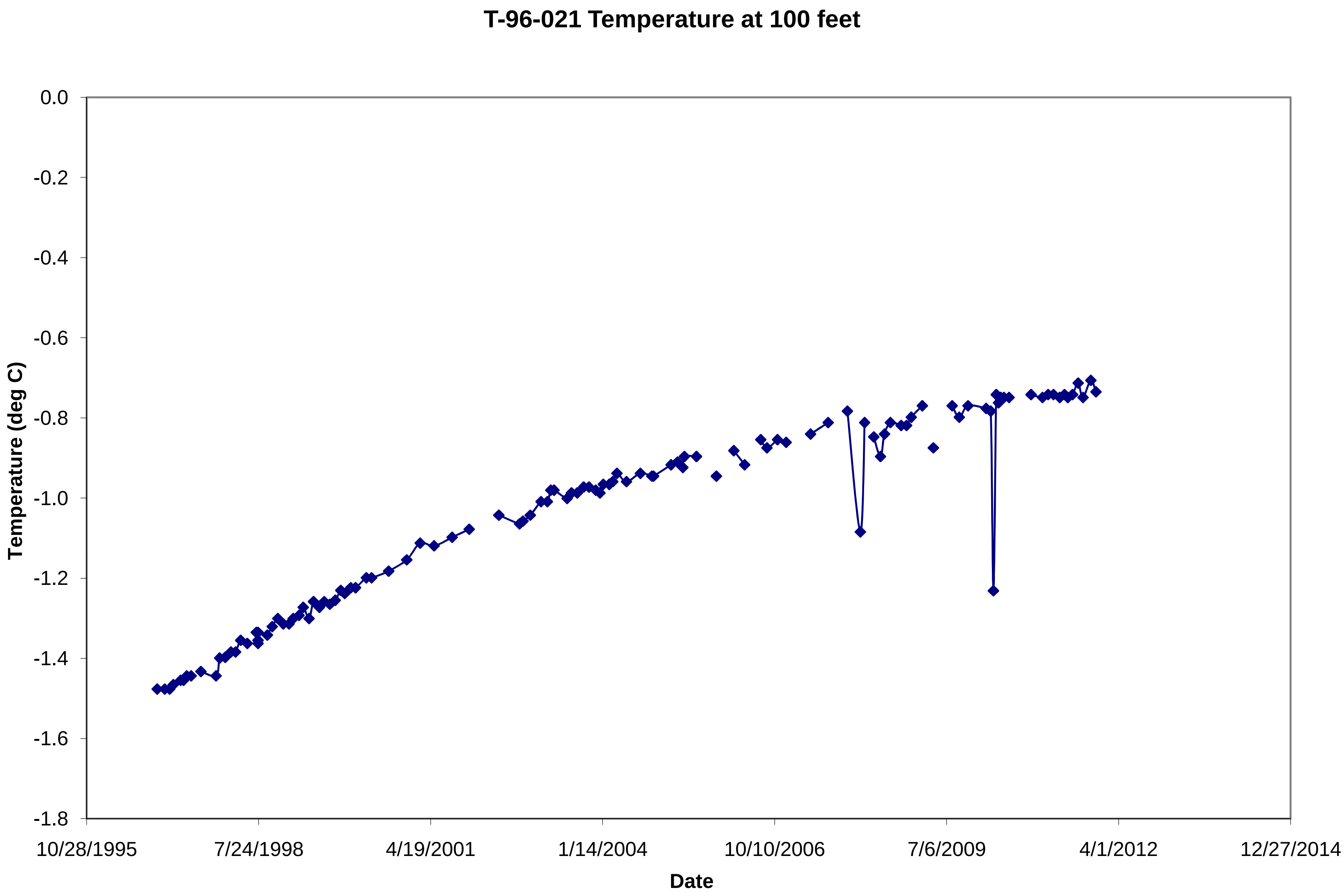

T-96-021 Temperature at 80 feet
Temperature (deg C)
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-021 Temperature at 85 feet
Temperature (deg C)
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

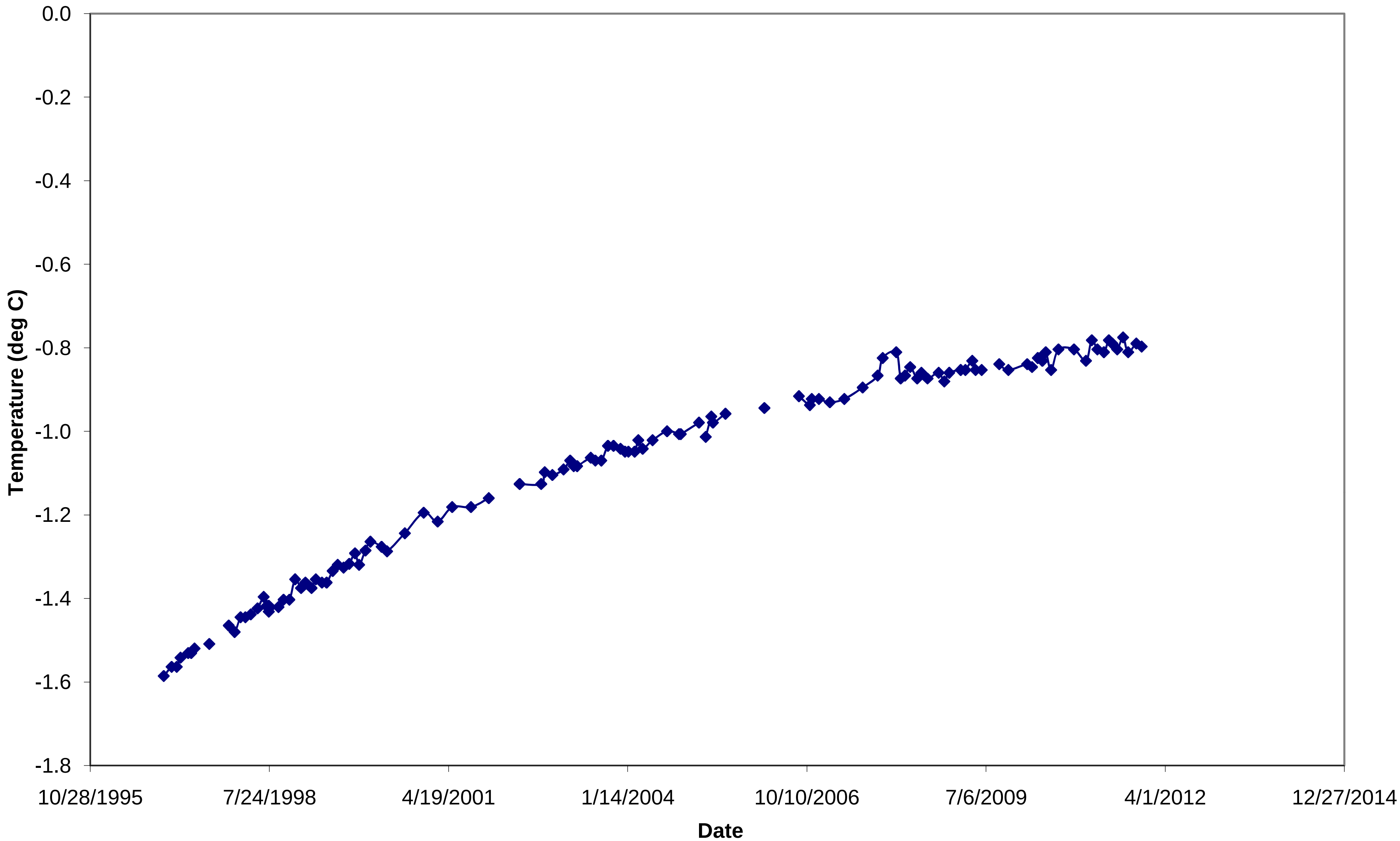


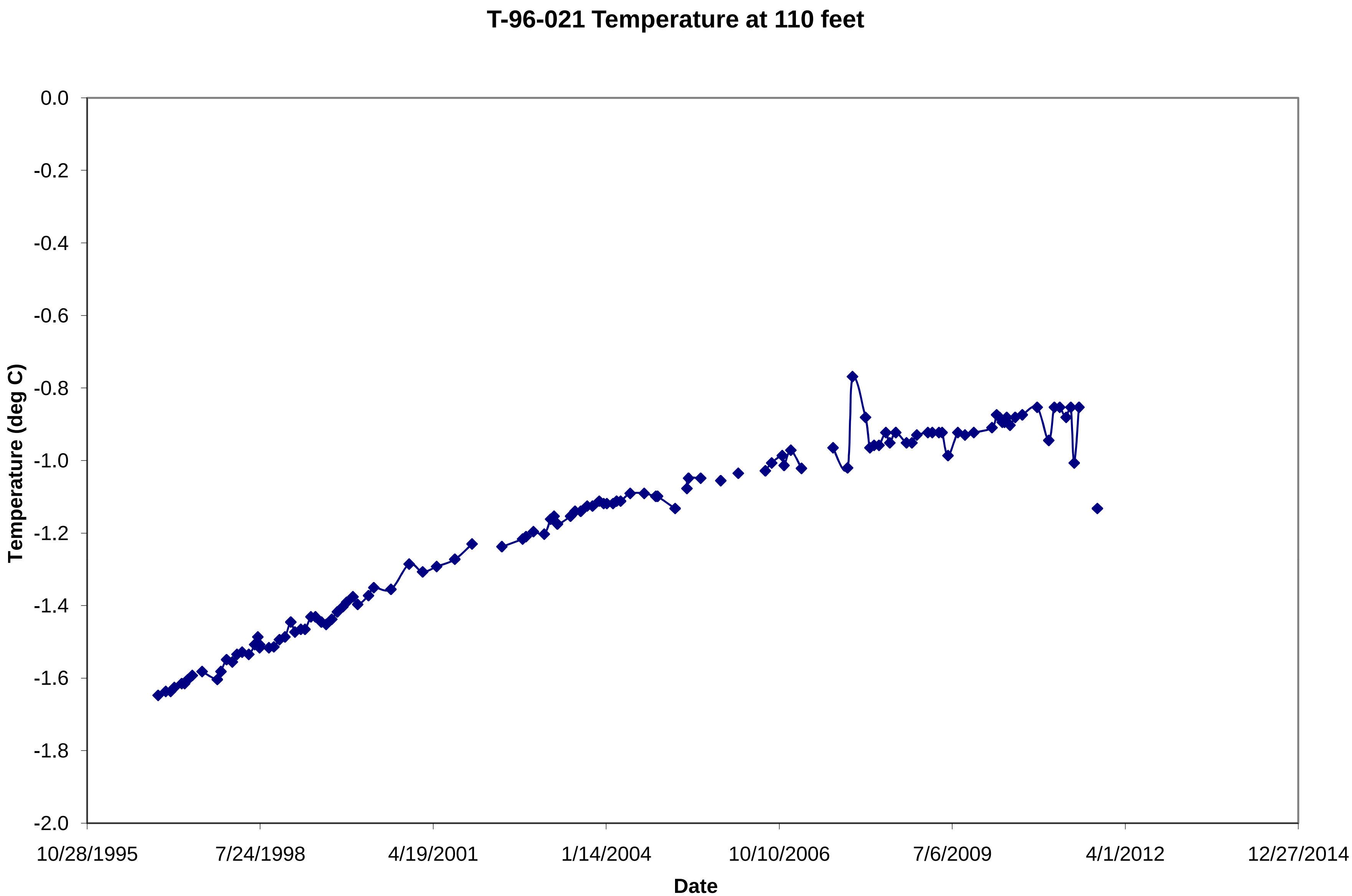
T-96-021 Temperature at 90 feet
Temperature (deg C)
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

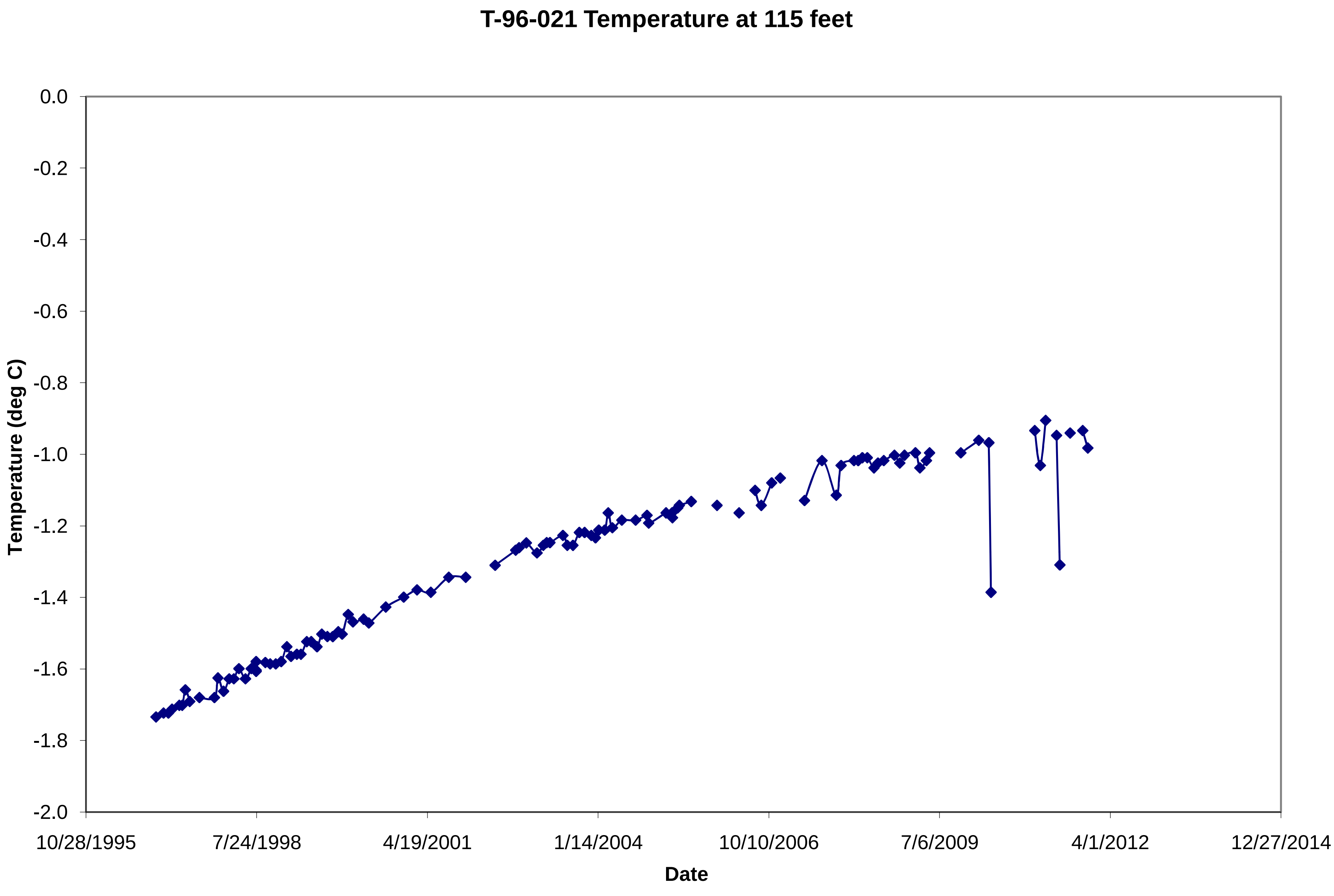

T-96-021 Temperature at 95 feet
Temperature (deg C)
-0.6
-0.8
-1.0
-1.2
-1.4
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-021 Temperature at 100 feet
Temperature (deg C)
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
-1.8
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

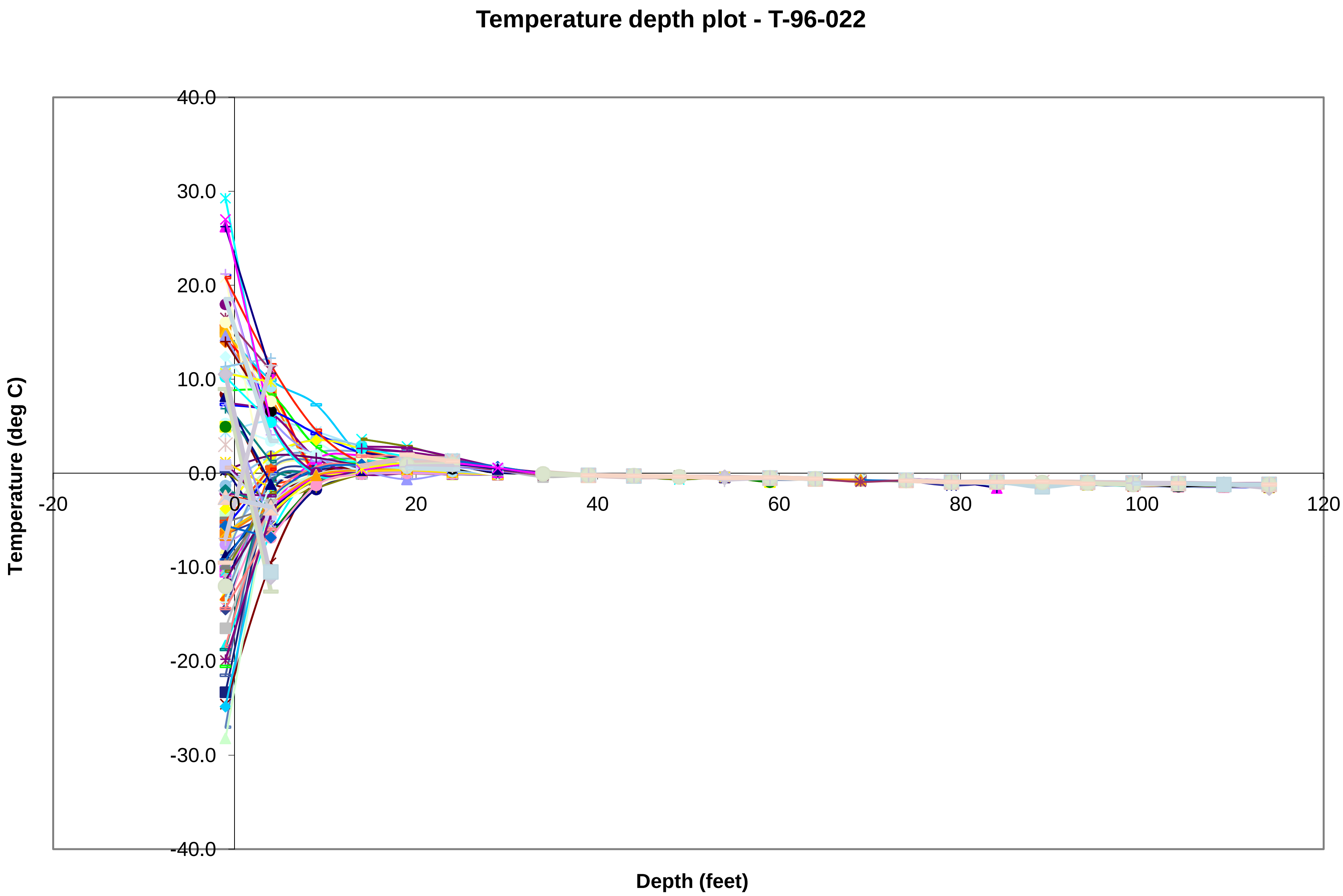
T-96-021 Temperature at 105 feet



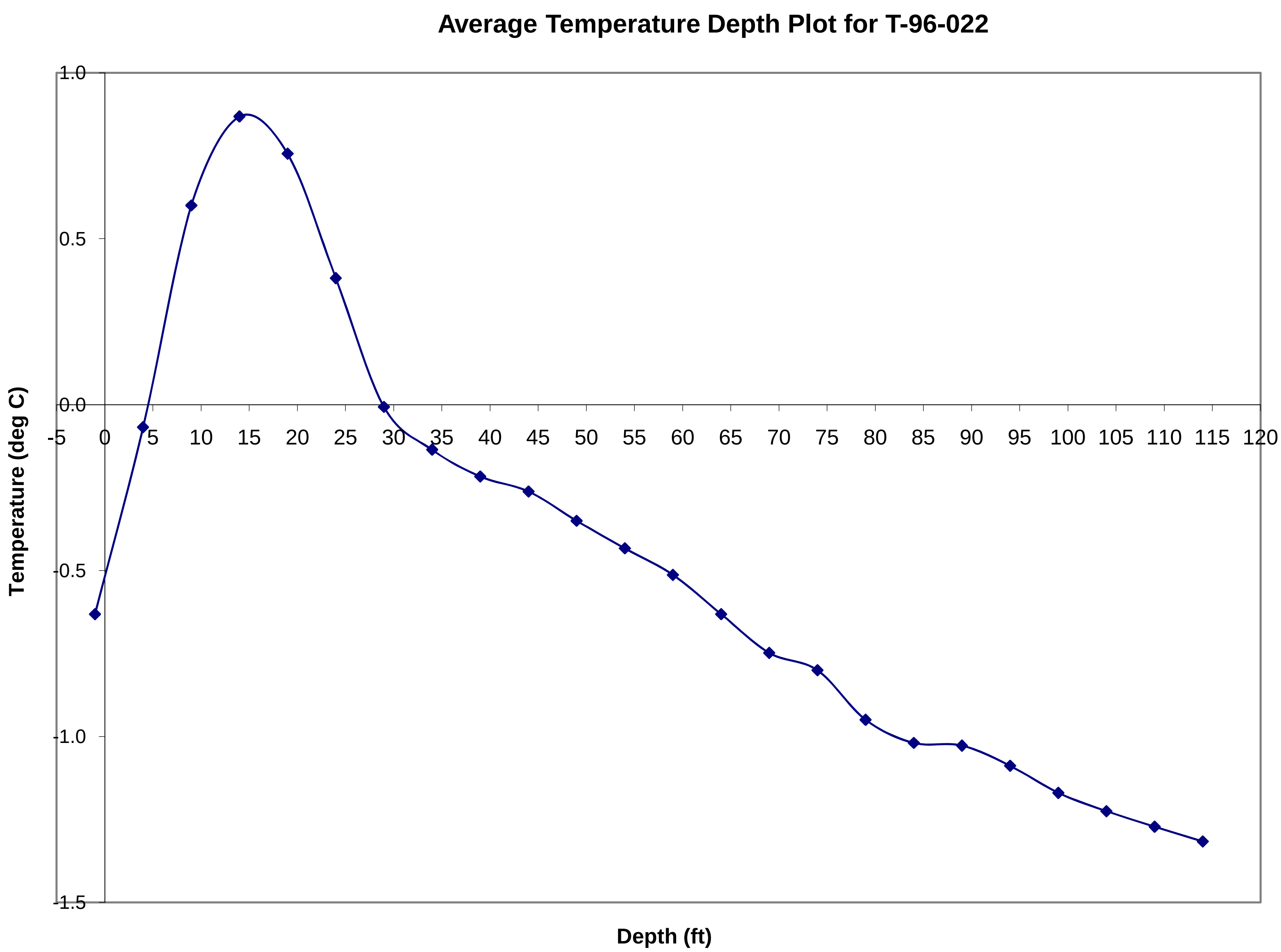

T-96-021 Temperature at 110 feet
Temperature (deg C)
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
-1.8
-2.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-021 Temperature at 115 feet
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
-1.8
-2.0
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

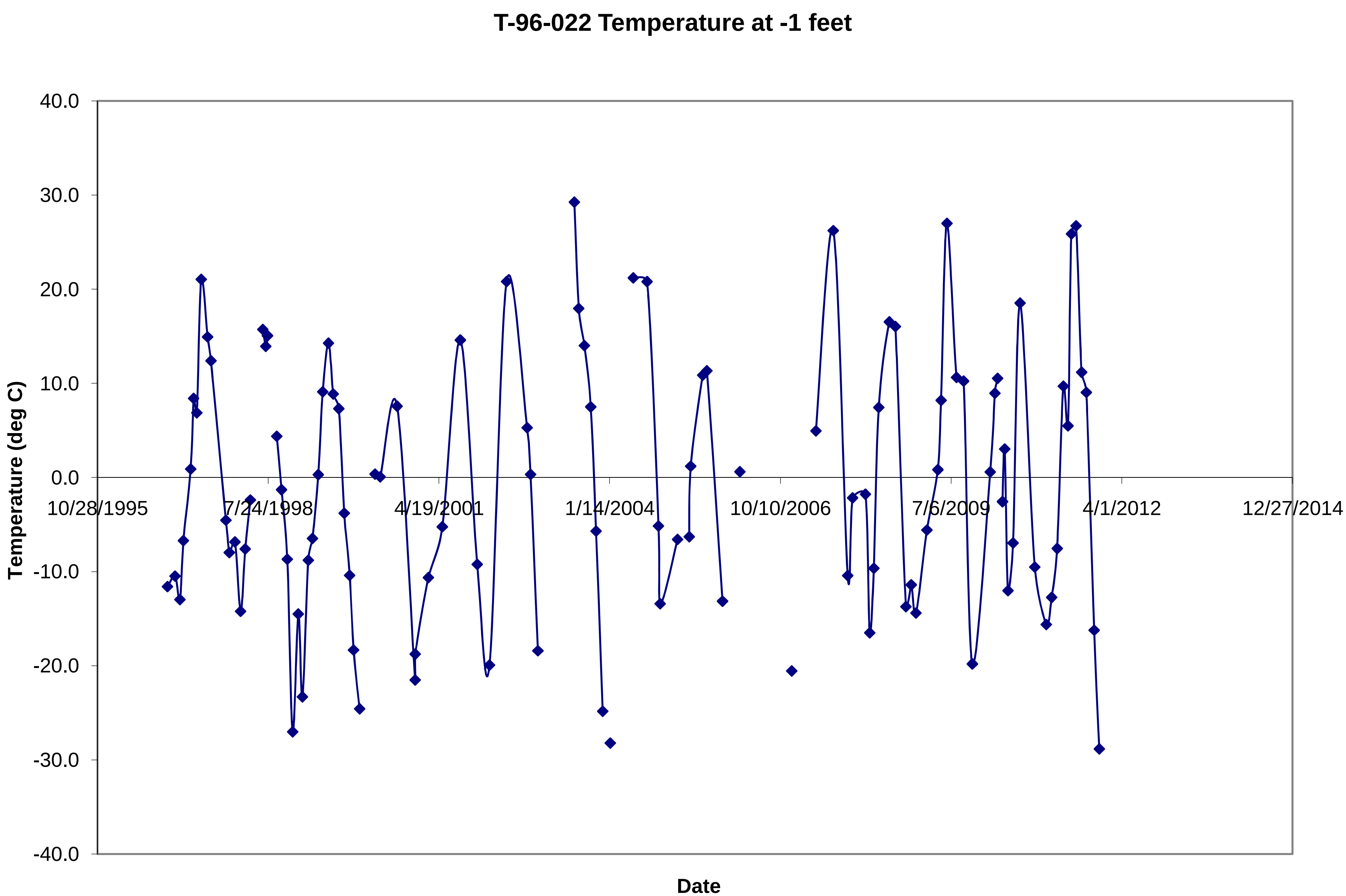
T-96-022



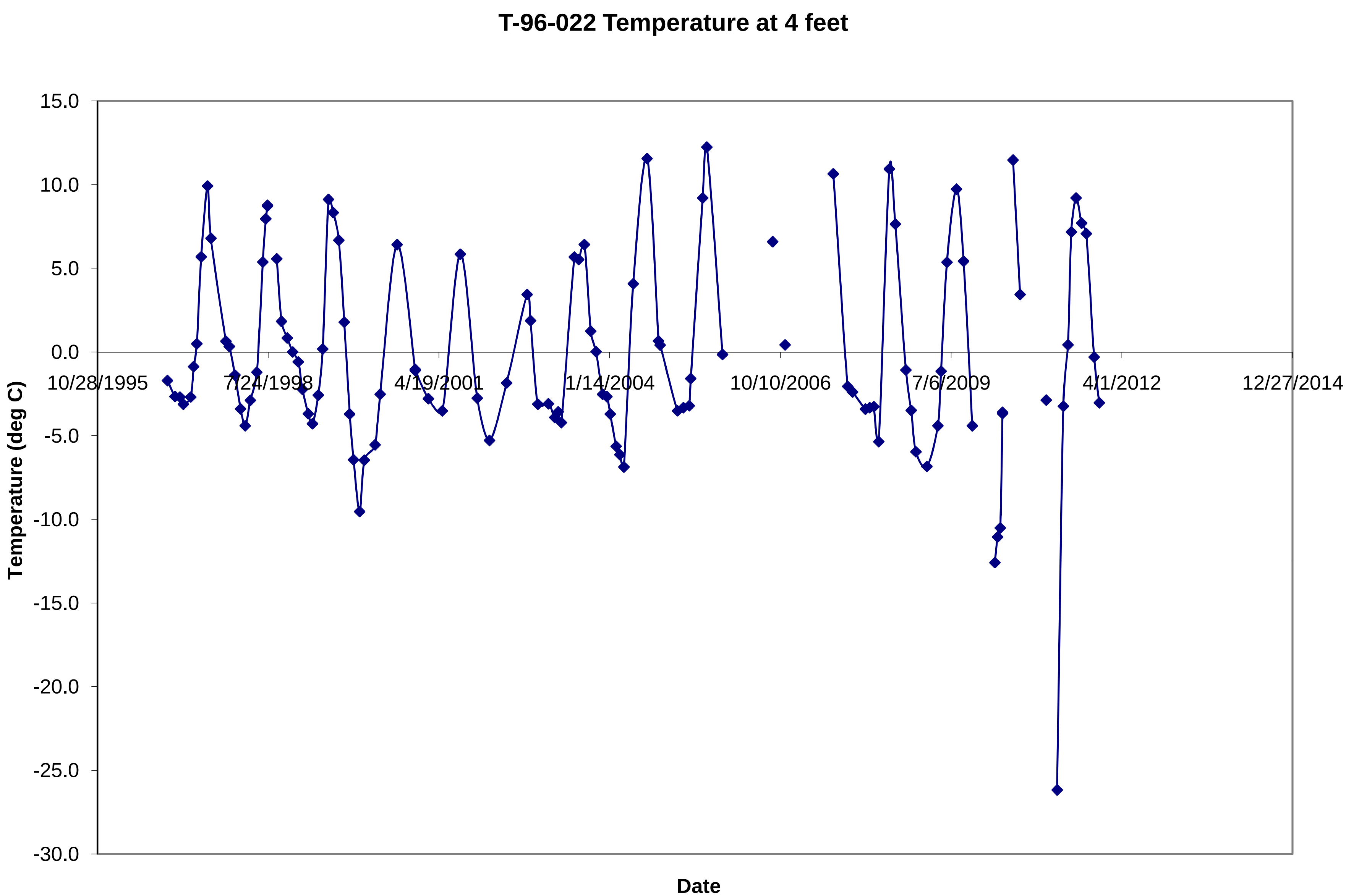
Temperature depth plot - T-96-022
Temperature (deg C)
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
-40.0
-20
0
20
40
60
80
100
120
Depth (feet)



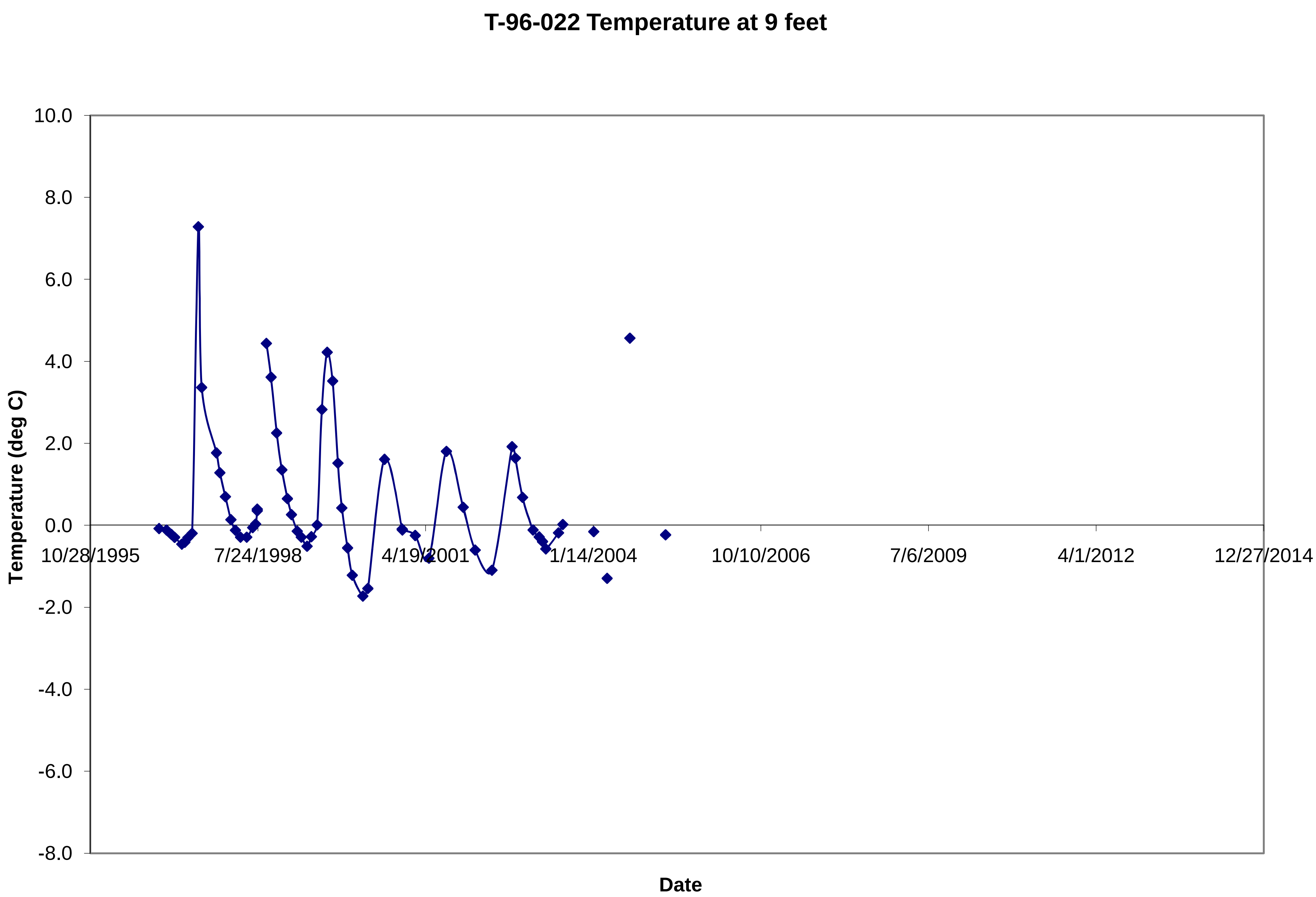
Average Temperature Depth Plot for T-96-022
Temperature (deg C)
1.0
0.5
0.0
-0.5
-1.0
-1.5
-5
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
105
110
115
120
Depth (ft)



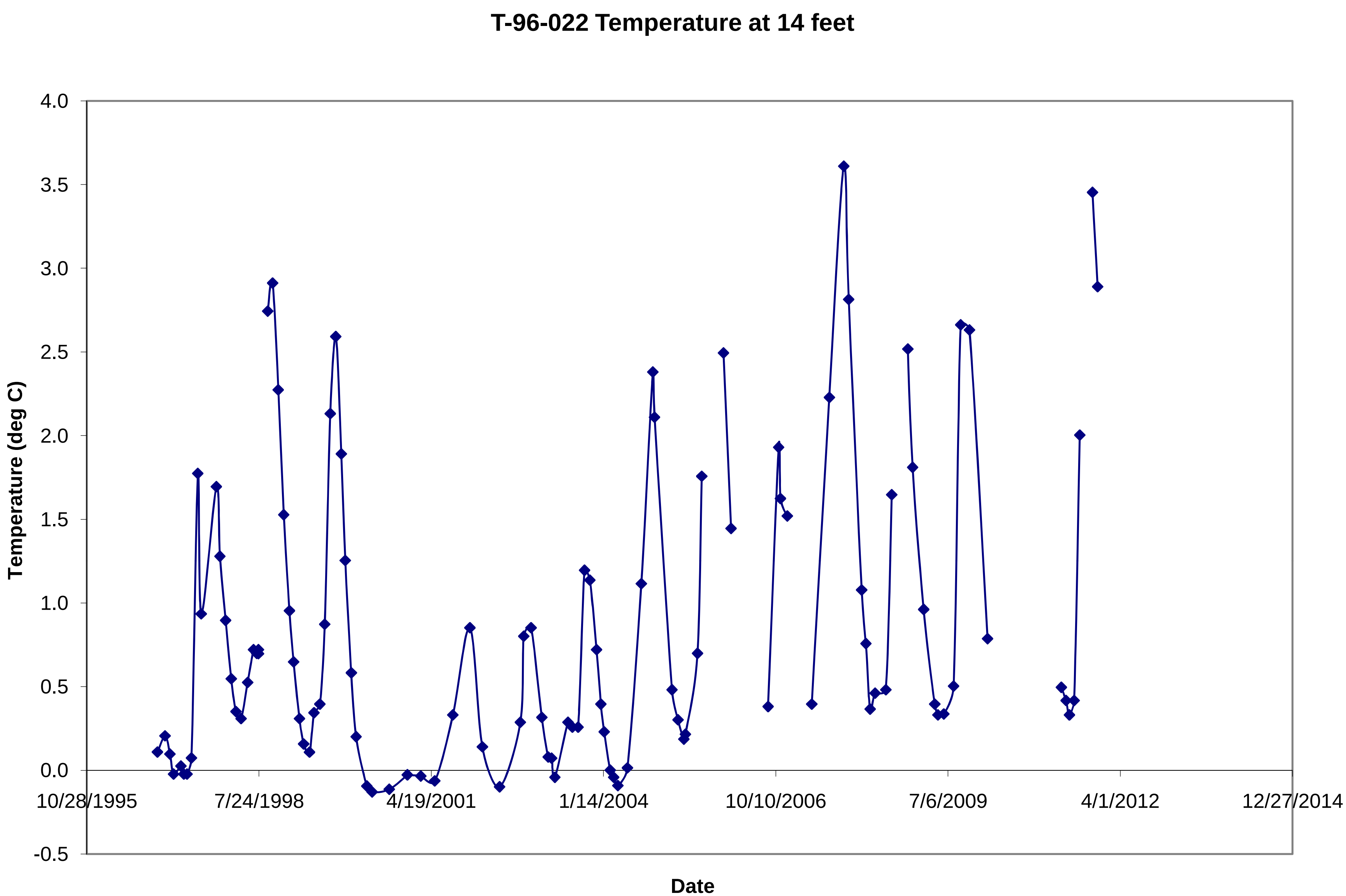
T-96-022 Temperature at -1 feet
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
-40.0
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

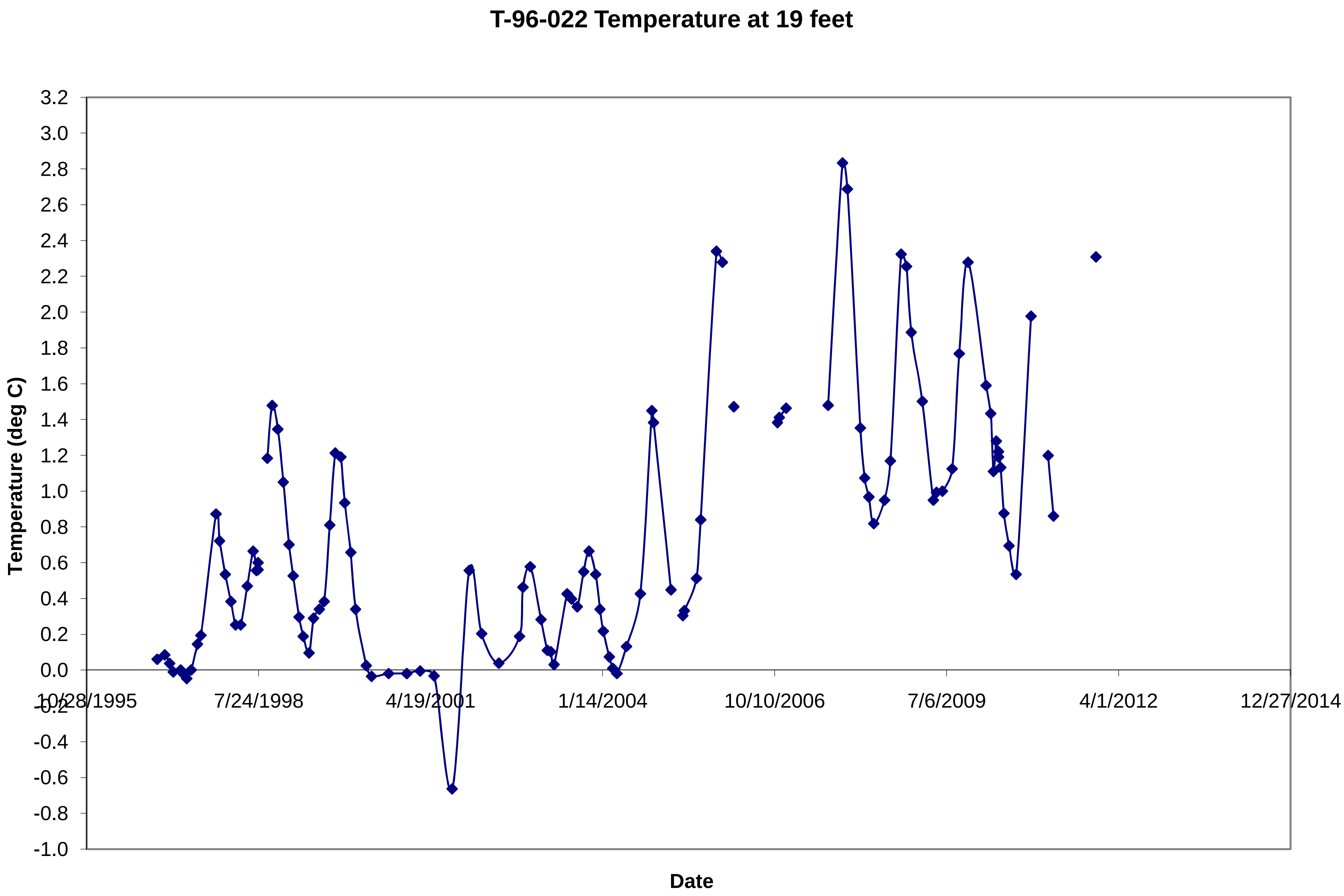


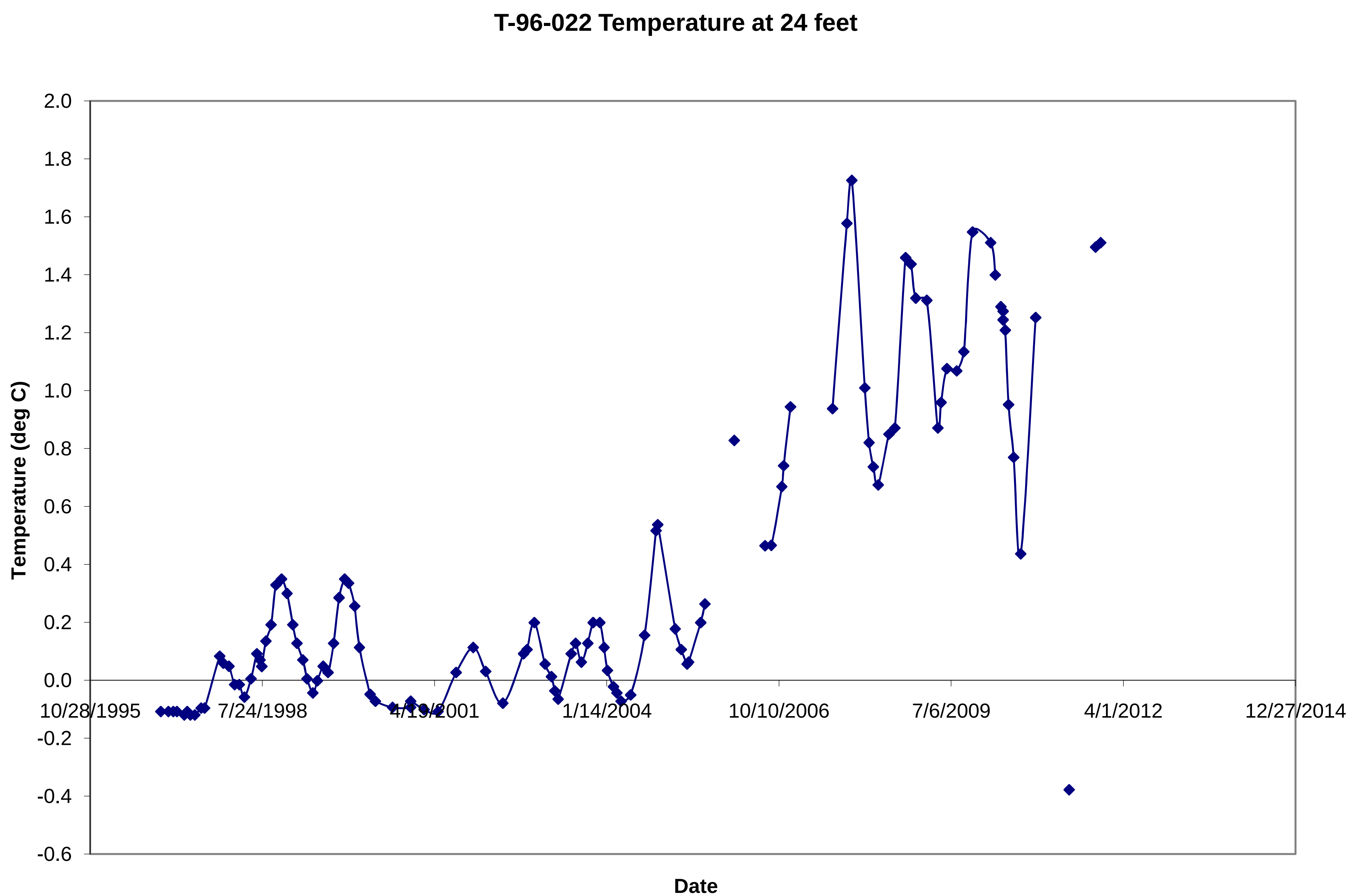
T-96-022 Temperature at 4 feet
Temperature (deg C)
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
-20.0
-25.0
-30.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



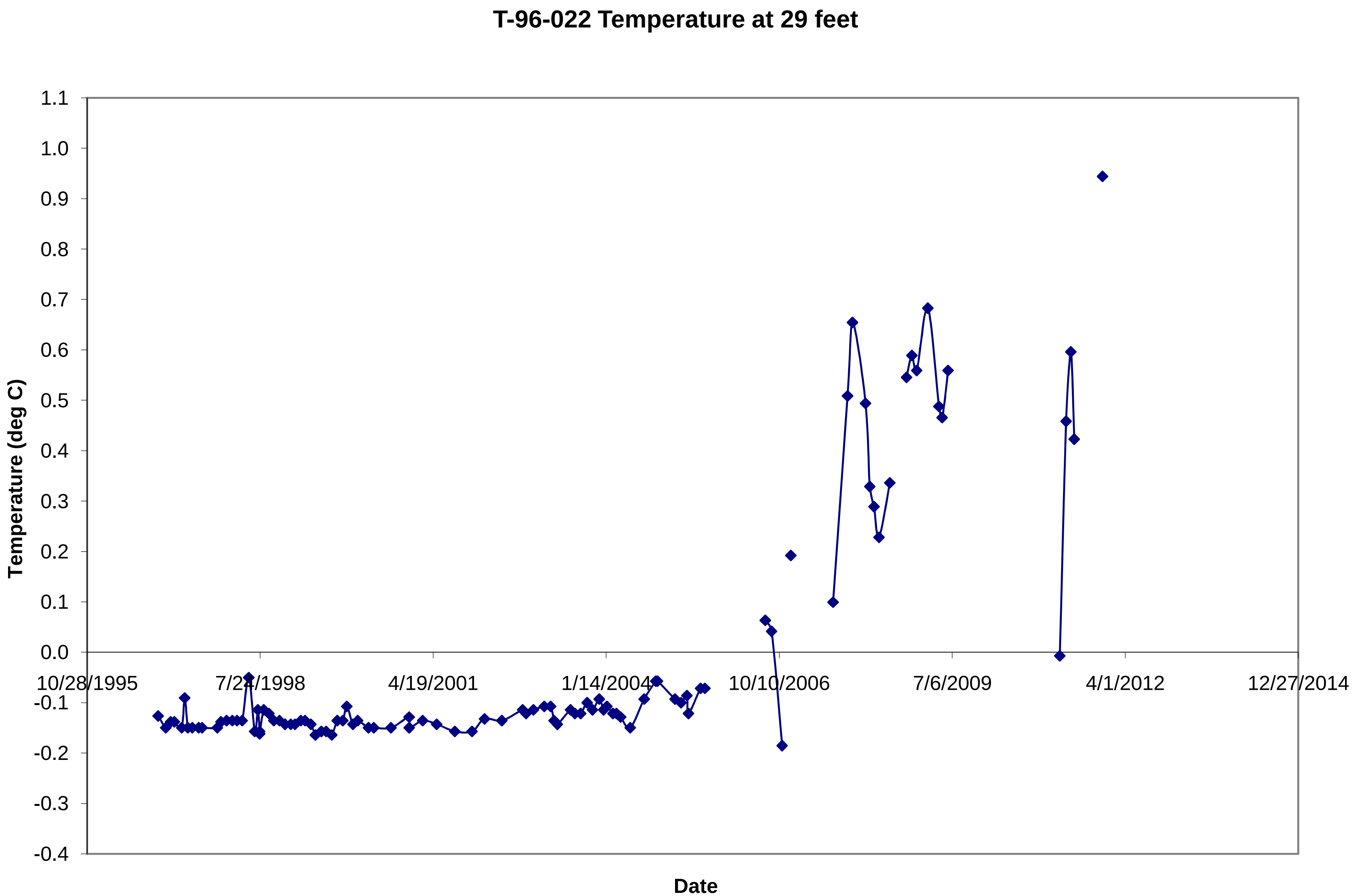
T-96-022 Temperature at 9 feet
10.0
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

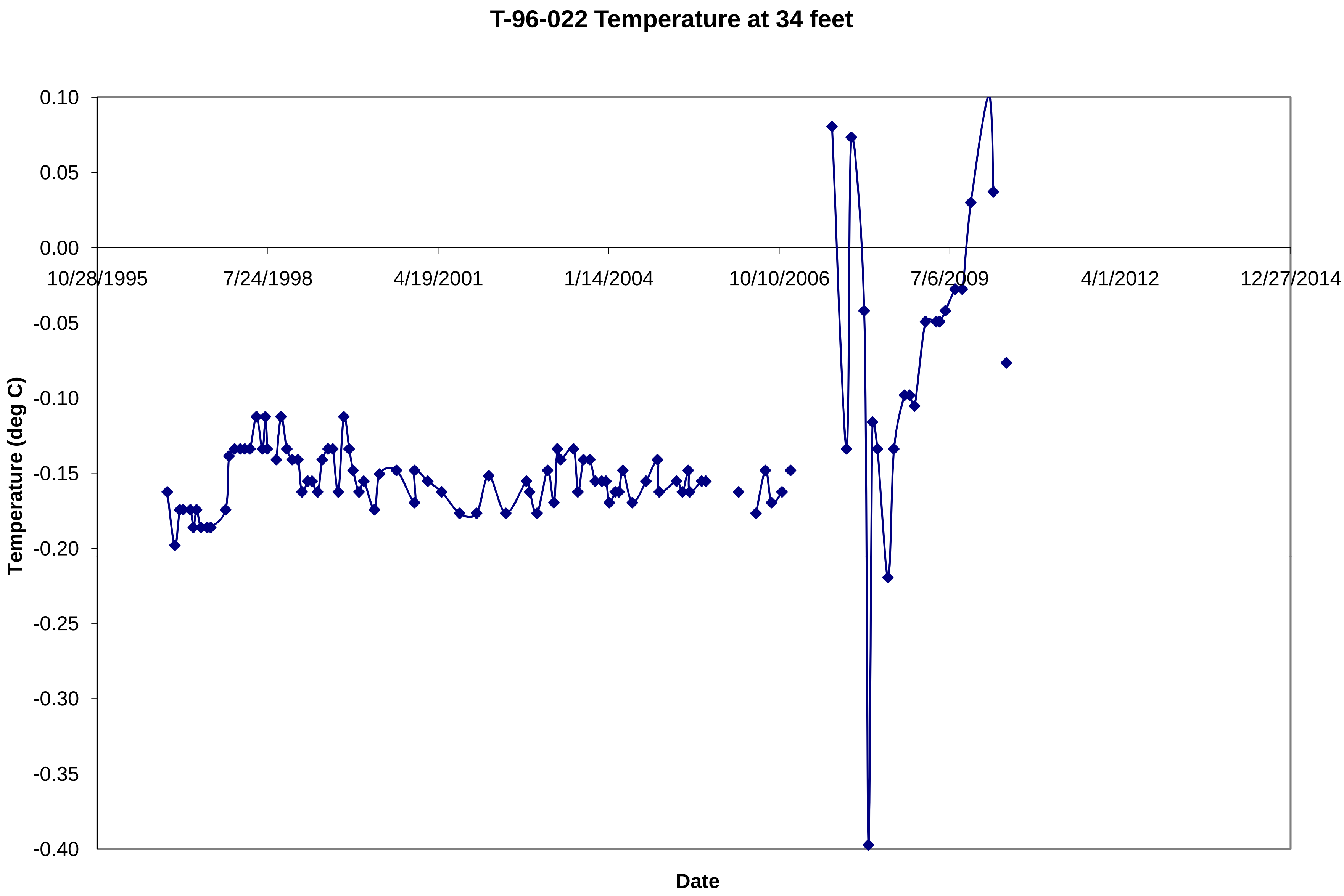

T-96-022 Temperature at 14 feet
Temperature (deg C)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-022 Temperature at 19 feet
Temperature (deg C)
3.2
3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

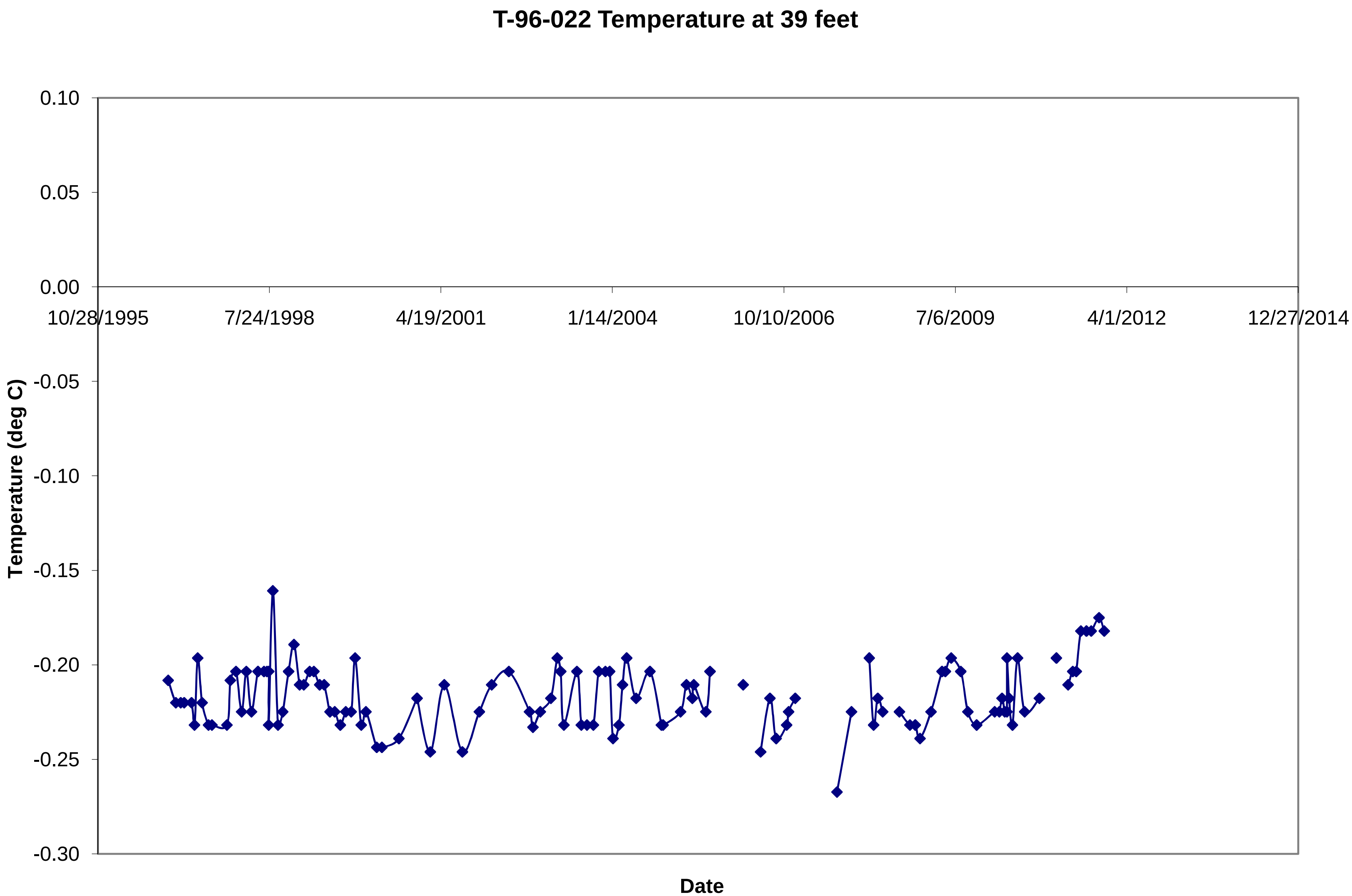


T-96-022 Temperature at 24 feet
Temperature (deg C)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

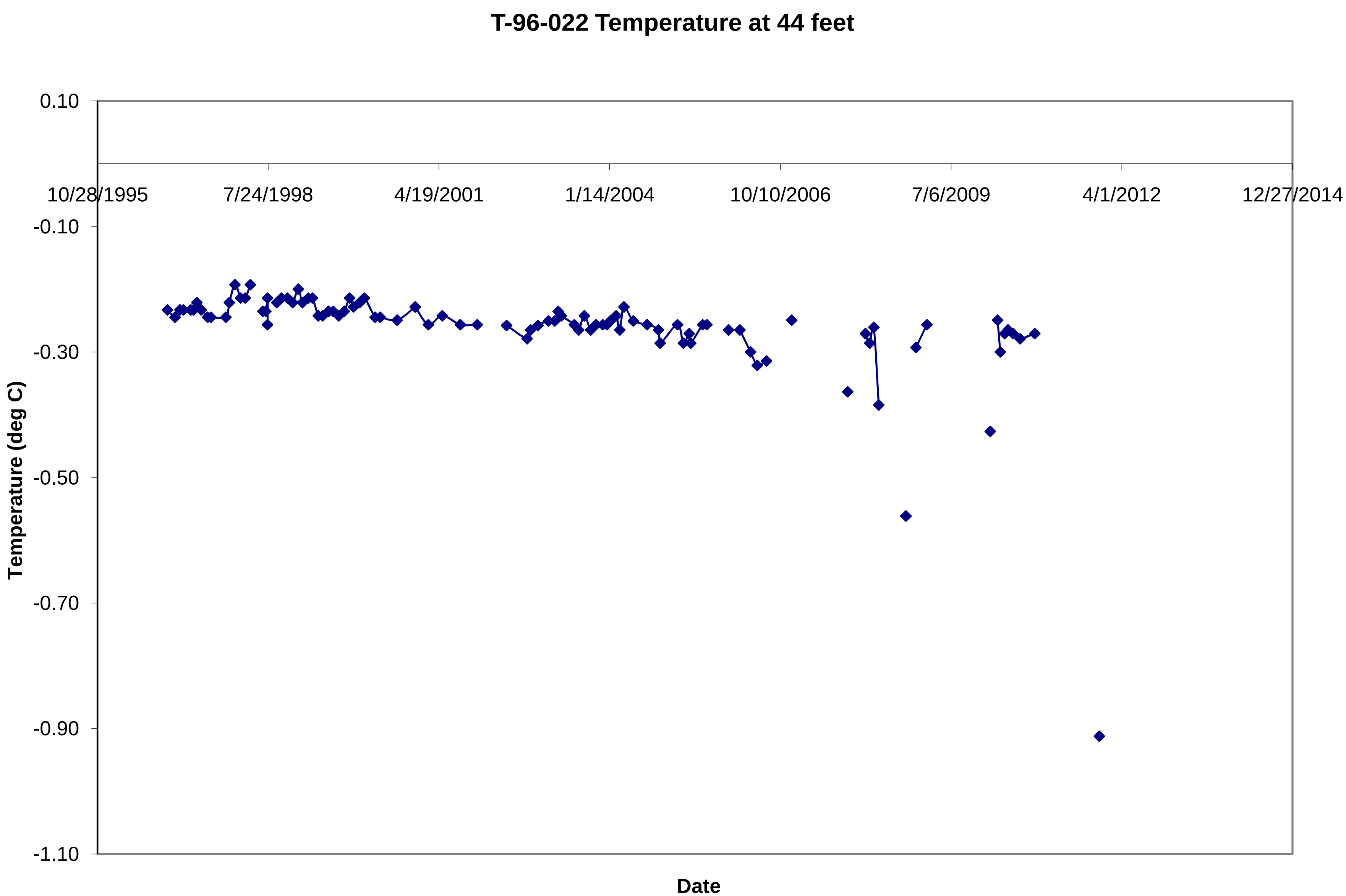

T-96-022 Temperature at 29 feet
Temperature (deg C)
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
-0.2
-0.3
-0.4
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



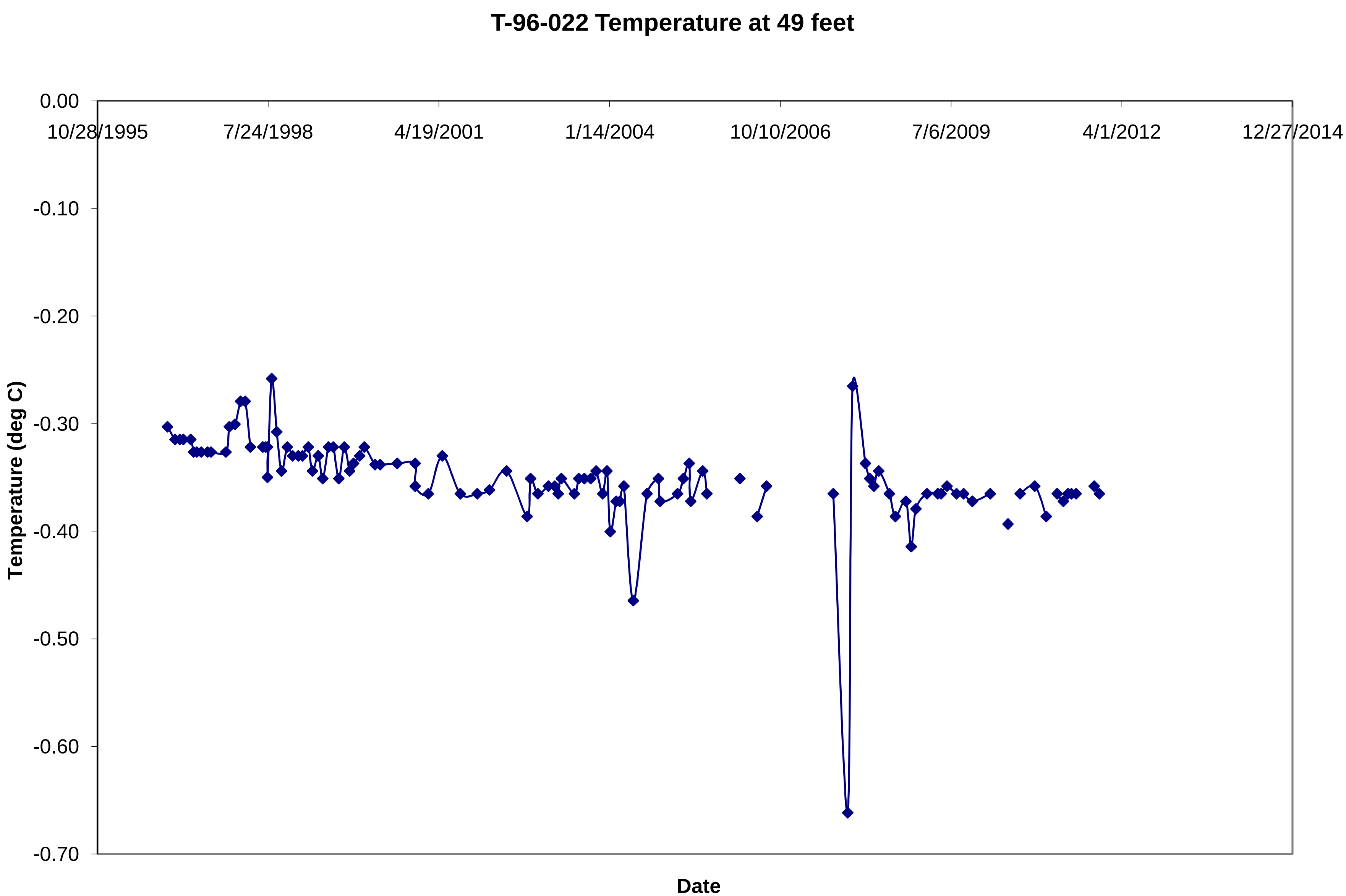
T-96-022 Temperature at 34 feet
0.10
0.05
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
-0.35
-0.40
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

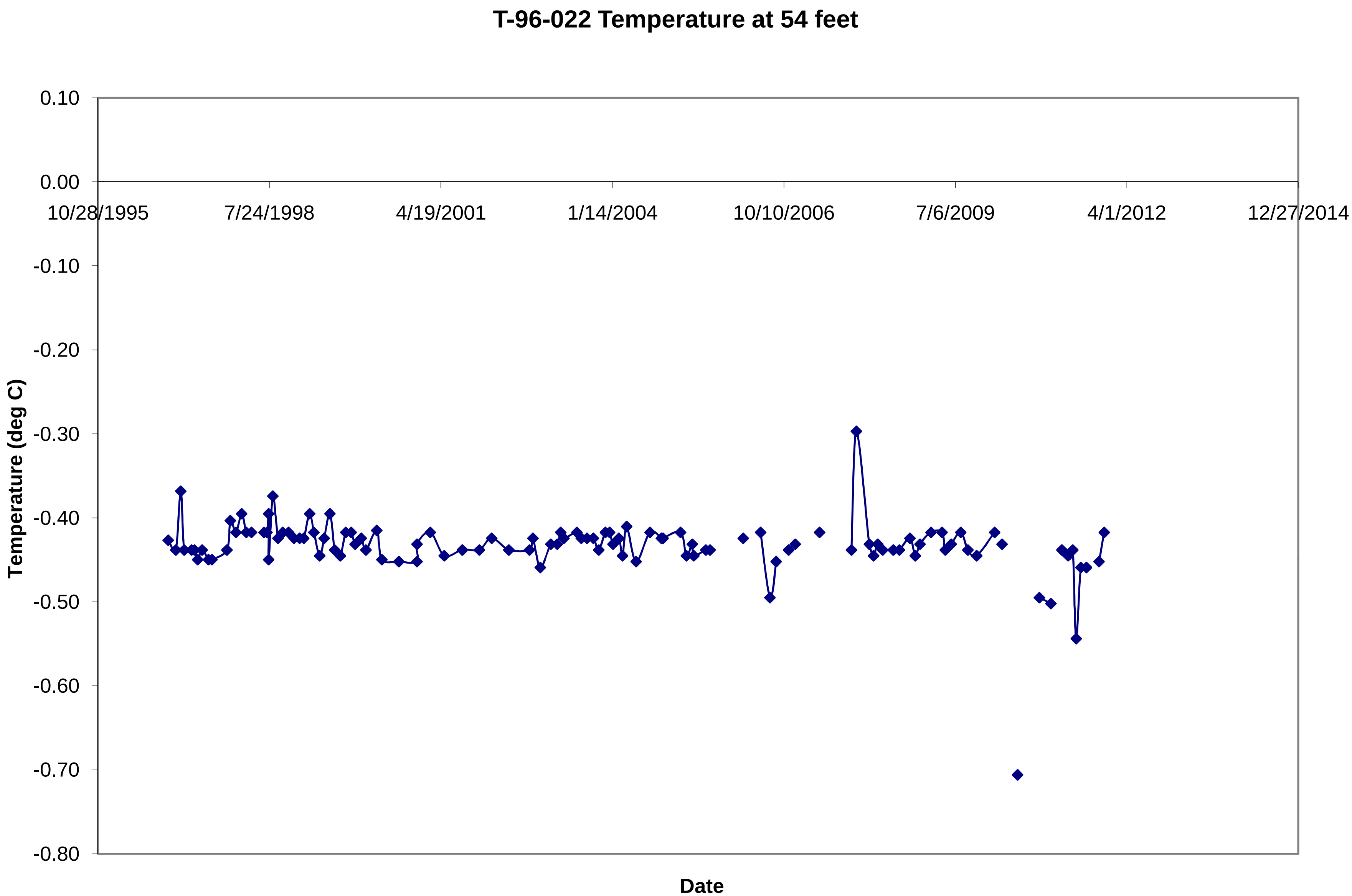


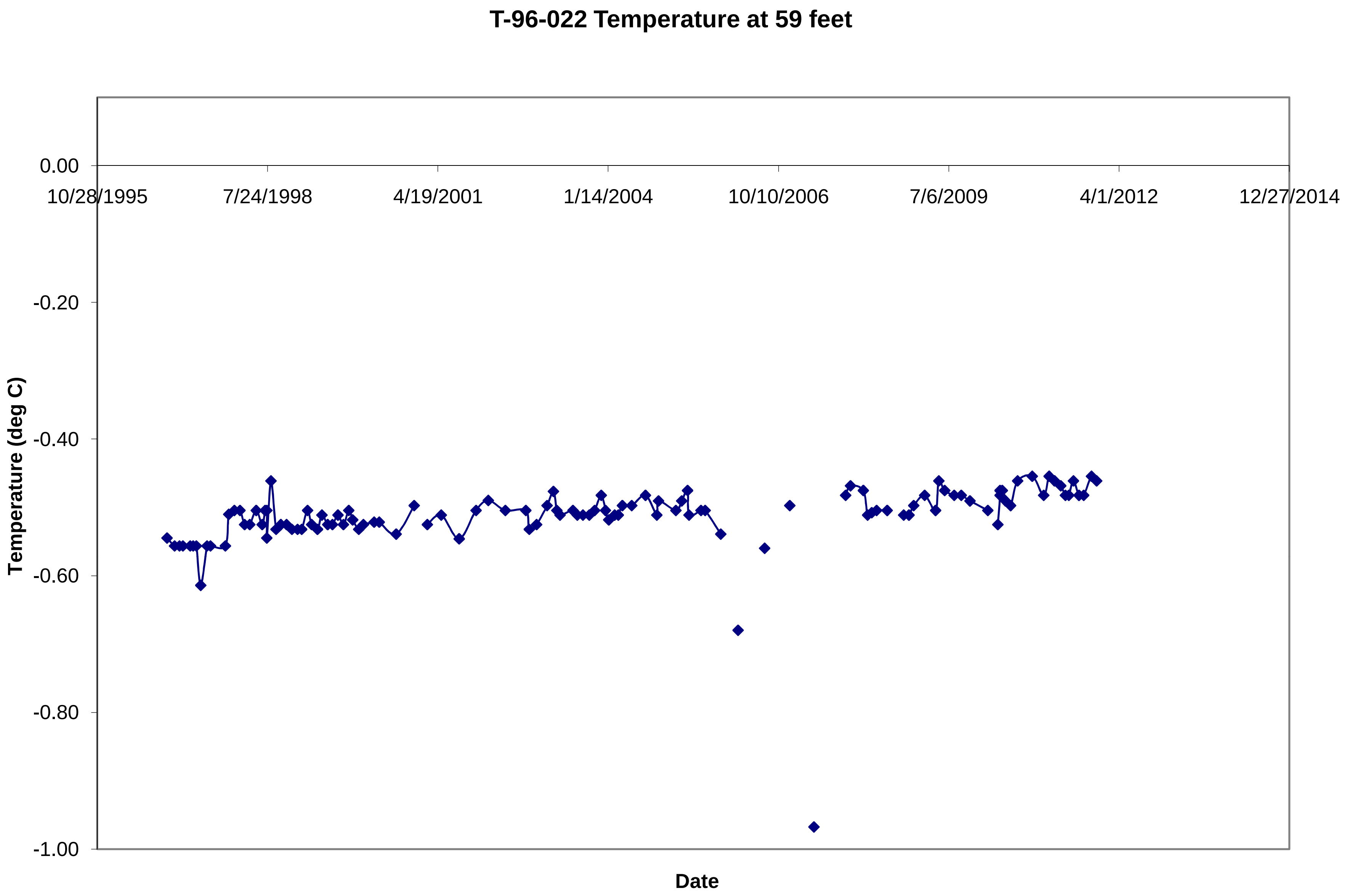
T-96-022 Temperature at 39 feet
Temperature (deg C)
0.10
0.05
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

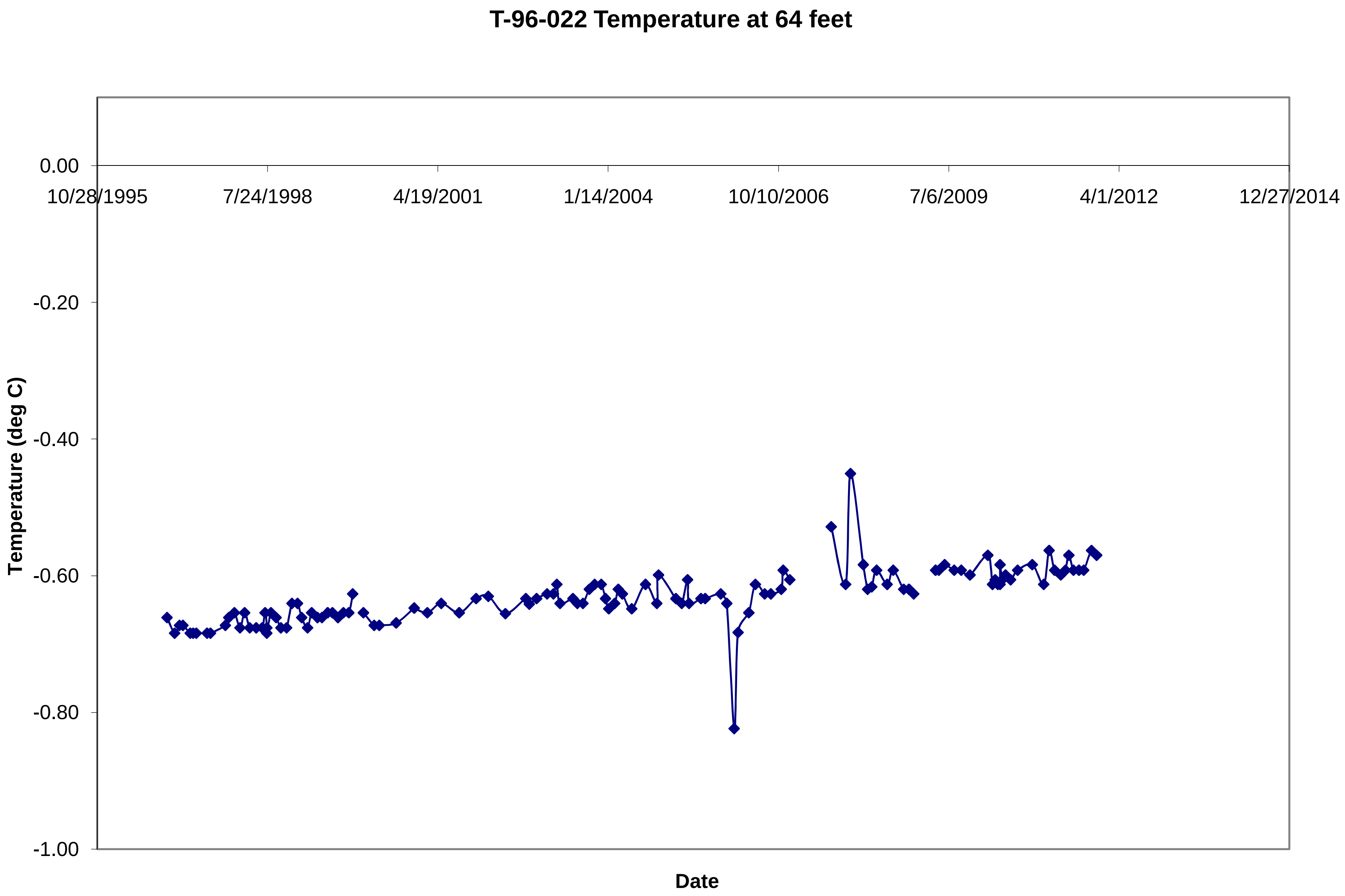


T-96-022 Temperature at 44 feet
0.10
-0.10
-0.30
-0.50
-0.70
-0.90
-1.10
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

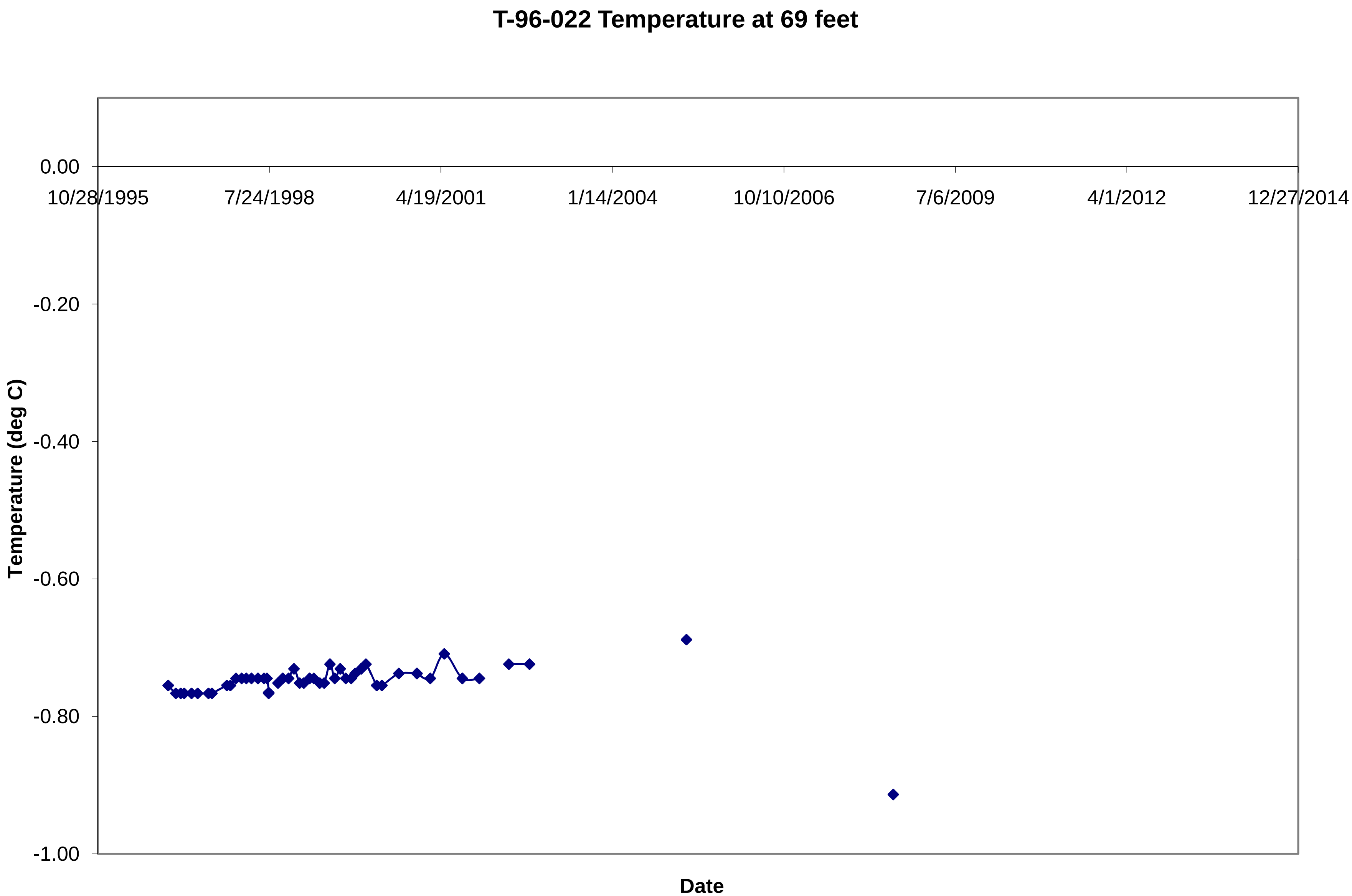

T-96-022 Temperature at 49 feet
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date


T-96-022 Temperature at 54 feet
0.10
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
-0.70
-0.80
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

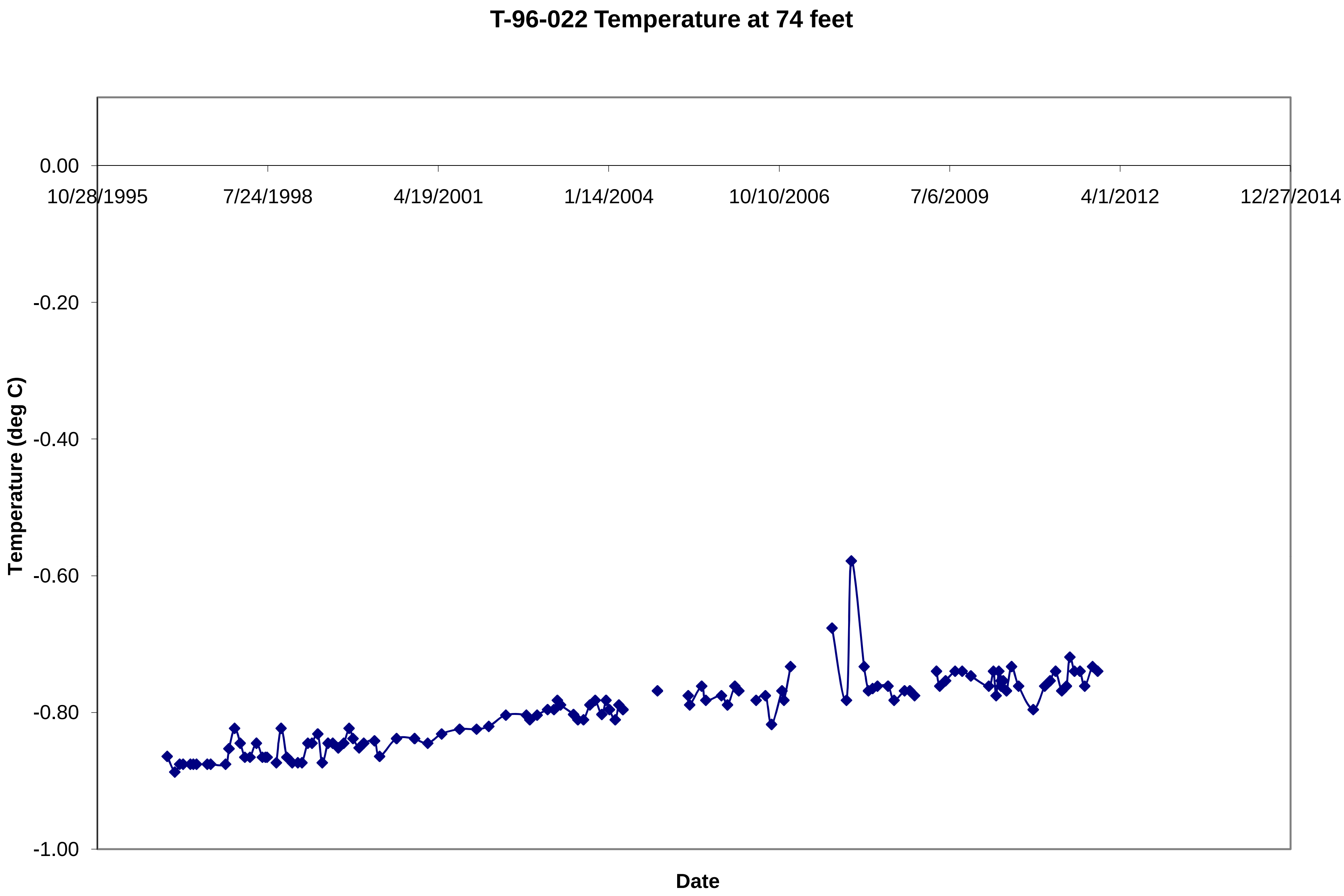

T-96-022 Temperature at 59 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



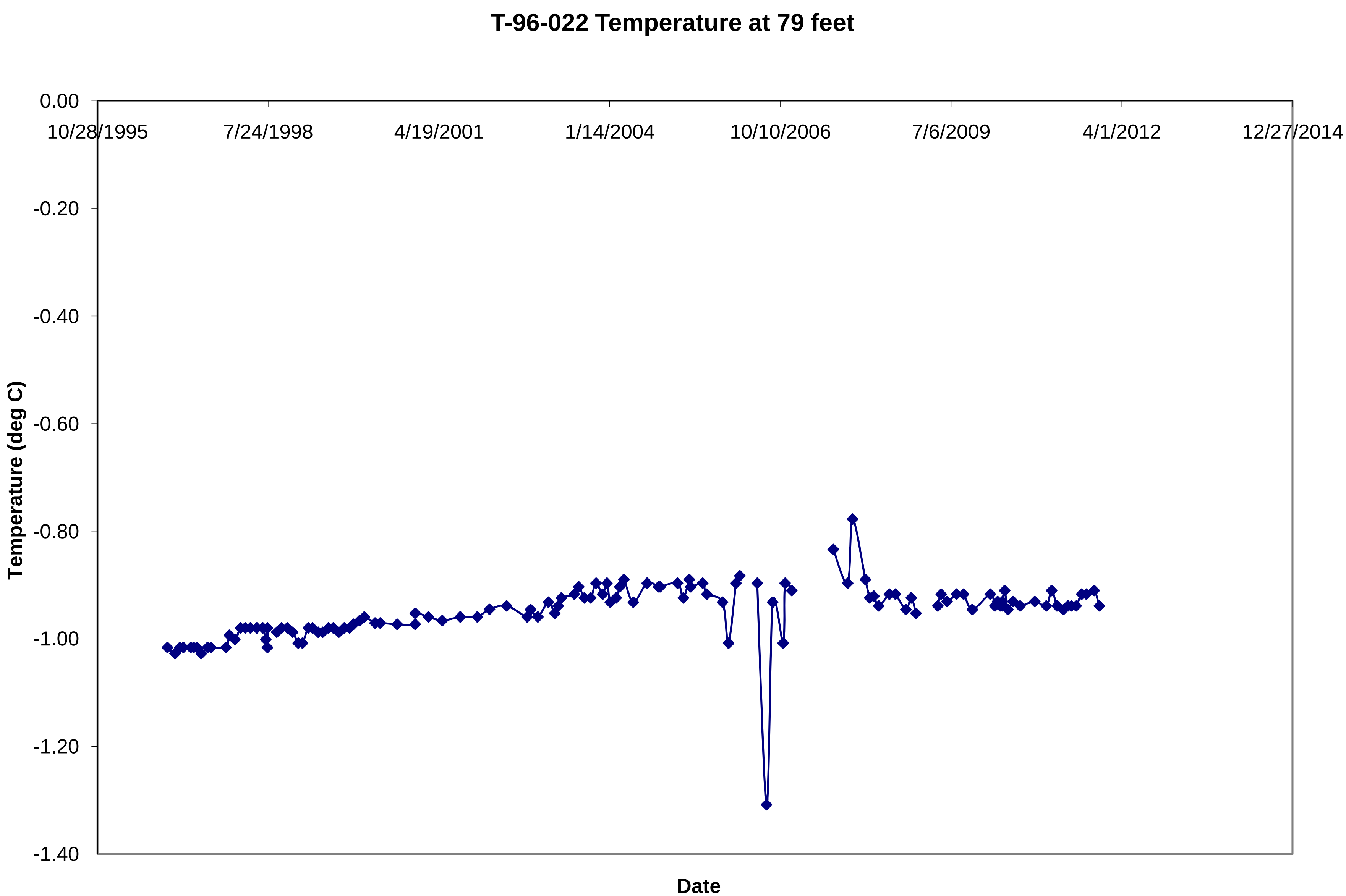
T-96-022 Temperature at 64 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



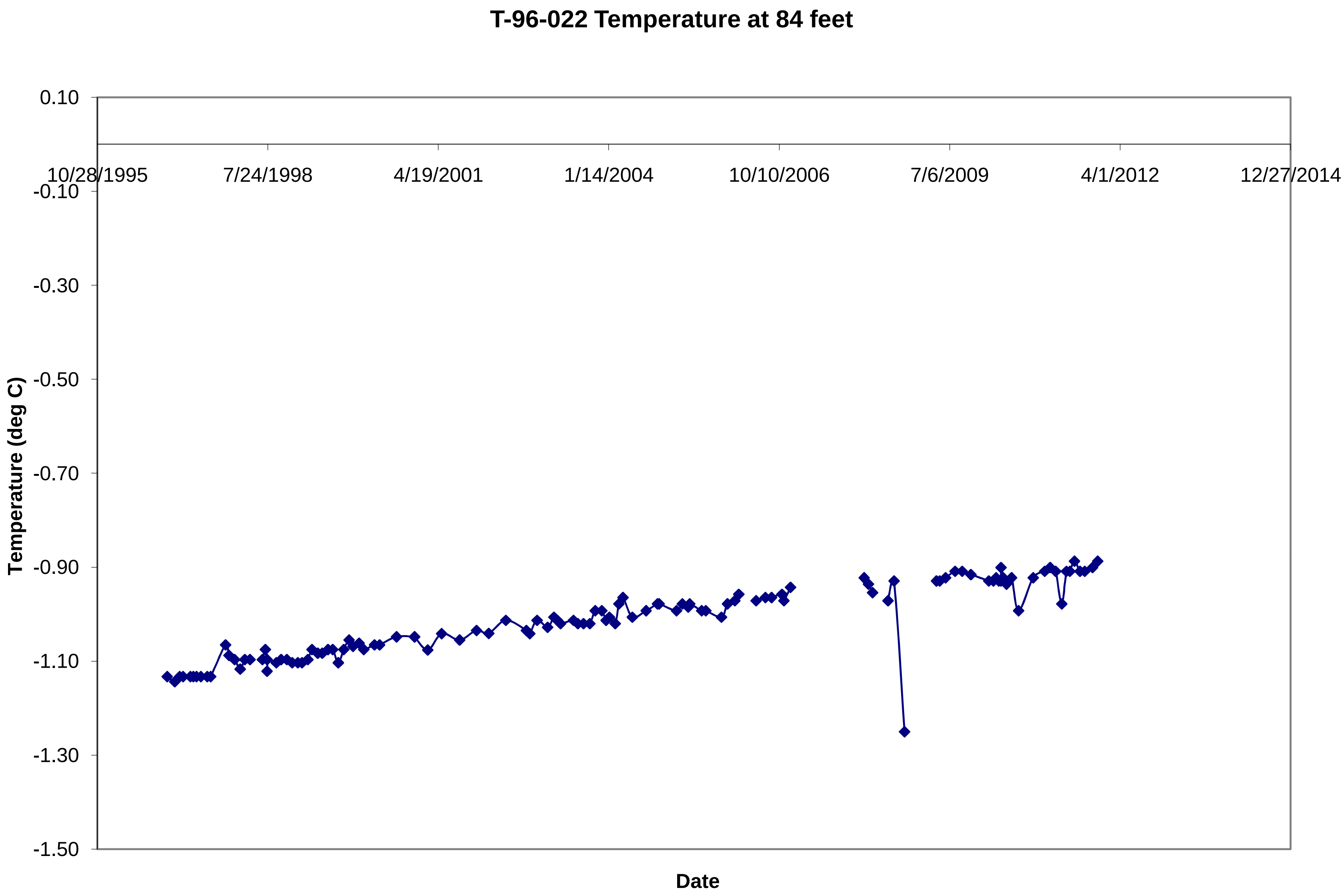
T-96-022 Temperature at 69 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

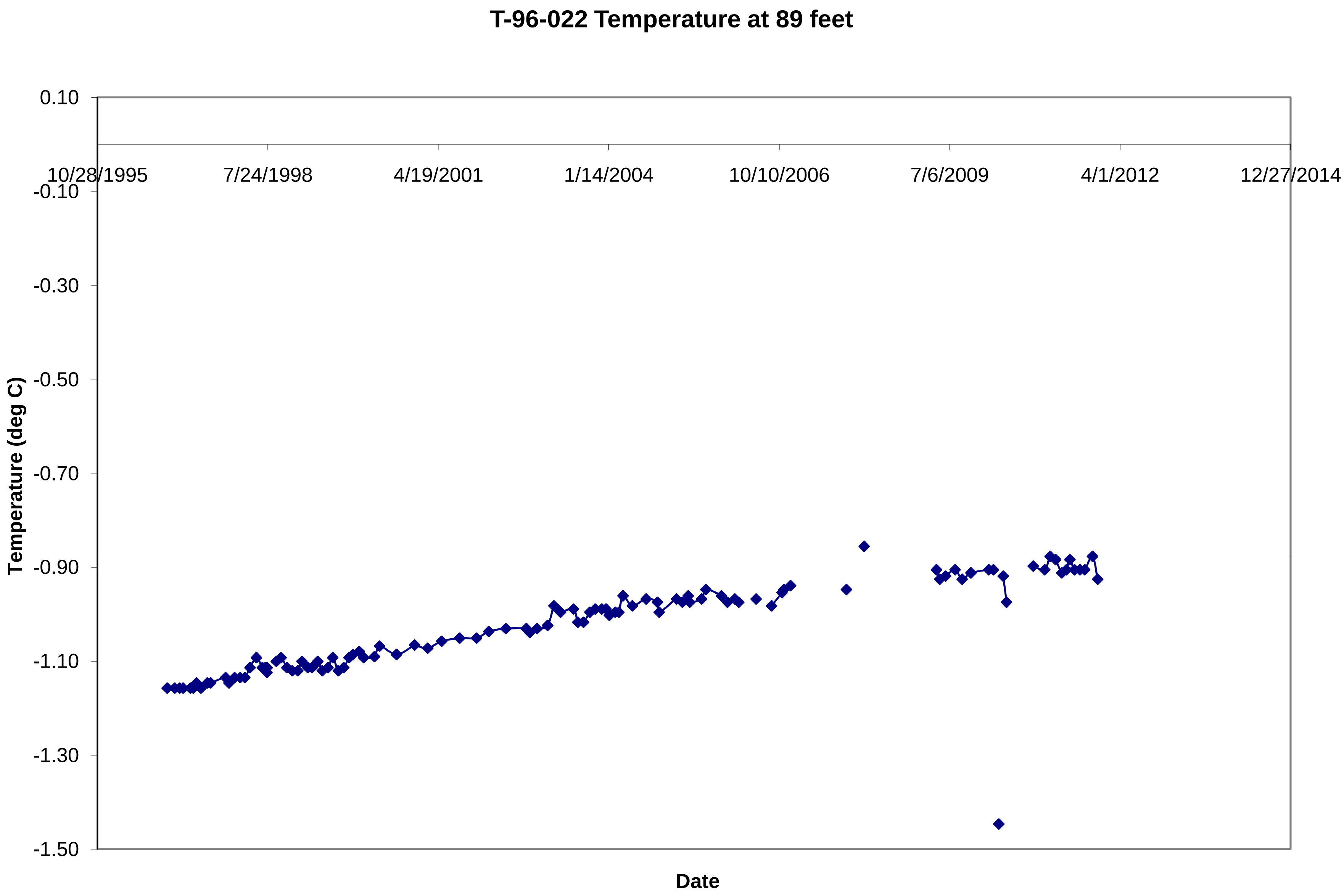


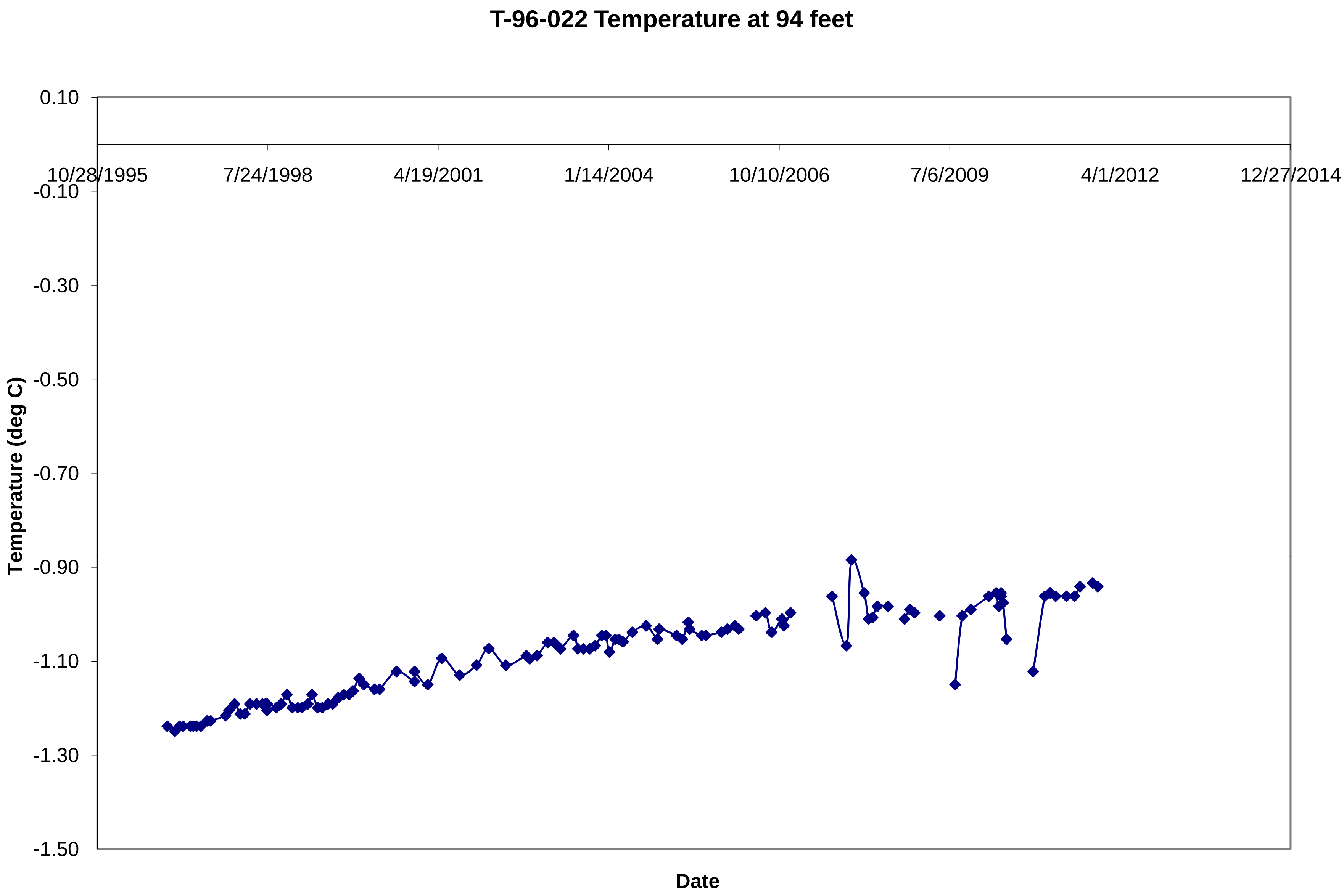
T-96-022 Temperature at 74 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



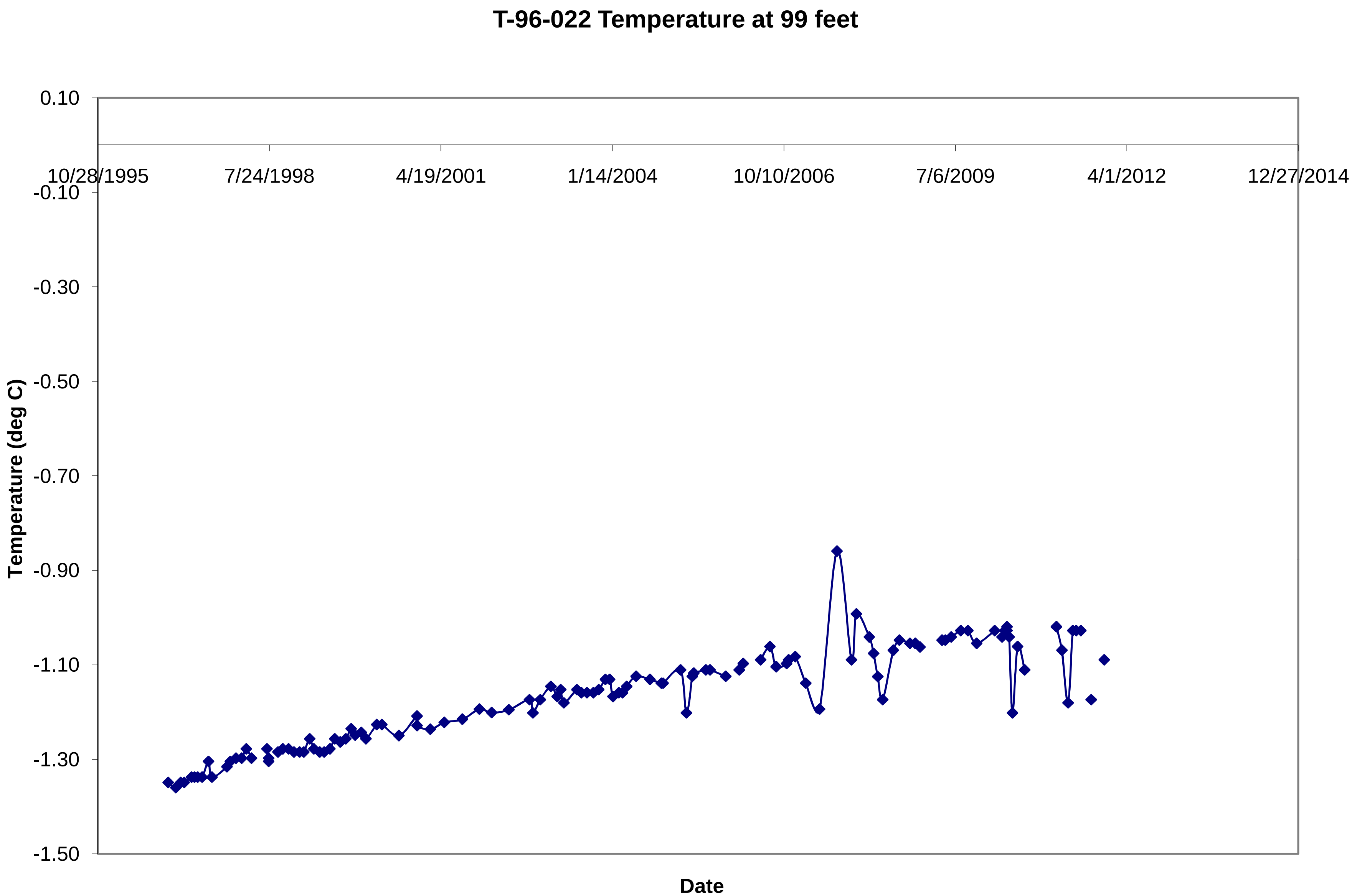
T-96-022 Temperature at 79 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

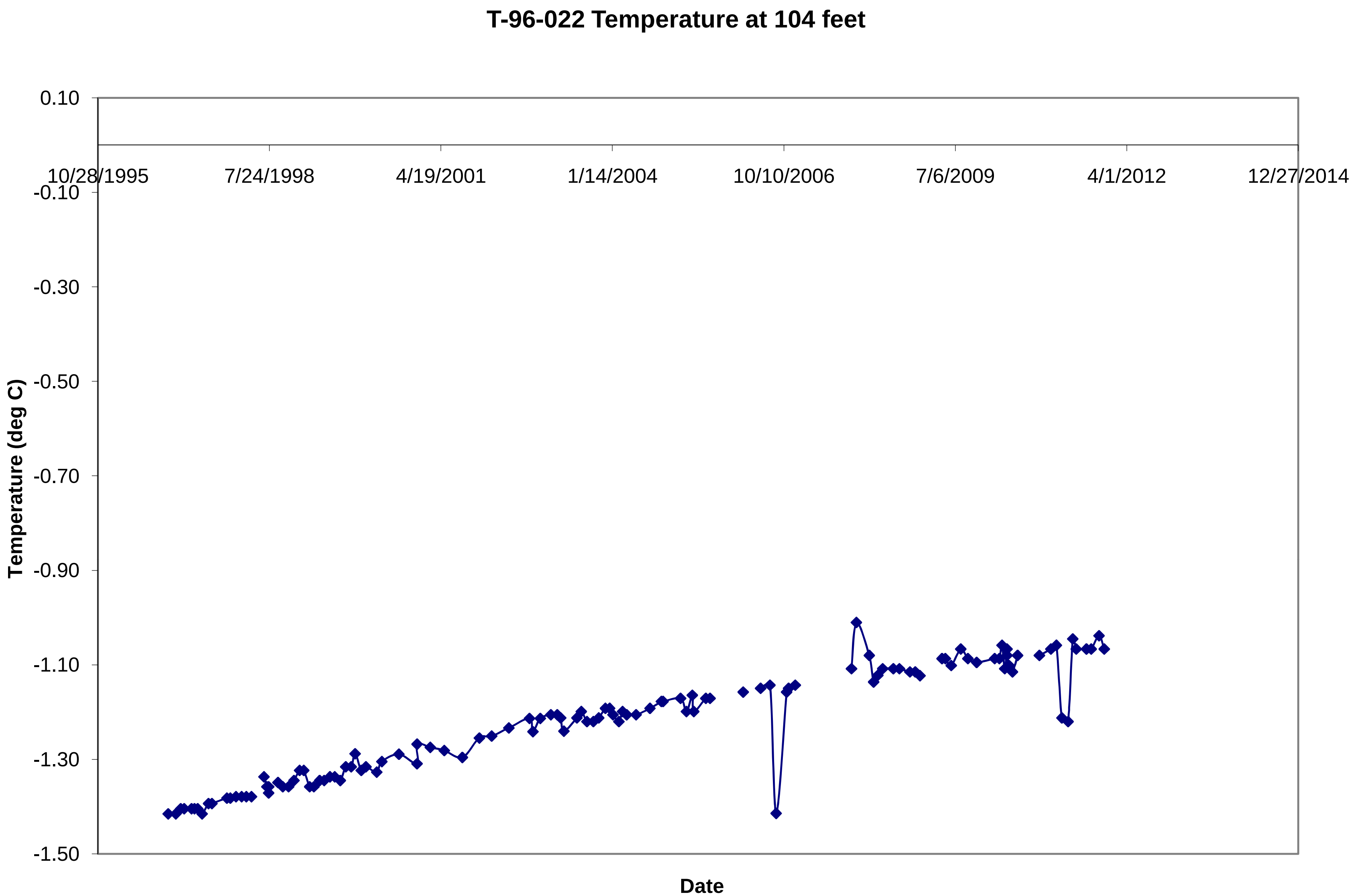

T-96-022 Temperature at 84 feet
Temperature (deg C)
0.10
-0.10
-0.30
-0.50
-0.70
-0.90
-1.10
-1.30
-1.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-96-022 Temperature at 89 feet
Temperature (deg C)
0.10
-0.10
-0.30
-0.50
-0.70
-0.90
-1.10
-1.30
-1.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

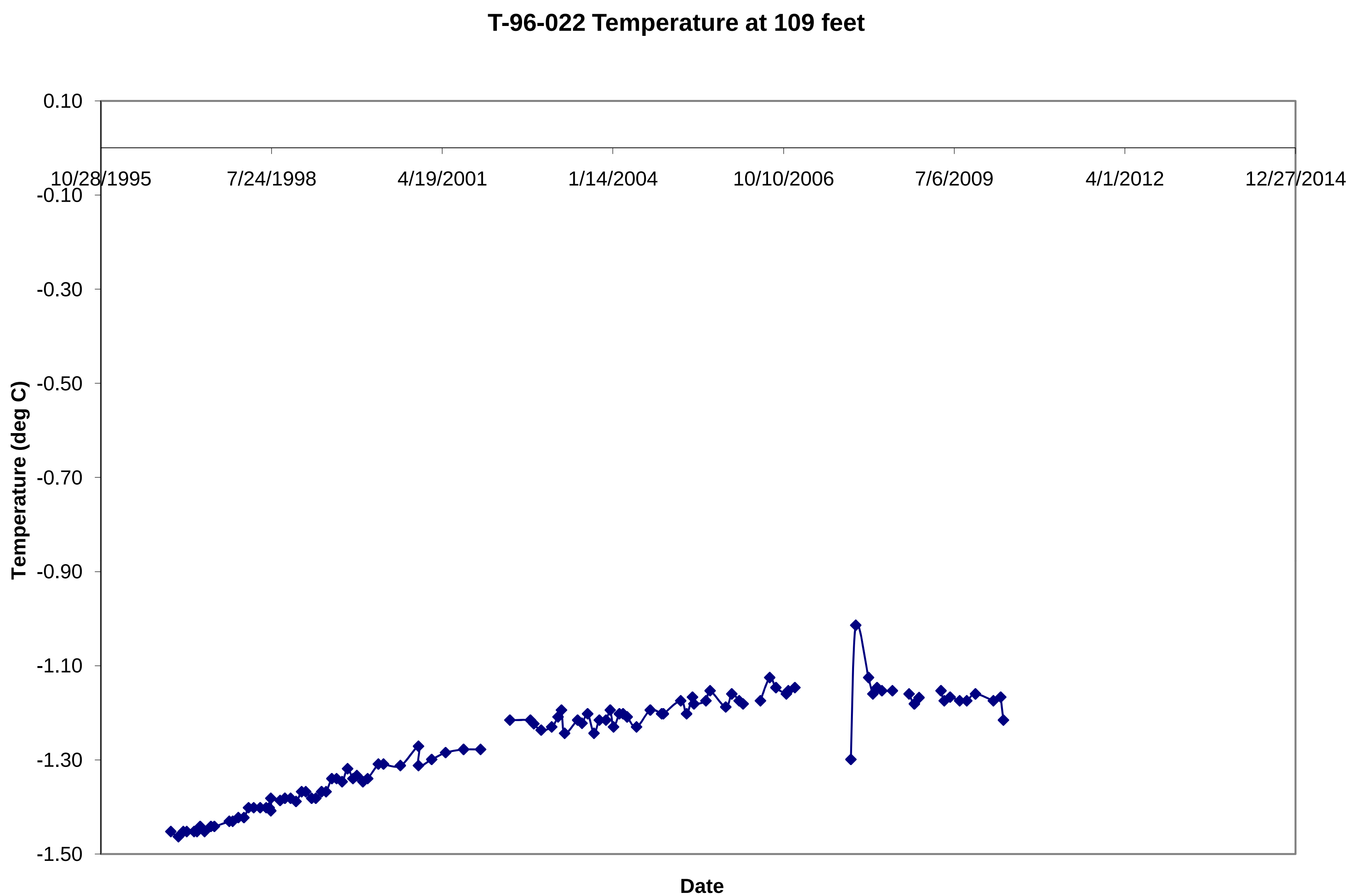


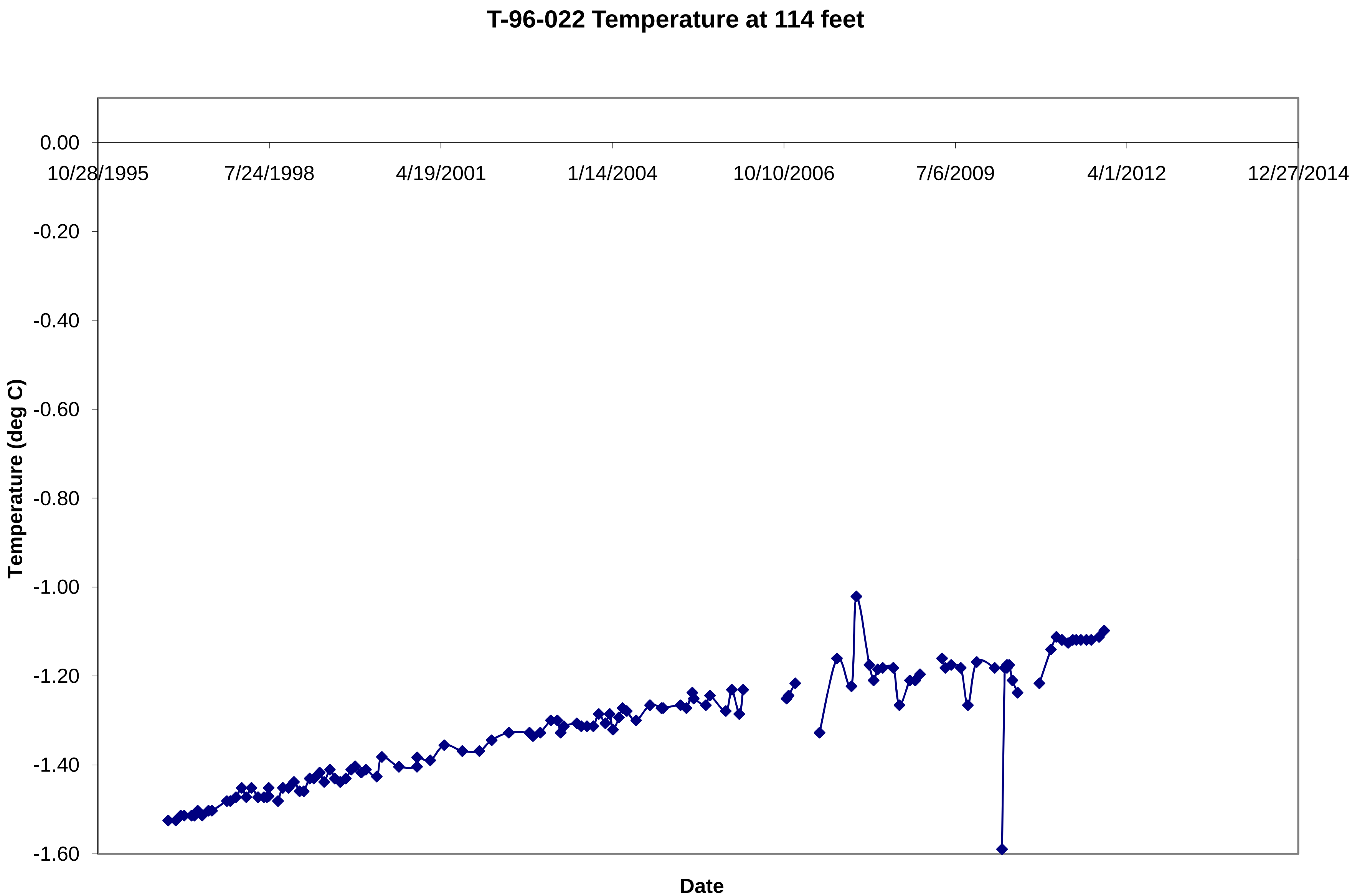
T-96-022 Temperature at 94 feet
0.10
-0.10
-0.30
-0.50
-0.70
-0.90
-1.10
-1.30
-1.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date


T-96-022 Temperature at 99 feet
Temperature (deg C)
0.10
-0.10
-0.30
-0.50
-0.70
-0.90
-1.10
-1.30
-1.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

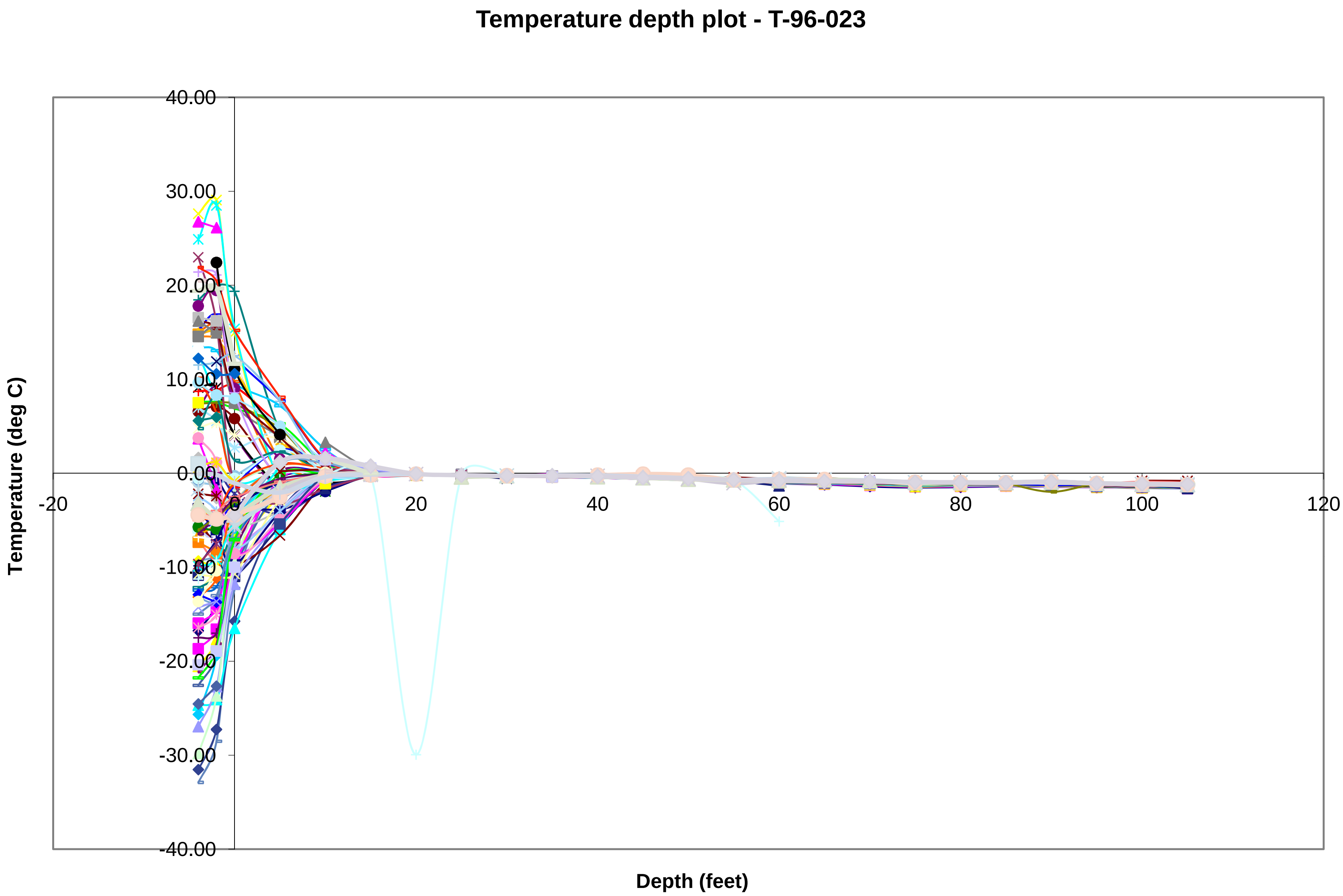


T-96-022 Temperature at 104 feet
0.10
-0.10
-0.30
-0.50
-0.70
-0.90
-1.10
-1.30
-1.50
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

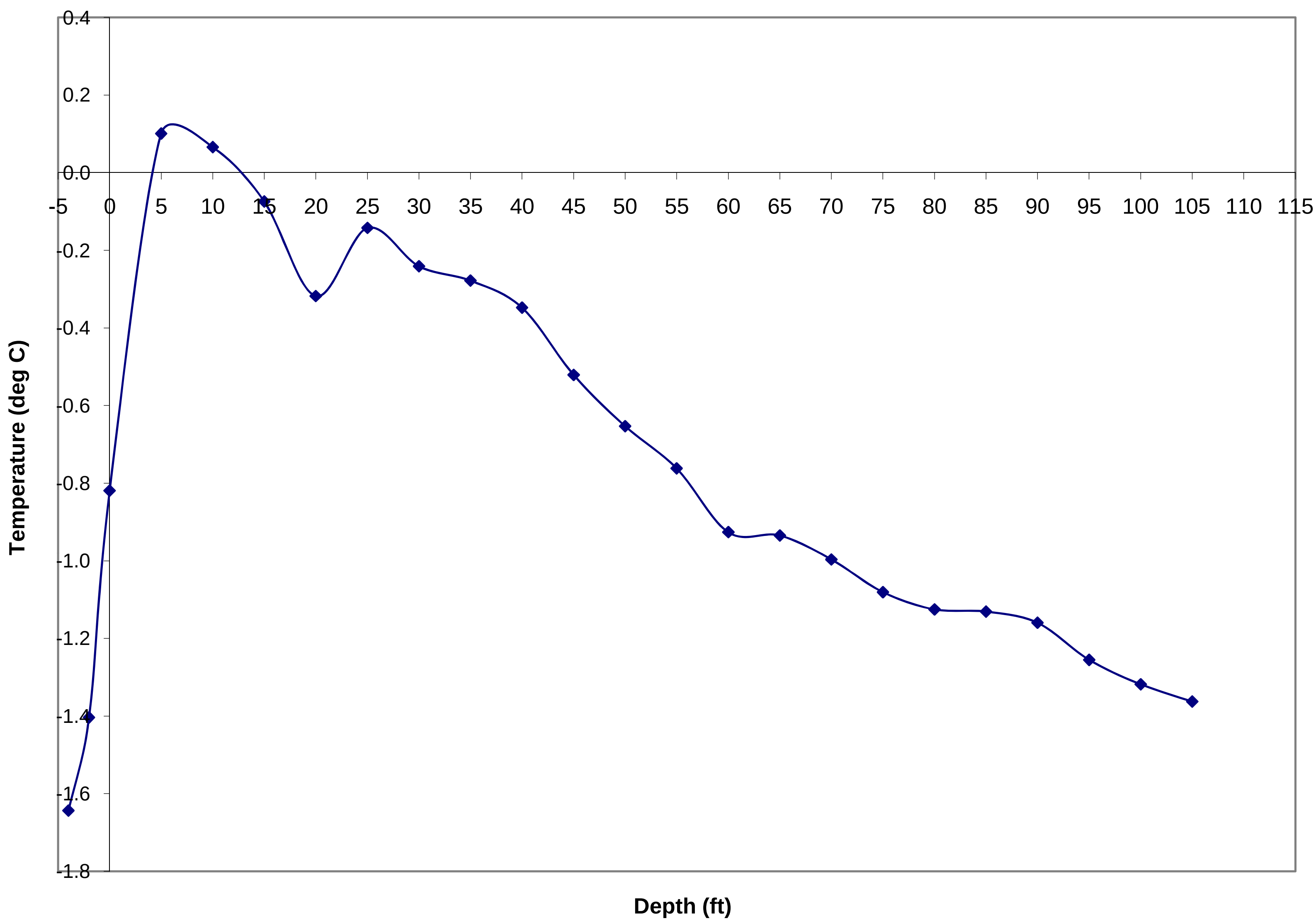

T-96-022 Temperature at 109 feet
0.10
-0.10
-0.30
-0.50
-0.70
-0.90
-1.10
-1.30
-1.50
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

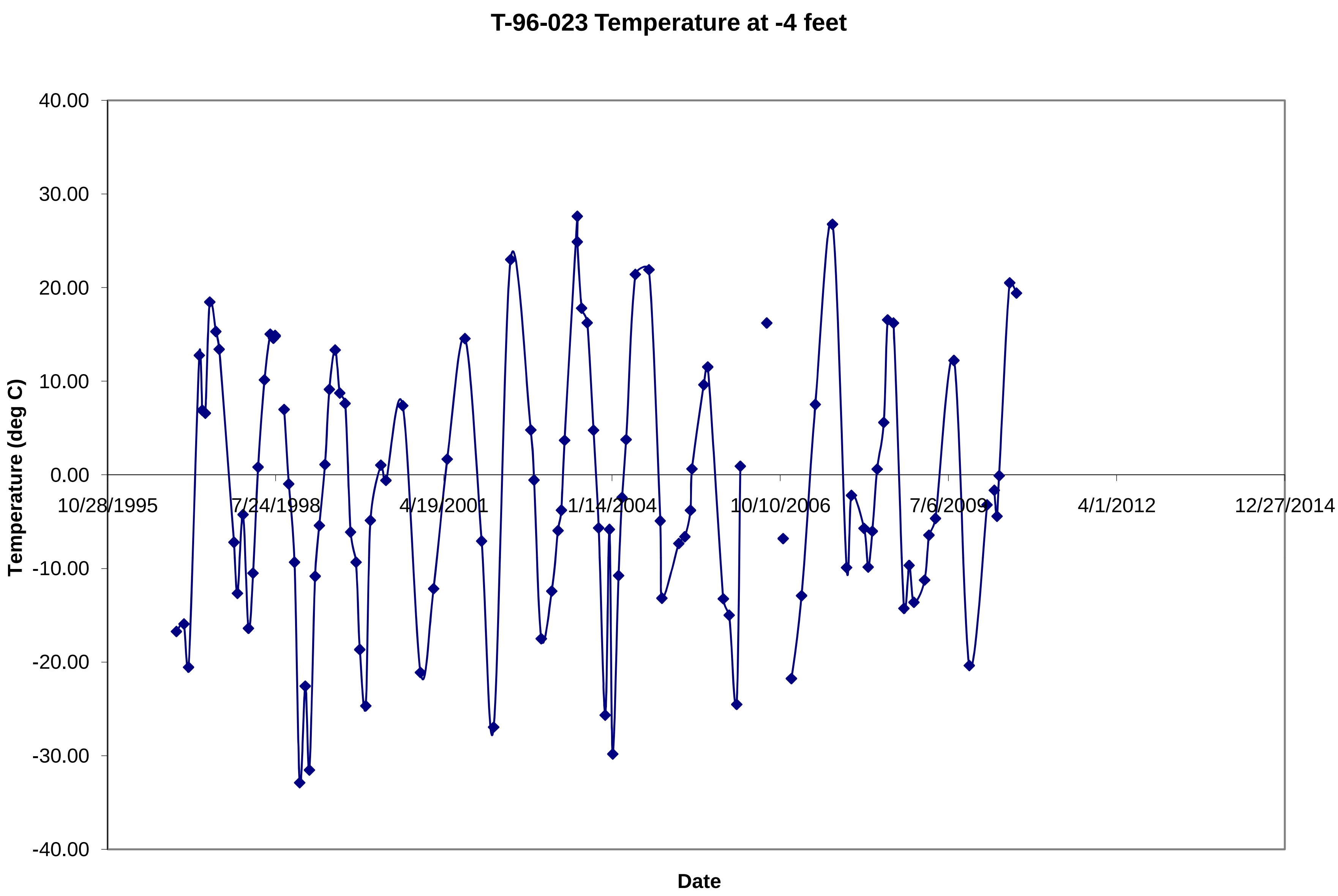

T-96-022 Temperature at 114 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

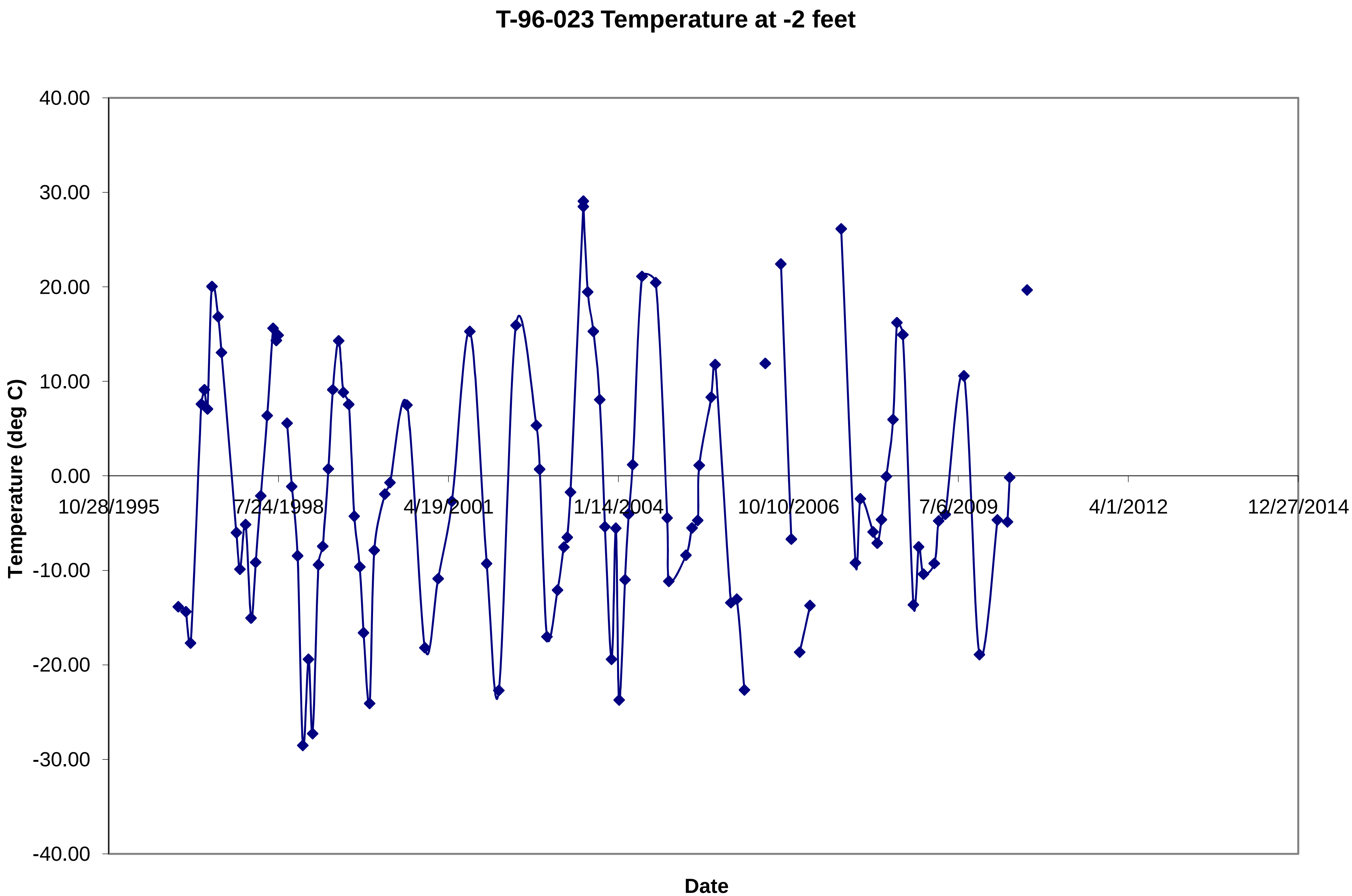
T-96-023

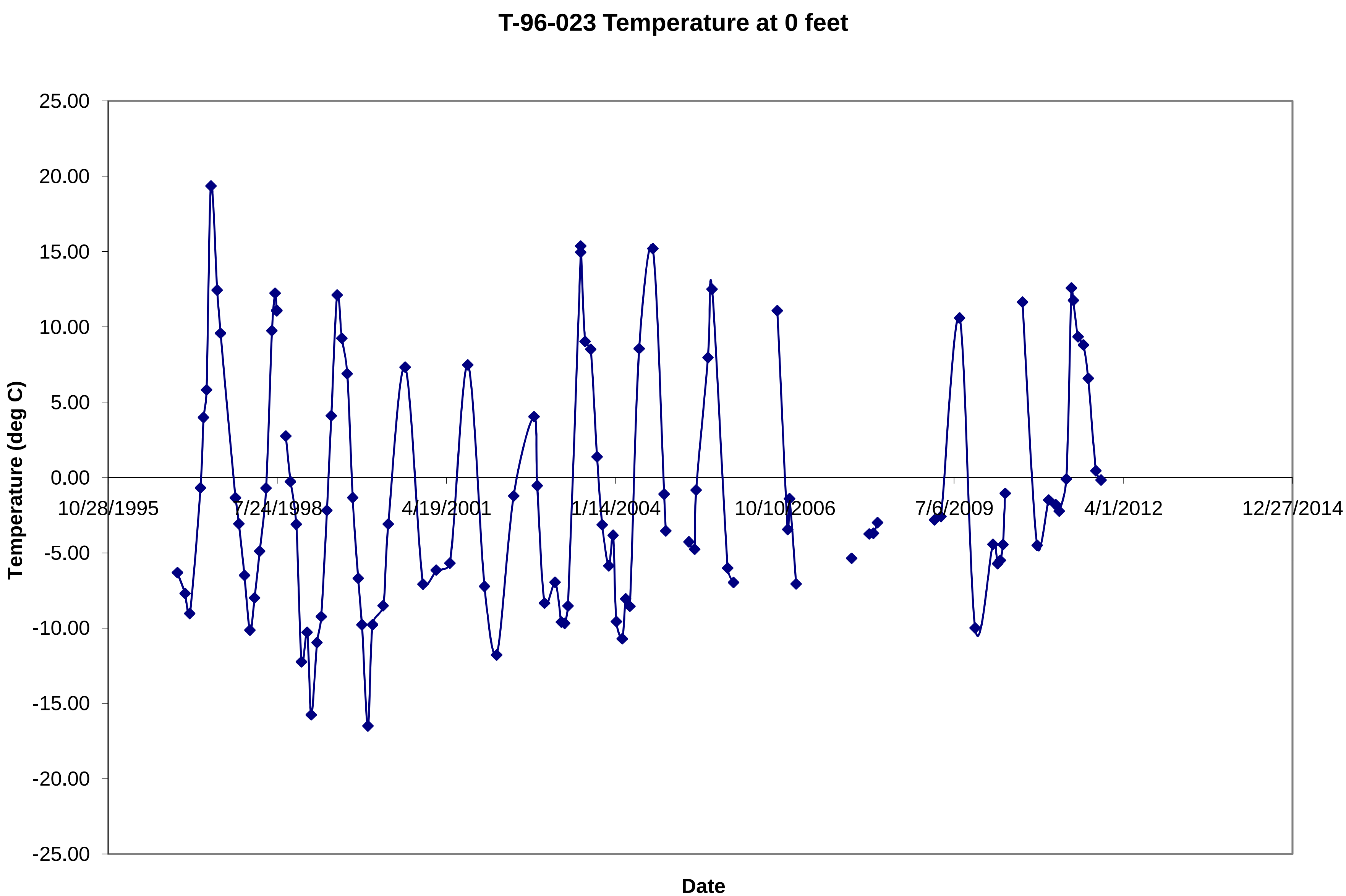

Temperature depth plot - T-96-023
Temperature (deg C)
Depth (feet)
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00
-20
0
20
40
60
80
100
120

Average Temperature Depth Plot for T-96-023

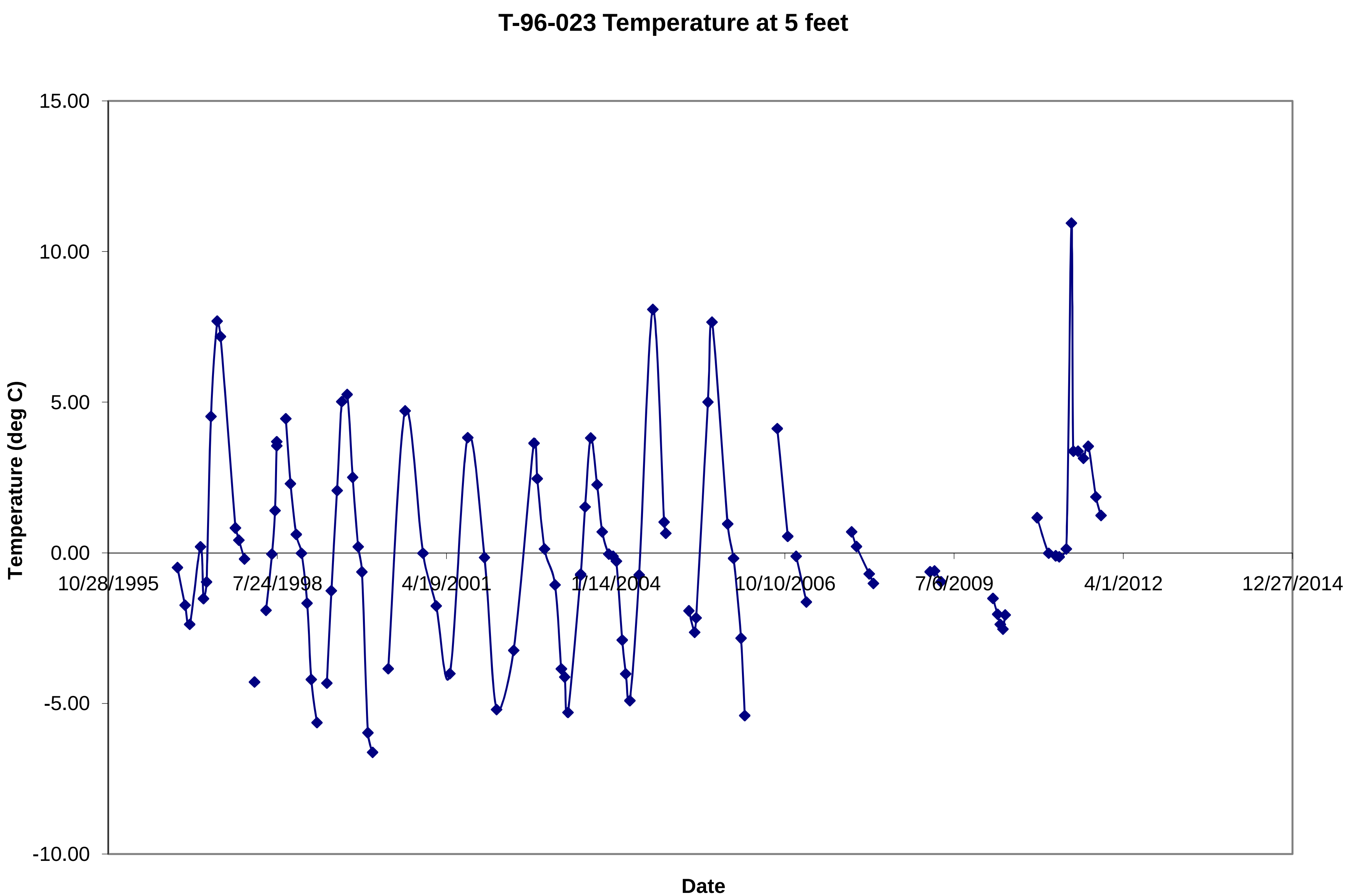



T-96-023 Temperature at -4 feet
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

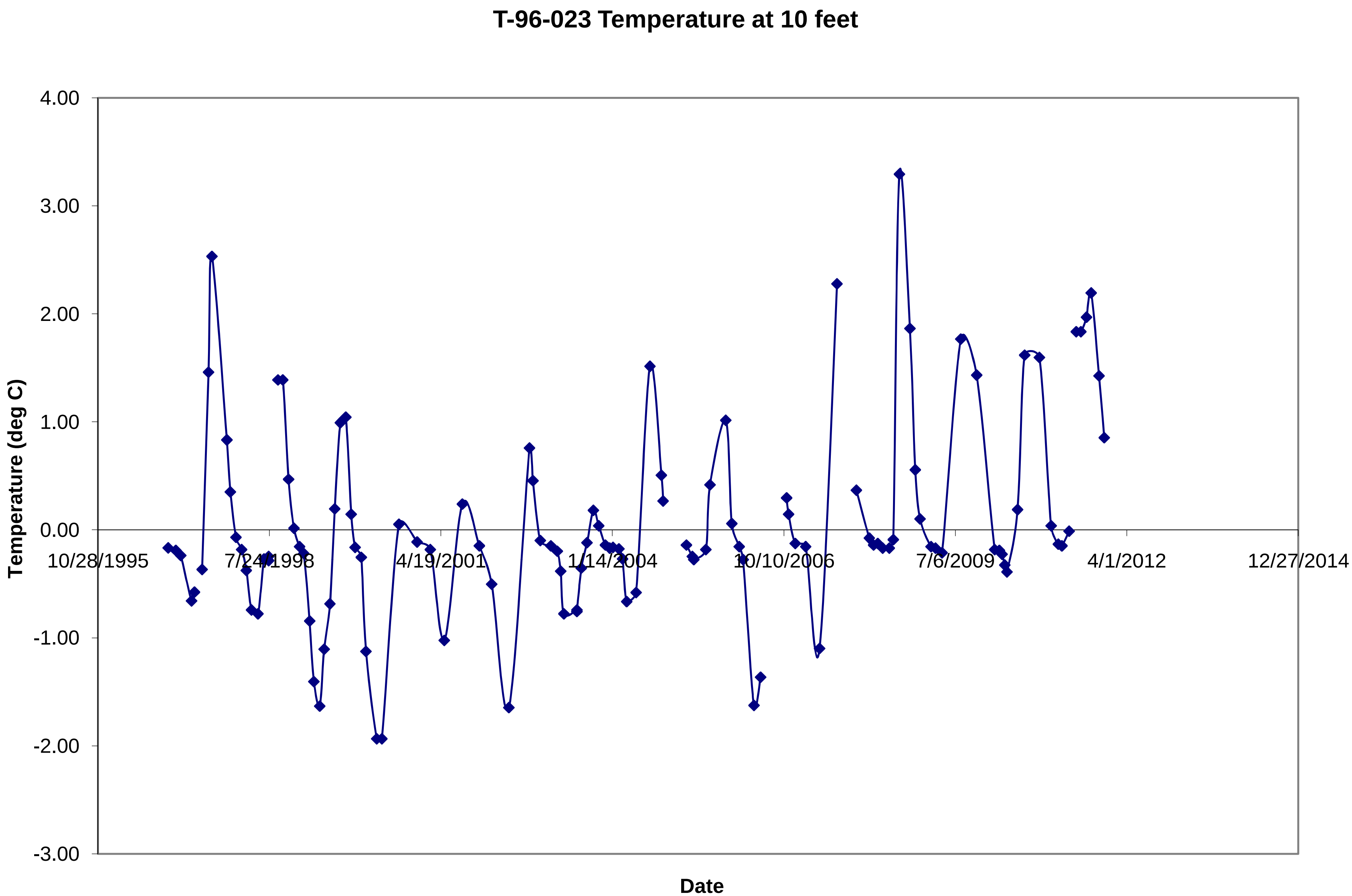

T-96-023 Temperature at -2 feet
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-30.00
-40.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

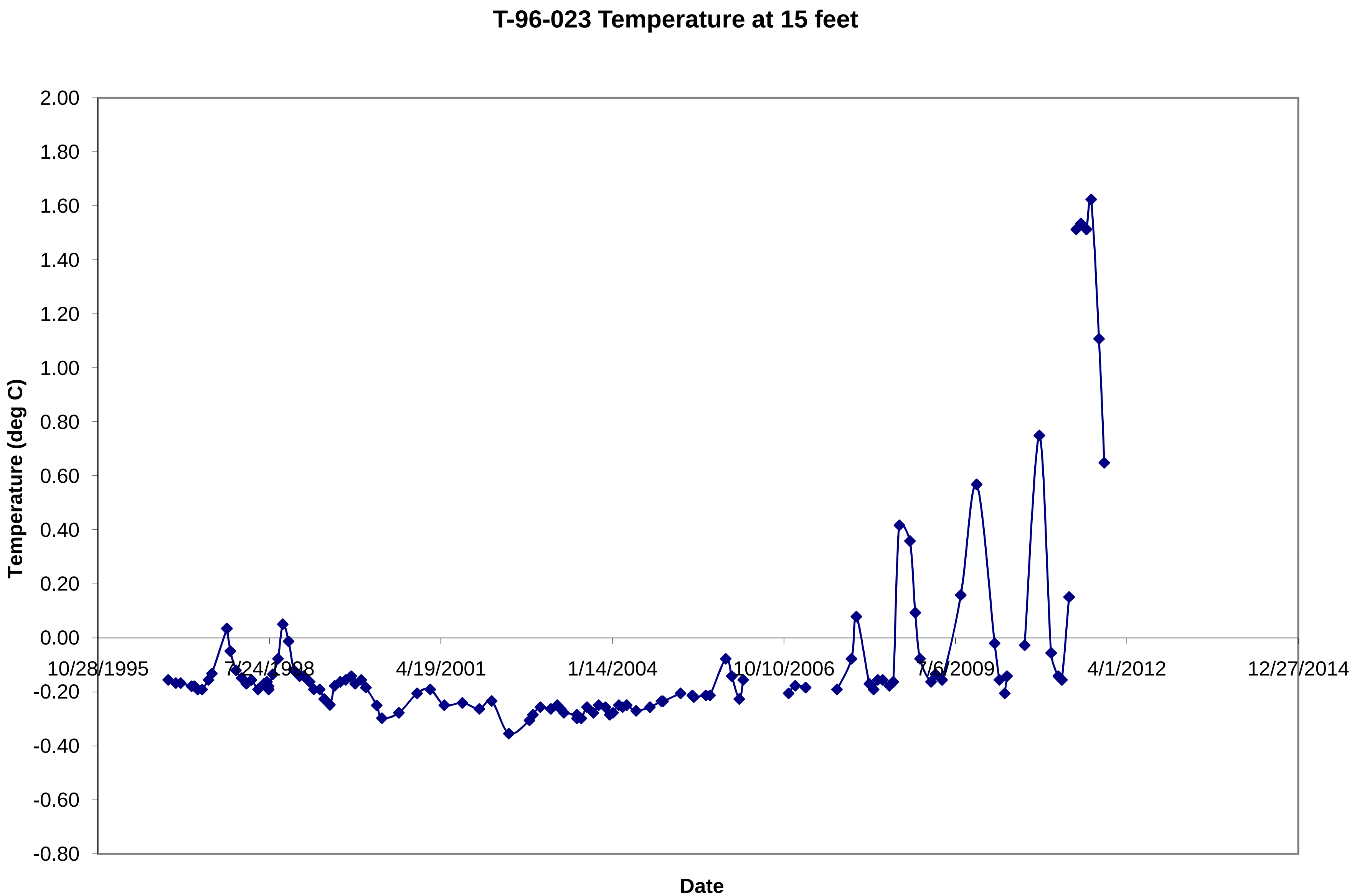


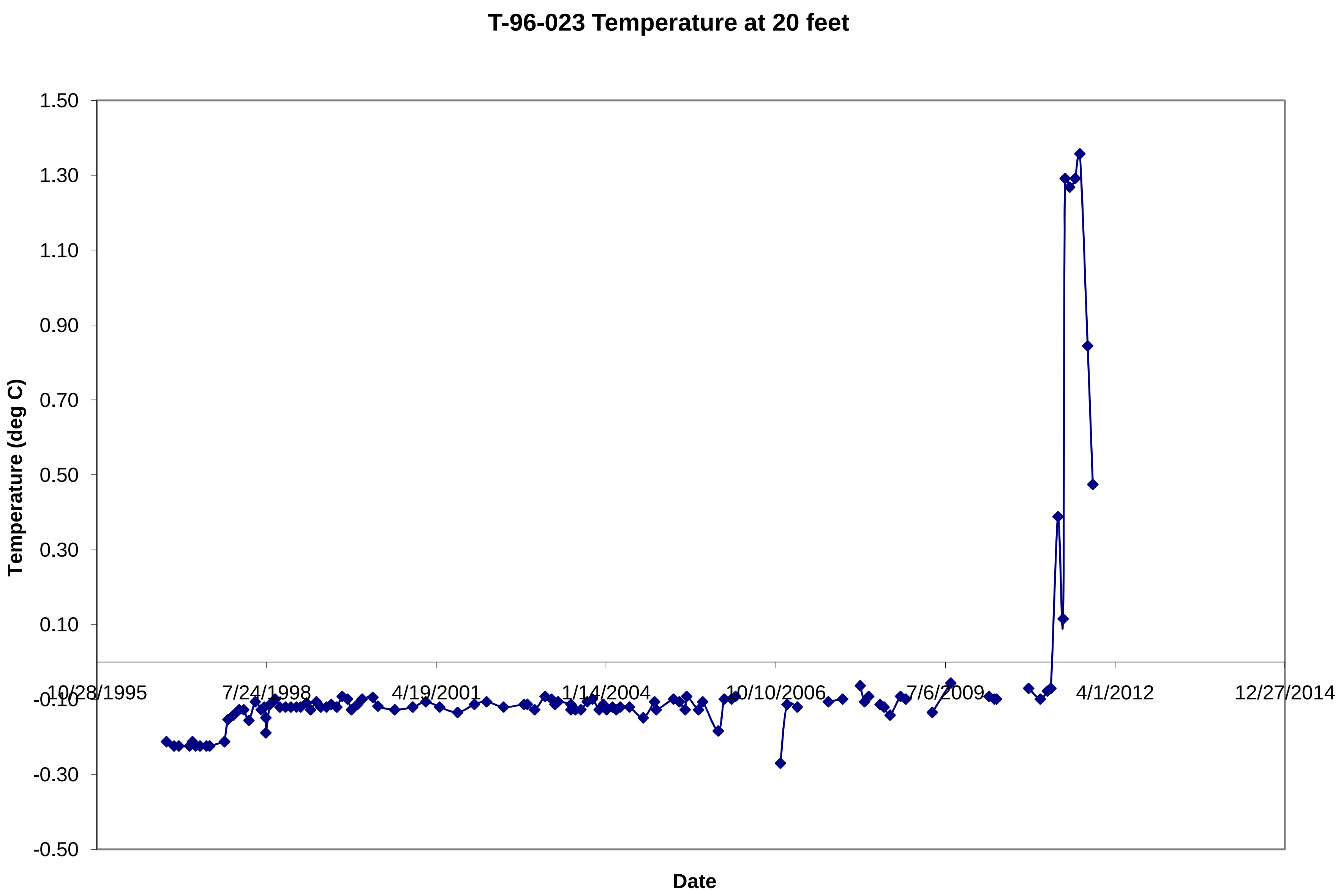
T-96-023 Temperature at 0 feet
Temperature (deg C)
25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00
-20.00
-25.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



T-96-023 Temperature at 5 feet
15.00
10.00
5.00
0.00
-5.00
-10.00
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

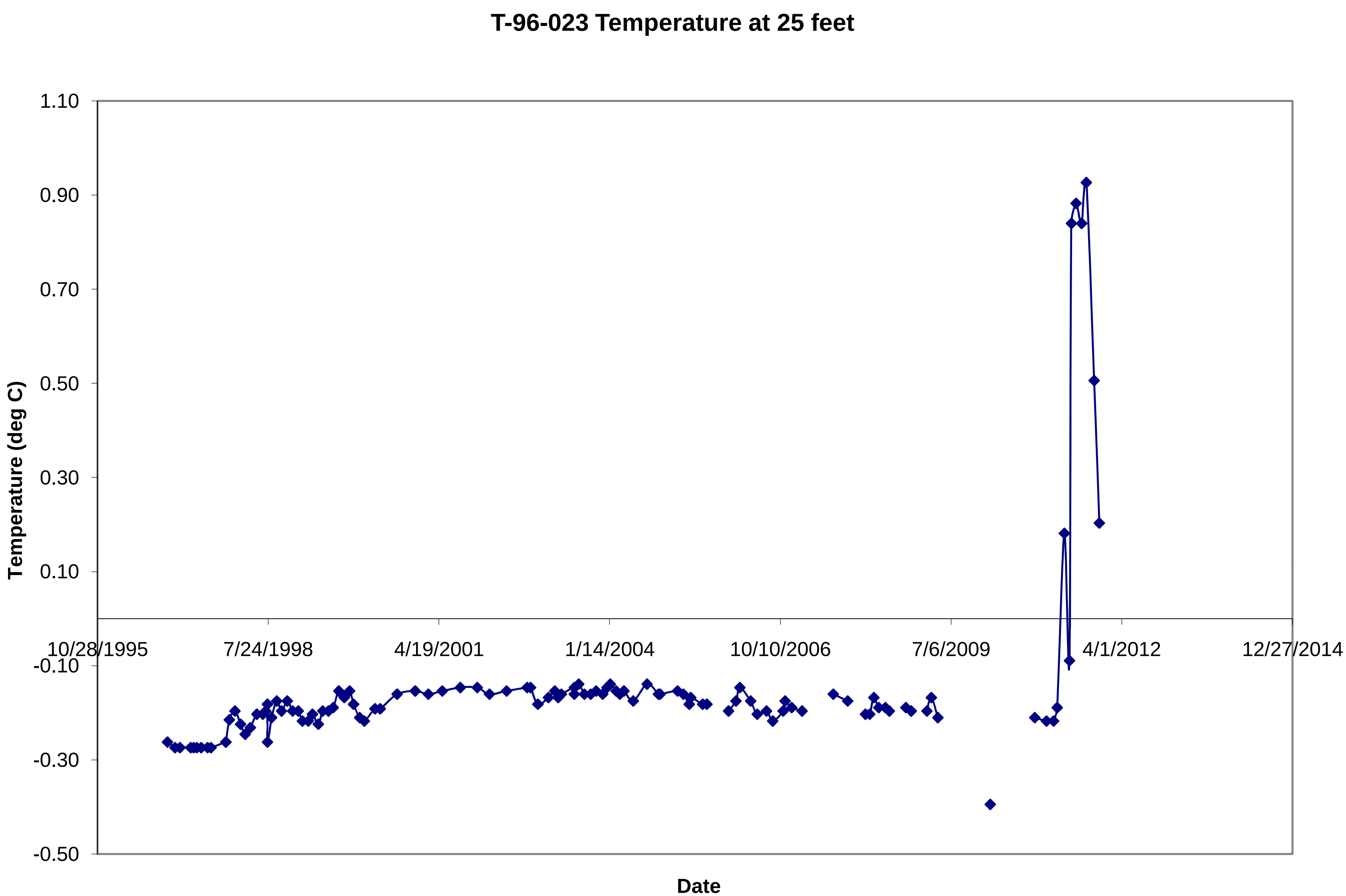

T-96-023 Temperature at 10 feet
Temperature (deg C)
4.00
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

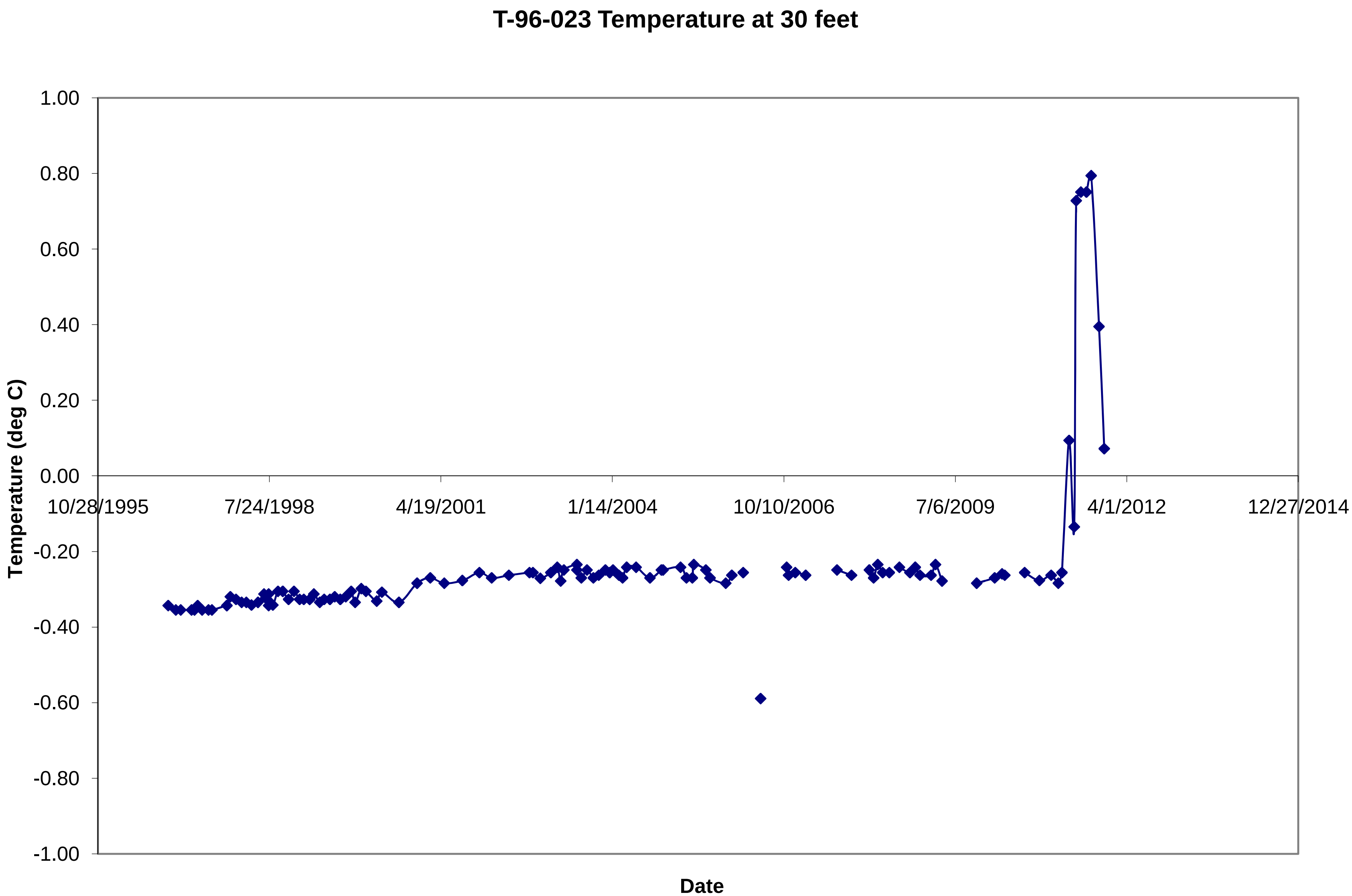

T-96-023 Temperature at 15 feet
Temperature (deg C)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
-0.20
-0.40
-0.60
-0.80
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



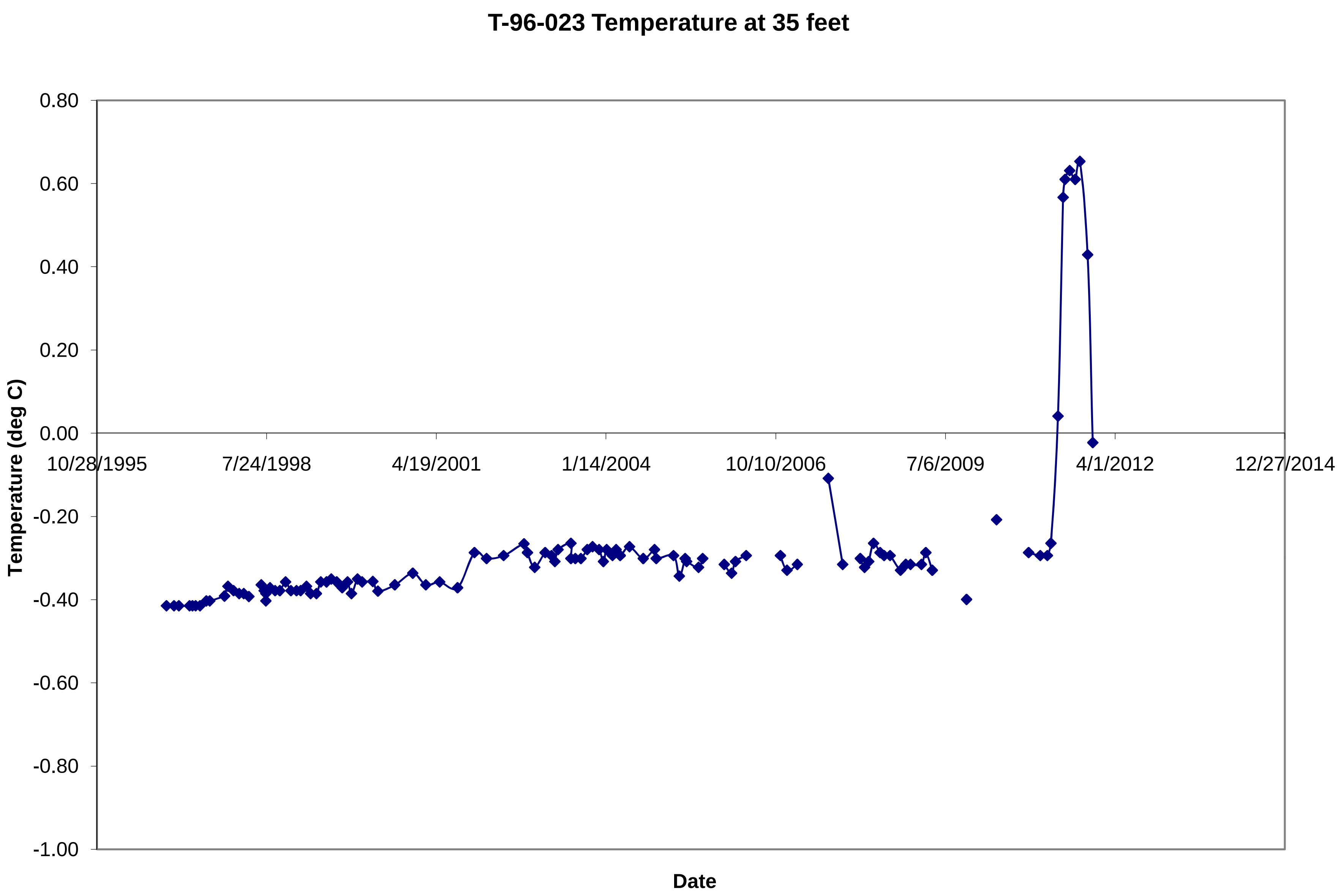
T-96-023 Temperature at 20 feet
Temperature (deg C)
1.50
1.30
1.10
0.90
0.70
0.50
0.30
0.10
-0.10
-0.30
-0.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

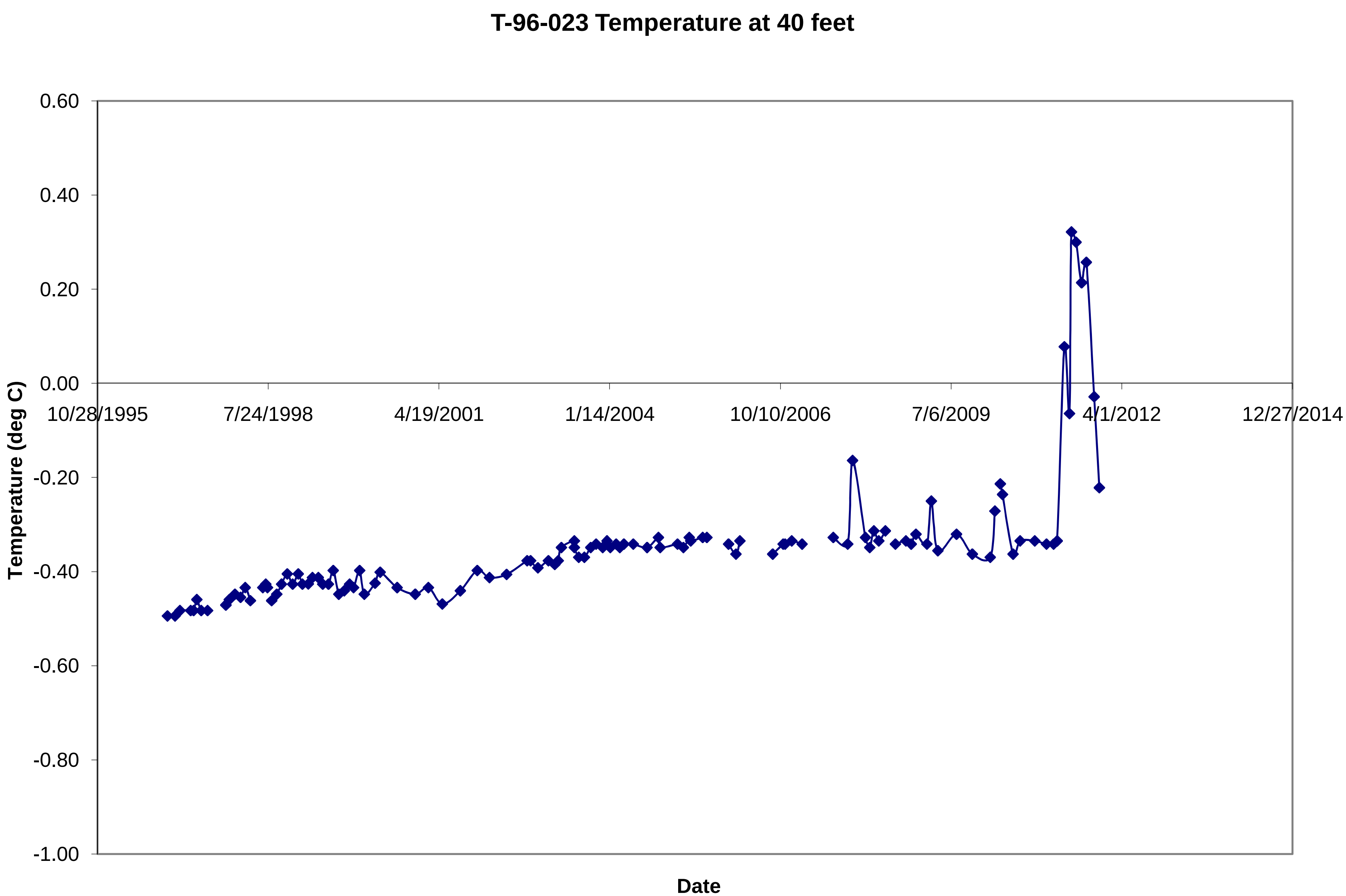
T-96-023 Temperature at 25 feet



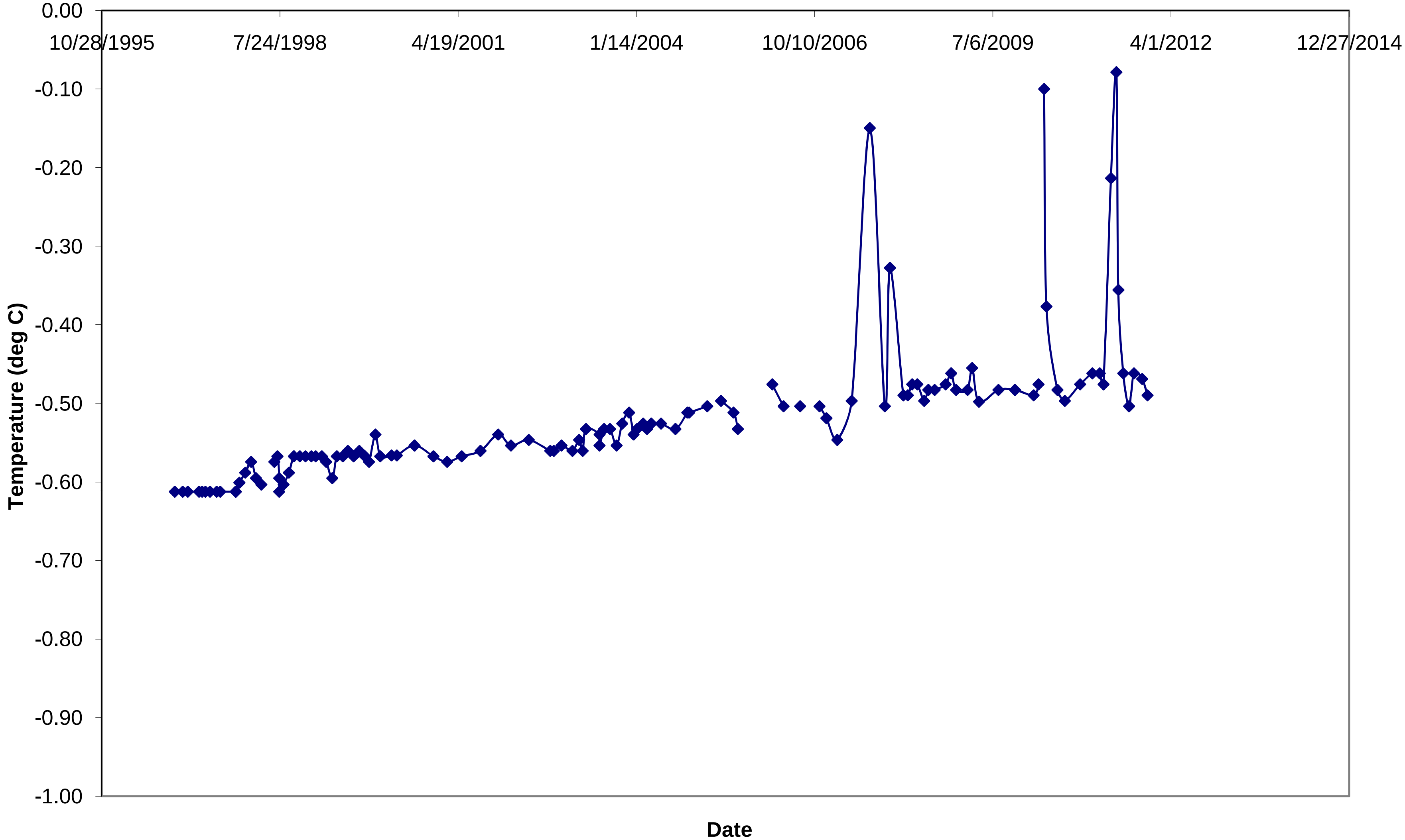


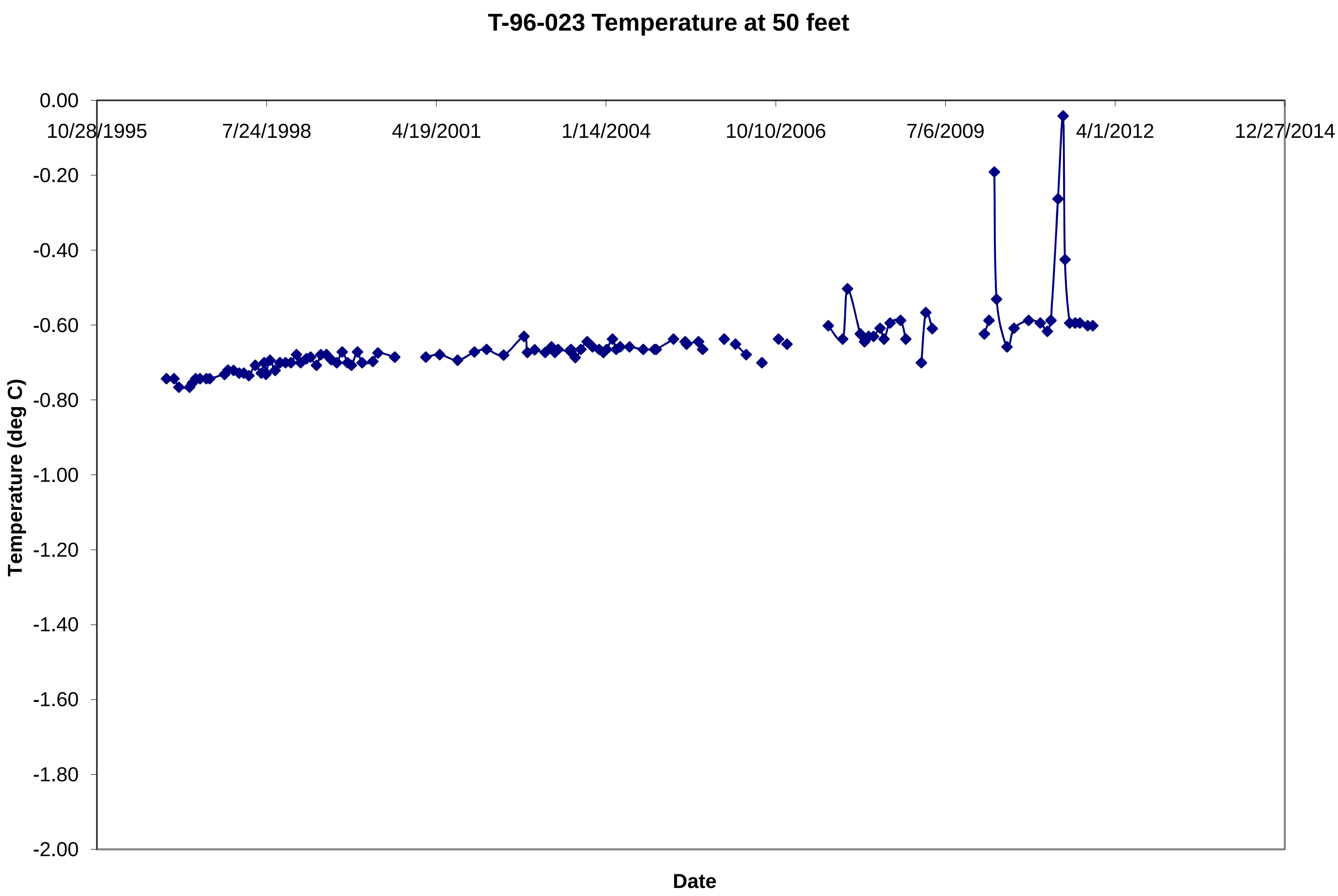
T-96-023 Temperature at 30 feet
Temperature (deg C)
1.00
0.80
0.60
0.40
0.20
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

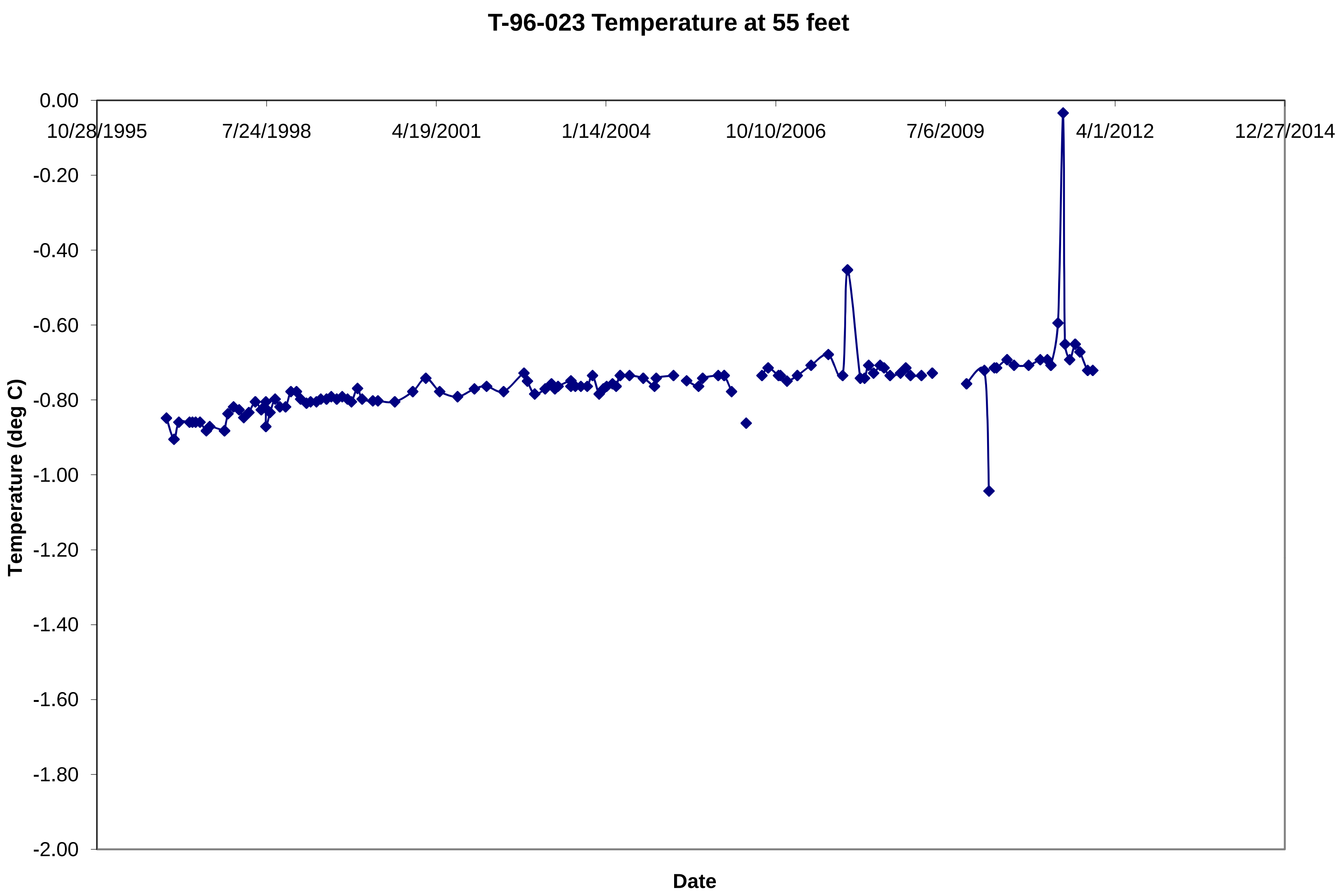

T-96-023 Temperature at 35 feet
Temperature (deg C)
0.80
0.60
0.40
0.20
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

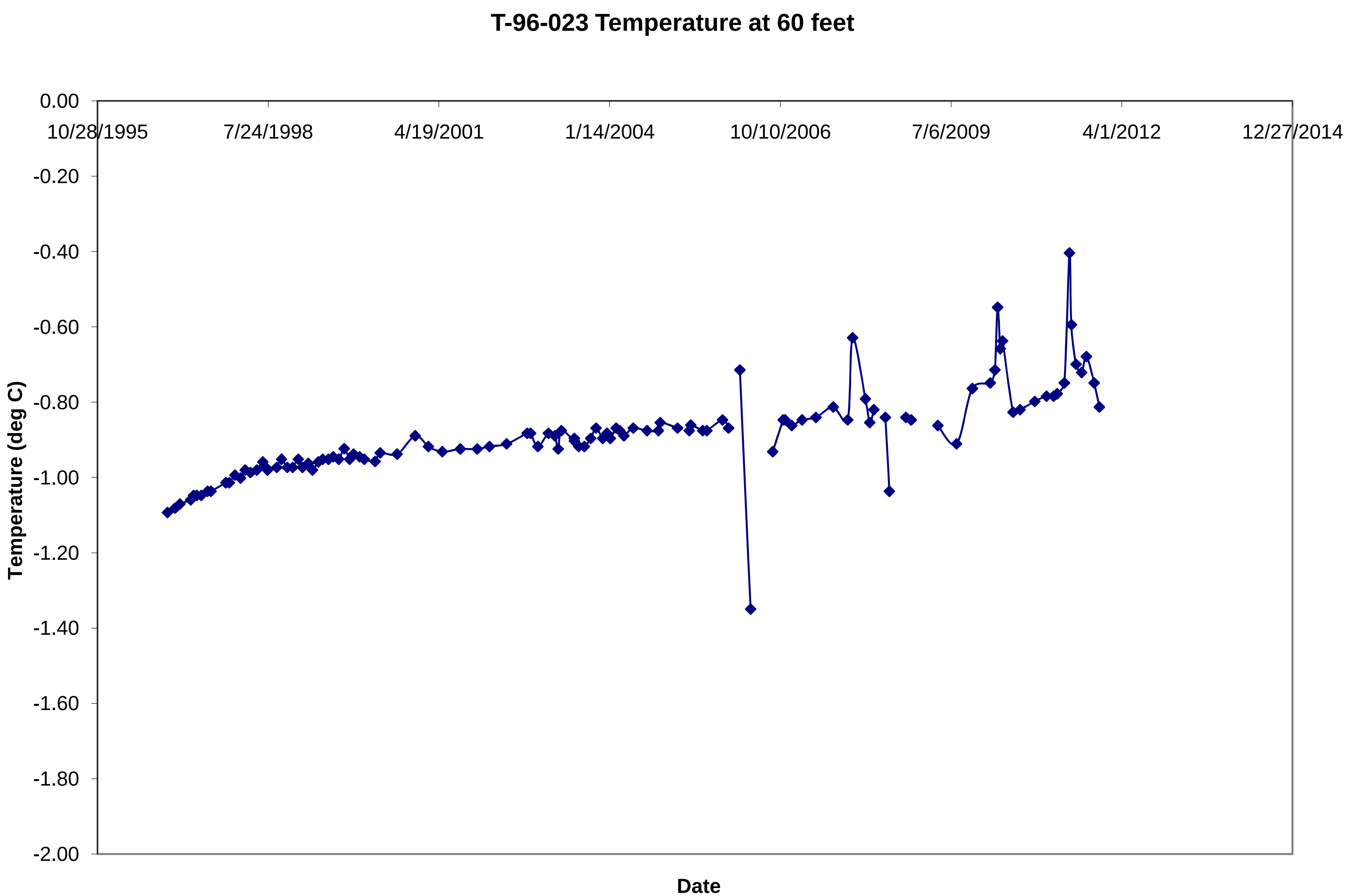

T-96-023 Temperature at 40 feet
0.60
0.40
0.20
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

T-96-023 Temperature at 45 feet



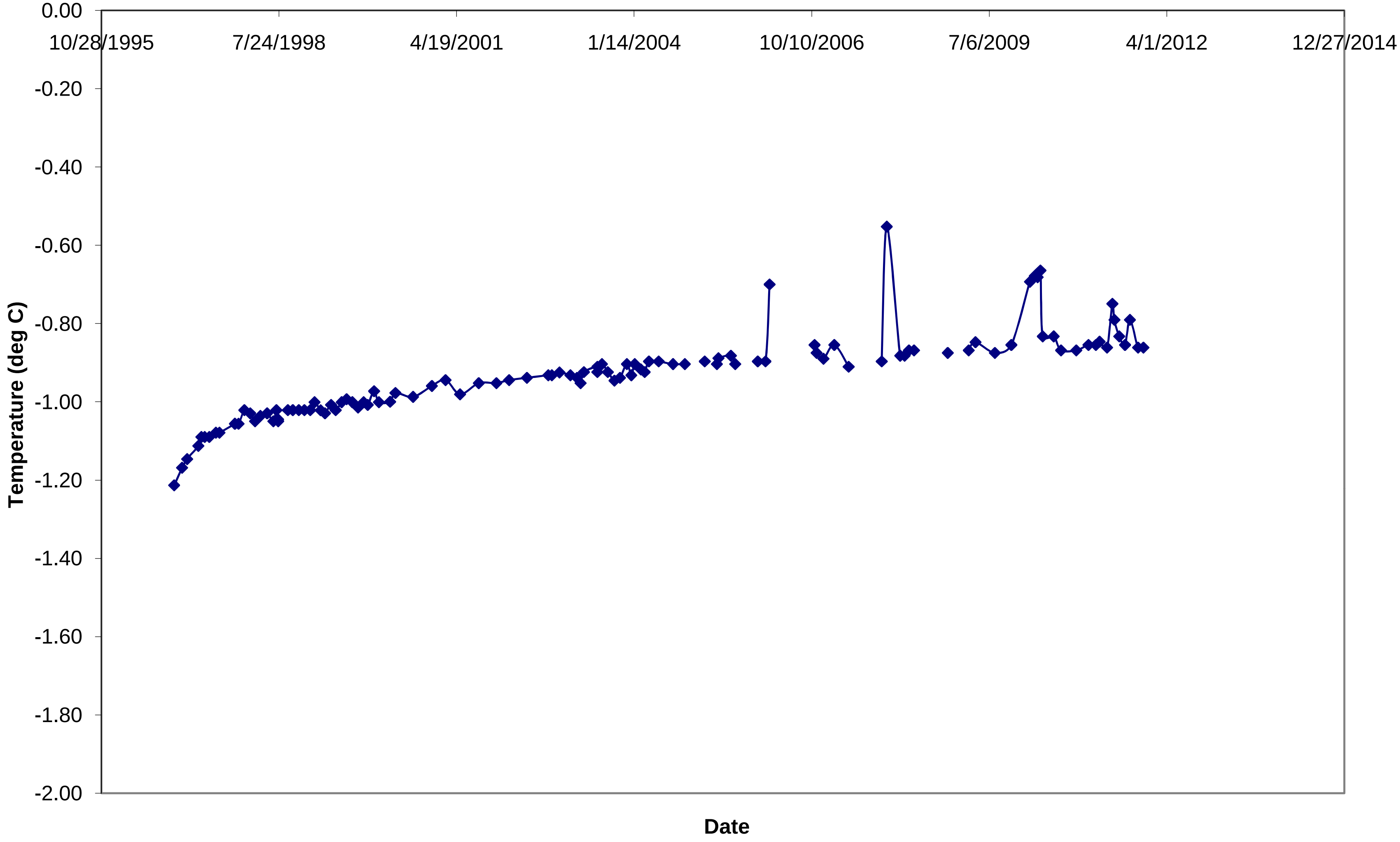

T-96-023 Temperature at 50 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

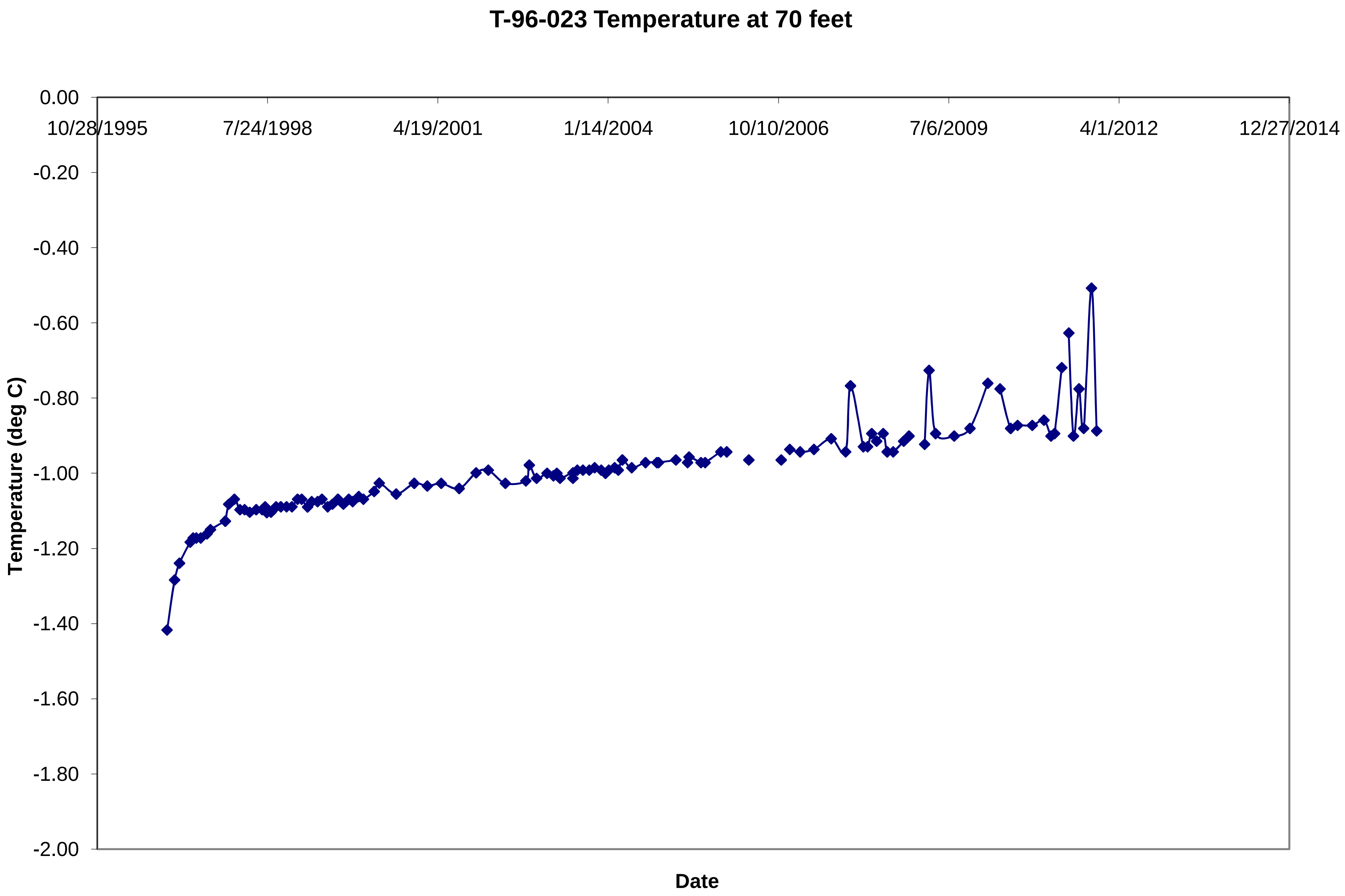

T-96-023 Temperature at 55 feet
Temperature (deg C)
Date
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014



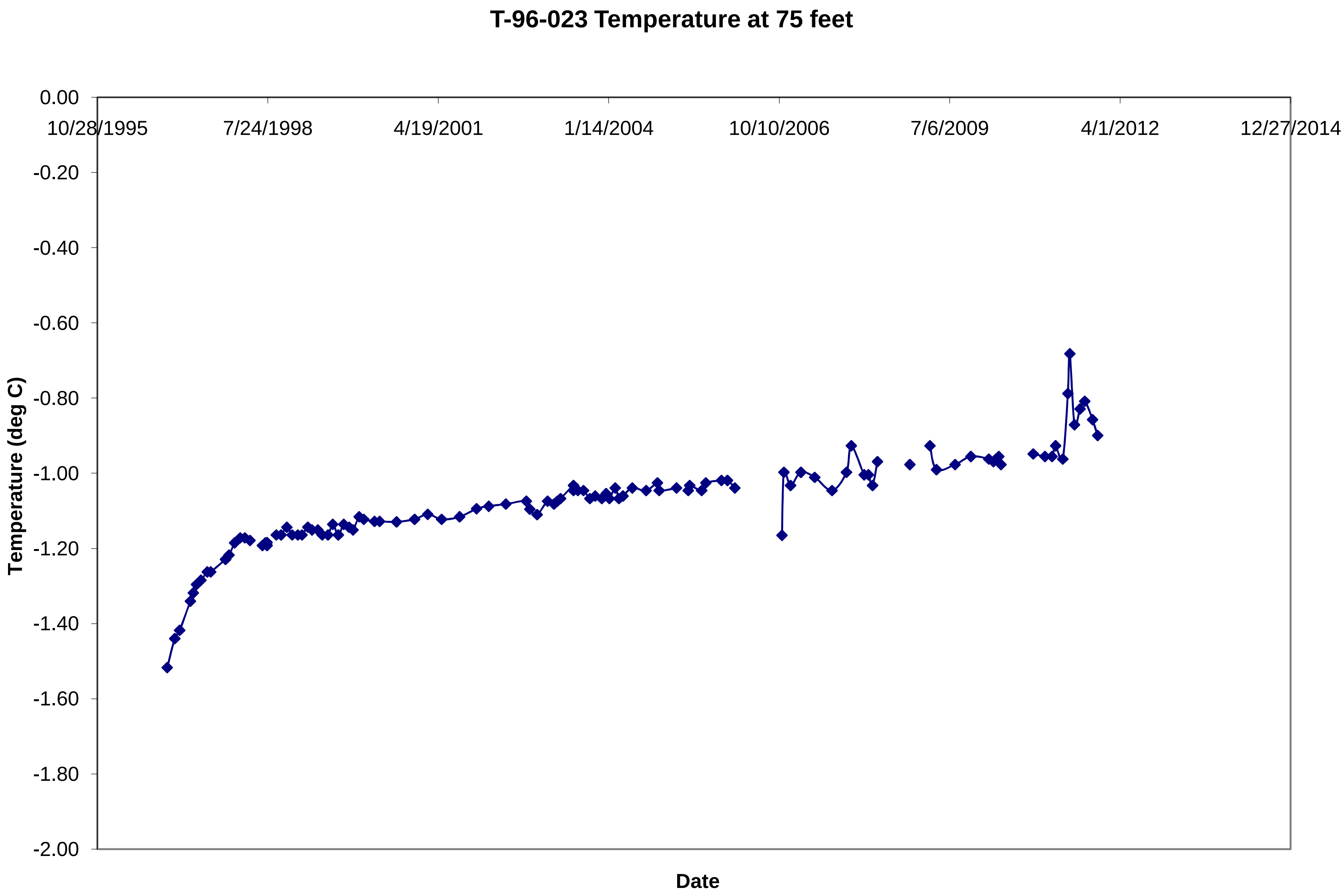
T-96-023 Temperature at 60 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

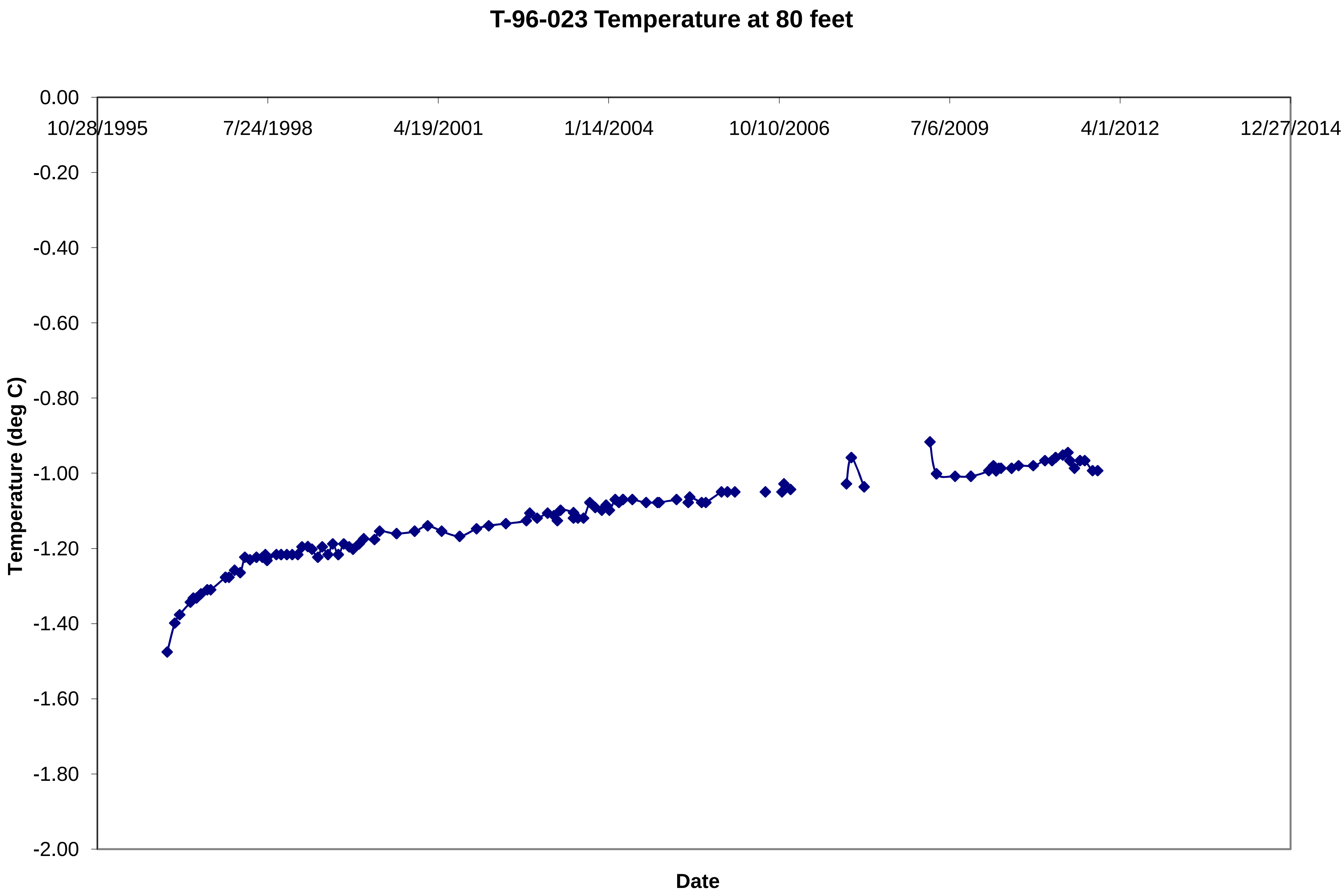
T-96-023 Temperature at 65 feet



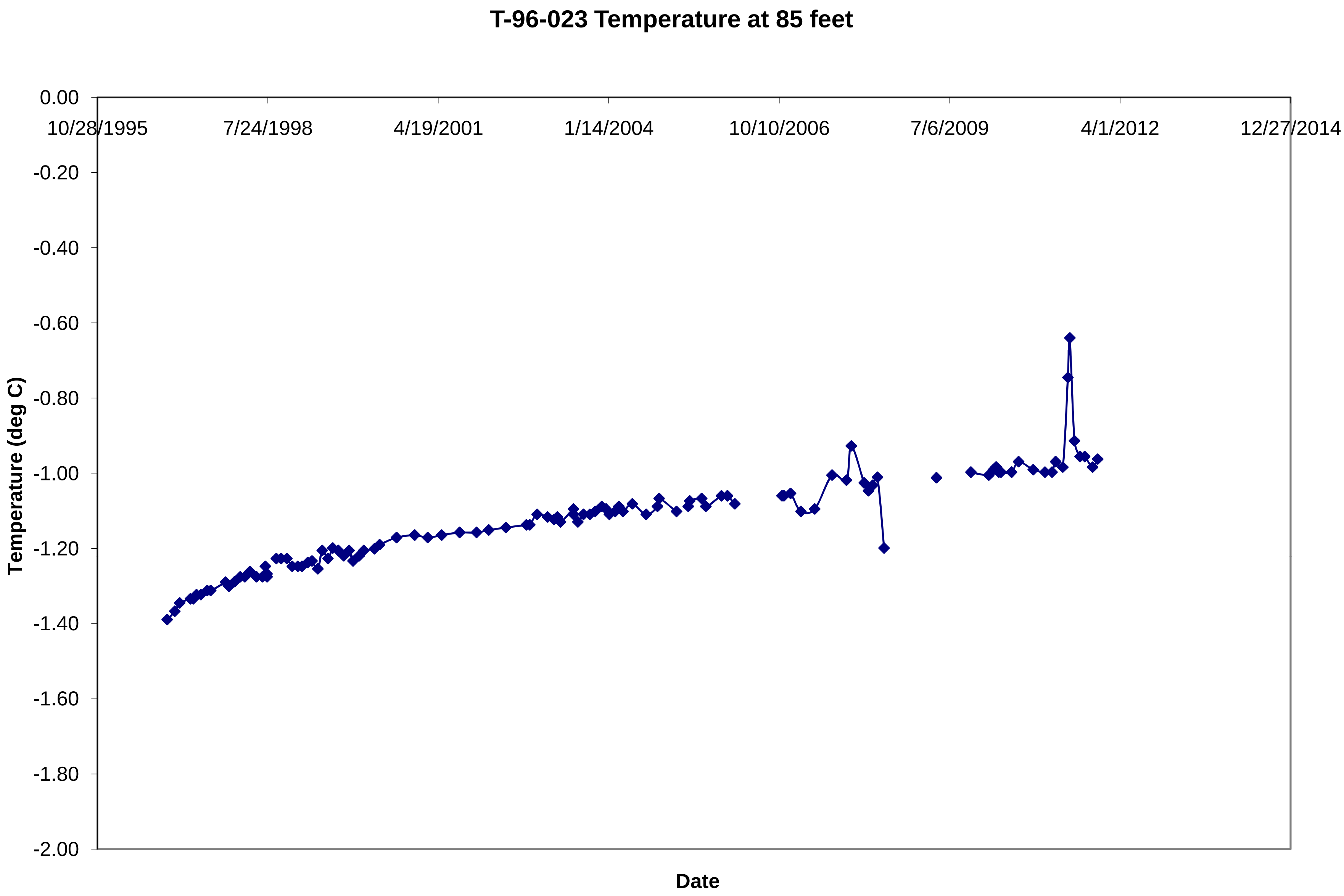


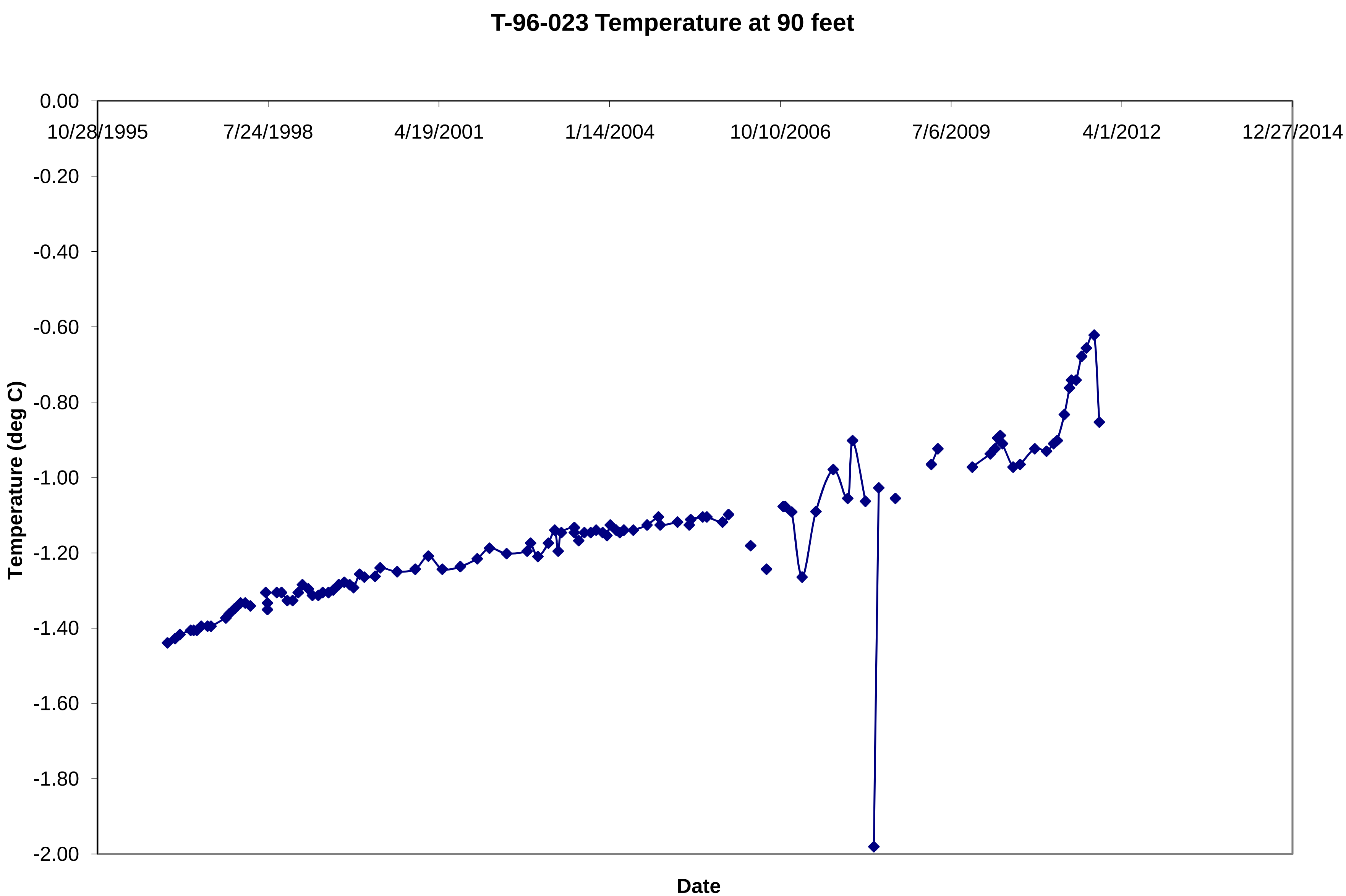
T-96-023 Temperature at 70 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date


T-96-023 Temperature at 75 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

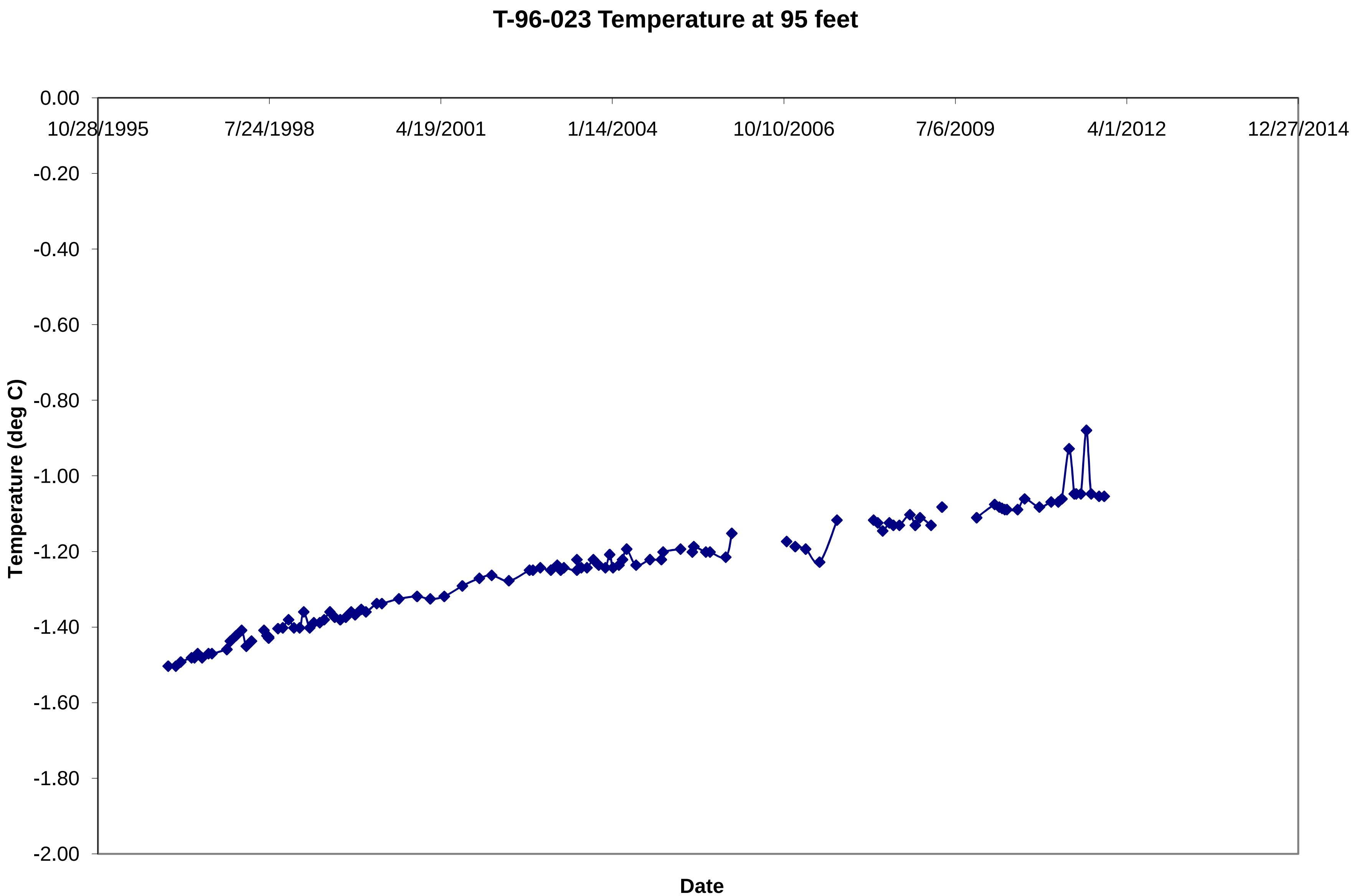


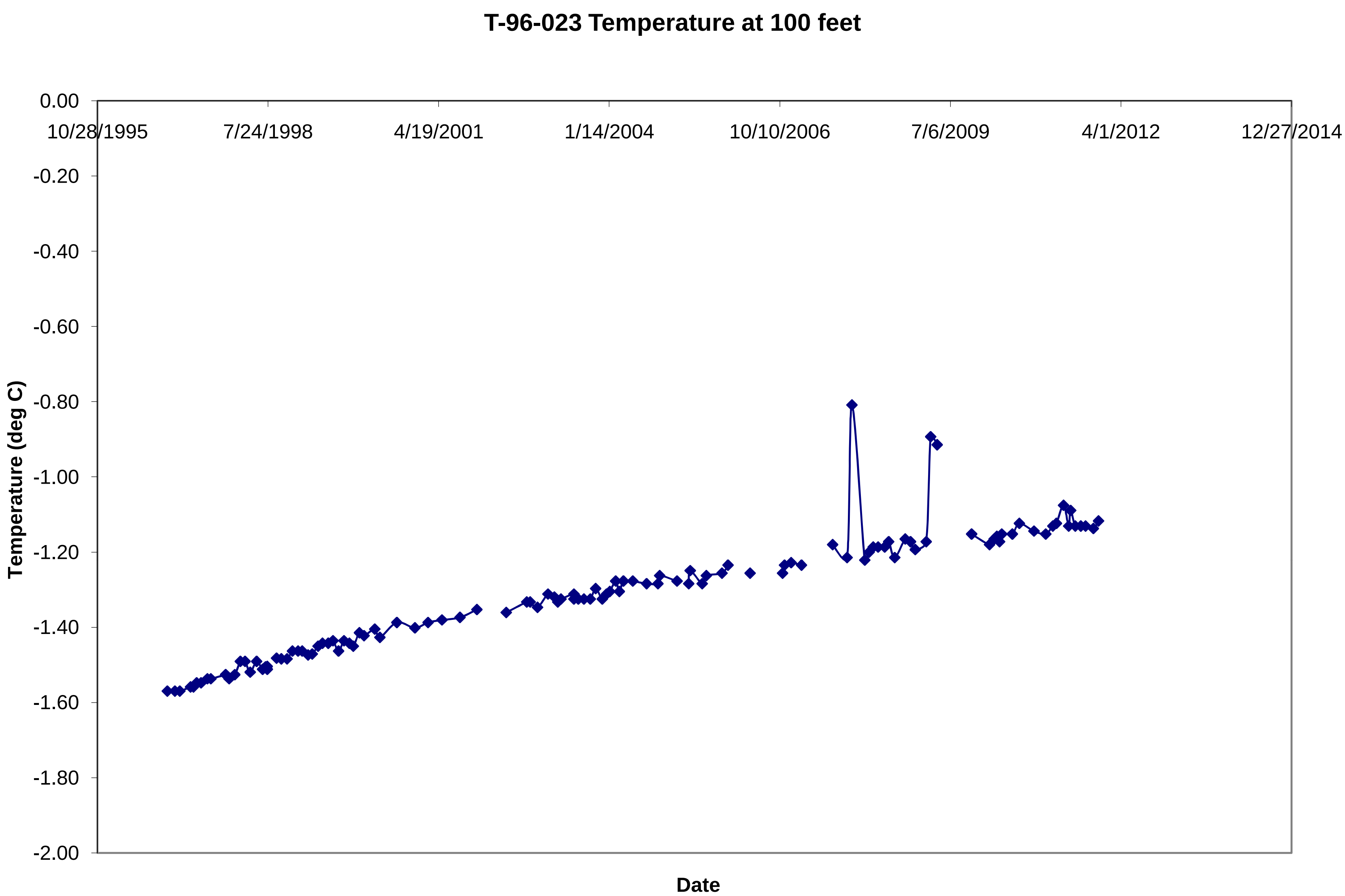
T-96-023 Temperature at 80 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

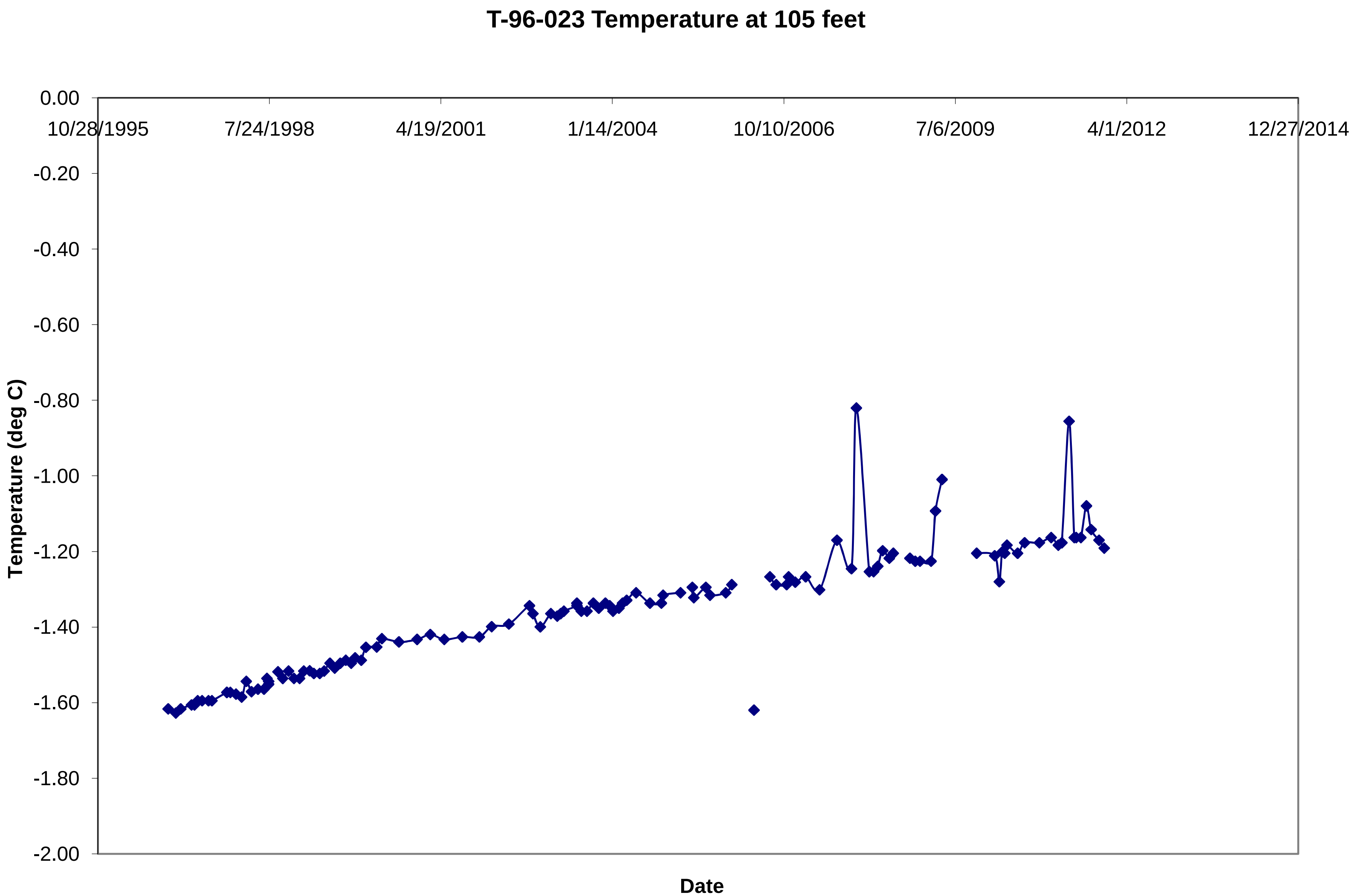

T-96-023 Temperature at 85 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date



T-96-023 Temperature at 90 feet
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date

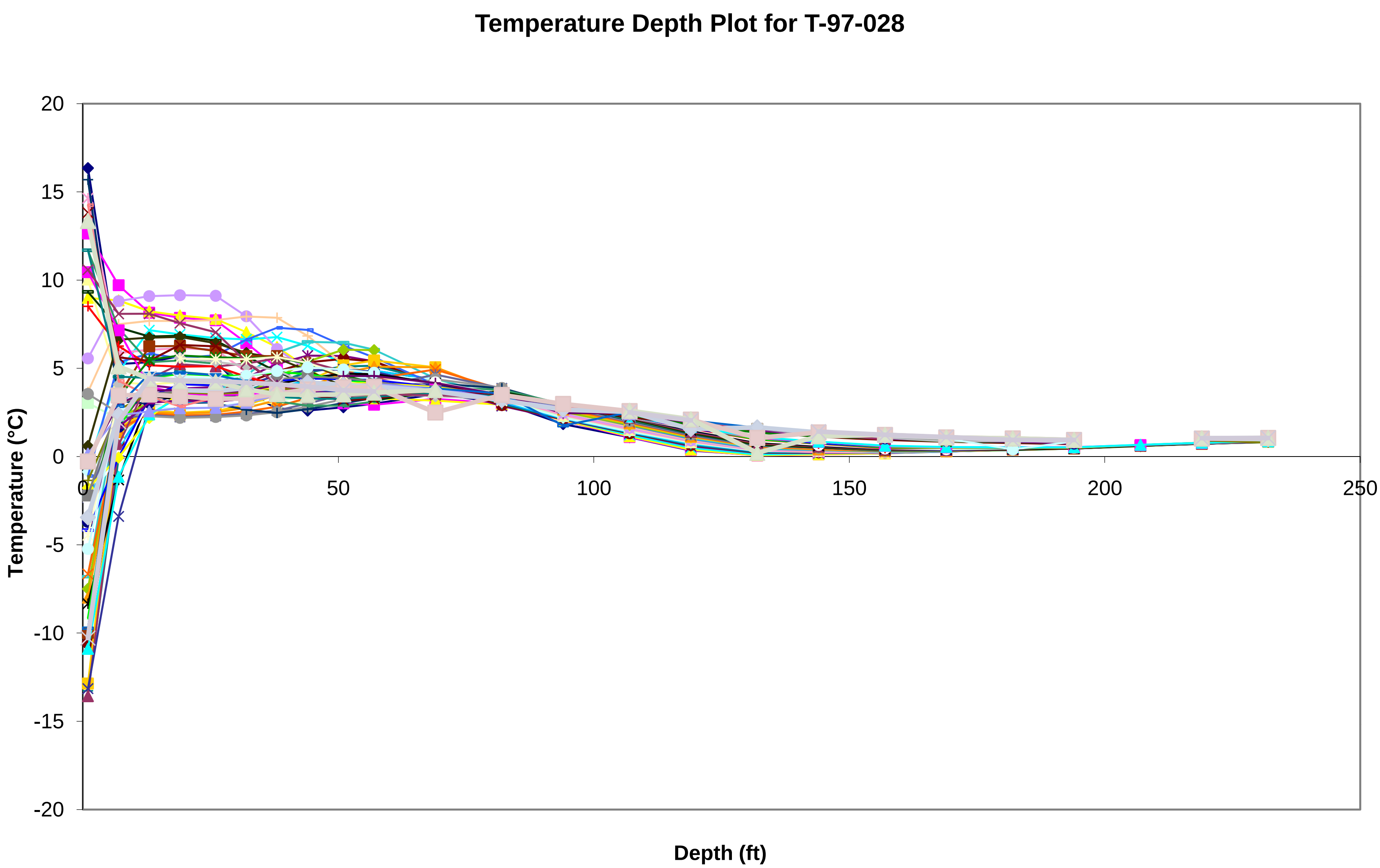

T-96-023 Temperature at 95 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

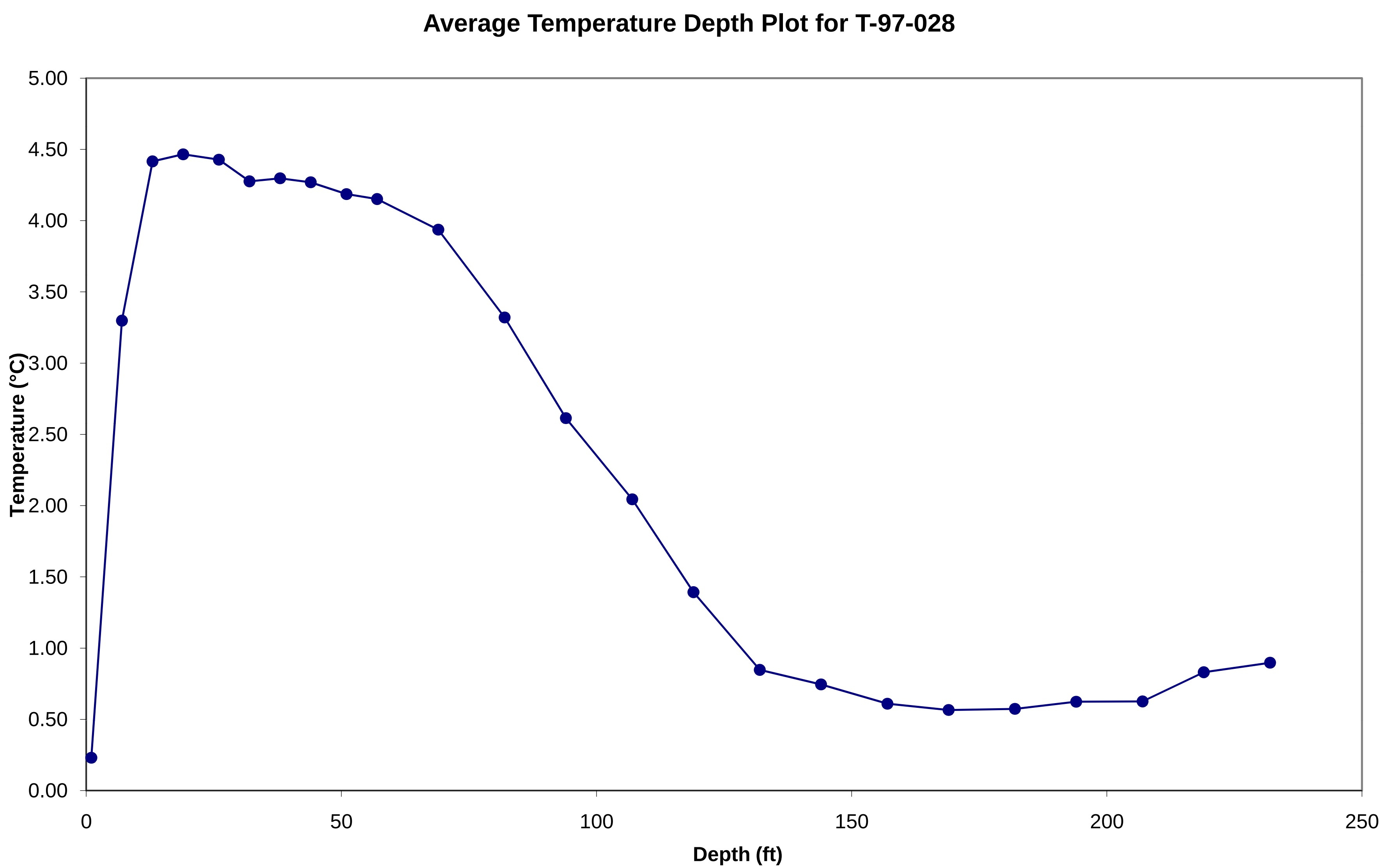

T-96-023 Temperature at 100 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

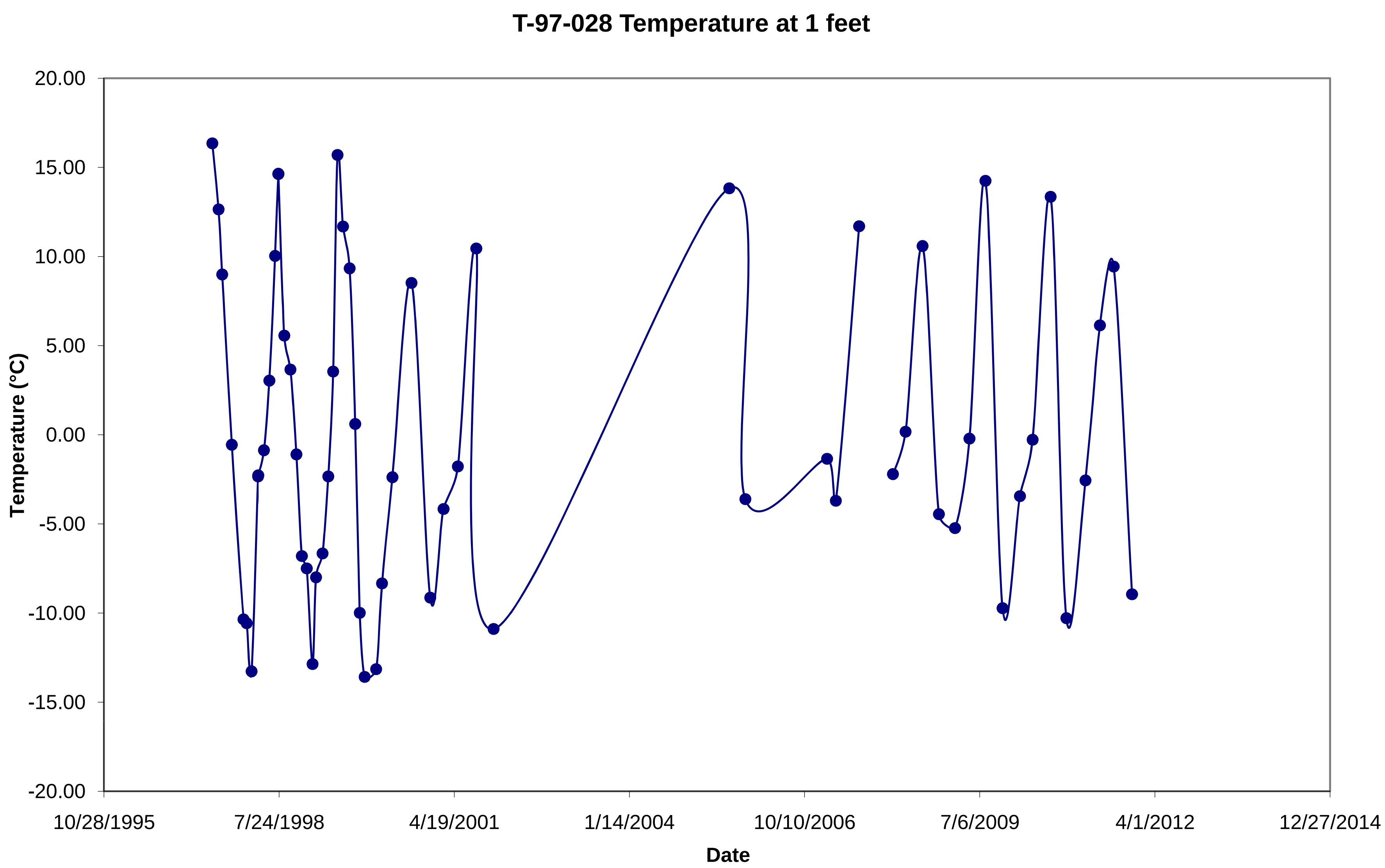


T-96-023 Temperature at 105 feet
Temperature (deg C)
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
-1.80
-2.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

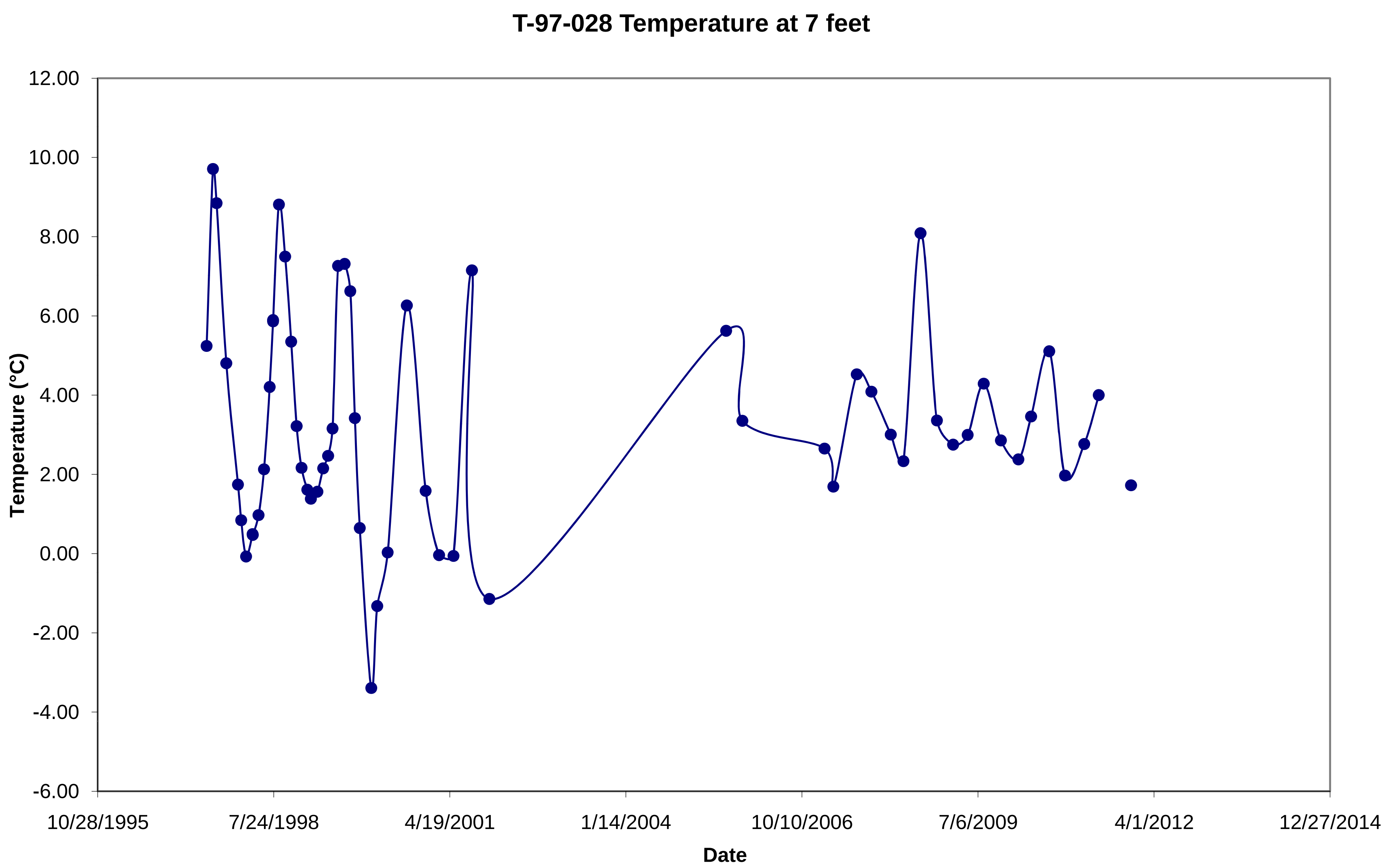
T-97-028


Temperature Depth Plot for T-97-028
Temperature (°C)
Depth (ft)
20
15
10
5
0
-5
-10
-15
-20
0
50
100
150
200
250

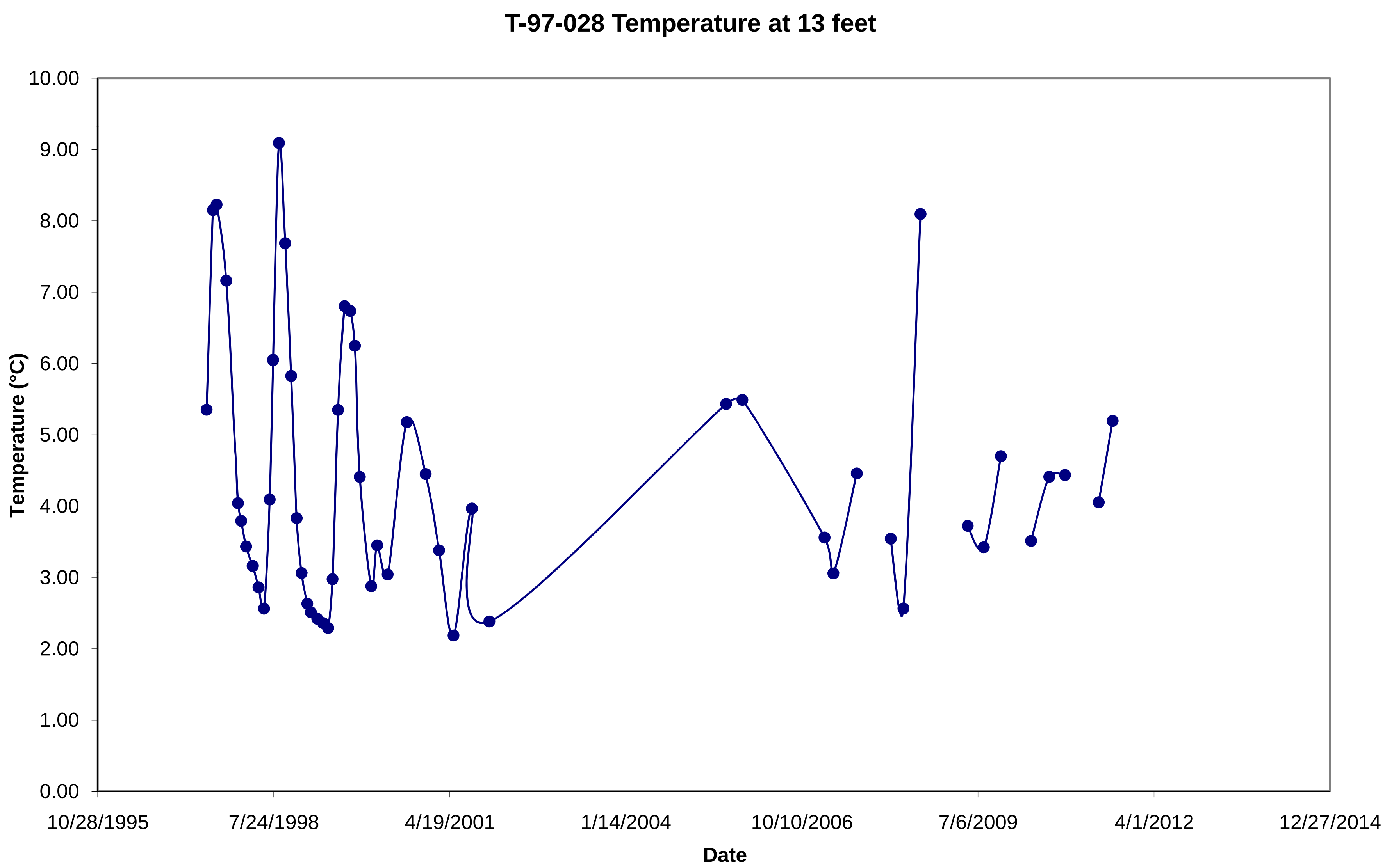

Average Temperature Depth Plot for T-97-028
Temperature (°C)
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0
50
100
150
200
250
Depth (ft)

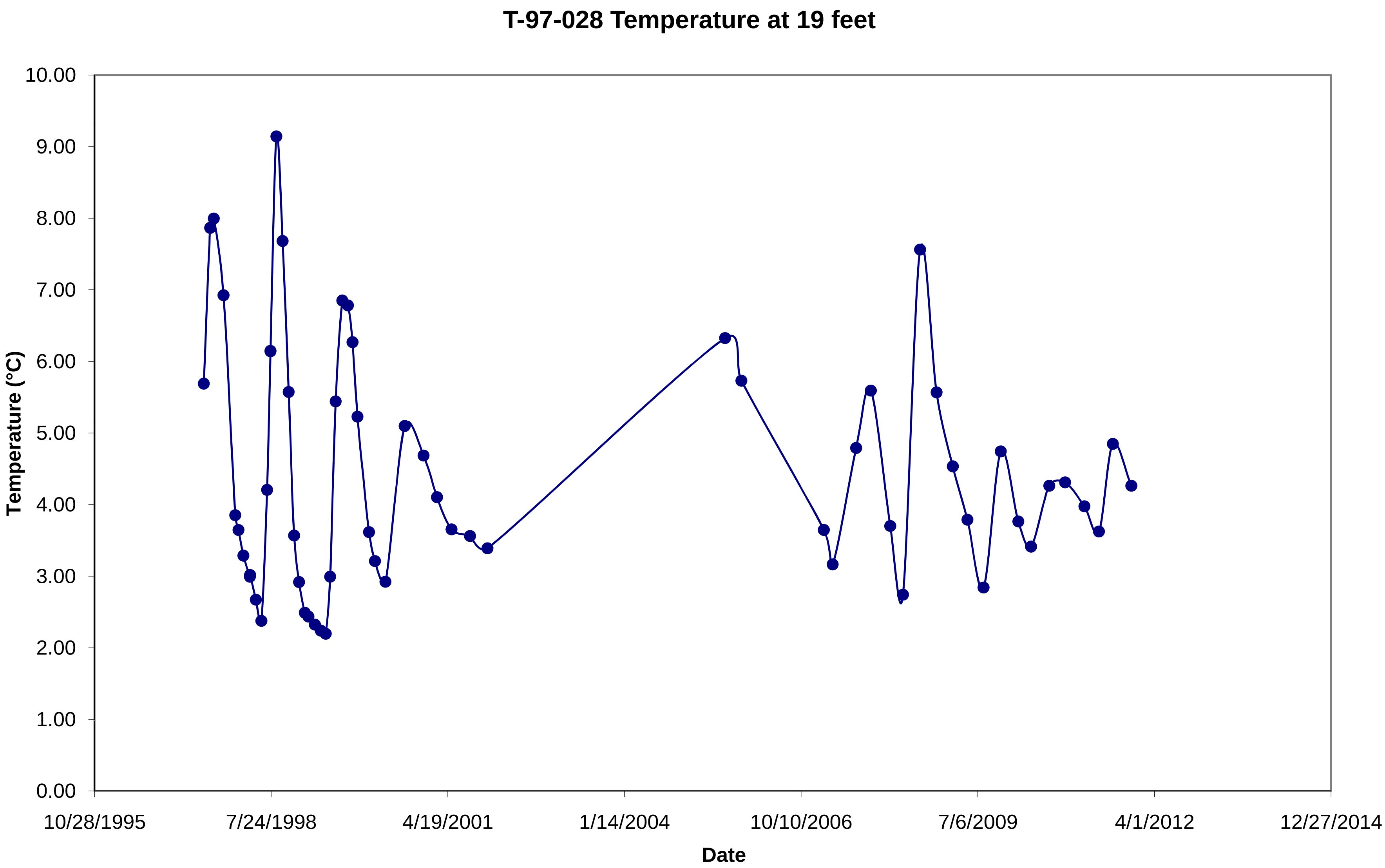


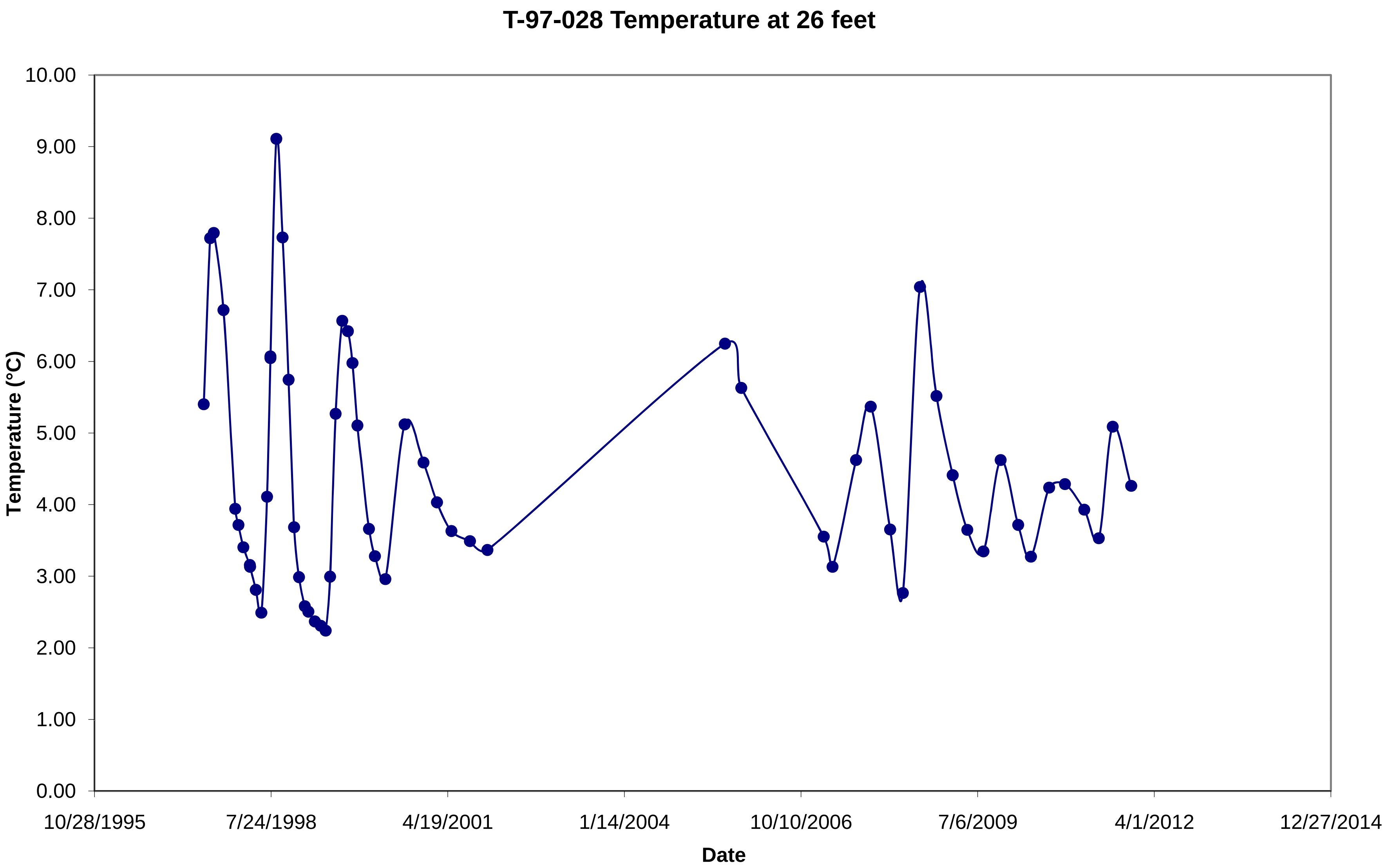
T-97-028 Temperature at 1 feet
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00
-20.00
Temperature (°C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

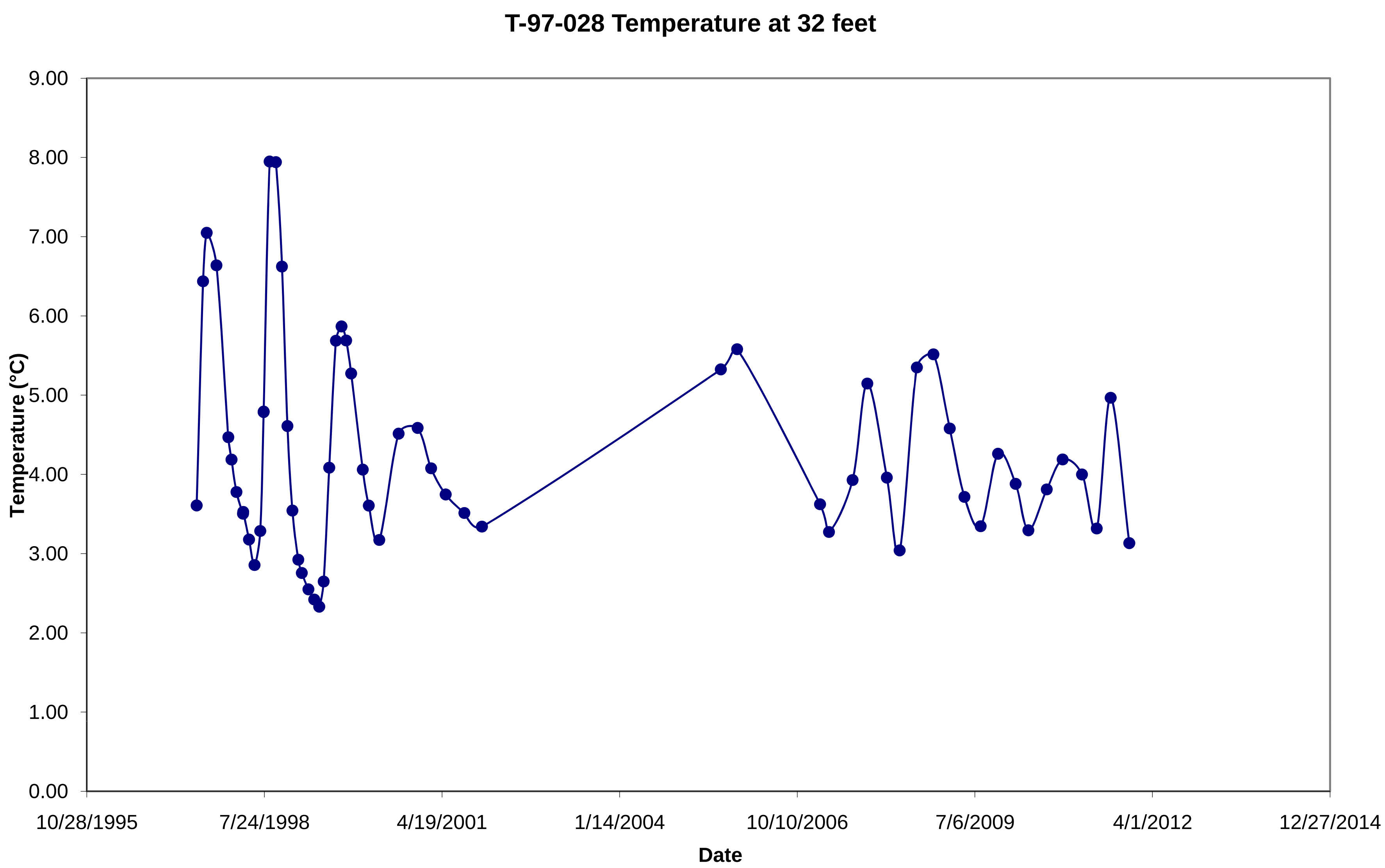


T-97-028 Temperature at 7 feet
Temperature (°C)
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

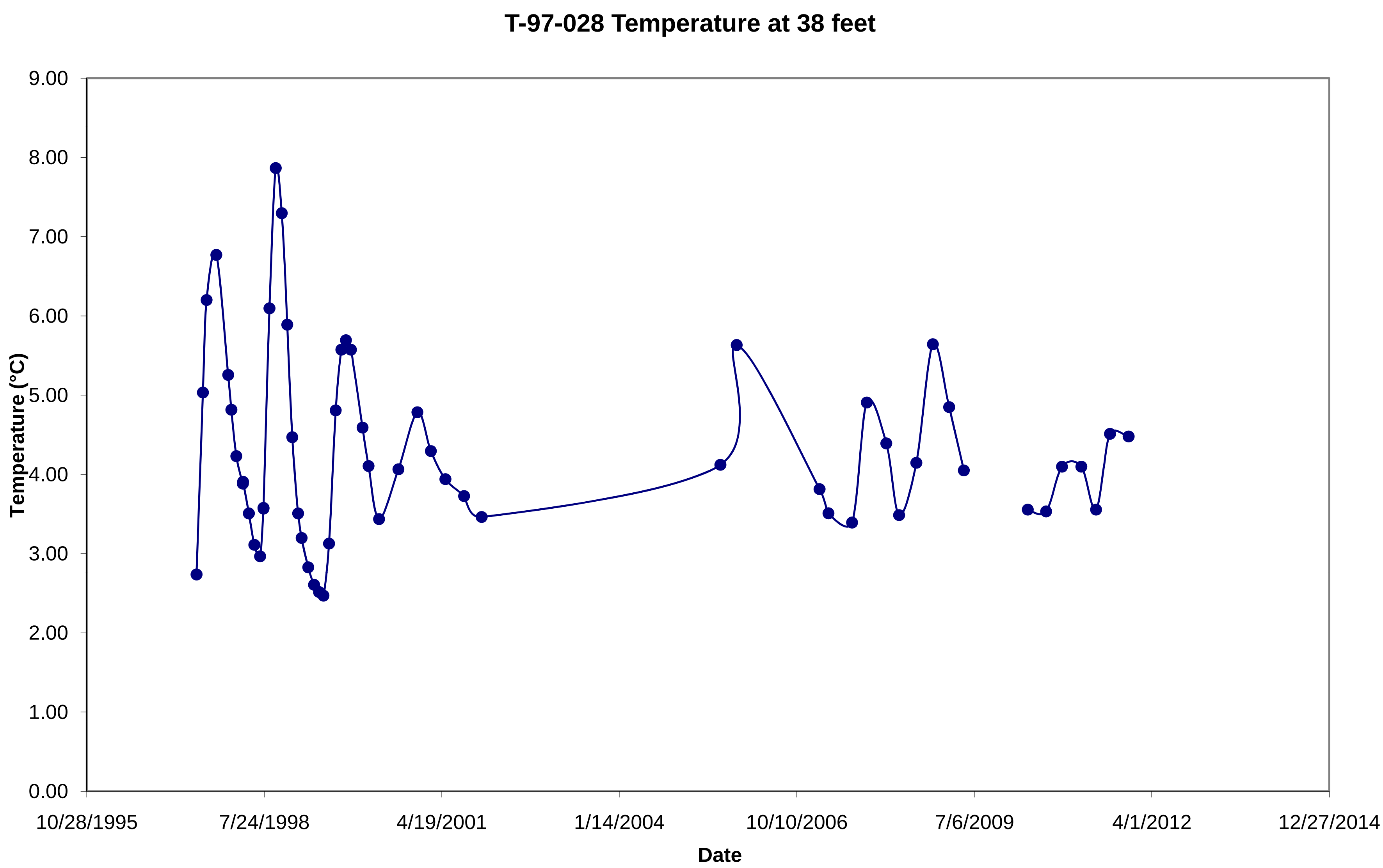

T-97-028 Temperature at 13 feet
Temperature (°C)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

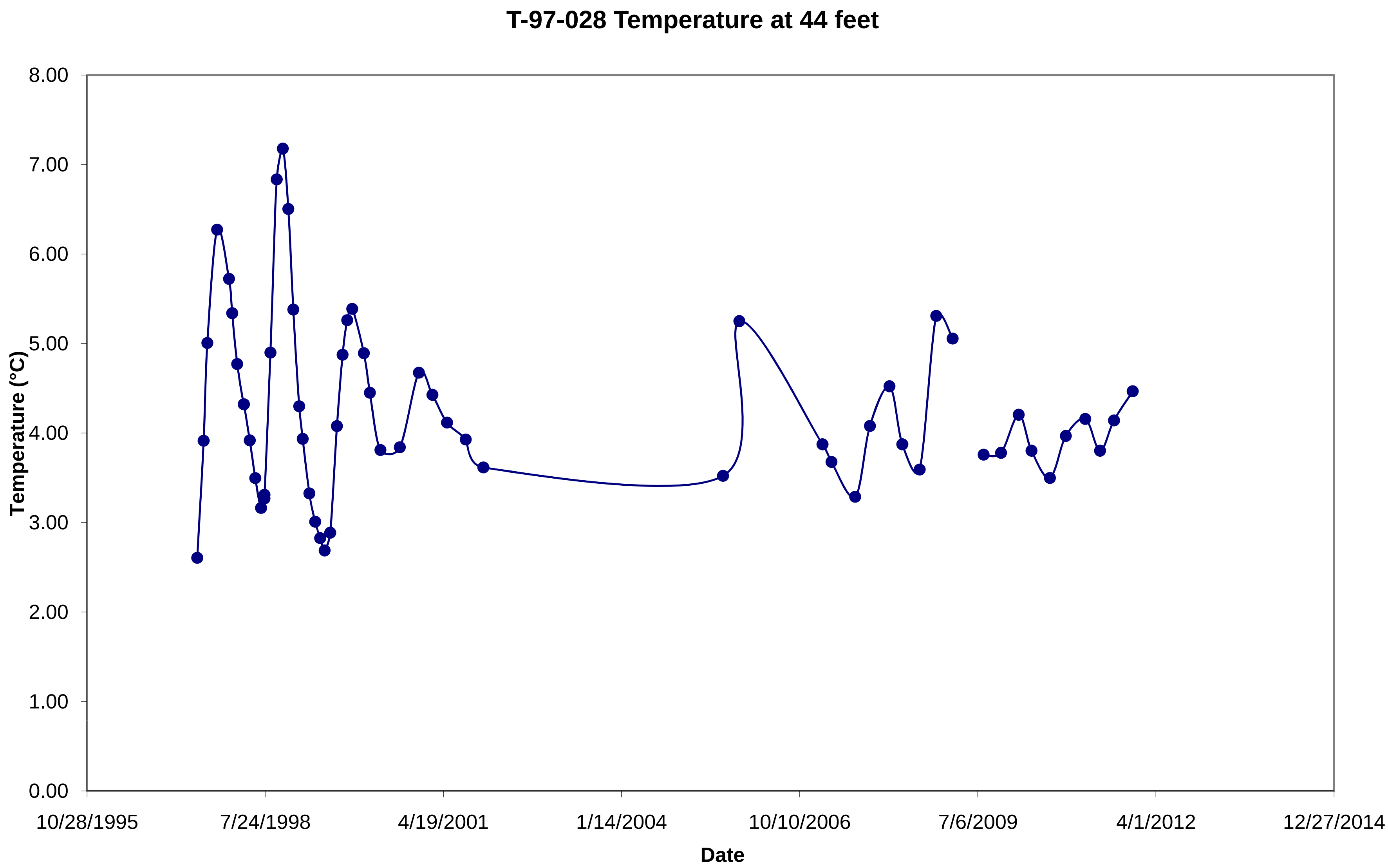

T-97-028 Temperature at 19 feet
Temperature (°C)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-97-028 Temperature at 26 feet
Temperature (°C)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

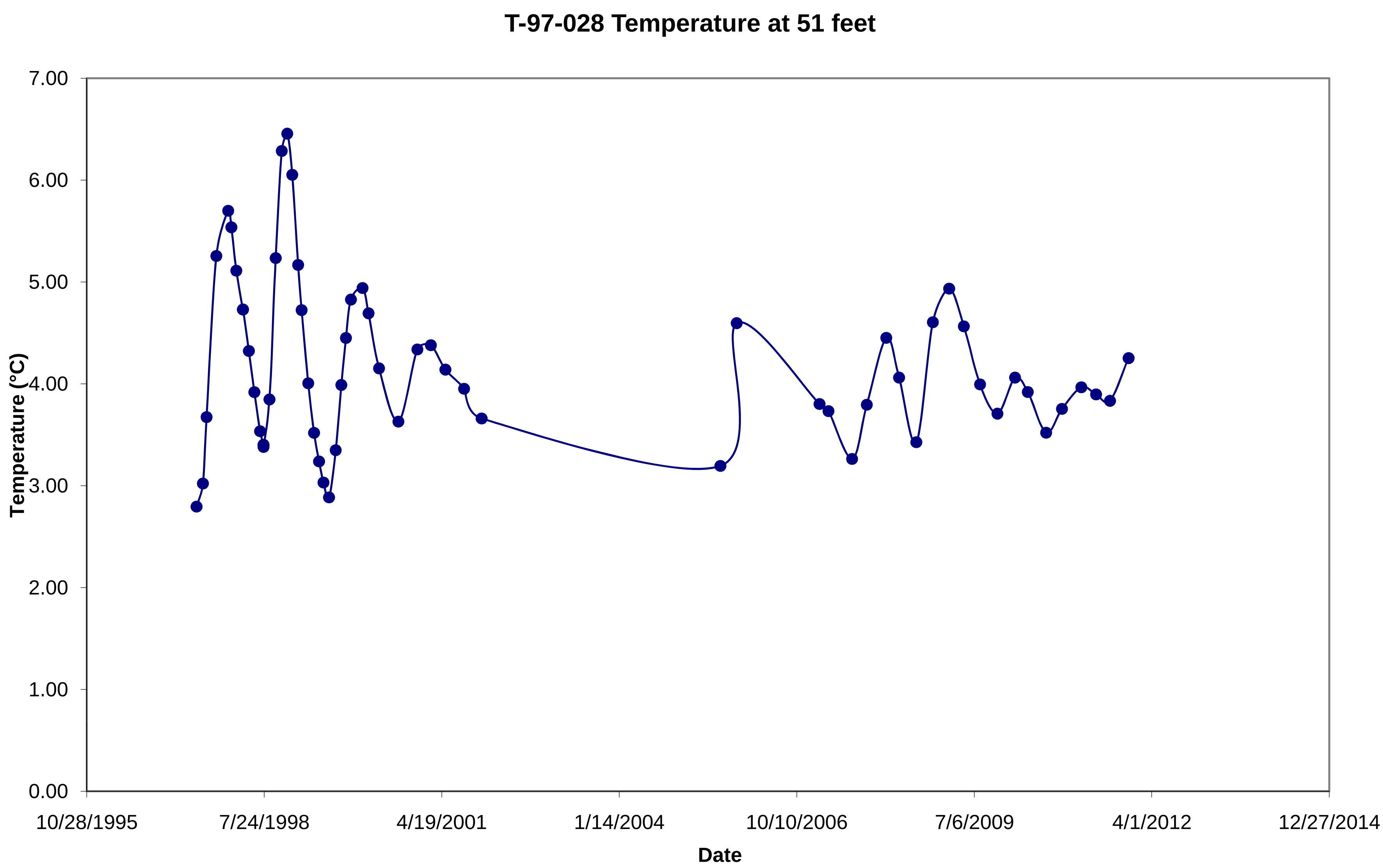


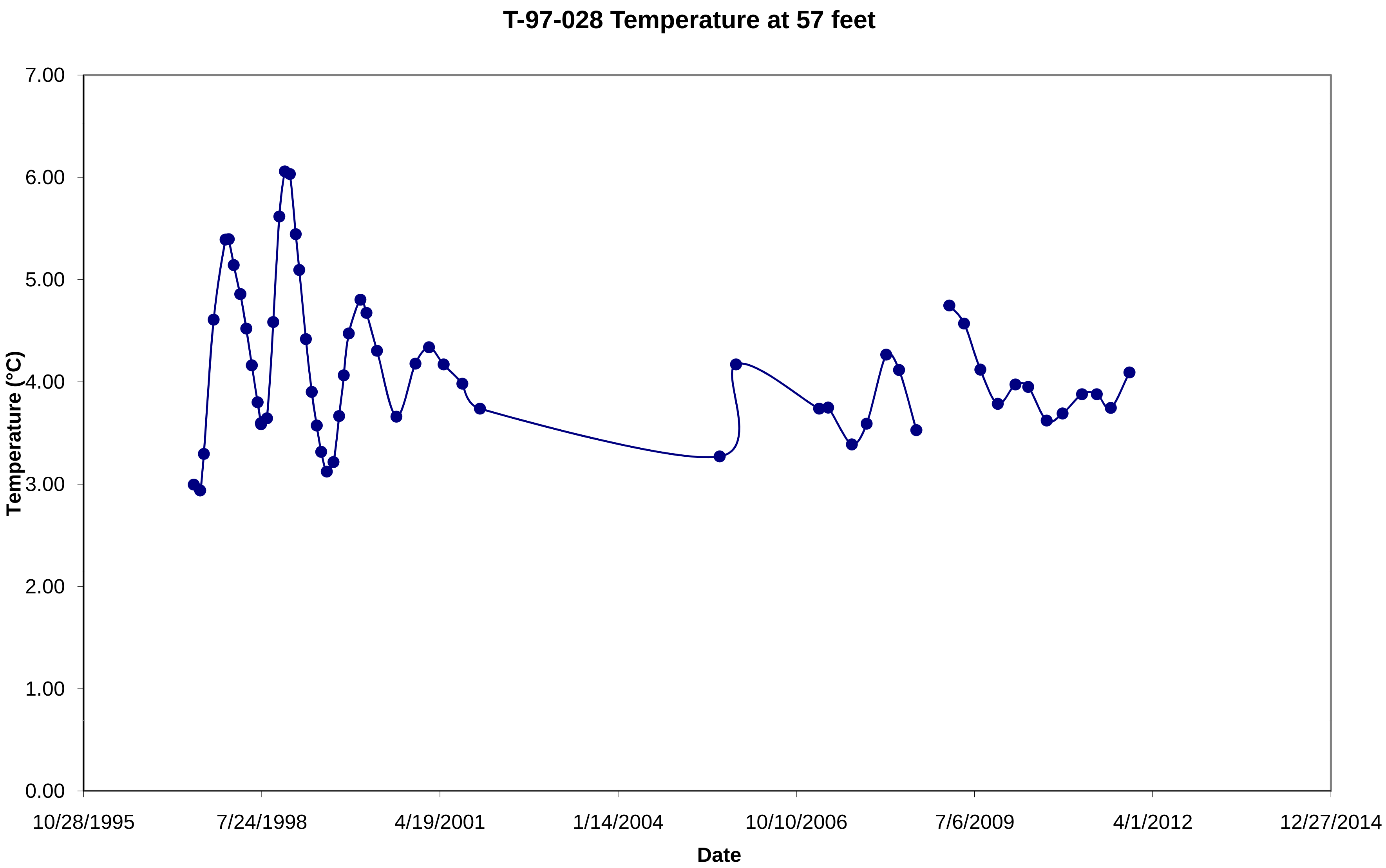
T-97-028 Temperature at 32 feet
Temperature (°C)
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-97-028 Temperature at 38 feet
Temperature (°C)
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

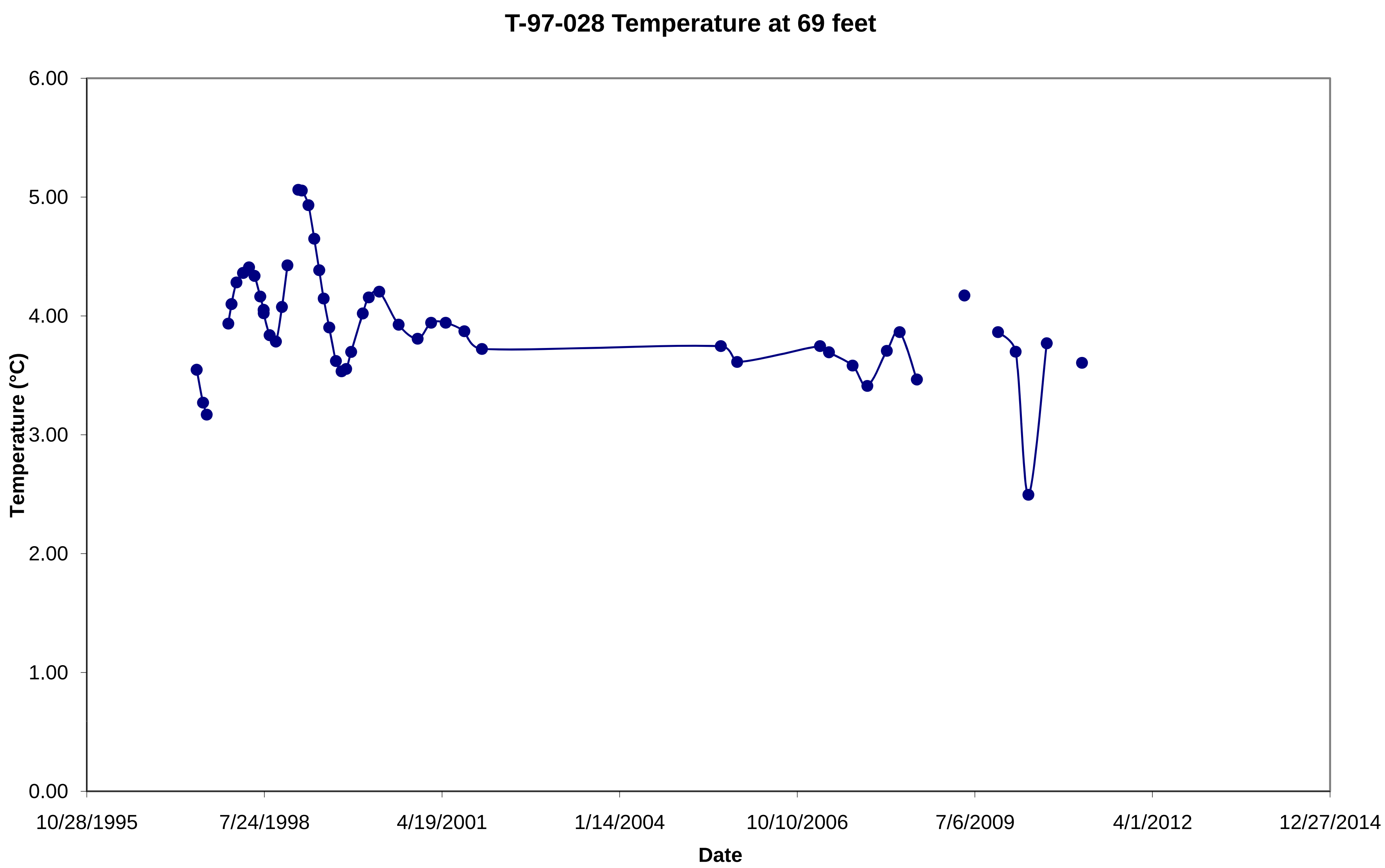


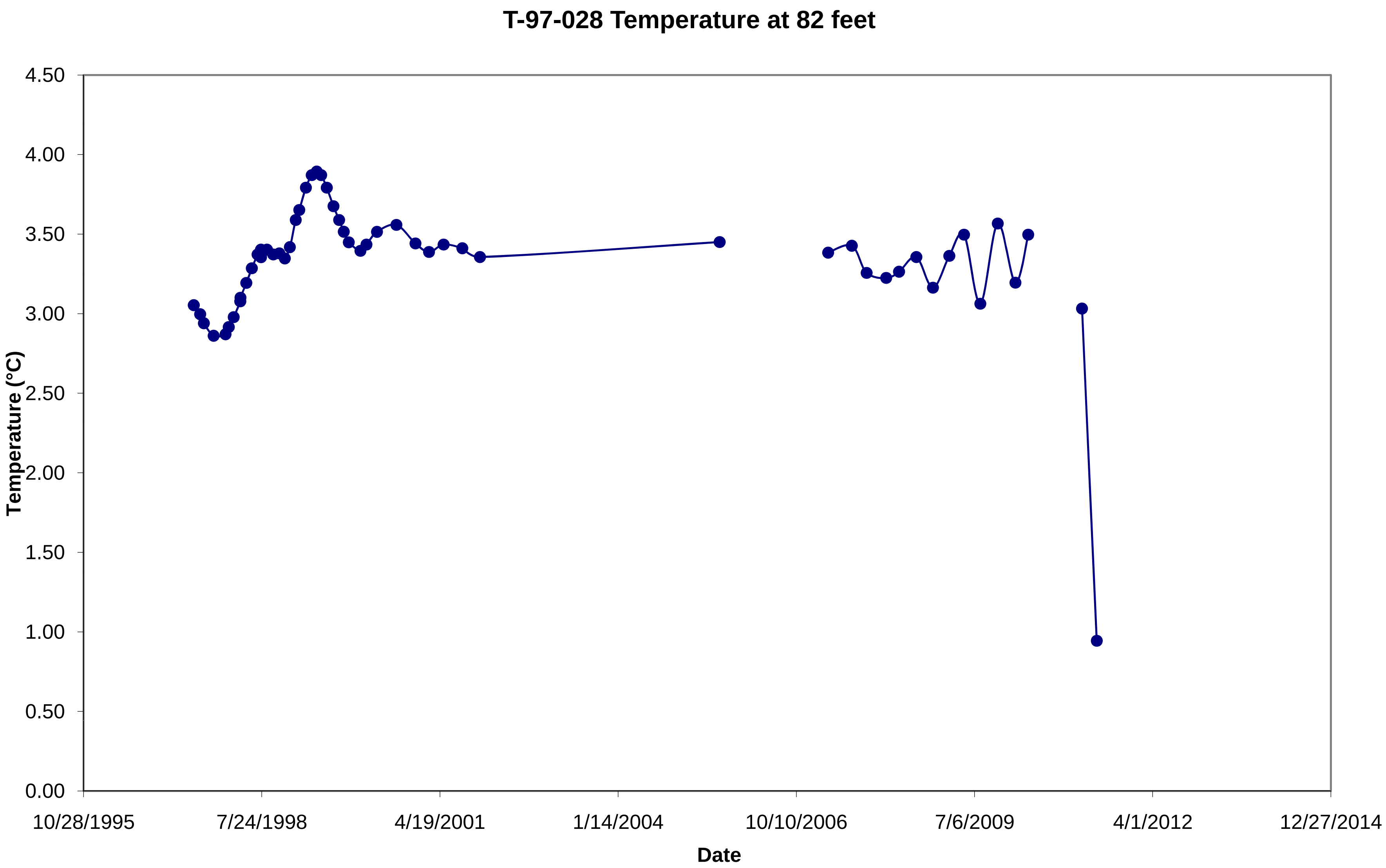
T-97-028 Temperature at 44 feet
Temperature (°C)
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-97-028 Temperature at 51 feet
Temperature (°C)
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

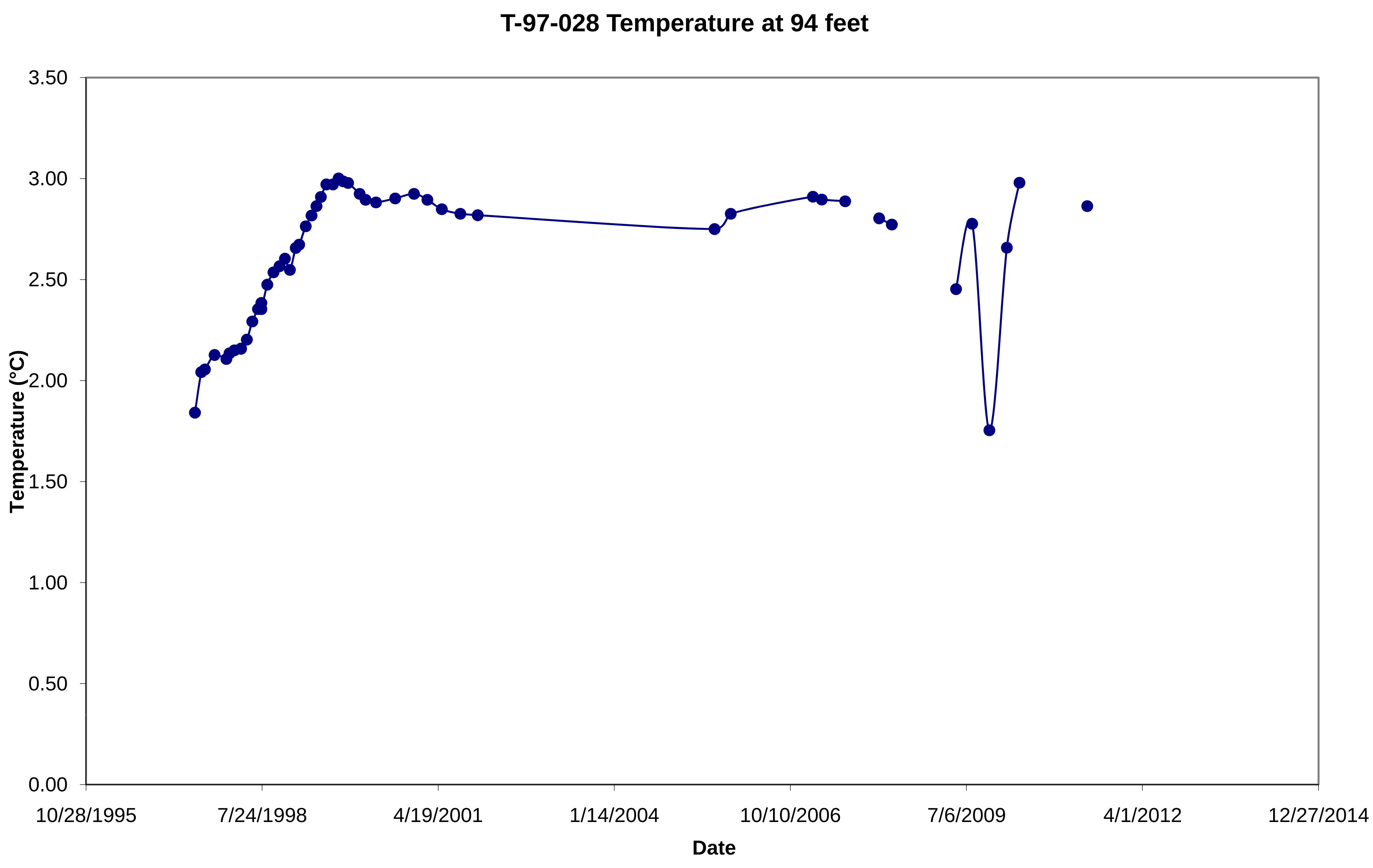


T-97-028 Temperature at 57 feet
Temperature (°C)
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

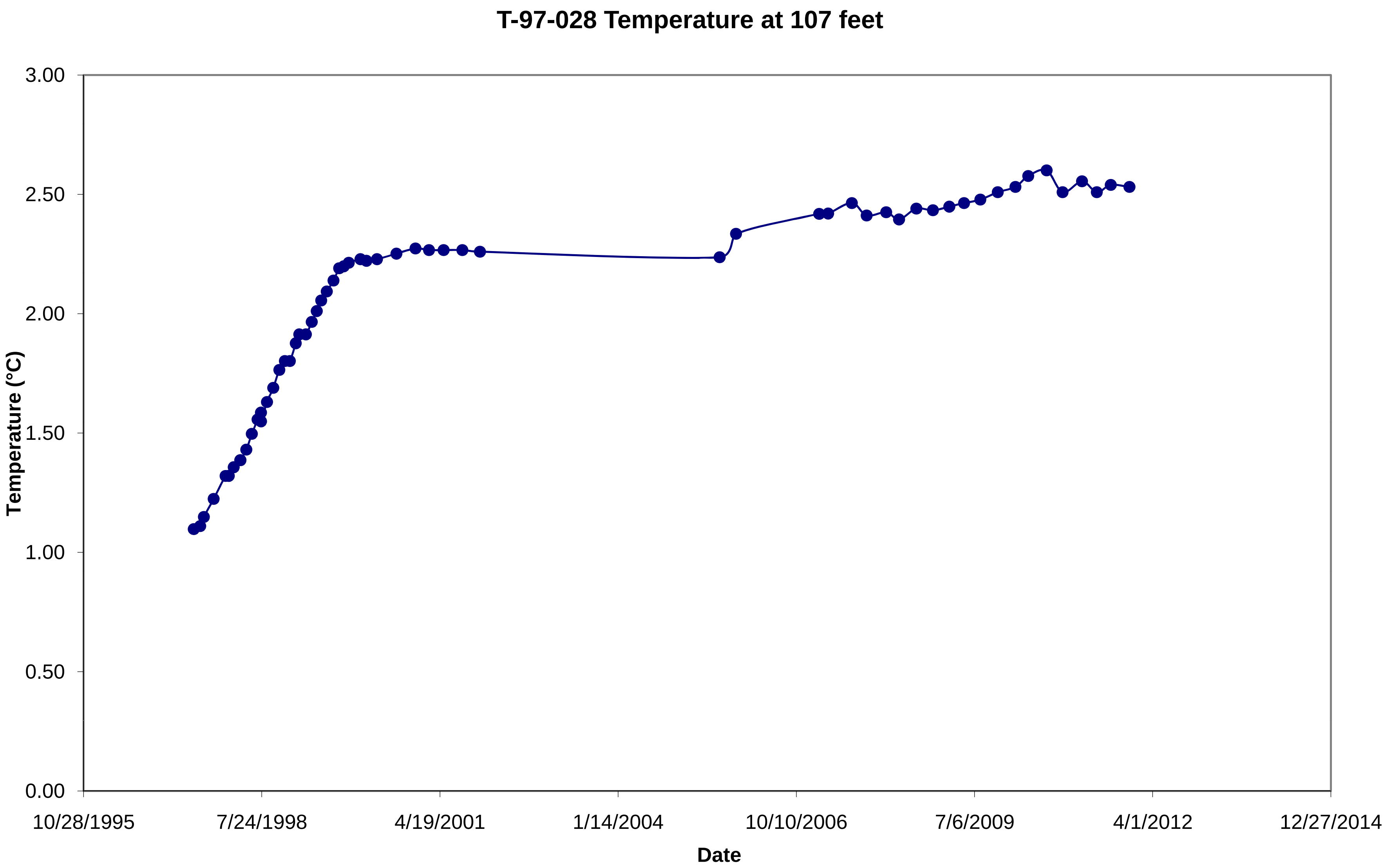

T-97-028 Temperature at 69 feet
Temperature (°C)
6.00
5.00
4.00
3.00
2.00
1.00
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



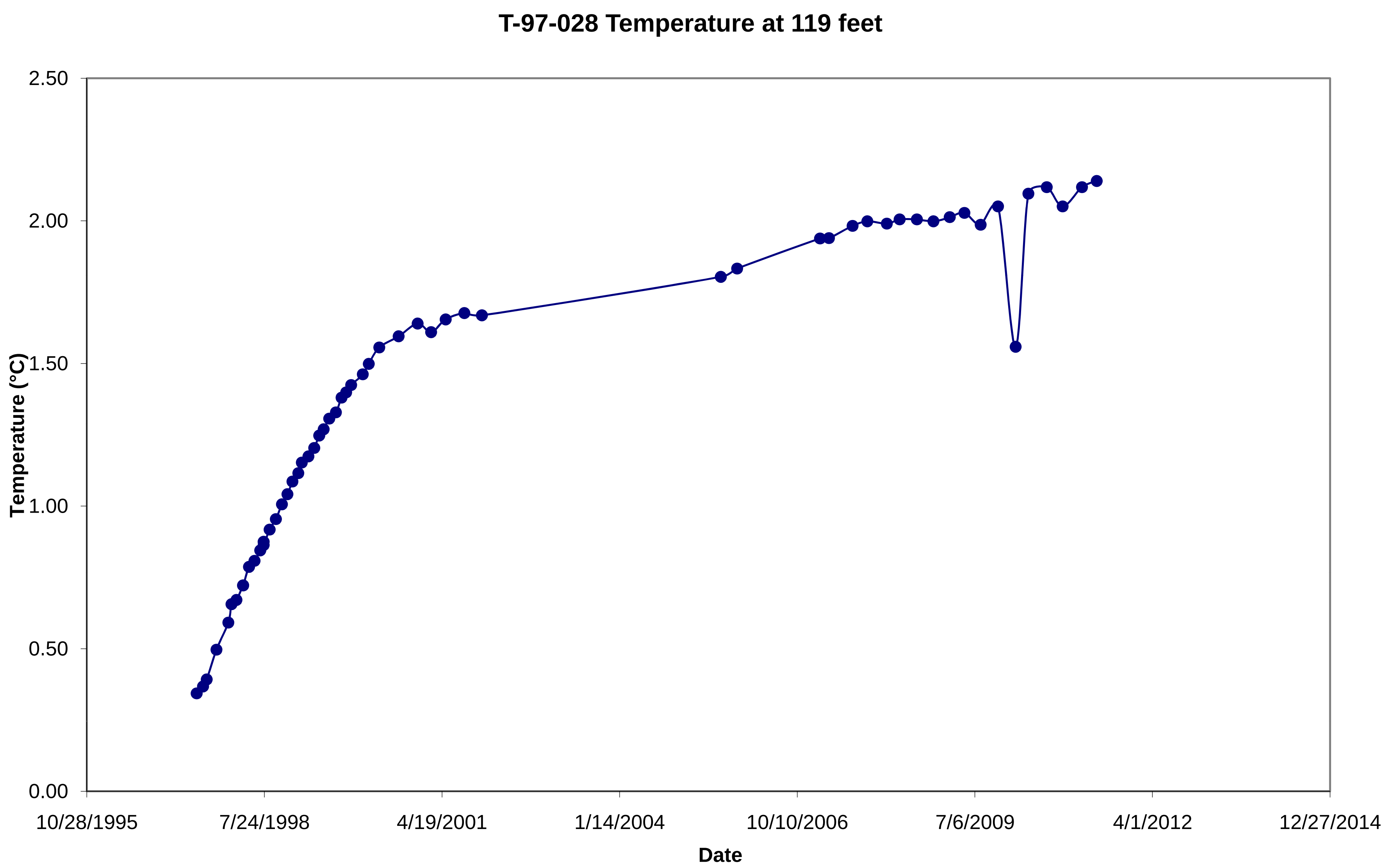
T-97-028 Temperature at 82 feet
Temperature (°C)
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



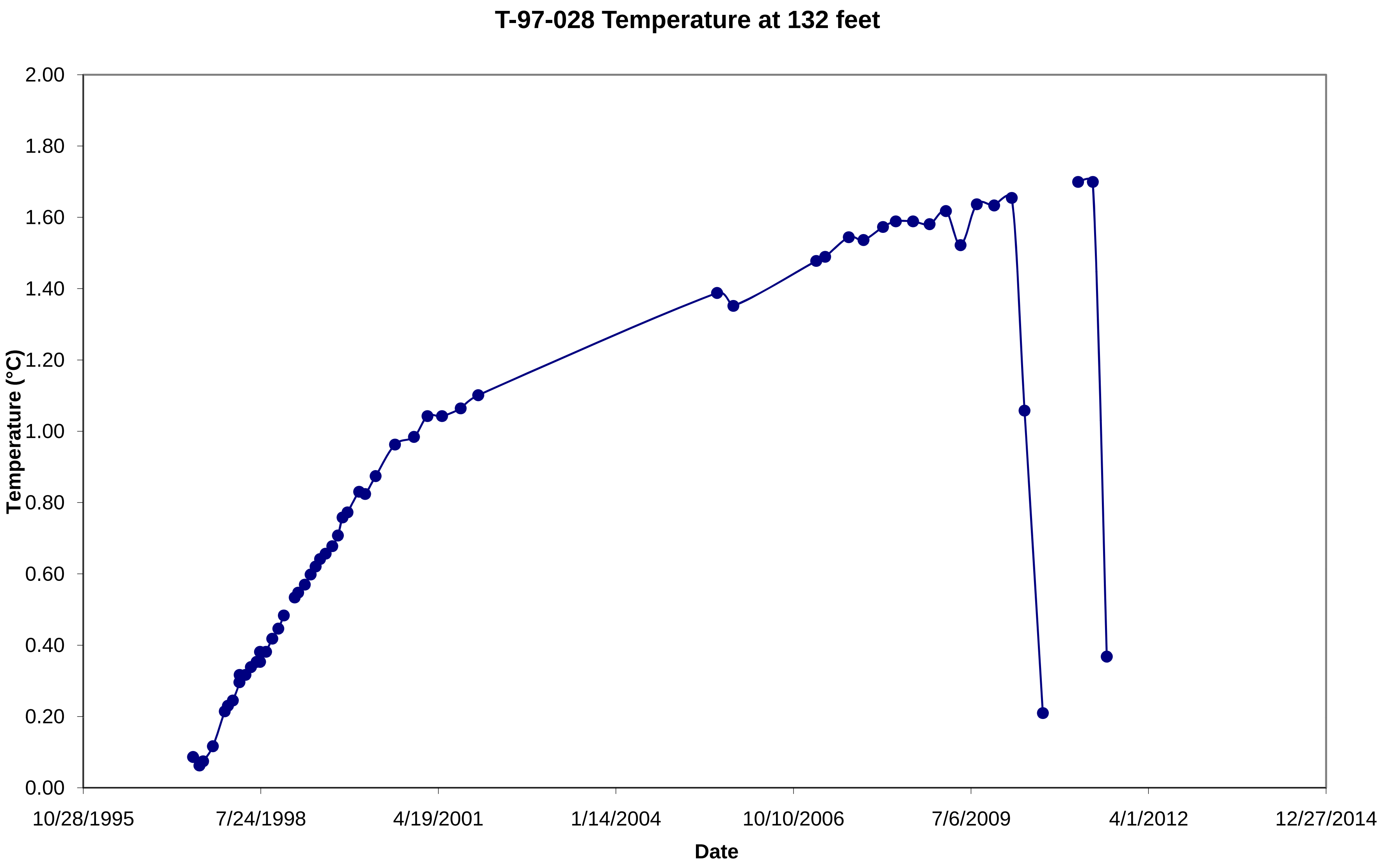
T-97-028 Temperature at 94 feet
Temperature (°C)
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

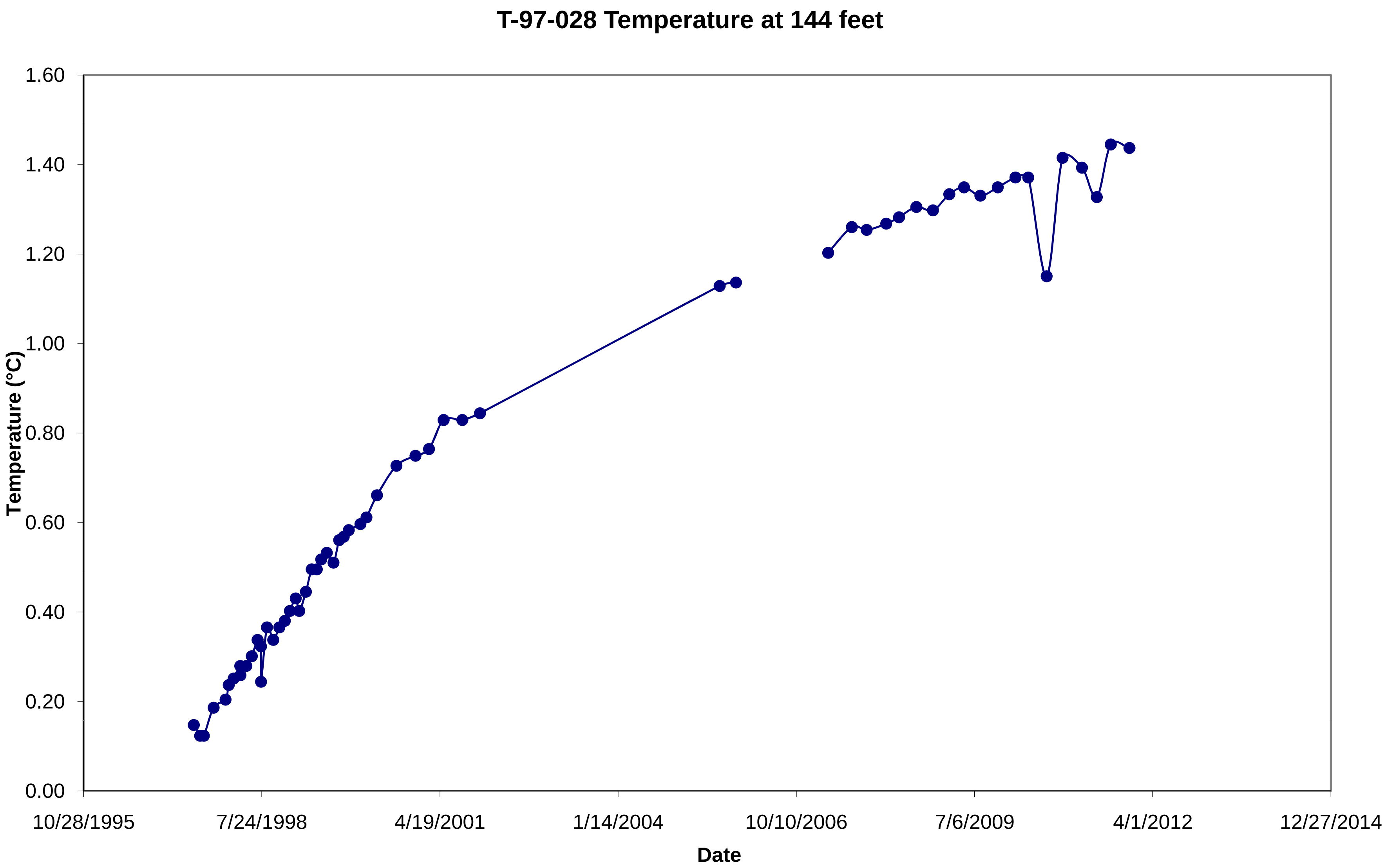


T-97-028 Temperature at 107 feet
Temperature (°C)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

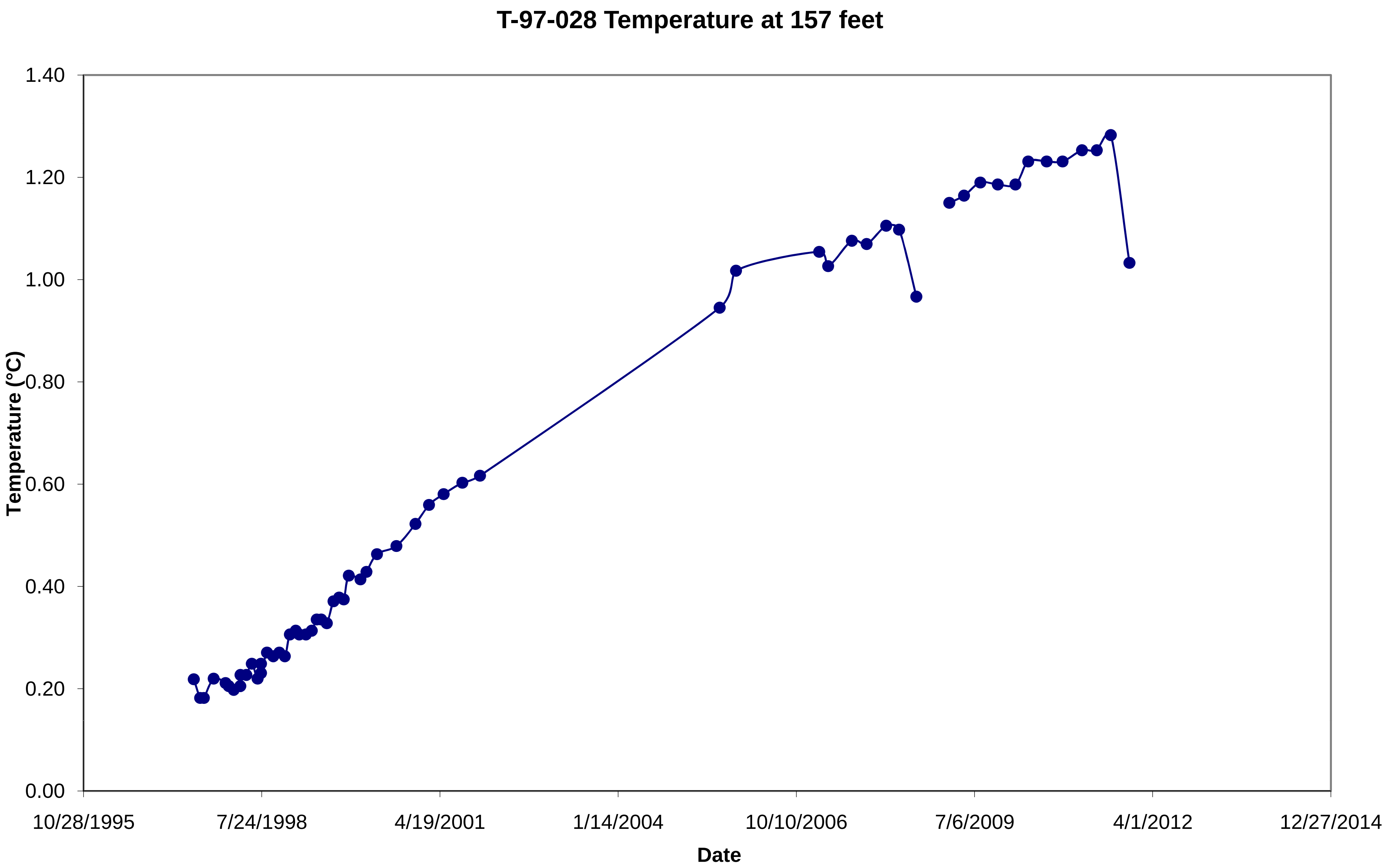


T-97-028 Temperature at 119 feet
Temperature (°C)
2.50
2.00
1.50
1.00
0.50
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

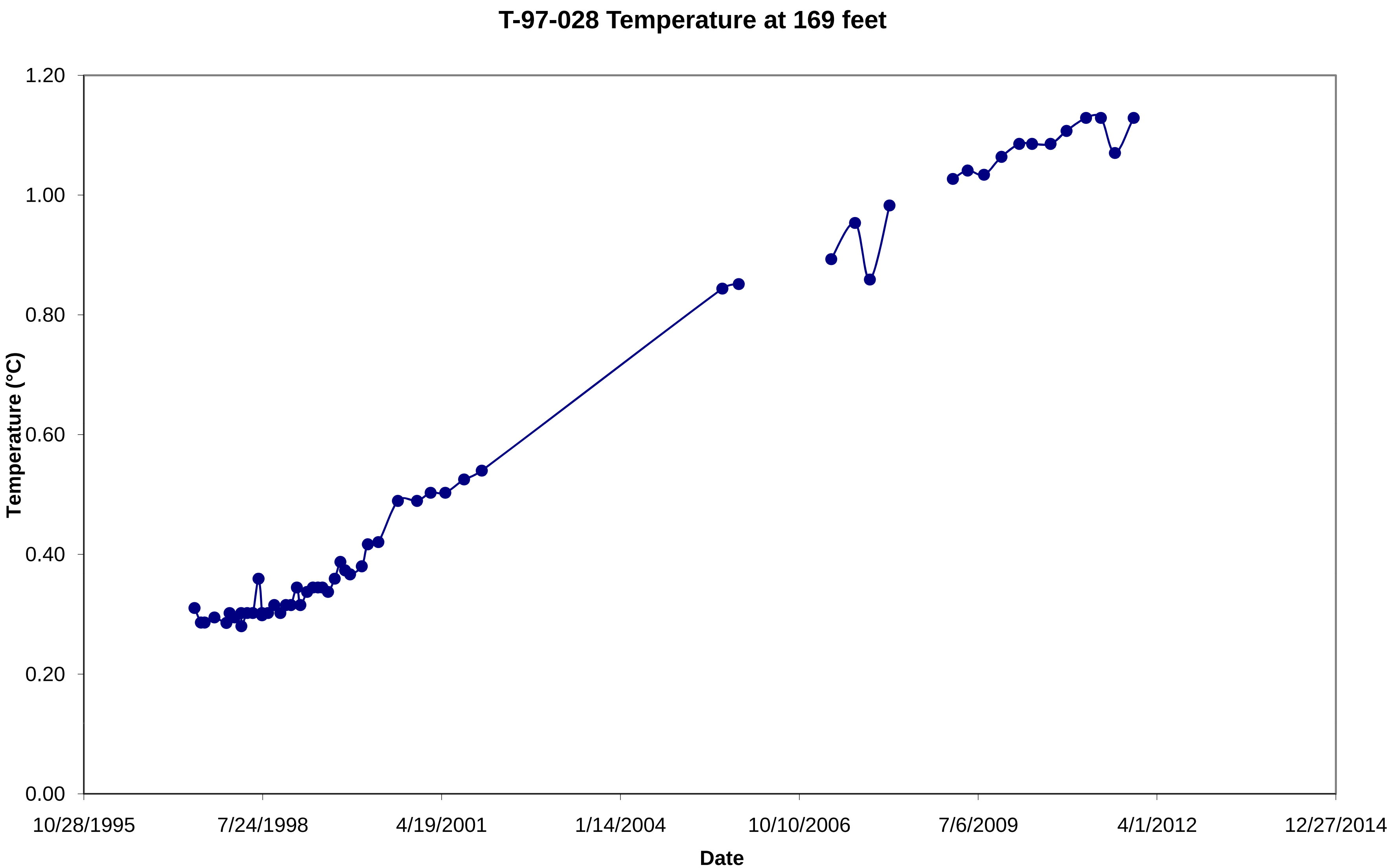

T-97-028 Temperature at 132 feet
Temperature (°C)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

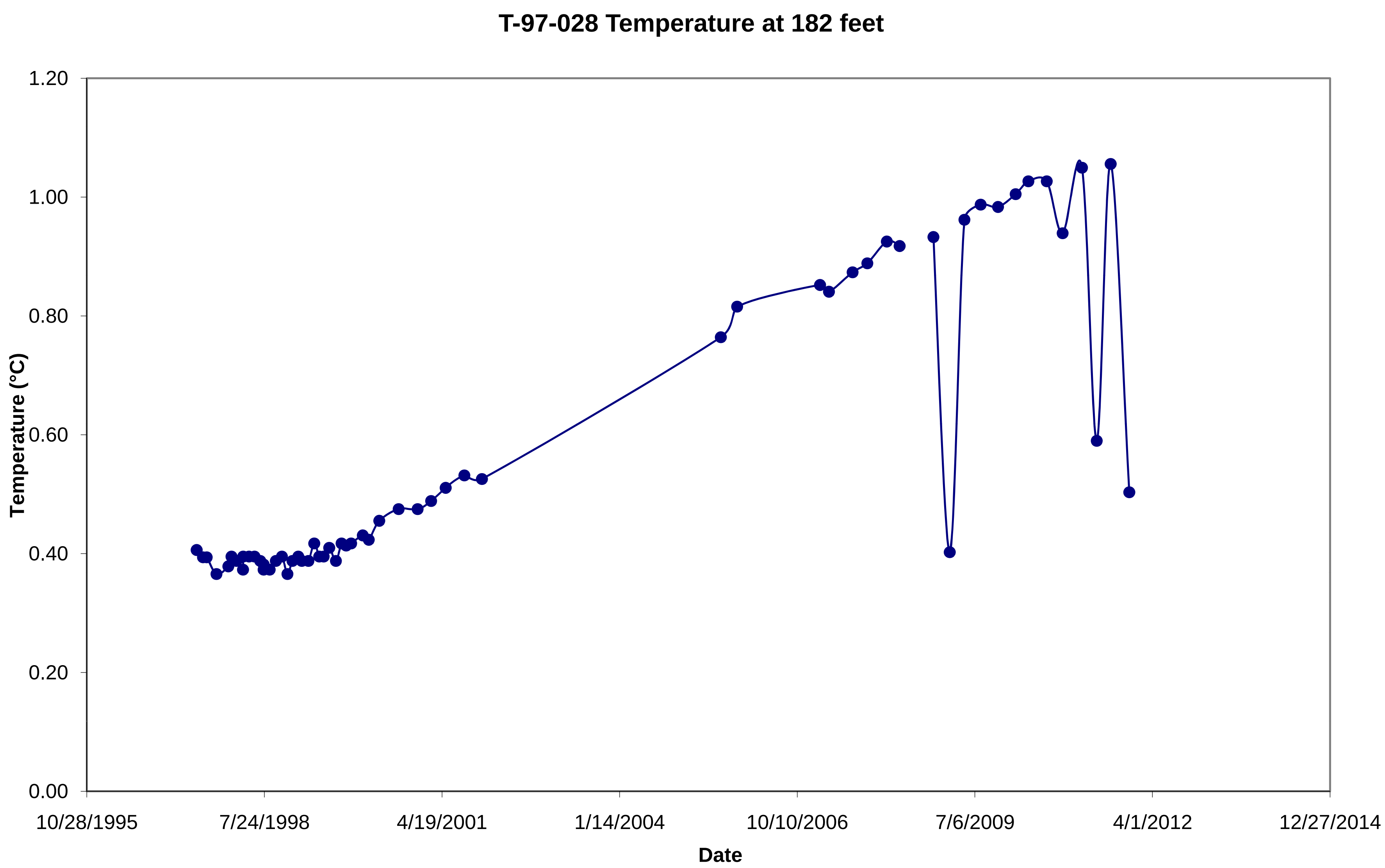


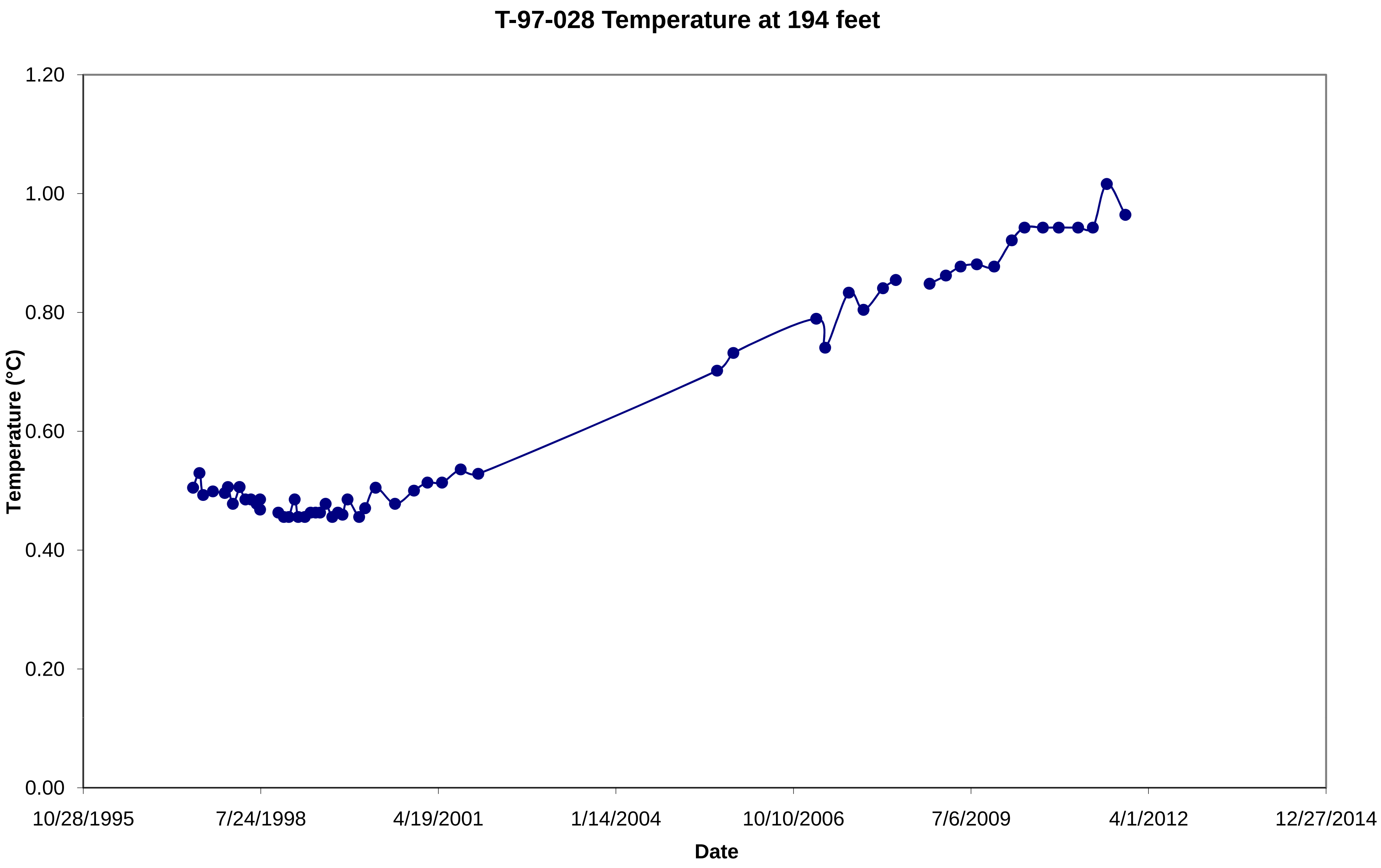
T-97-028 Temperature at 144 feet
Temperature (°C)
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



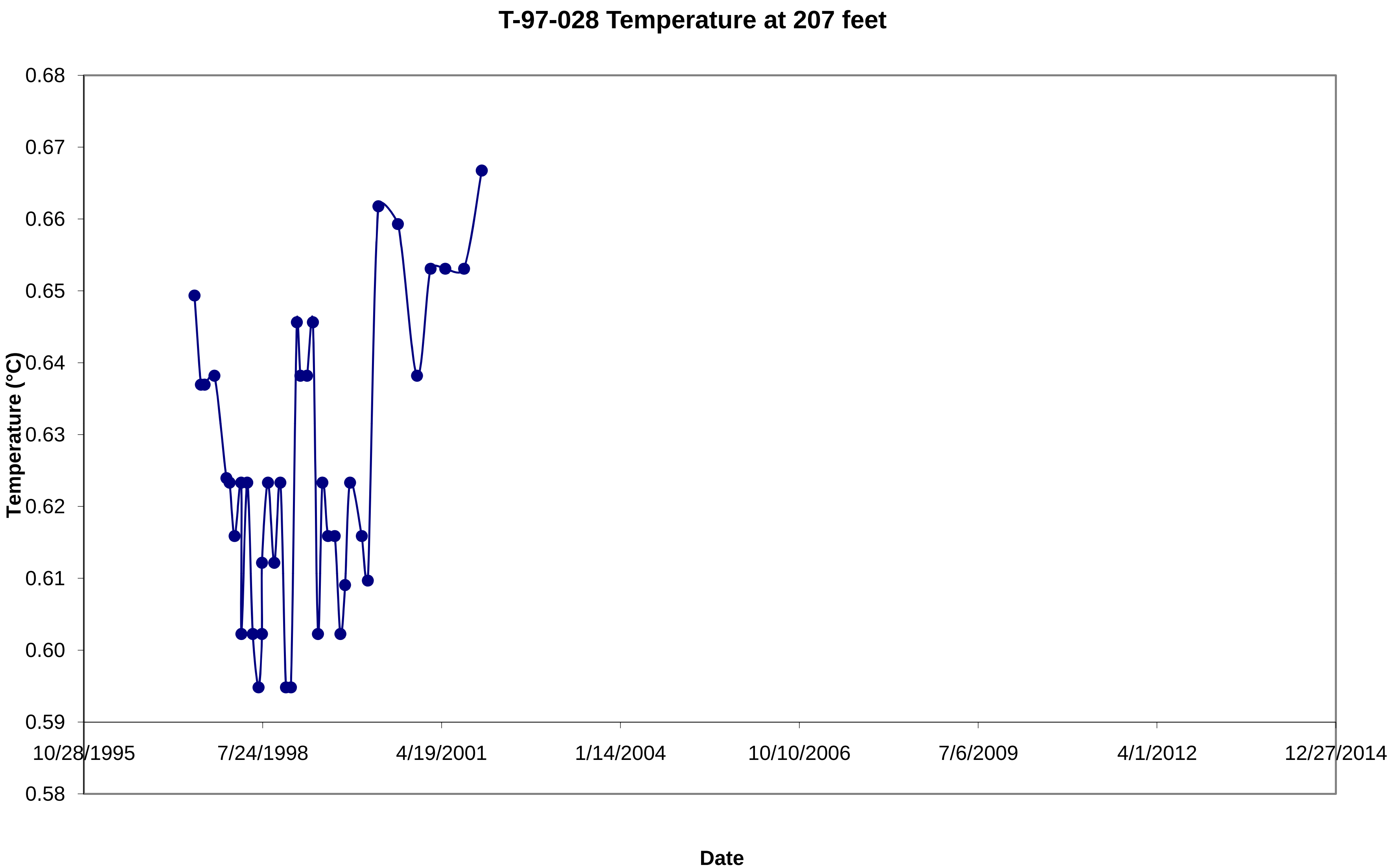
T-97-028 Temperature at 157 feet
Temperature (°C)
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-97-028 Temperature at 169 feet
Temperature (°C)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

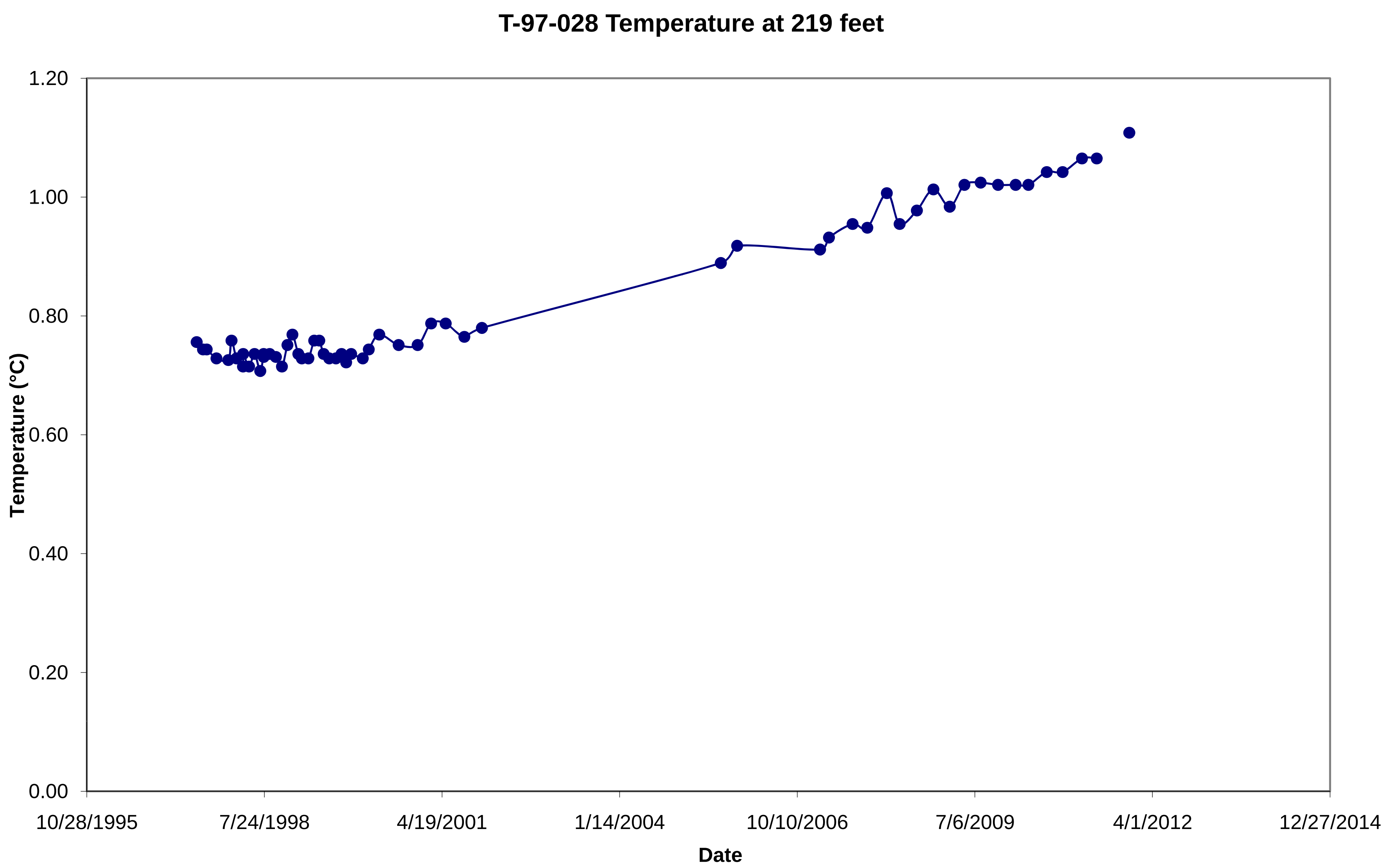

T-97-028 Temperature at 182 feet
Temperature (°C)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



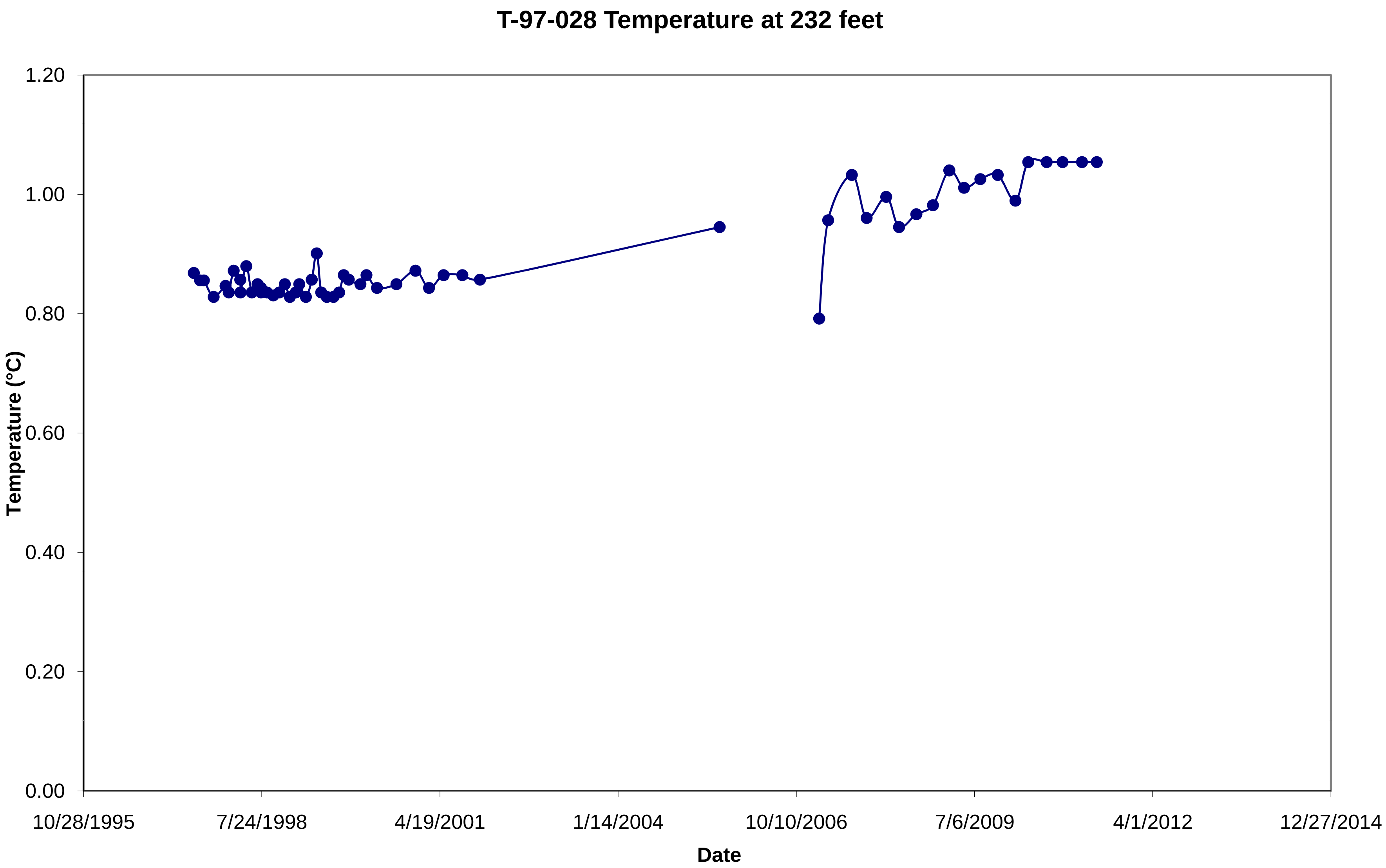
T-97-028 Temperature at 194 feet
Temperature (°C)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date



T-97-028 Temperature at 207 feet
Temperature (°C)
0.68
0.67
0.66
0.65
0.64
0.63
0.62
0.61
0.60
0.59
0.58
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

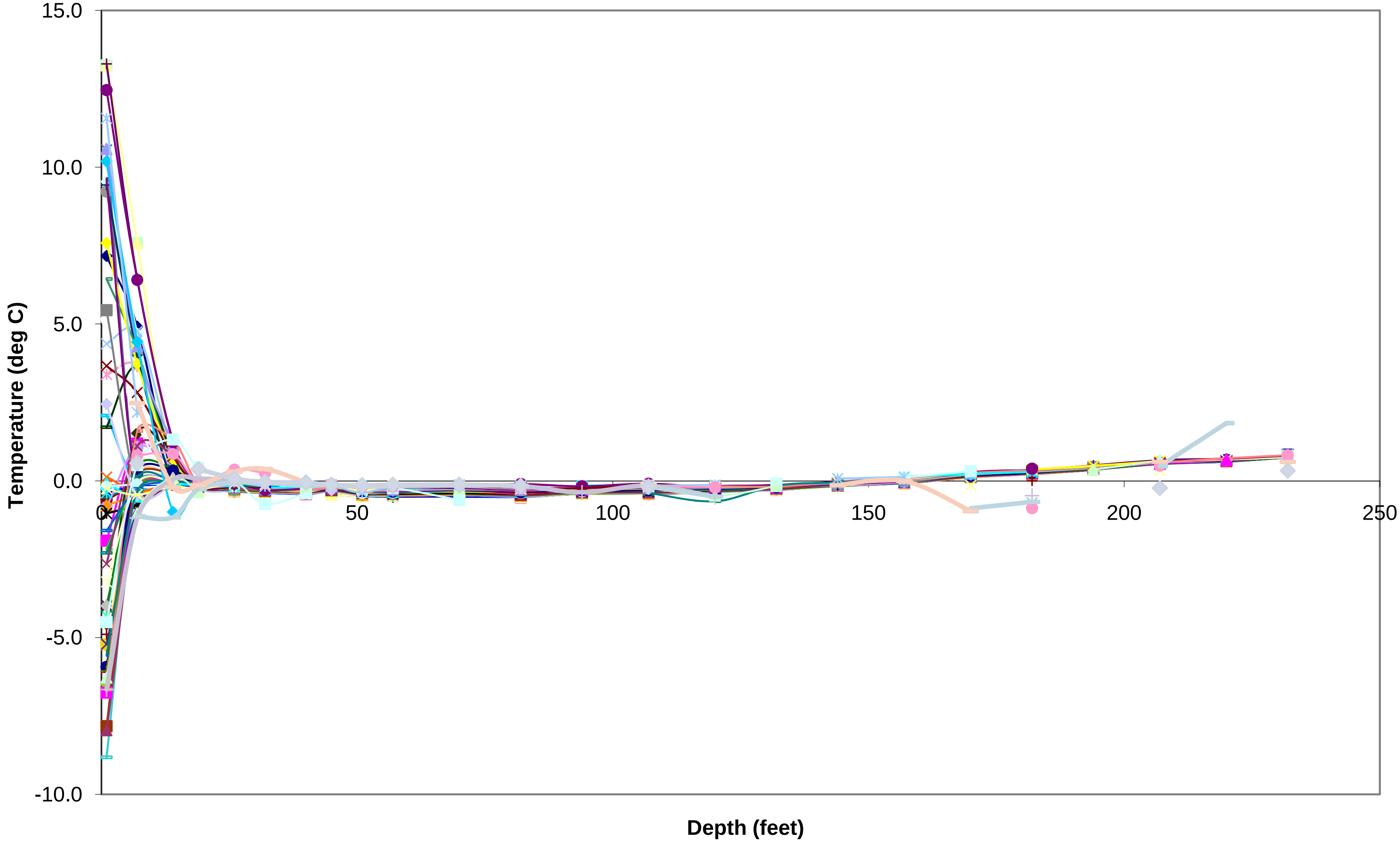


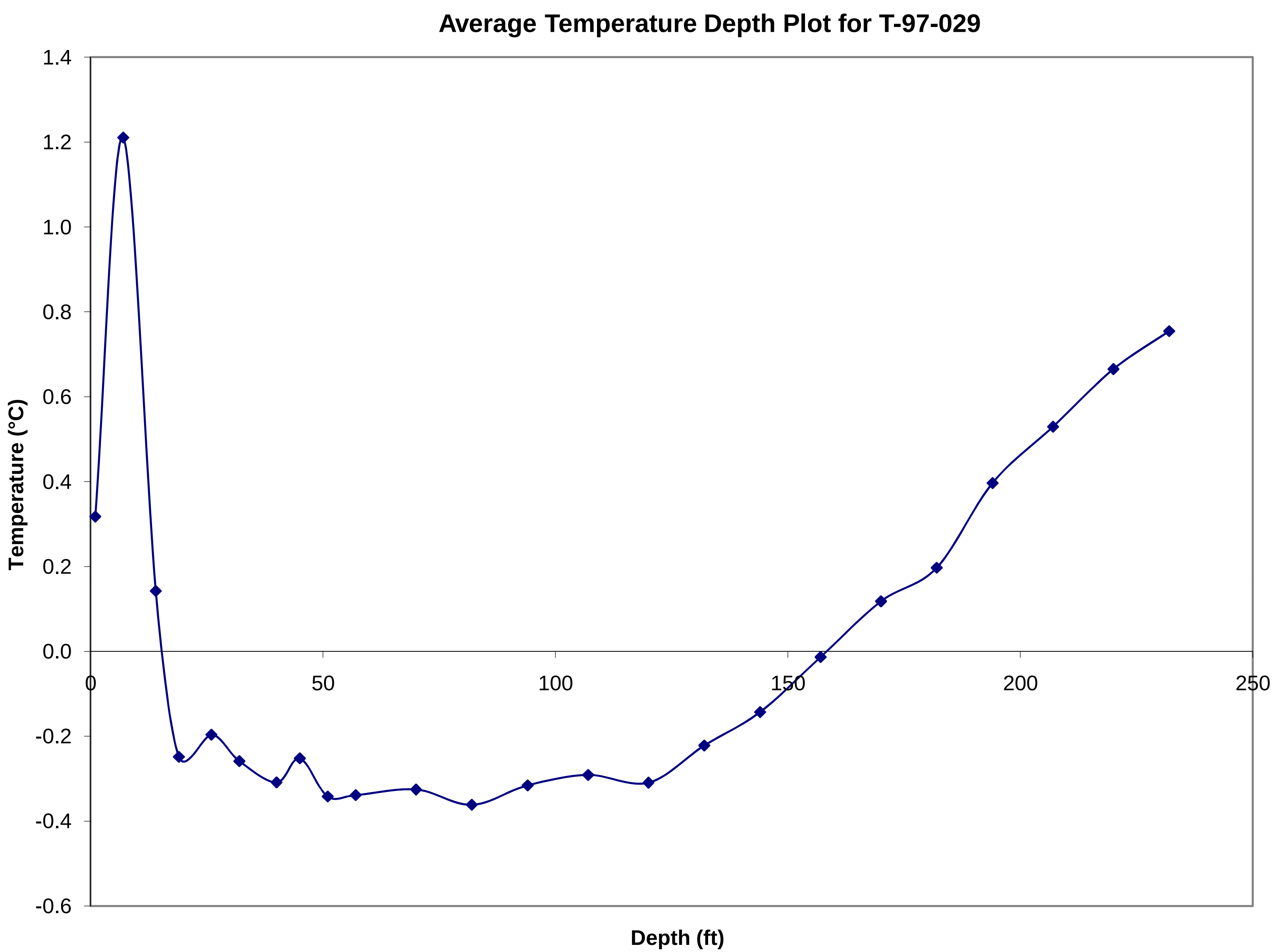
T-97-028 Temperature at 219 feet
Temperature (°C)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

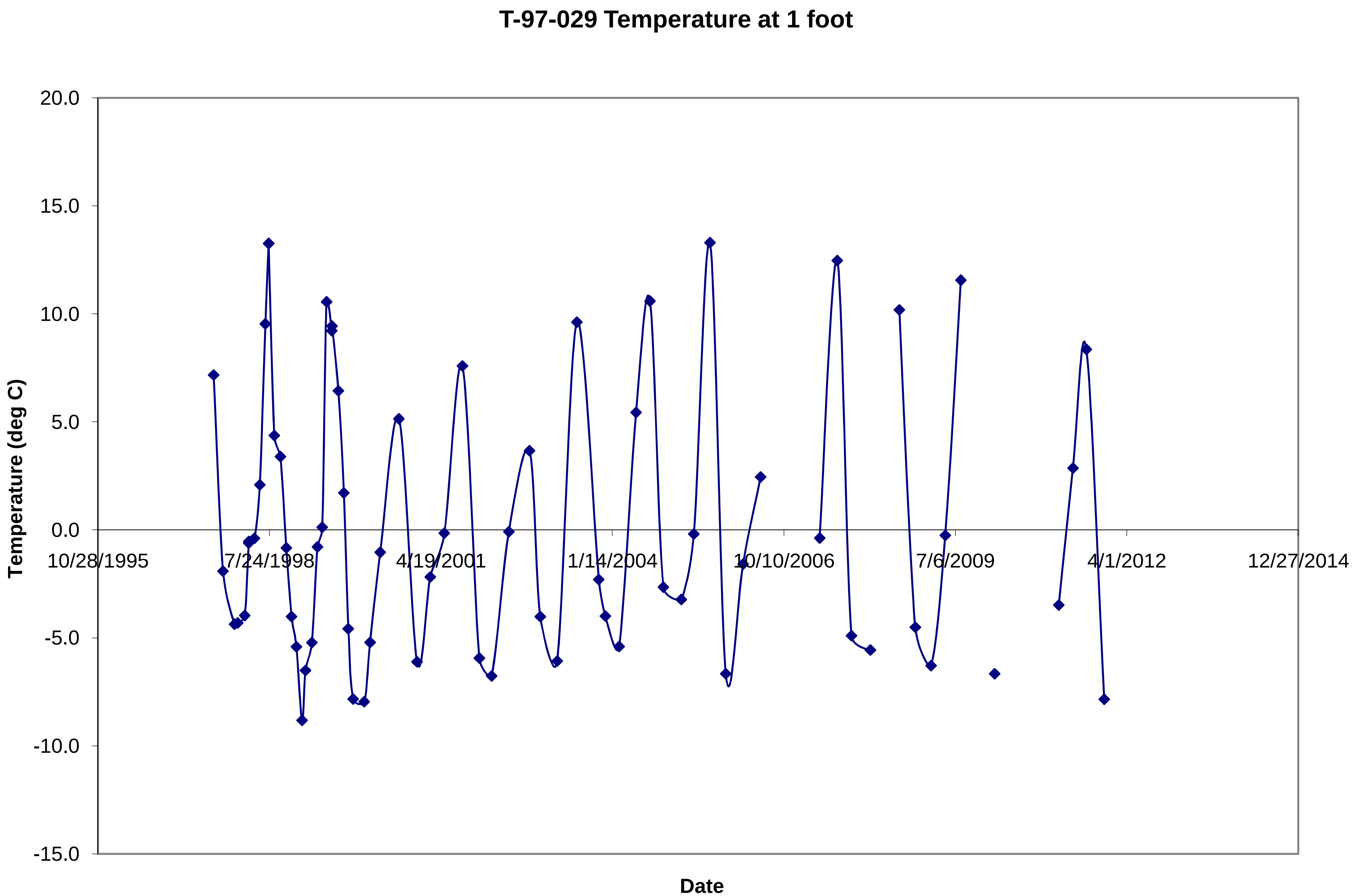

T-97-028 Temperature at 232 feet
Temperature (°C)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

T-97-029

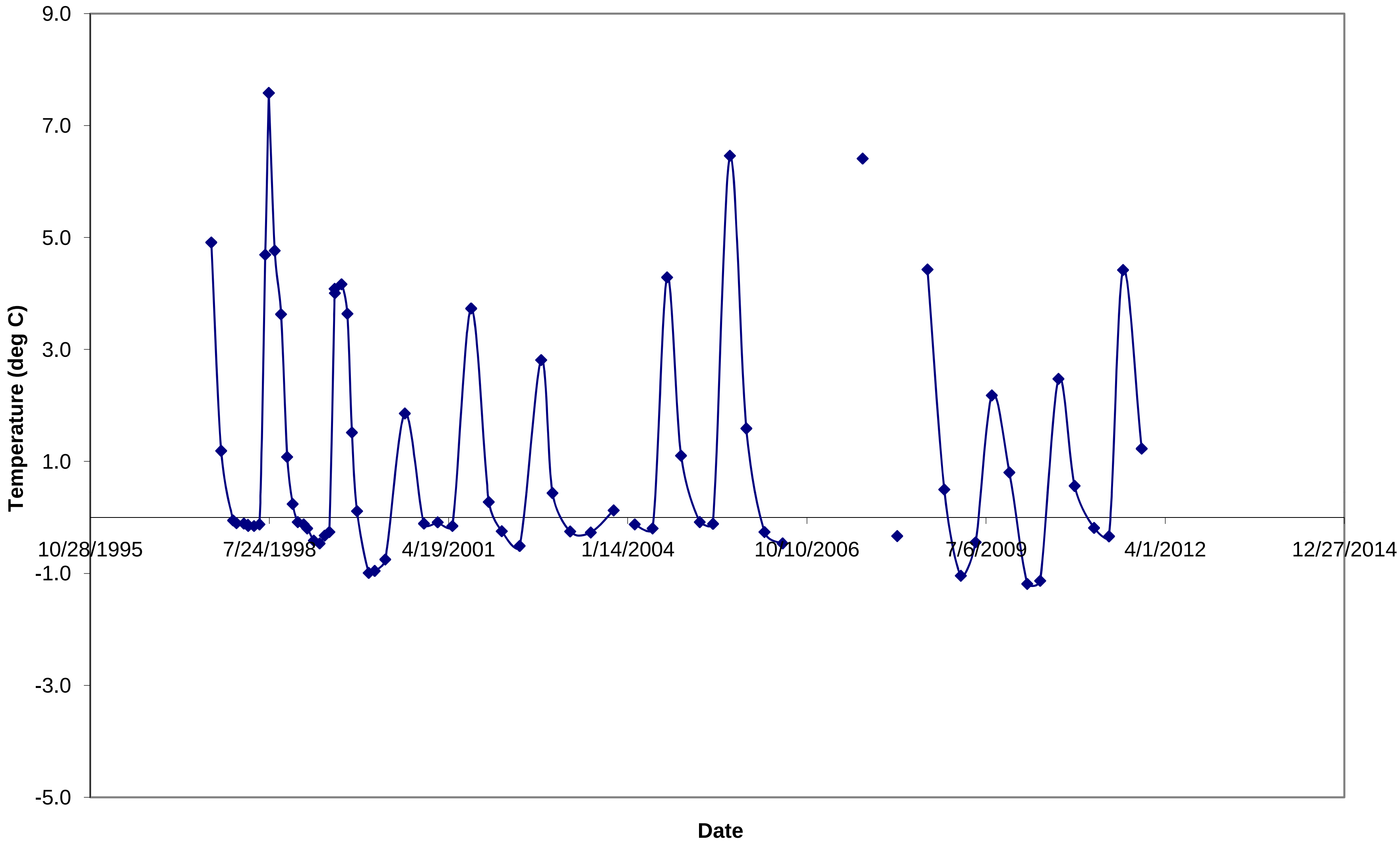
Temperature depth plot - T-97-029

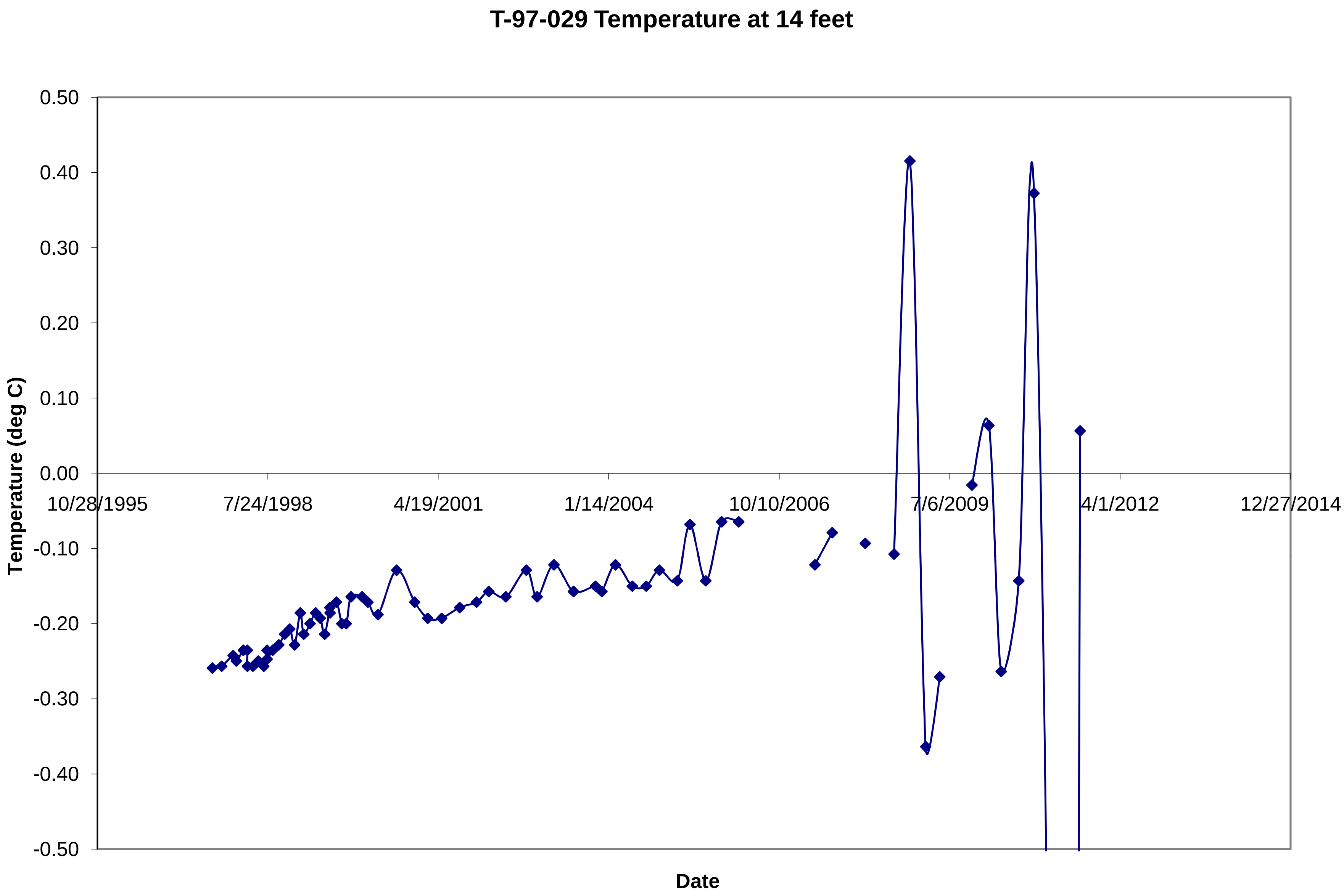



Average Temperature Depth Plot for T-97-029
Temperature (°C)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
0
50
100
150
200
250
Depth (ft)

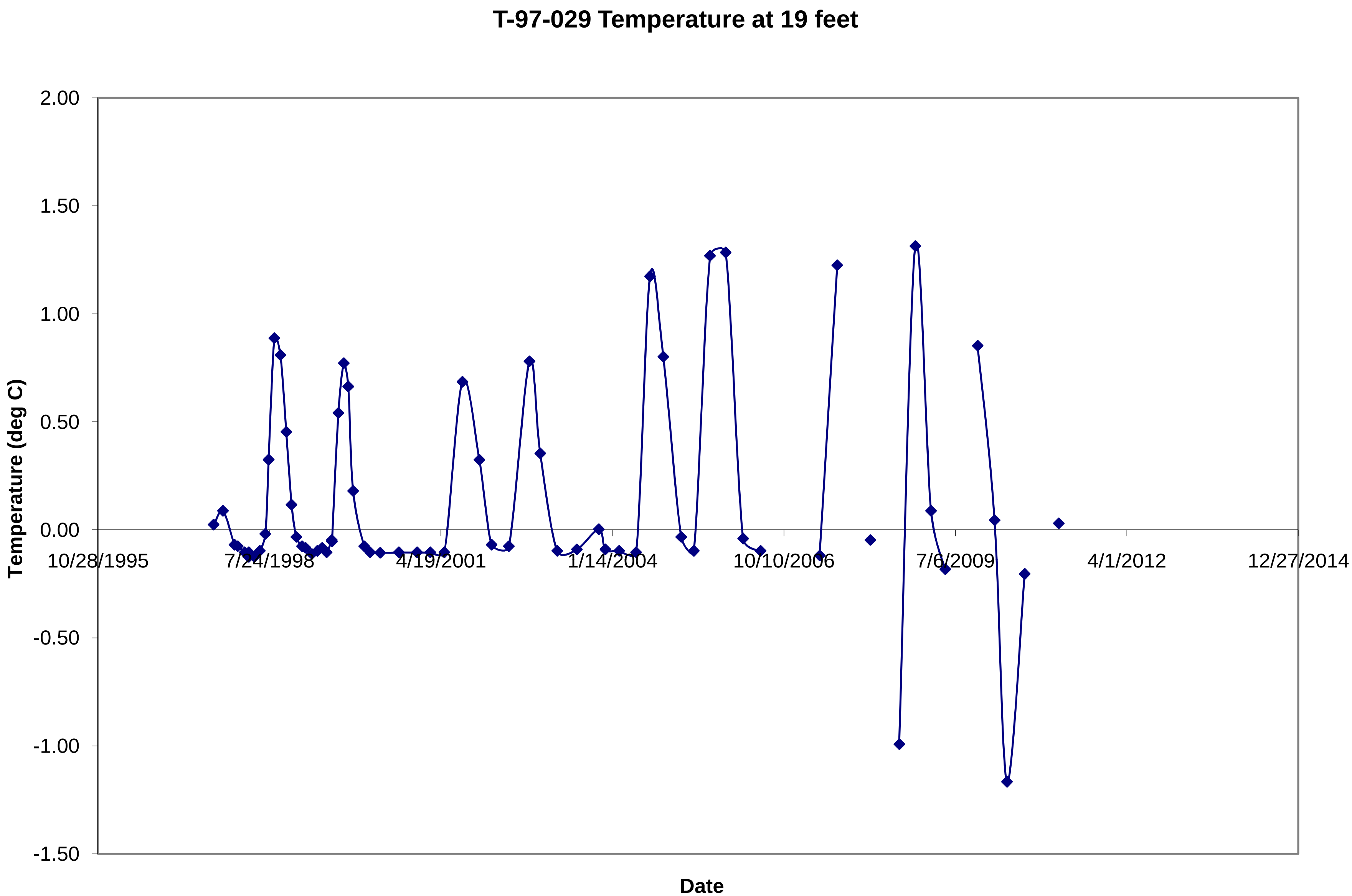

T-97-029 Temperature at 1 foot
20.0
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

T-97-029 Temperature at 7 feet

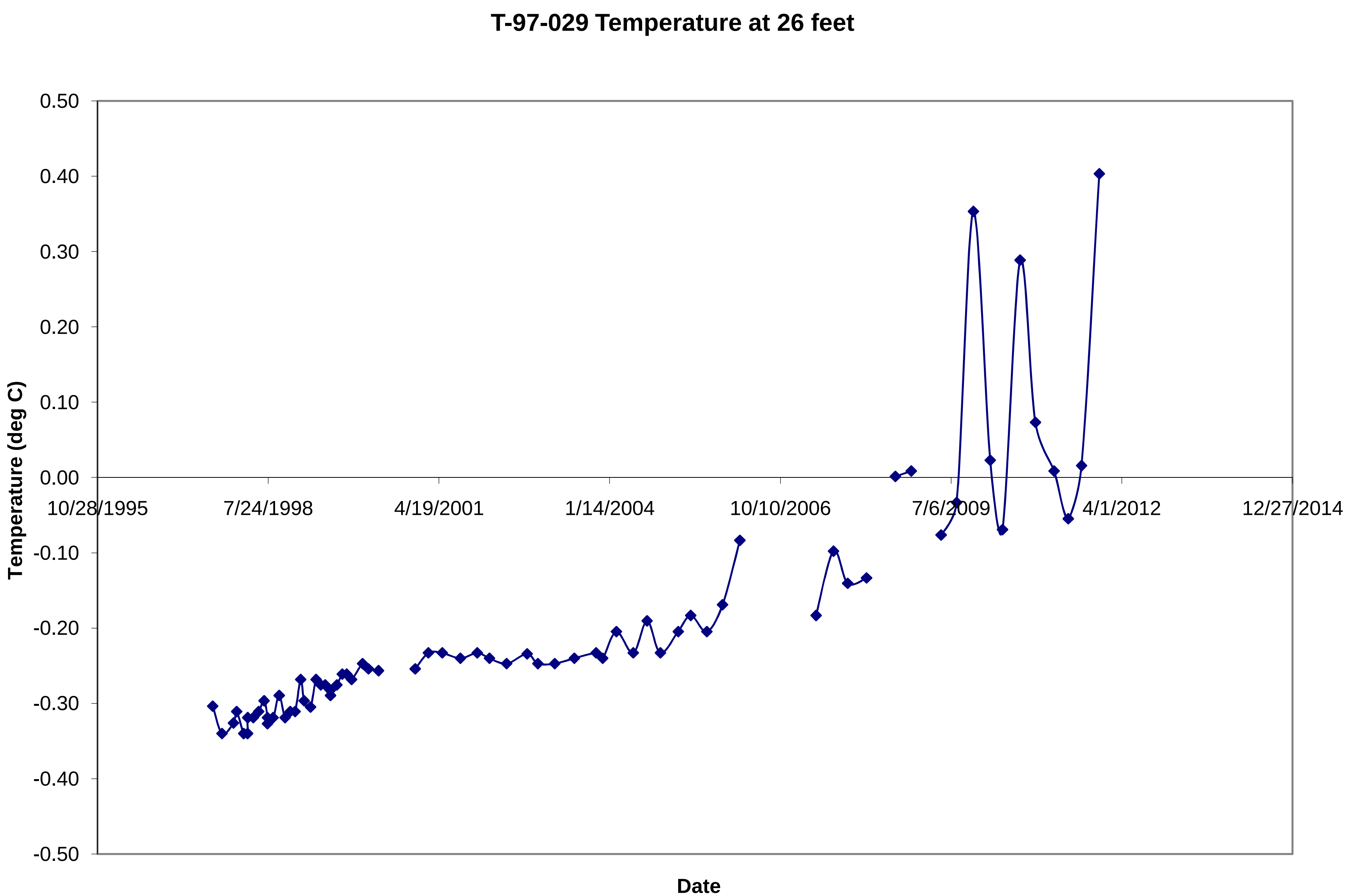


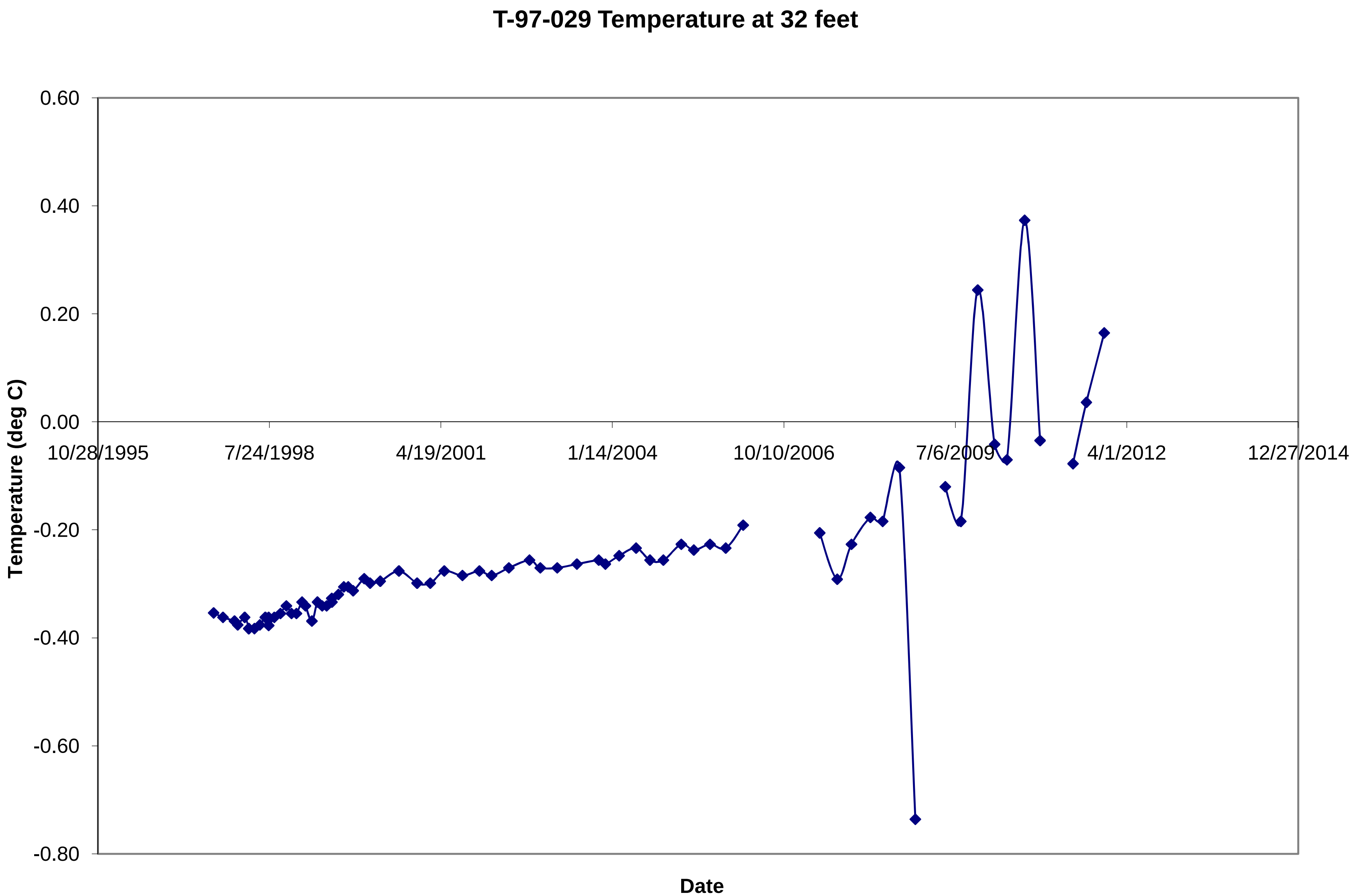


T-97-029 Temperature at 14 feet
Temperature (deg C)
0.50
0.40
0.30
0.20
0.10
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

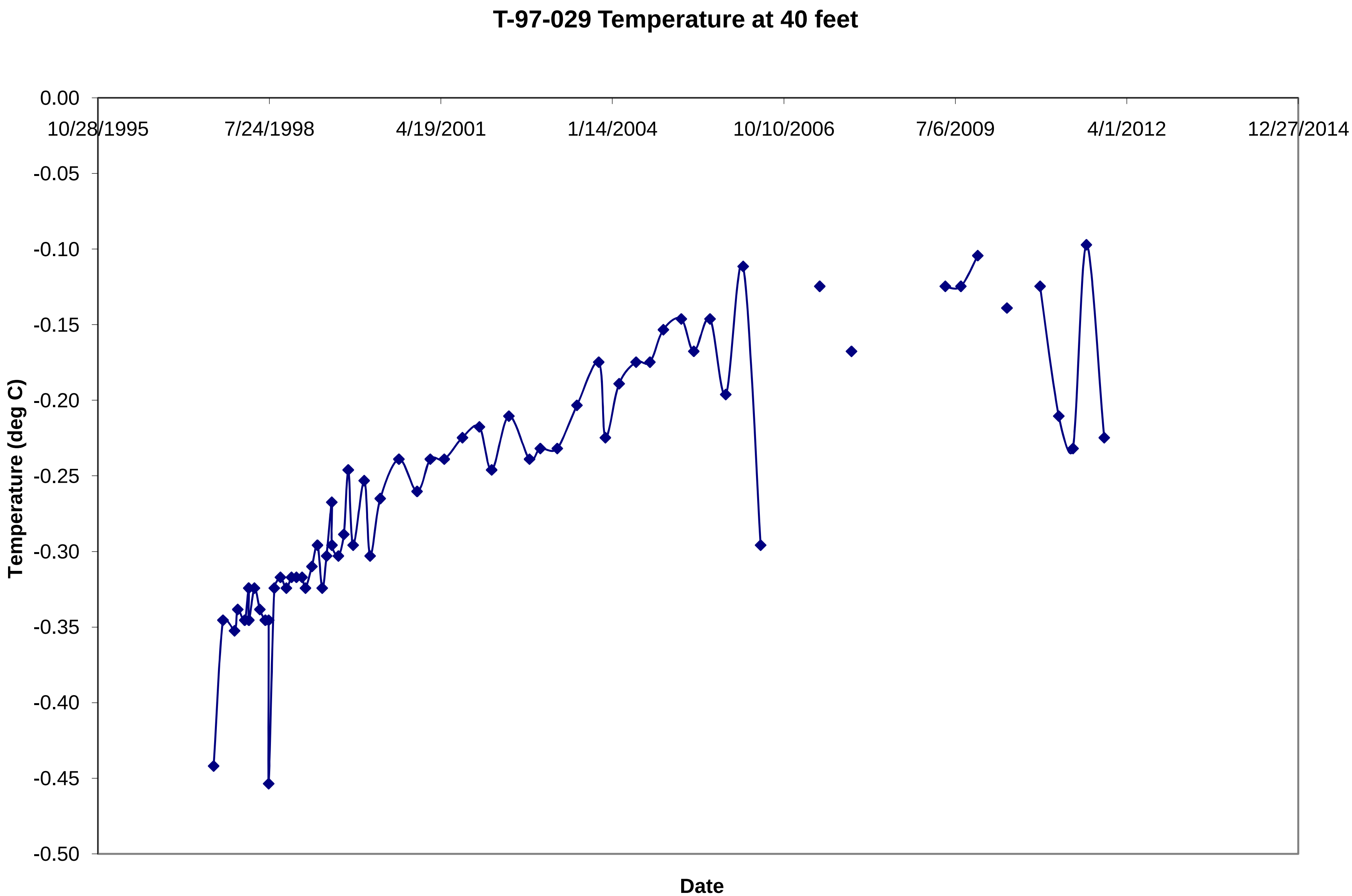


T-97-029 Temperature at 19 feet
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

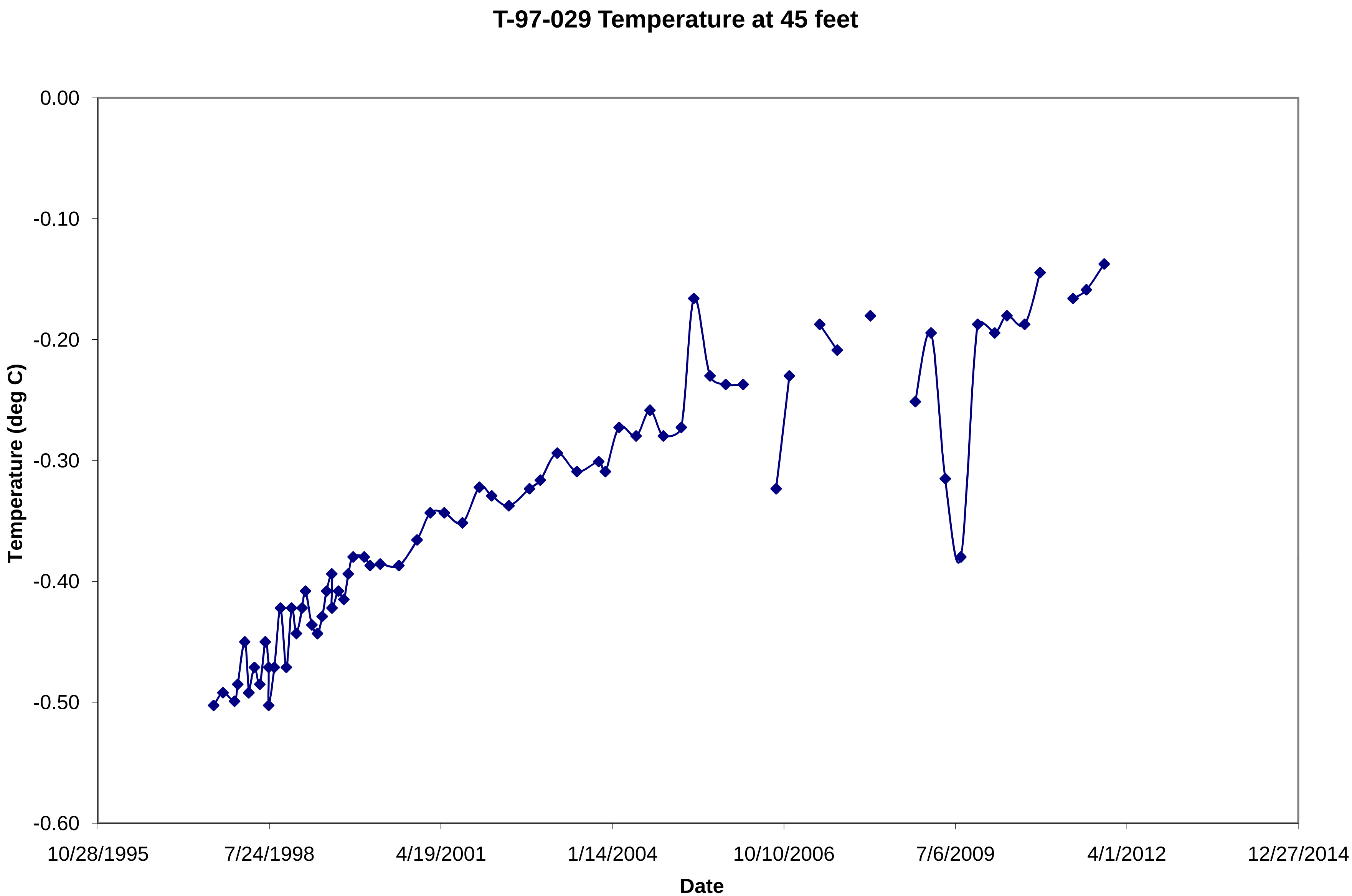

T-97-029 Temperature at 26 feet
Temperature (deg C)
0.50
0.40
0.30
0.20
0.10
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

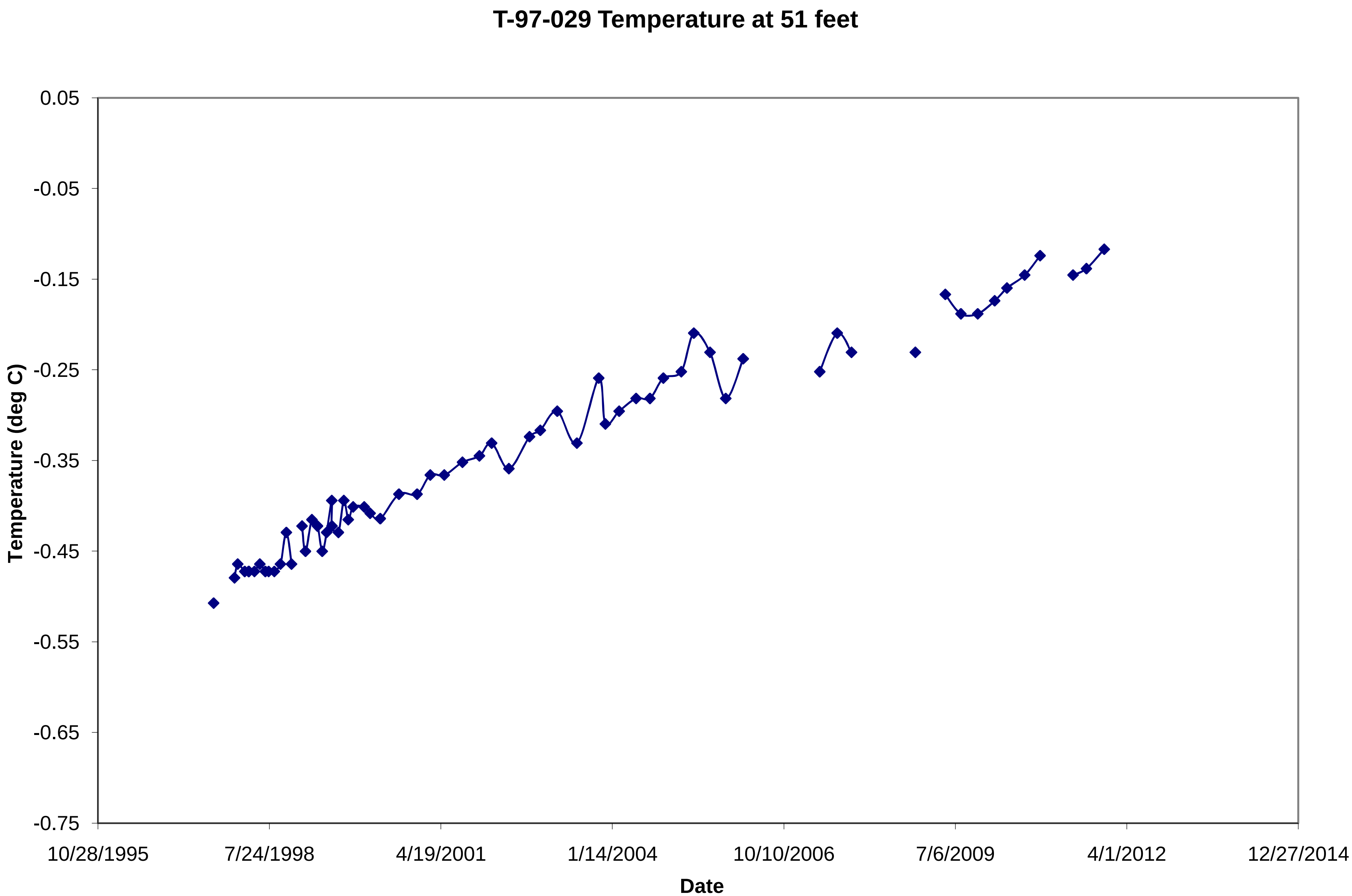


T-97-029 Temperature at 32 feet
Temperature (deg C)
0.60
0.40
0.20
0.00
-0.20
-0.40
-0.60
-0.80
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

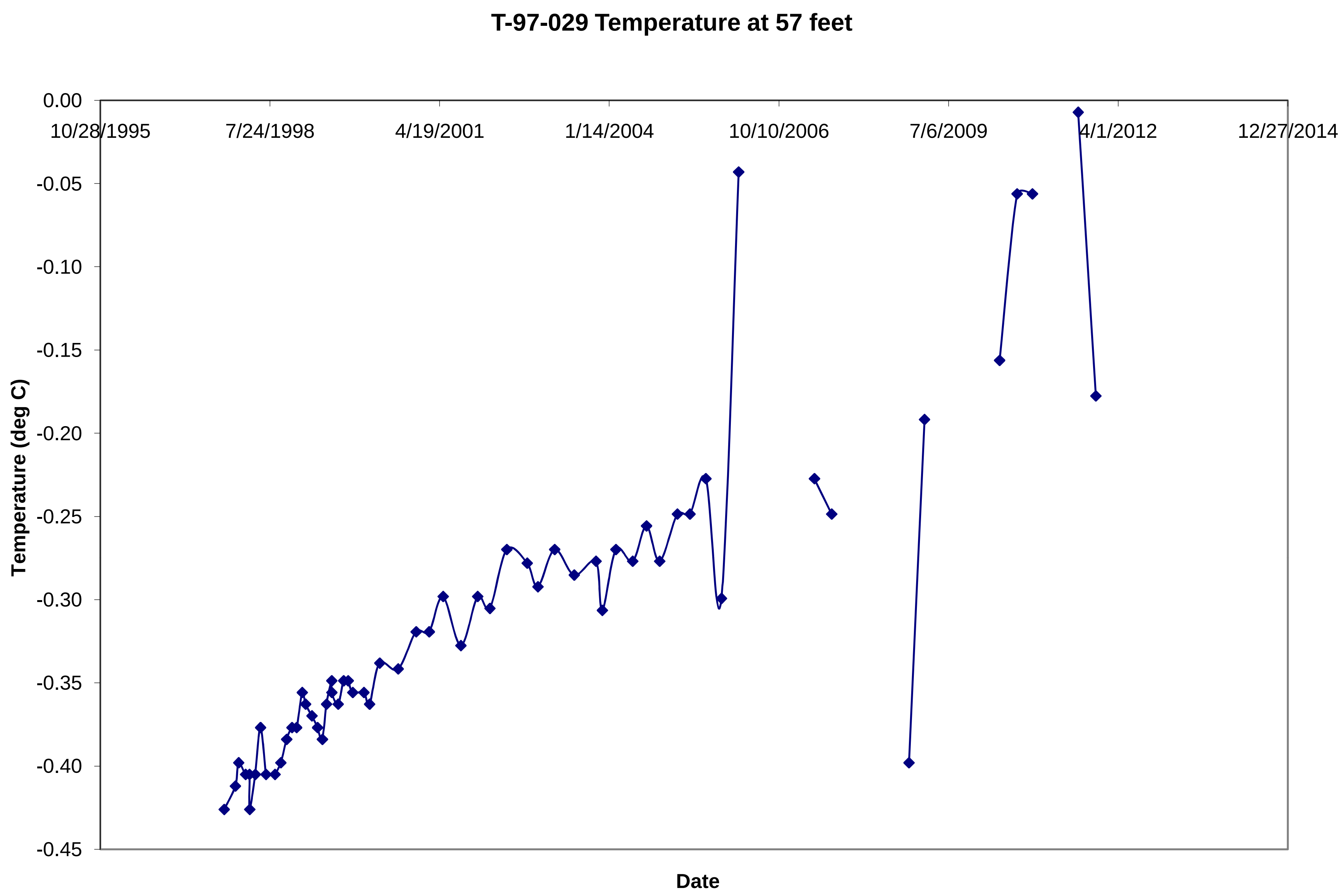


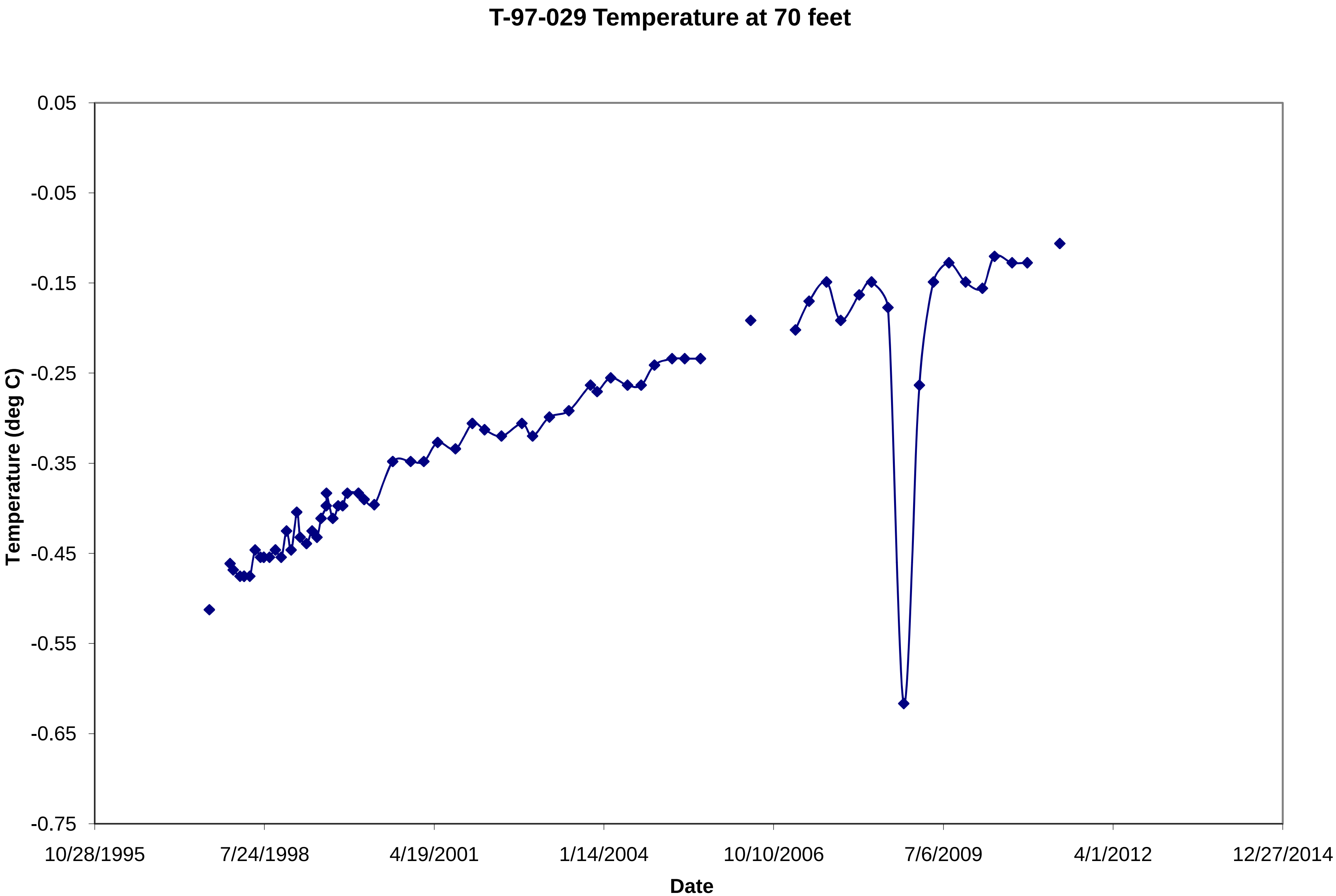
T-97-029 Temperature at 40 feet
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
-0.35
-0.40
-0.45
-0.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Temperature (deg C)
Date


T-97-029 Temperature at 45 feet
Temperature (deg C)
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
-0.60
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

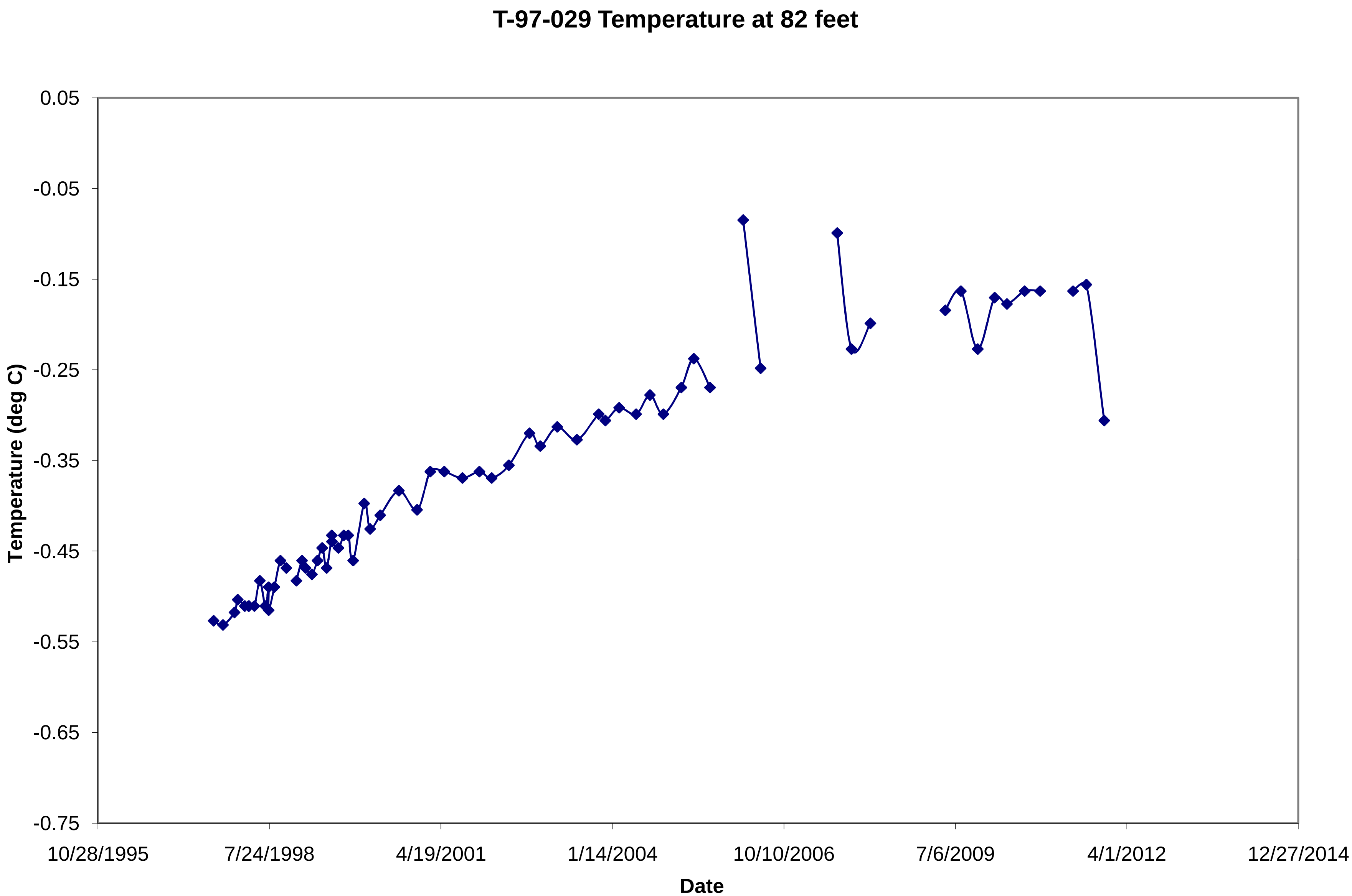


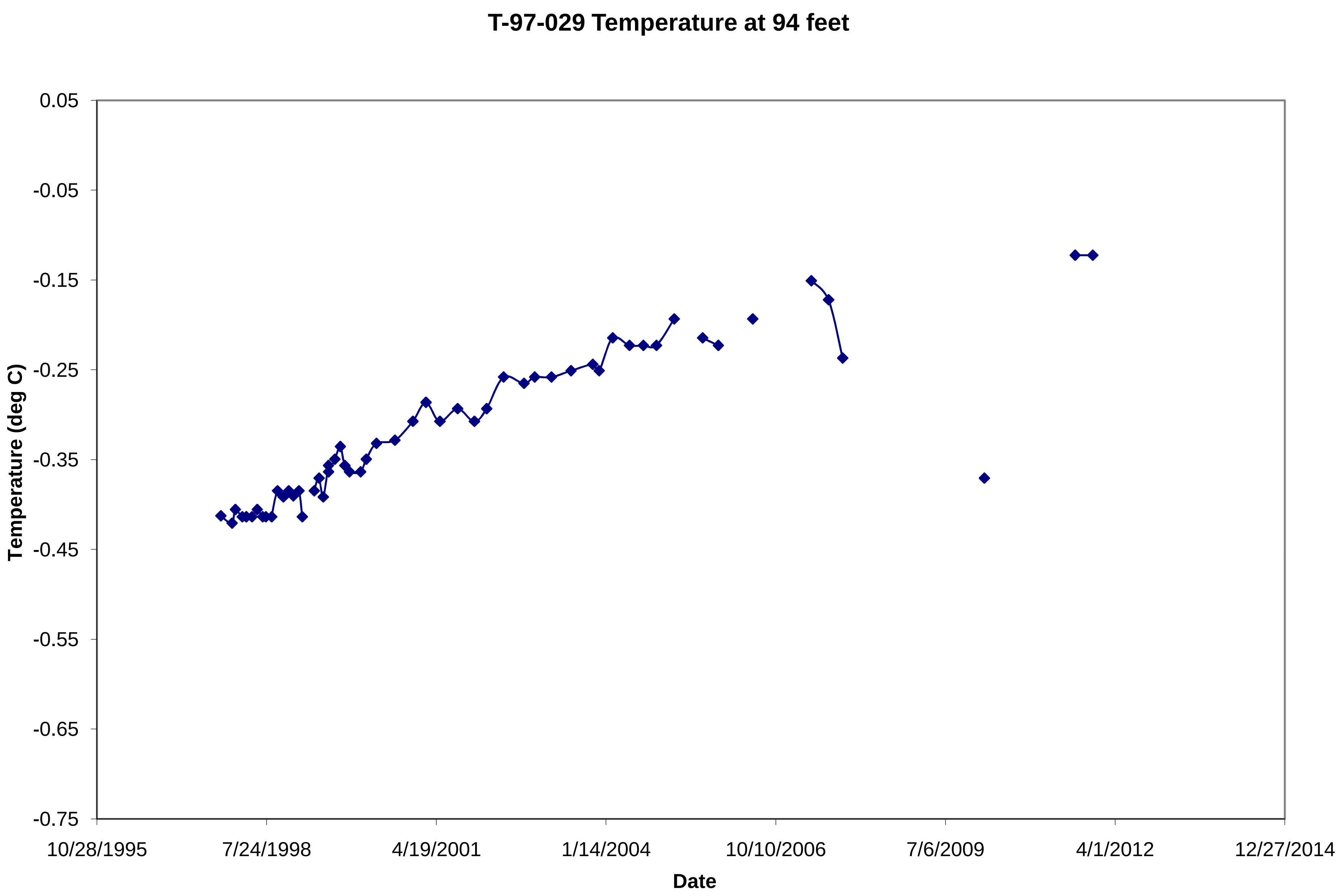
T-97-029 Temperature at 51 feet
Temperature (deg C)
0.05
-0.05
-0.15
-0.25
-0.35
-0.45
-0.55
-0.65
-0.75
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

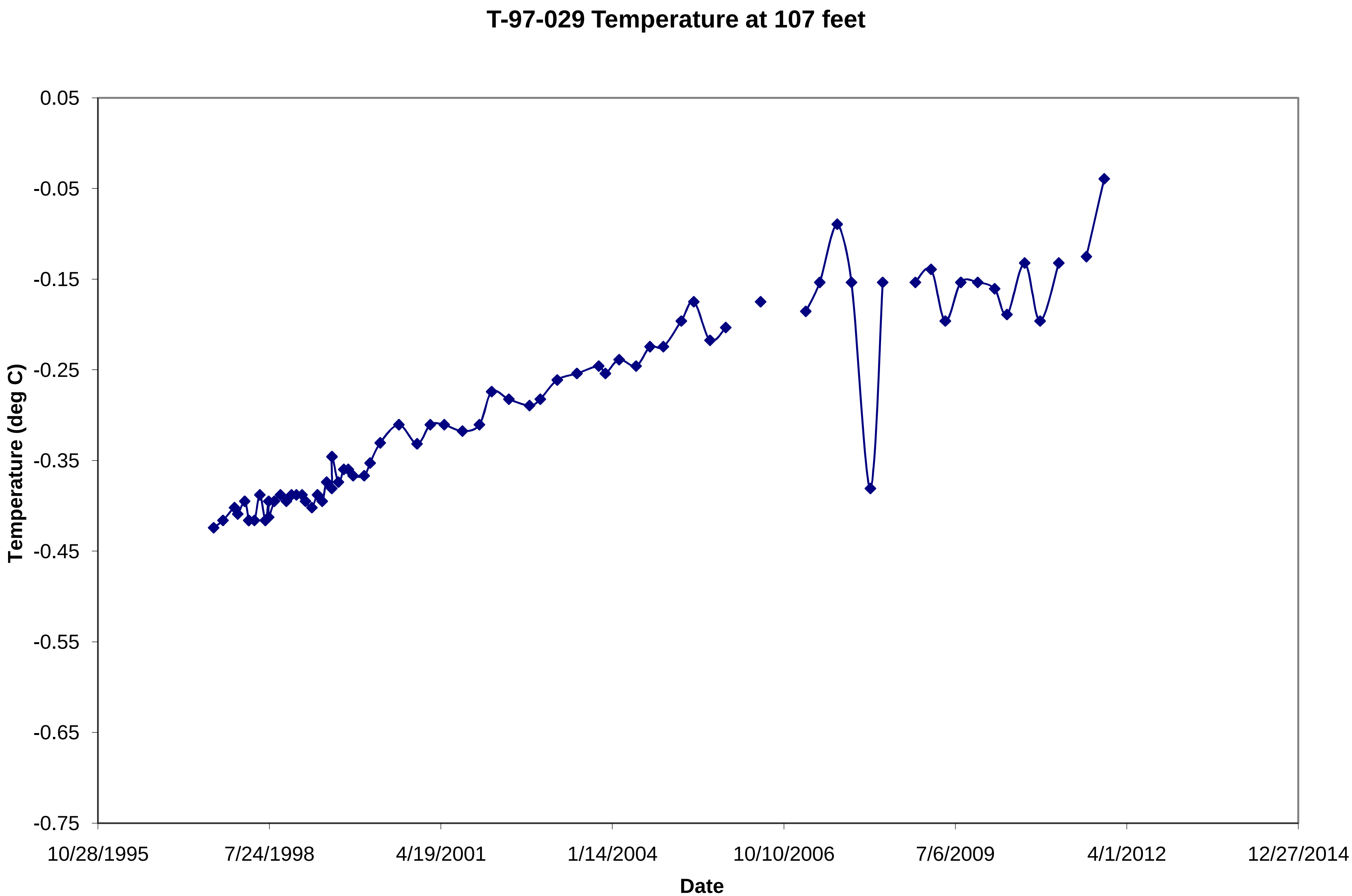

T-97-029 Temperature at 57 feet
Temperature (deg C)
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
-0.35
-0.40
-0.45
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

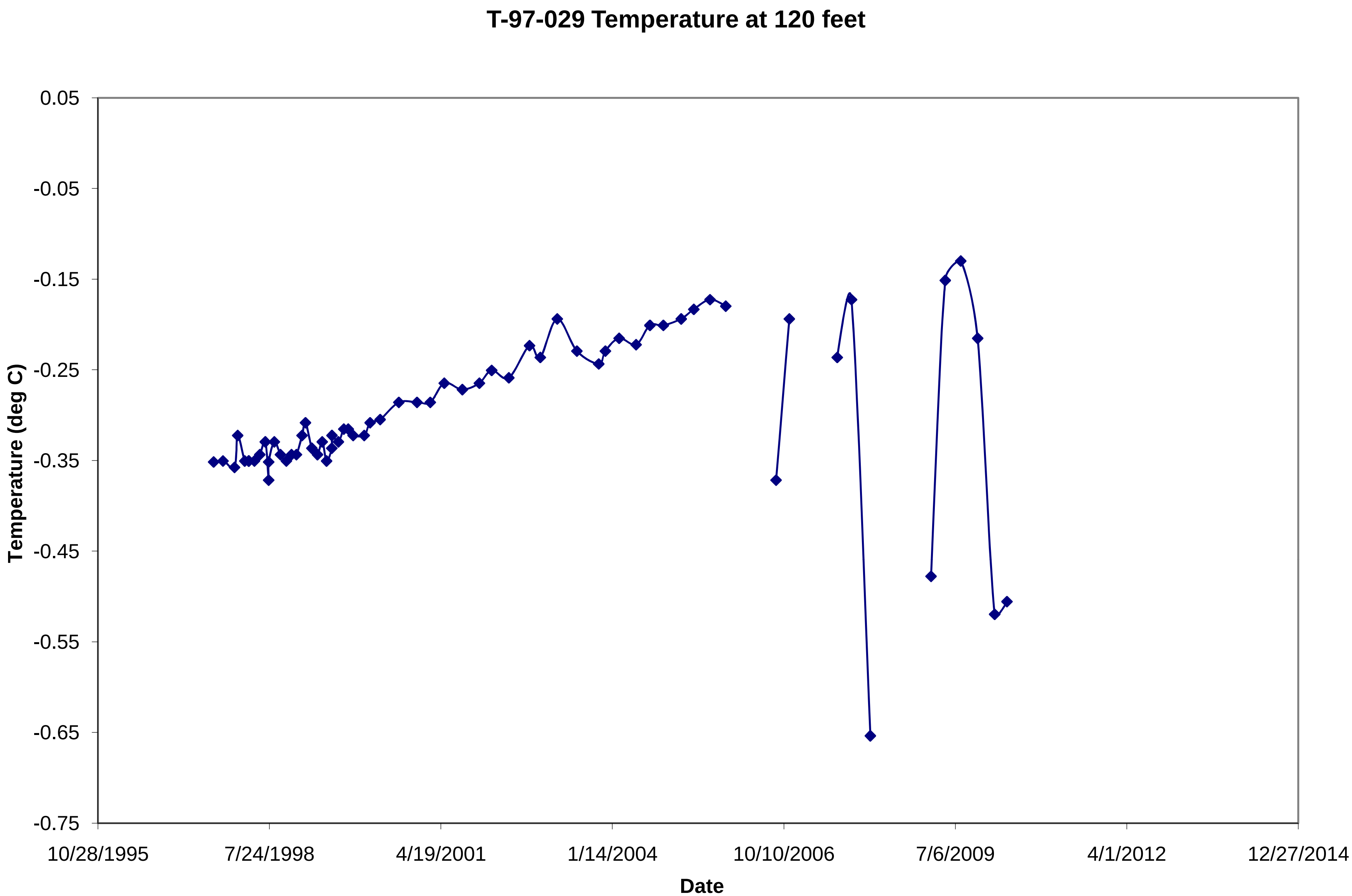


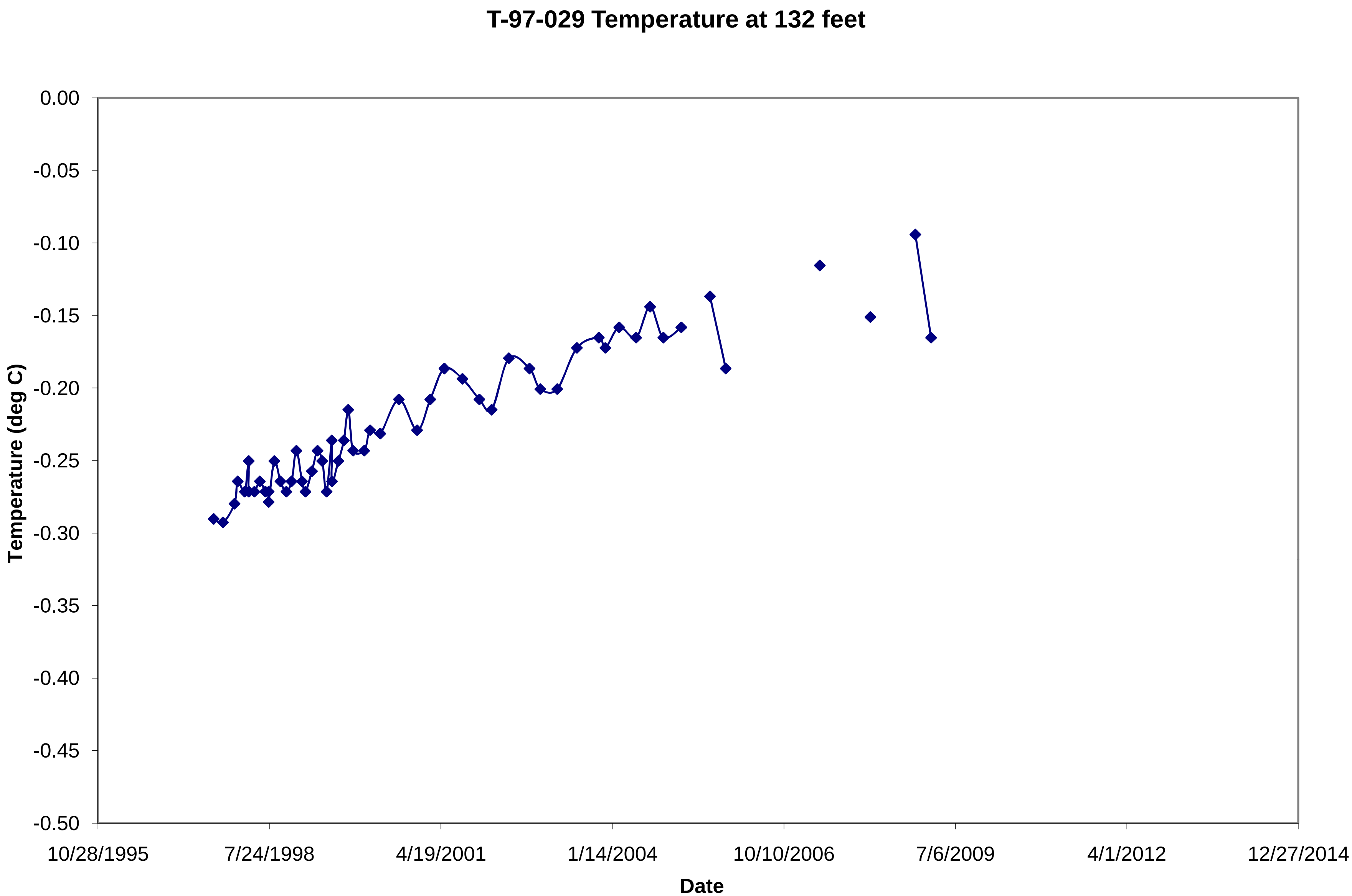
T-97-029 Temperature at 70 feet
0.05
-0.05
-0.15
-0.25
-0.35
-0.45
-0.55
-0.65
-0.75
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-97-029 Temperature at 82 feet
Temperature (deg C)
0.05
-0.05
-0.15
-0.25
-0.35
-0.45
-0.55
-0.65
-0.75
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

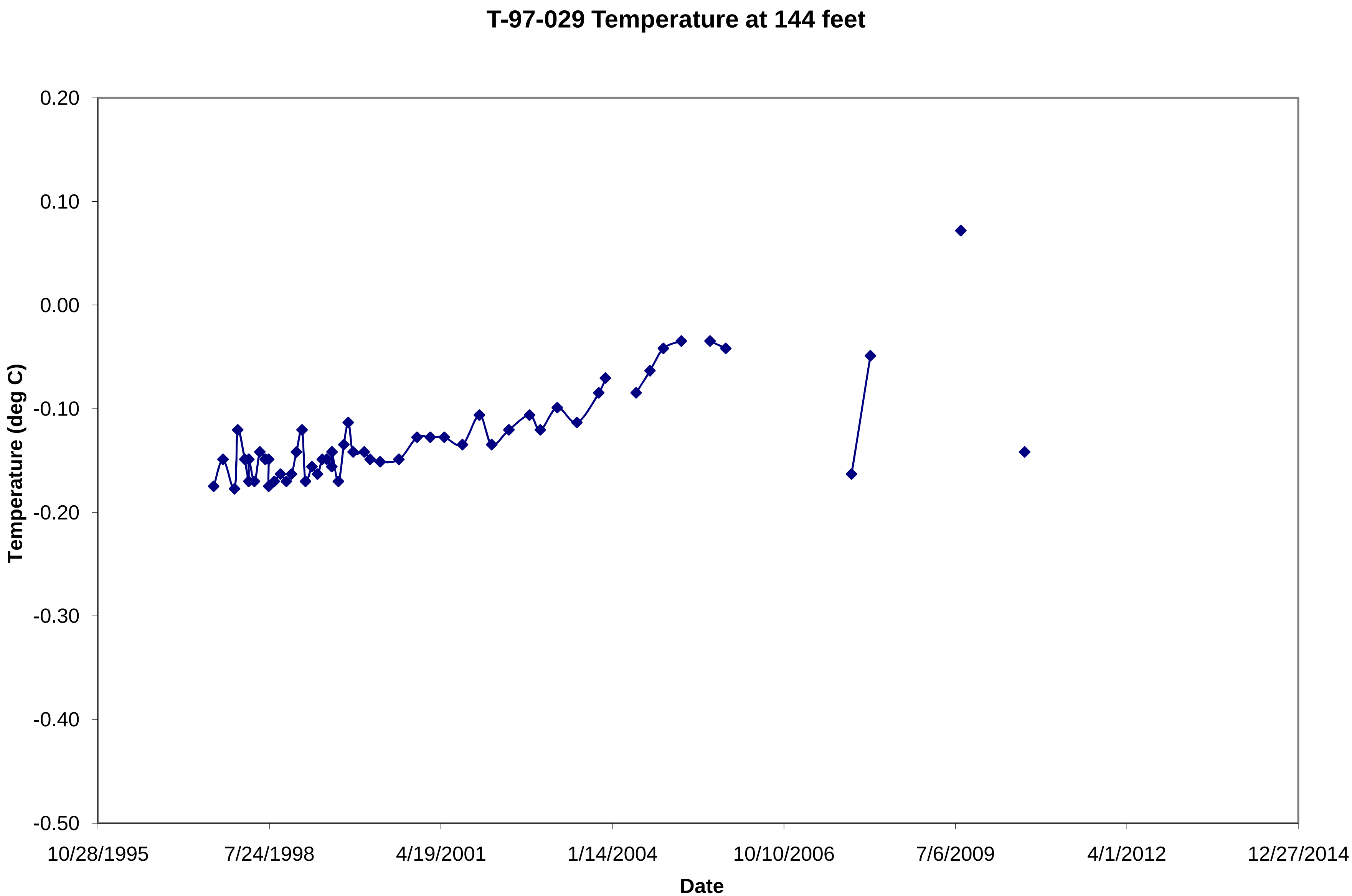

T-97-029 Temperature at 94 feet
Temperature (deg C)
0.05
-0.05
-0.15
-0.25
-0.35
-0.45
-0.55
-0.65
-0.75
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

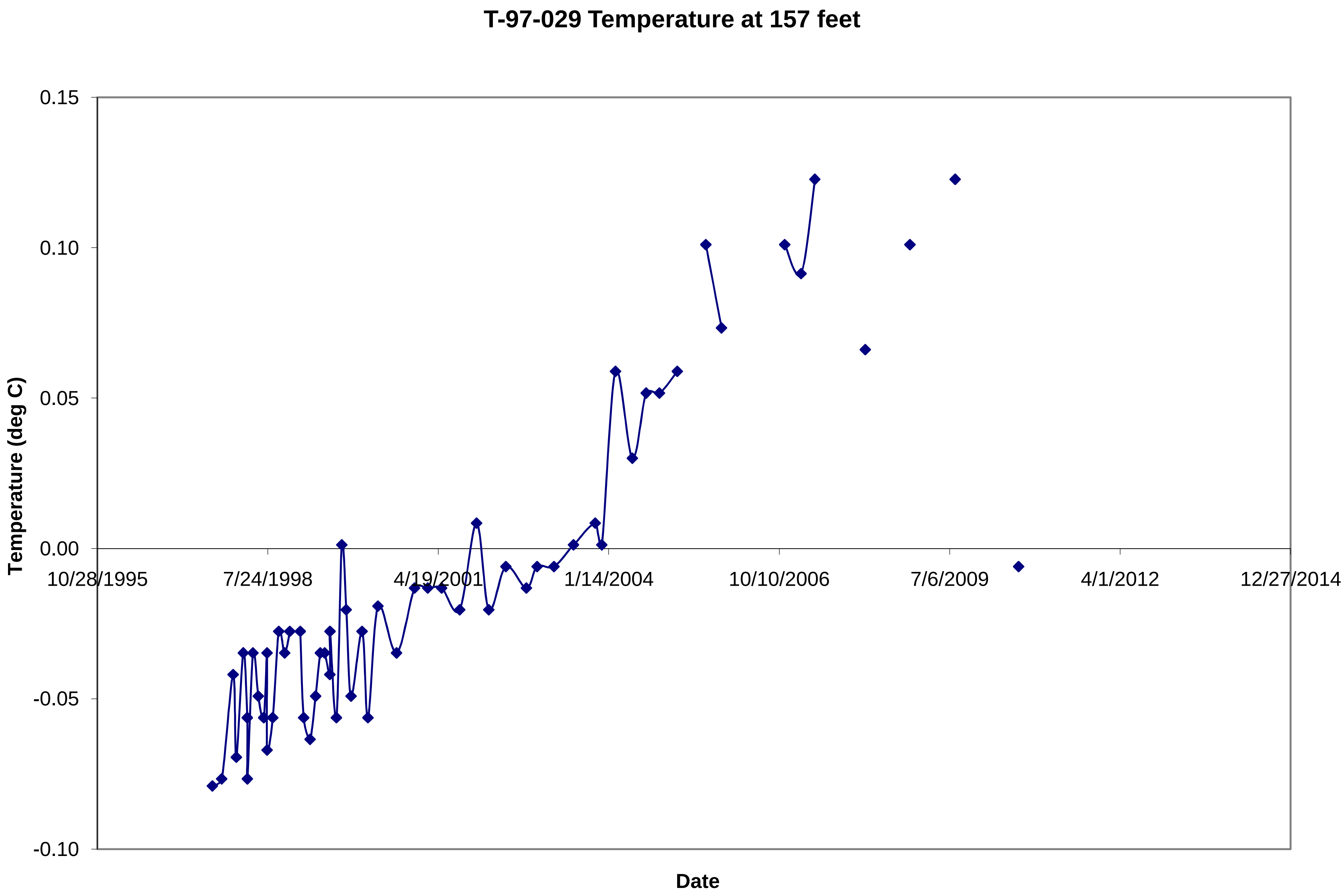

T-97-029 Temperature at 107 feet
Temperature (deg C)
0.05
-0.05
-0.15
-0.25
-0.35
-0.45
-0.55
-0.65
-0.75
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

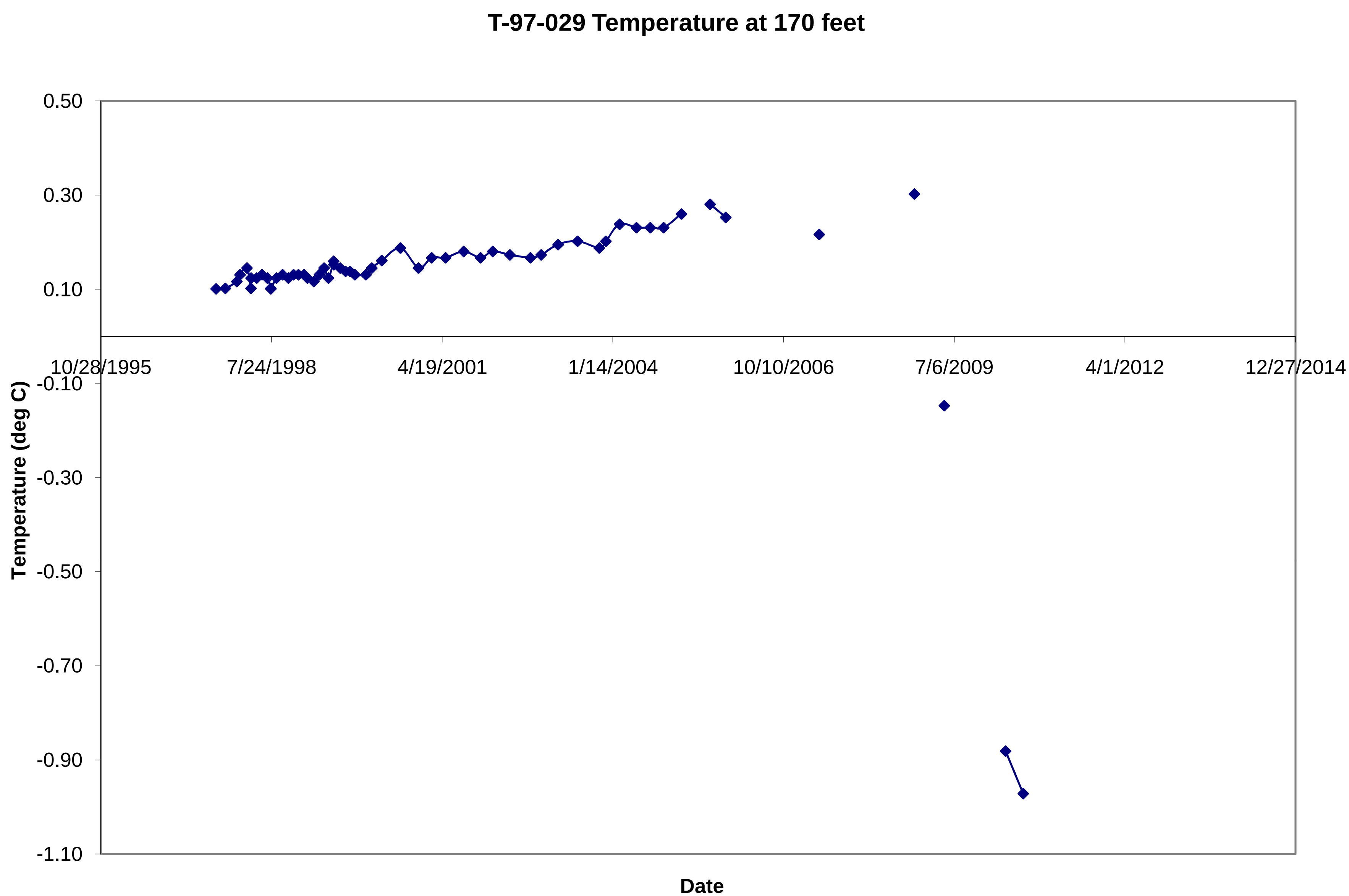

T-97-029 Temperature at 120 feet
Temperature (deg C)
0.05
-0.05
-0.15
-0.25
-0.35
-0.45
-0.55
-0.65
-0.75
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

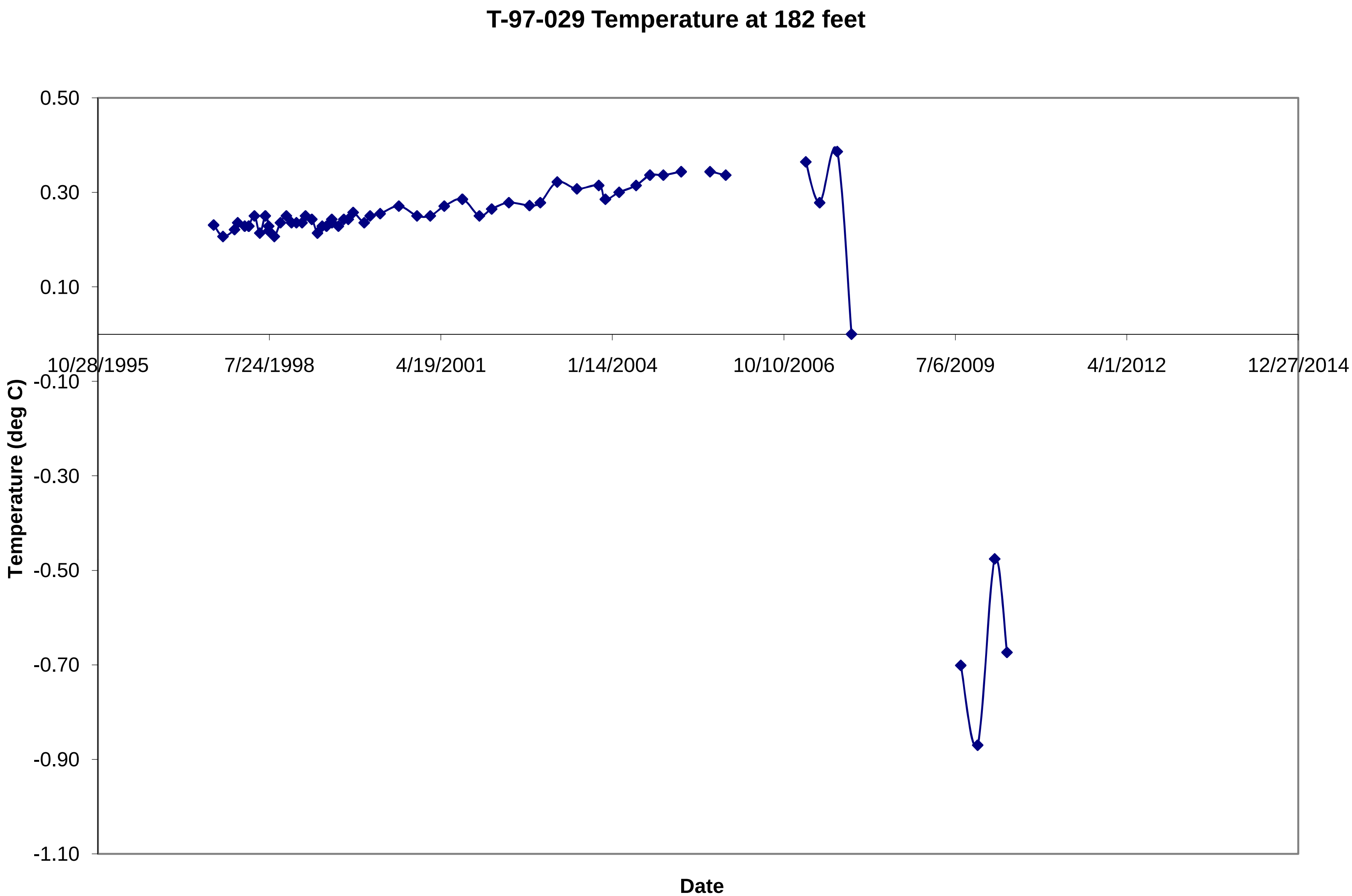


T-97-029 Temperature at 132 feet
Temperature (deg C)
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
-0.35
-0.40
-0.45
-0.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

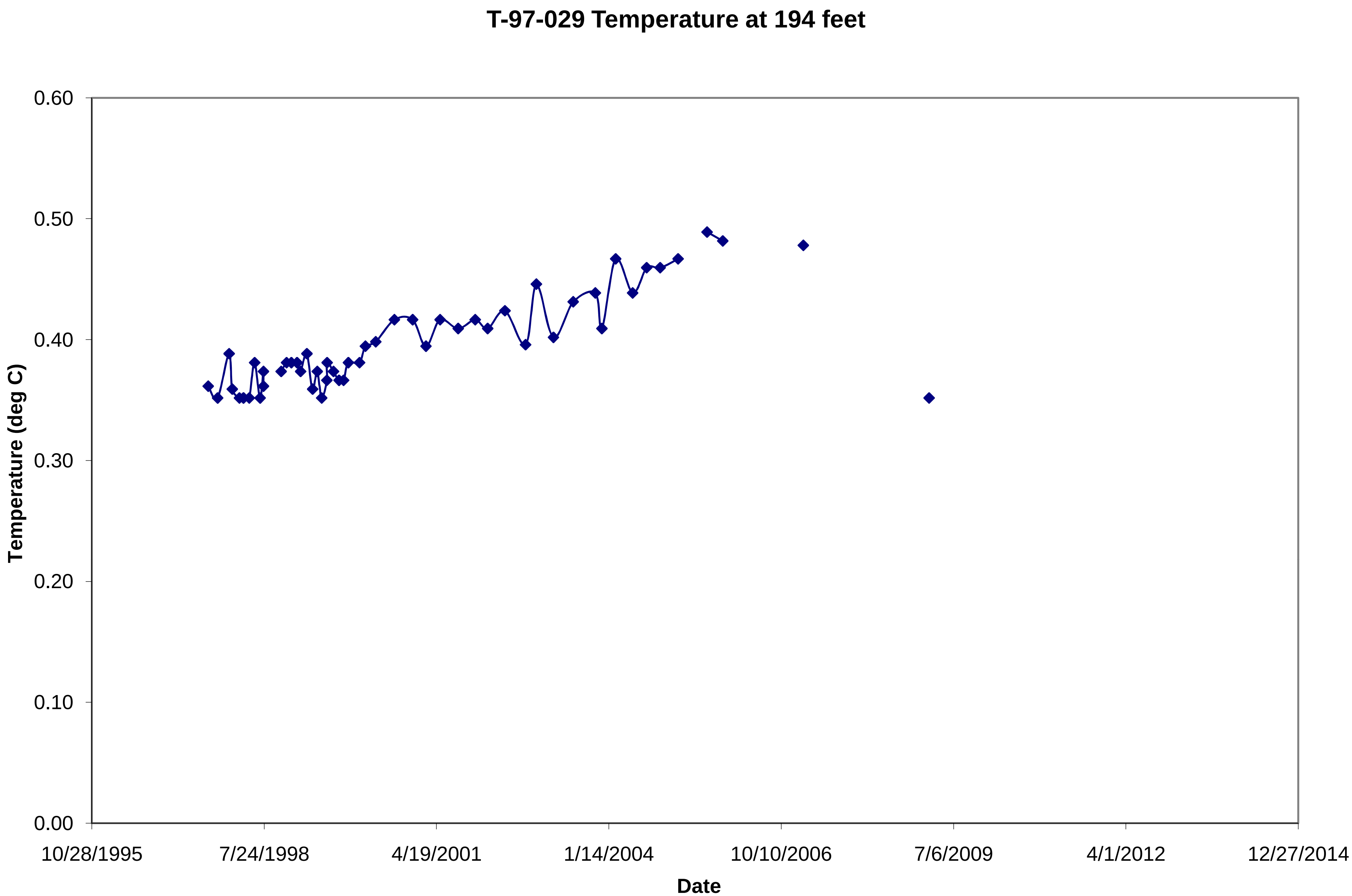

T-97-029 Temperature at 144 feet
Temperature (deg C)
0.20
0.10
0.00
-0.10
-0.20
-0.30
-0.40
-0.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-97-029 Temperature at 157 feet
Temperature (deg C)
0.15
0.10
0.05
0.00
-0.05
-0.10
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

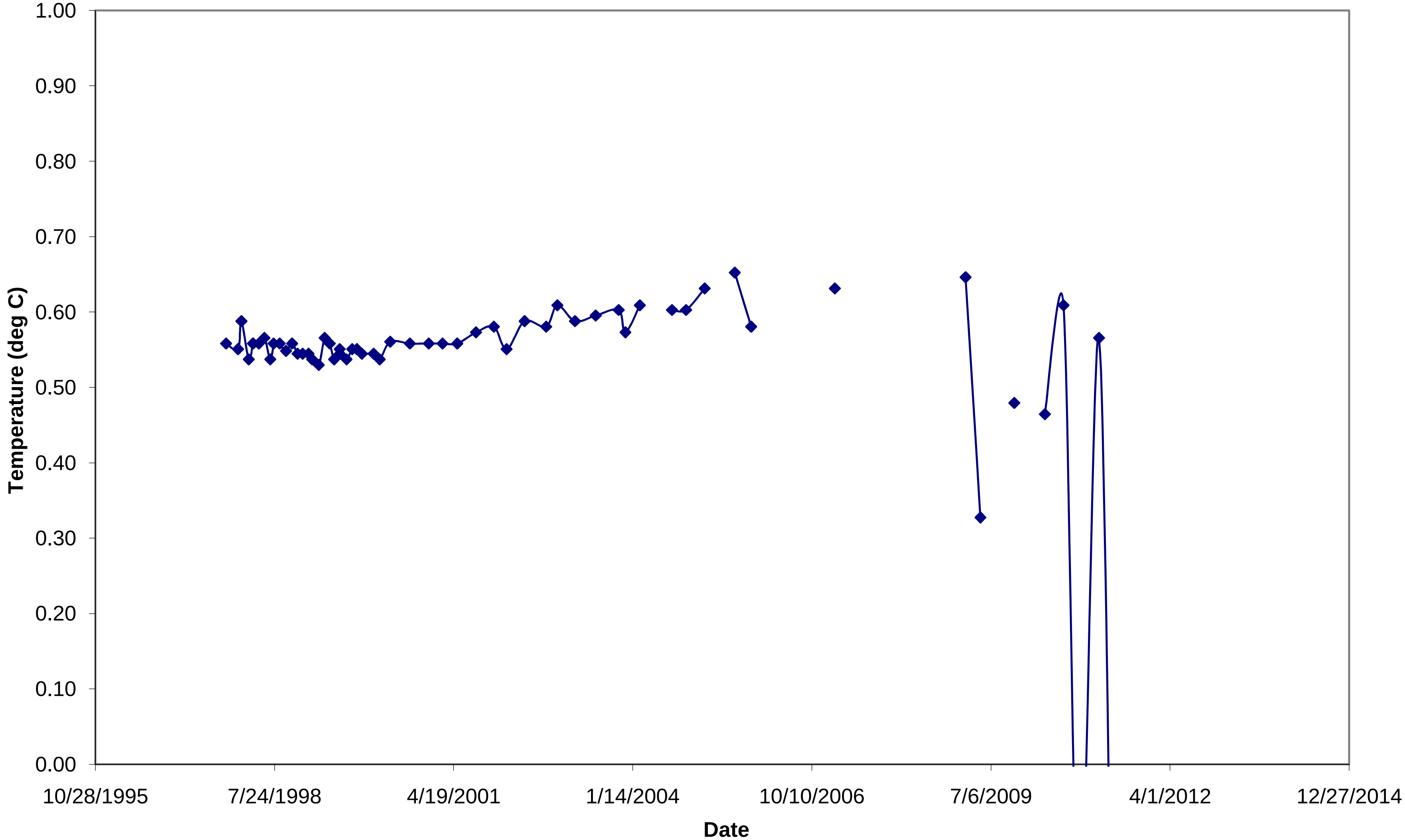

T-97-029 Temperature at 170 feet
0.50
0.30
0.10
-0.10
-0.30
-0.50
-0.70
-0.90
-1.10
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

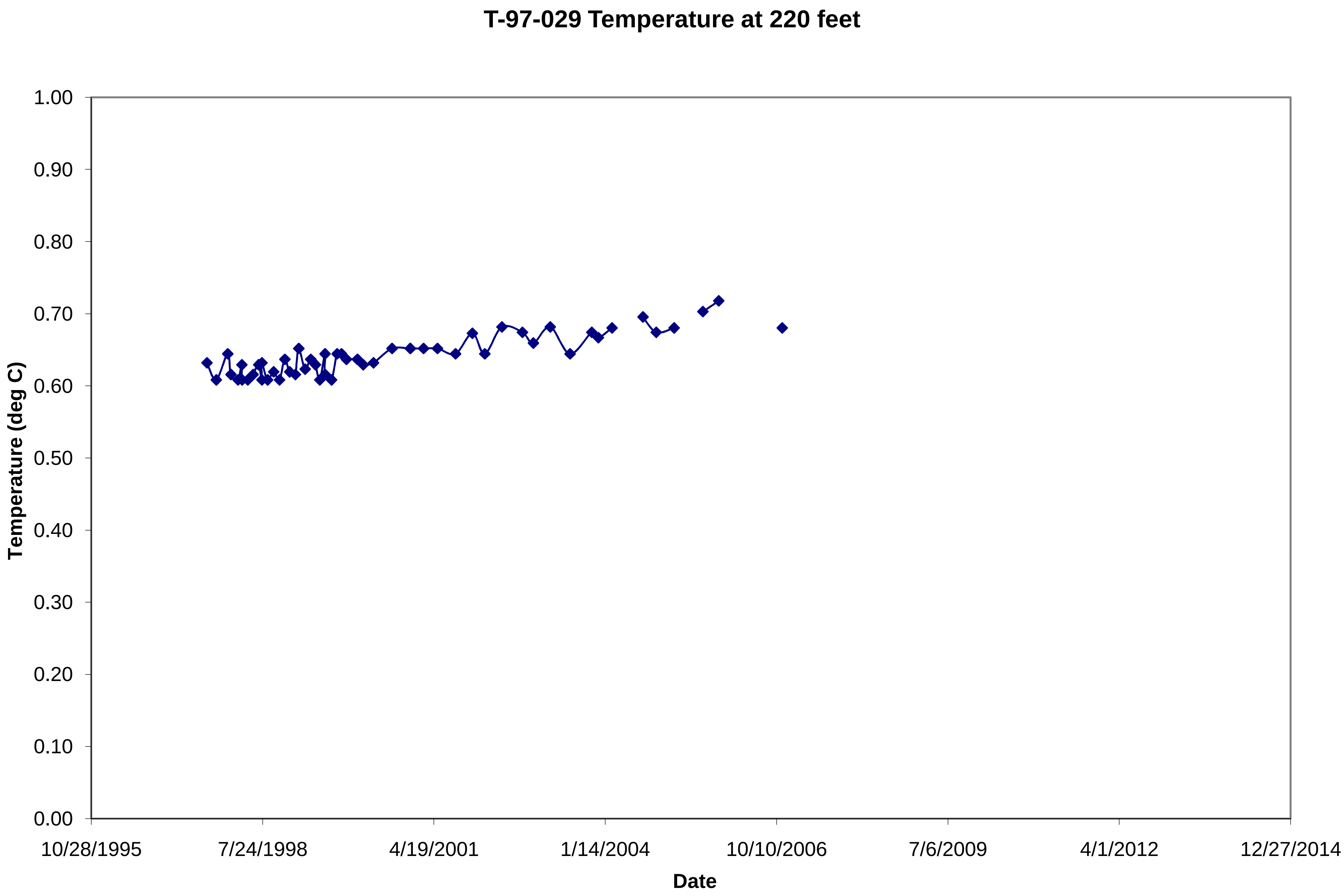


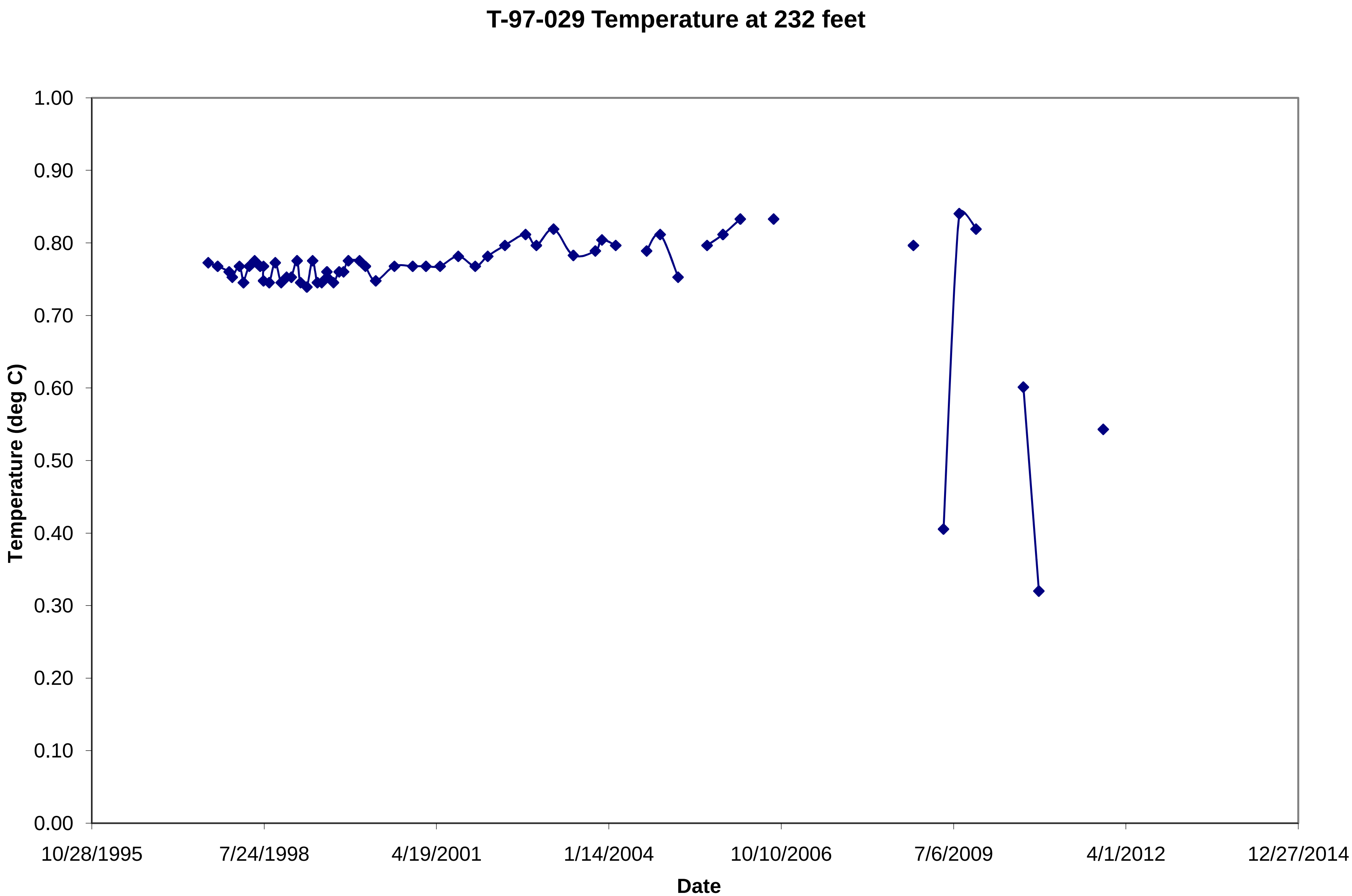
T-97-029 Temperature at 182 feet
0.50
0.30
0.10
-0.10
-0.30
-0.50
-0.70
-0.90
-1.10
Temperature (deg C)
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-97-029 Temperature at 194 feet
Temperature (deg C)
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

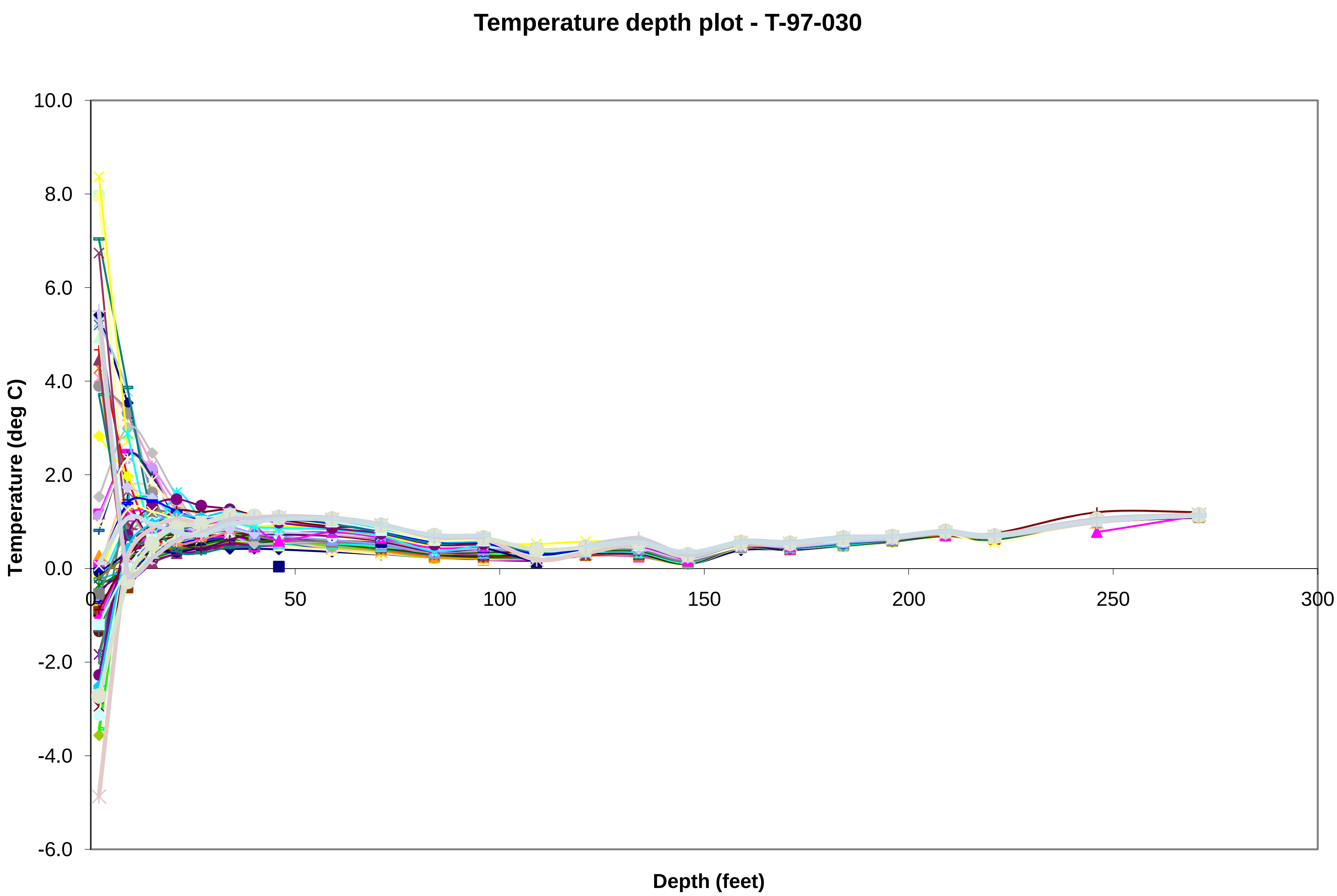
T-97-029 Temperature at 207 feet

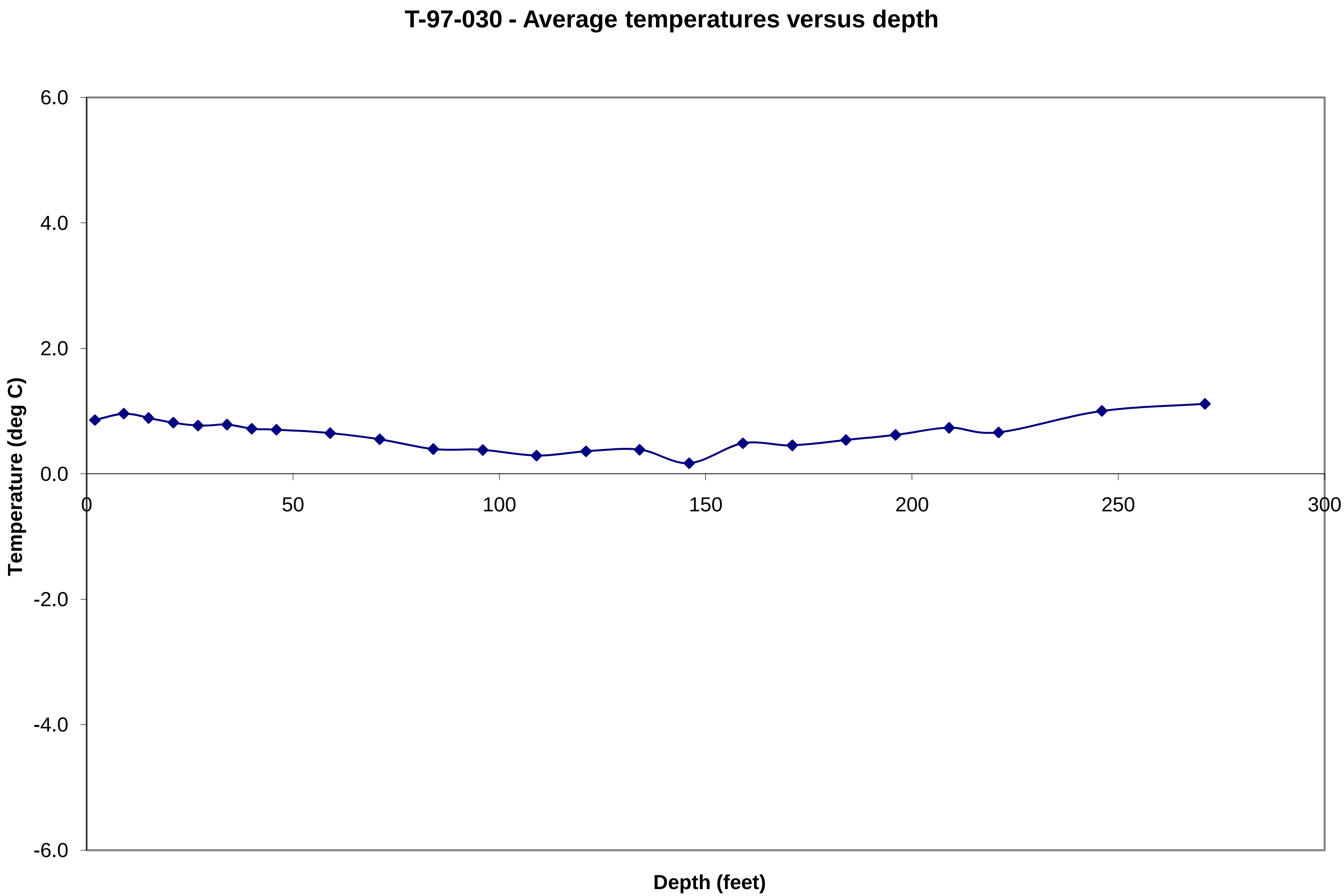


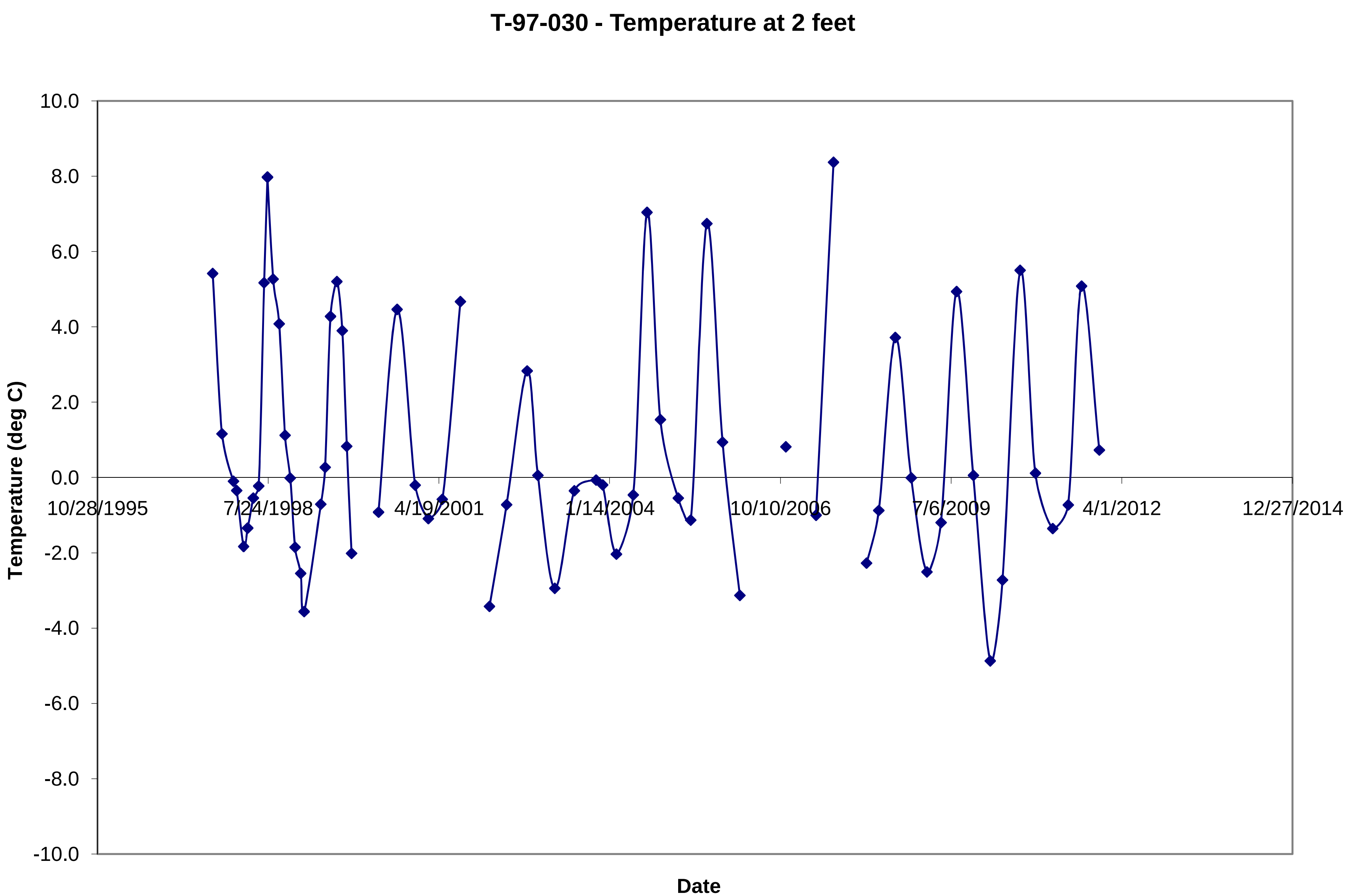

T-97-029 Temperature at 220 feet
Temperature (deg C)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

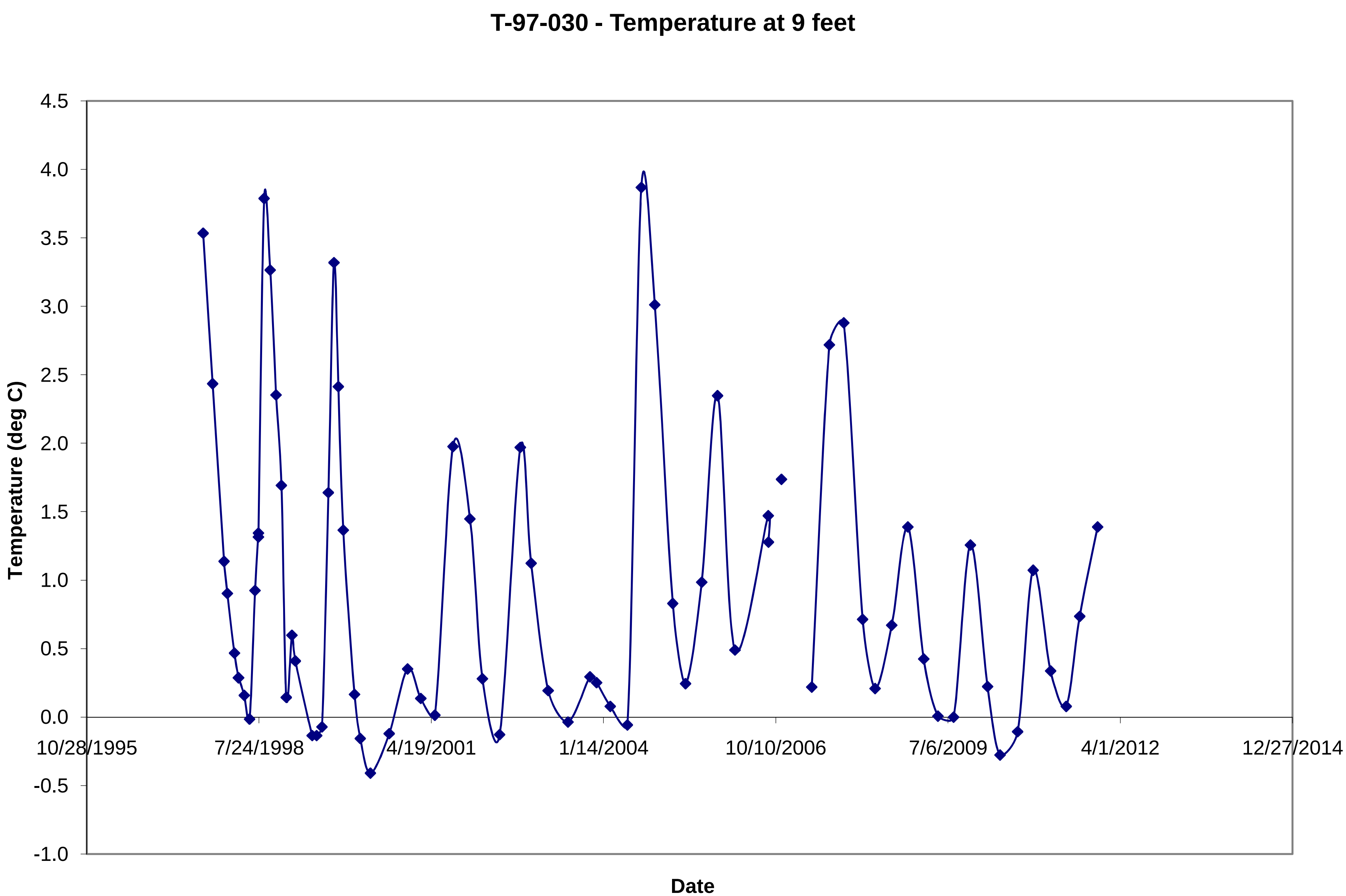

T-97-029 Temperature at 232 feet
Temperature (deg C)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

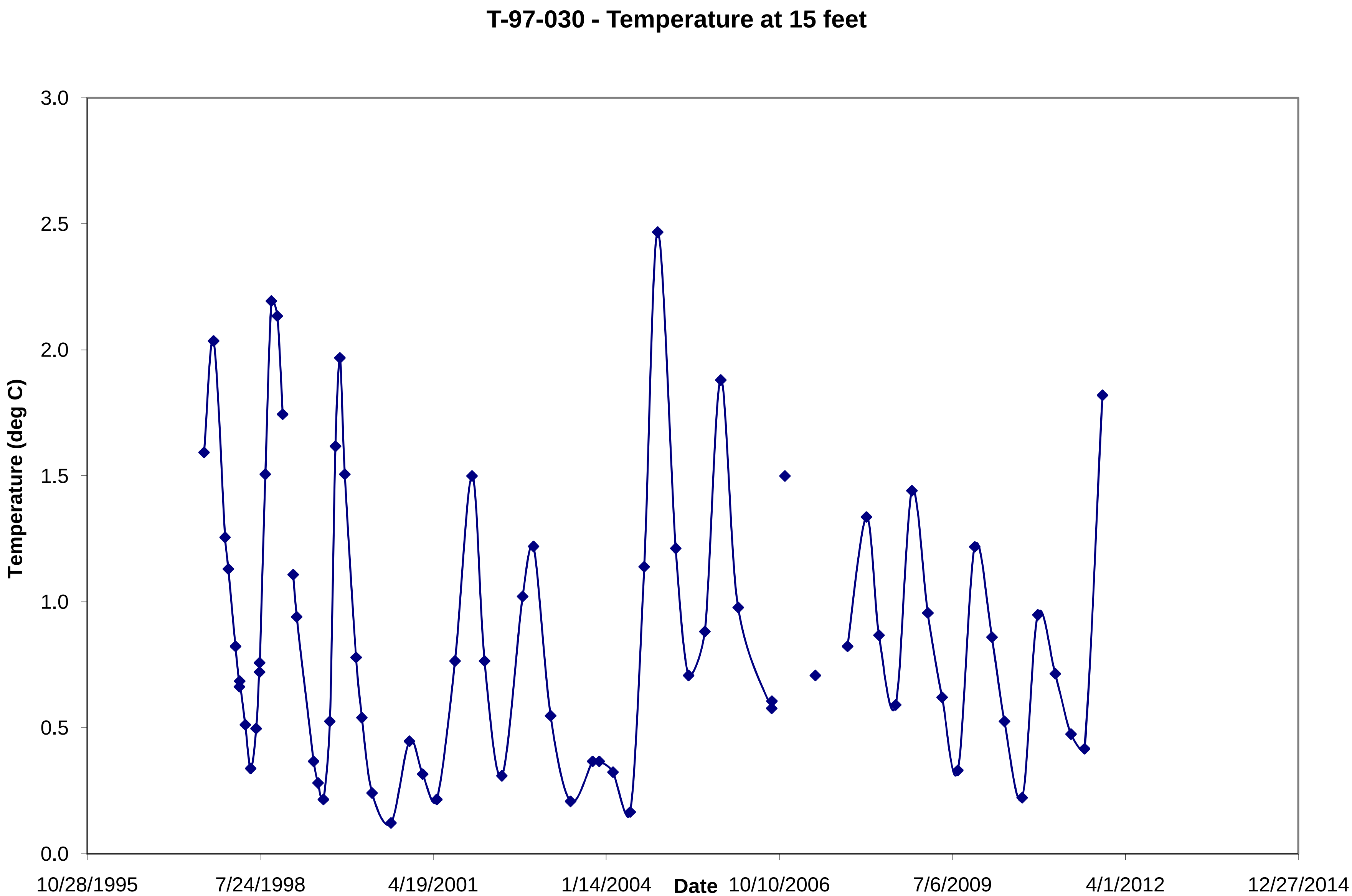
T-97-030


Temperature depth plot - T-97-030
Temperature (deg C)
Depth (feet)
10.0
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
0
50
100
150
200
250
300

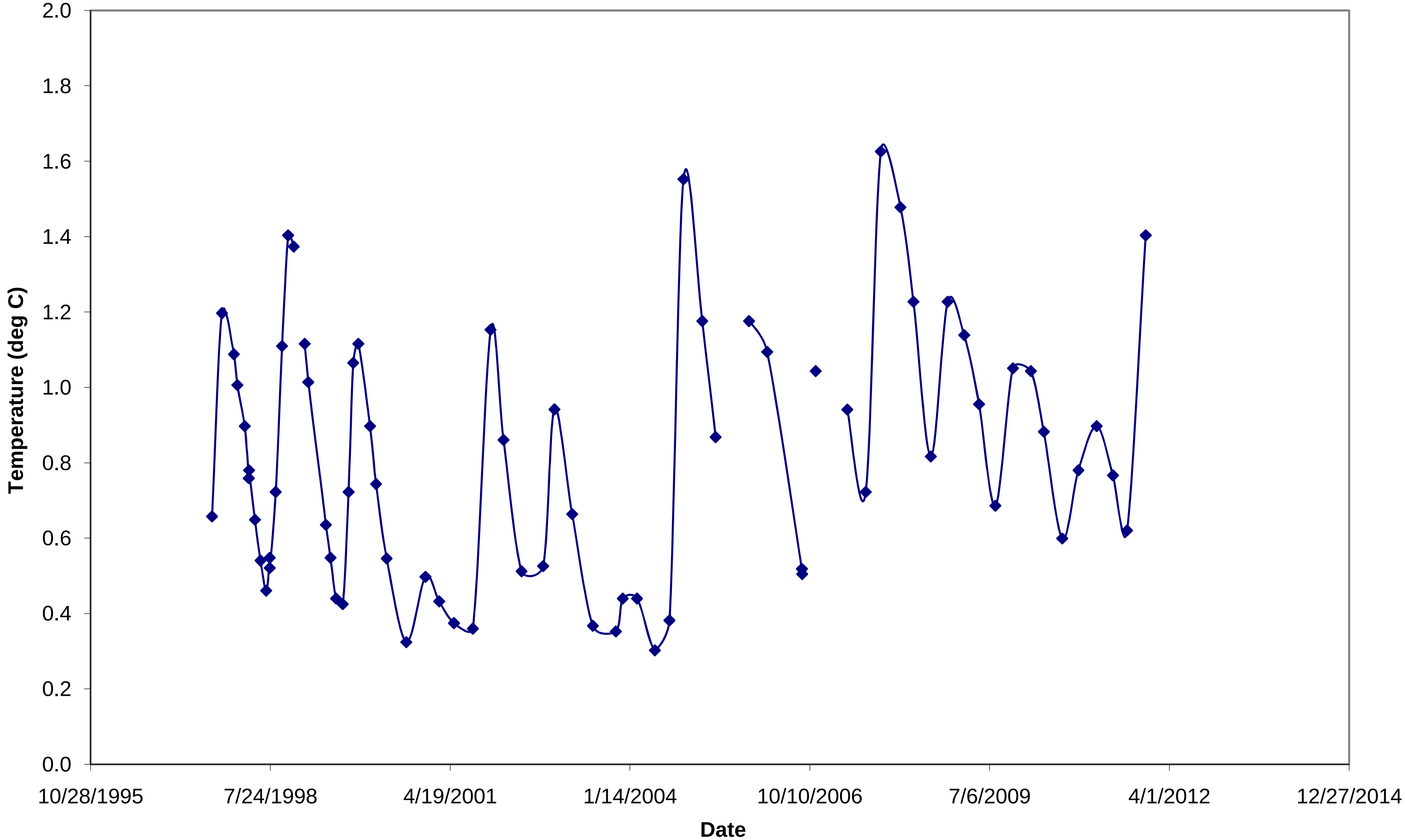

T-97-030 - Average temperatures versus depth
Temperature (deg C)
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
0
50
100
150
200
250
300
Depth (feet)

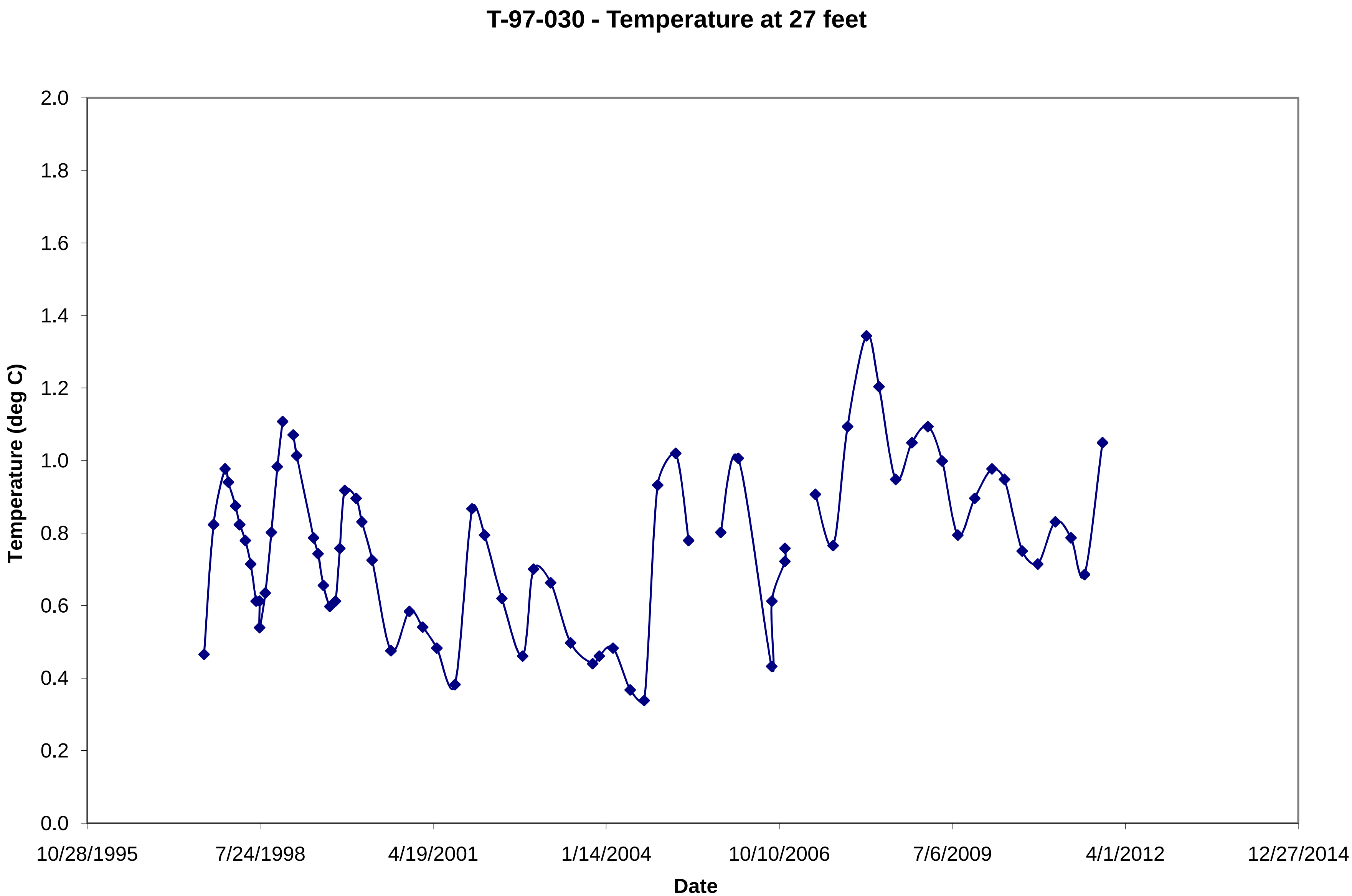

T-97-030 - Temperature at 2 feet
Temperature (deg C)
10.0
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
-6.0
-8.0
-10.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

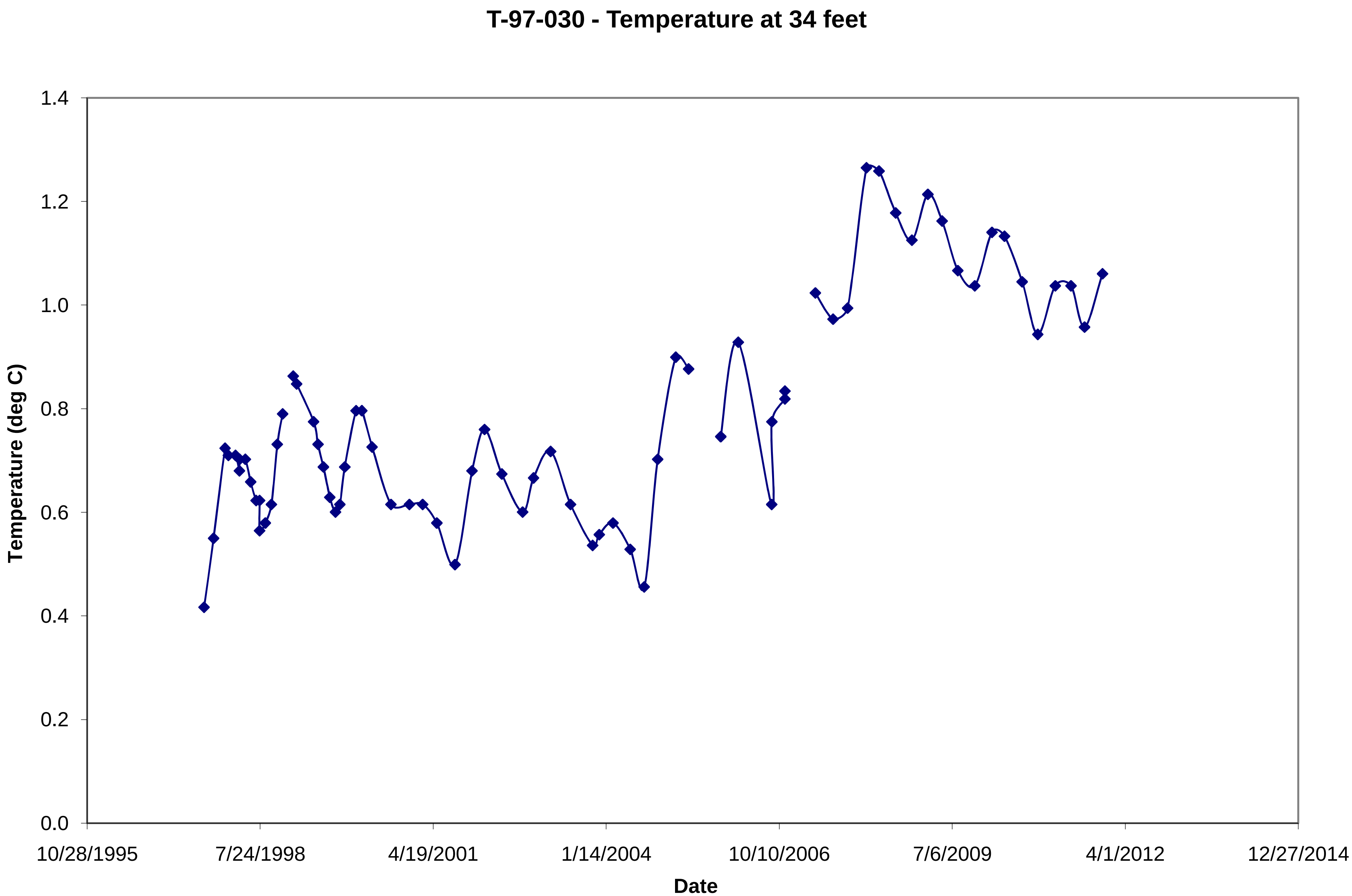

T-97-030 - Temperature at 9 feet
Temperature (deg C)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-97-030 - Temperature at 15 feet
Temperature (deg C)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
Date
10/10/2006
7/6/2009
4/1/2012
12/27/2014

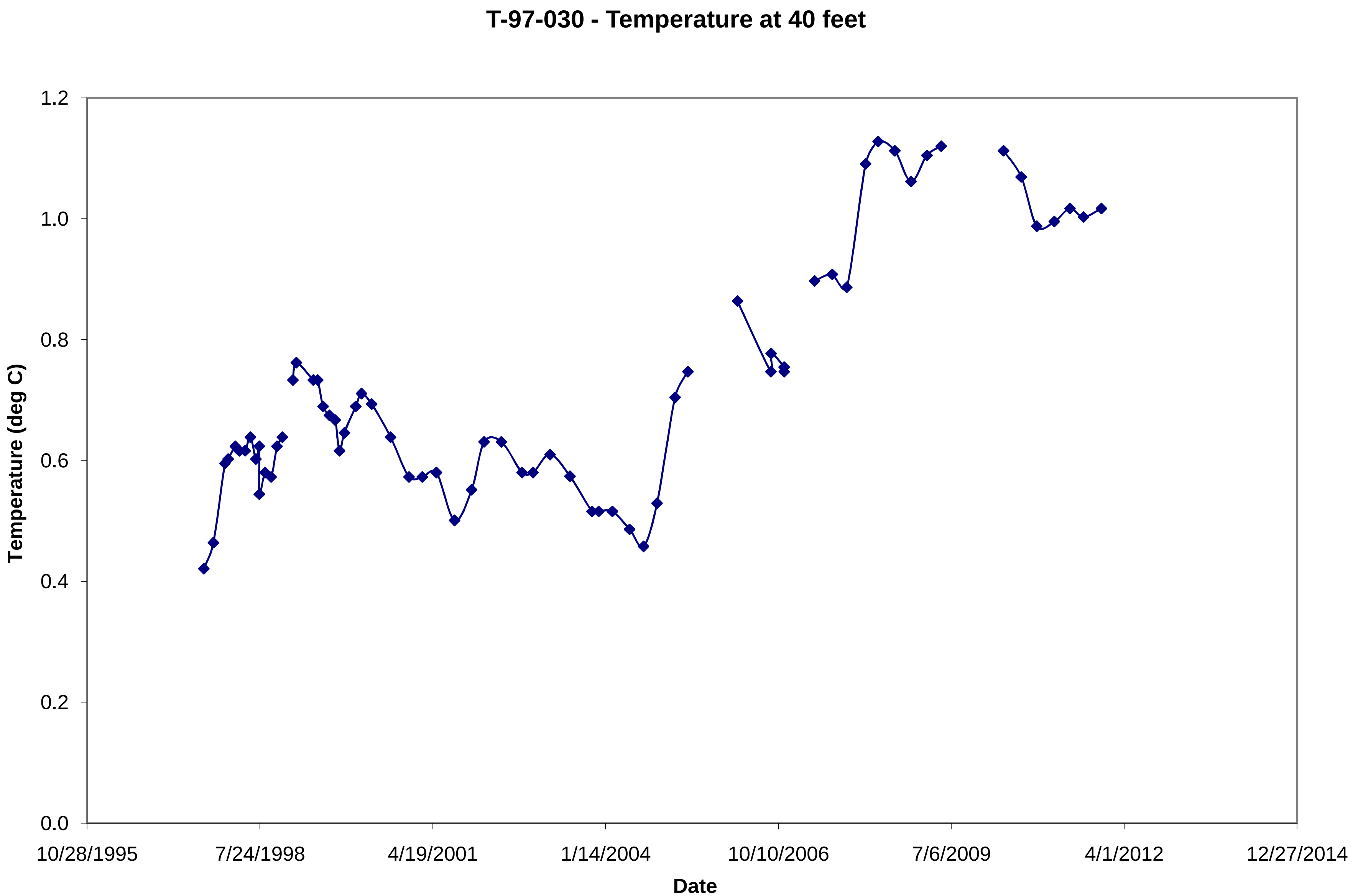
T-97-030 - Temperature at 21 feet



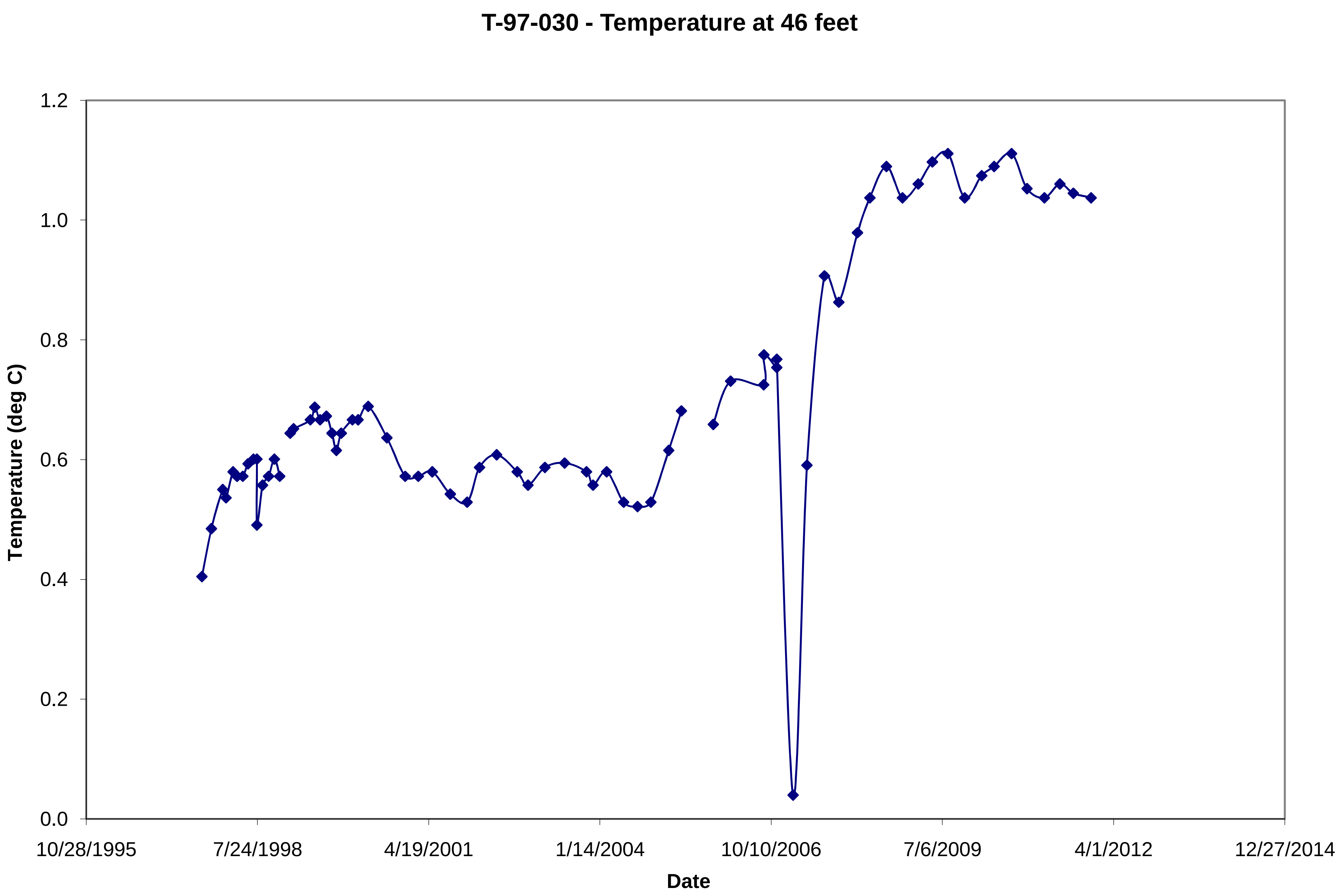

T-97-030 - Temperature at 27 feet
Temperature (deg C)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

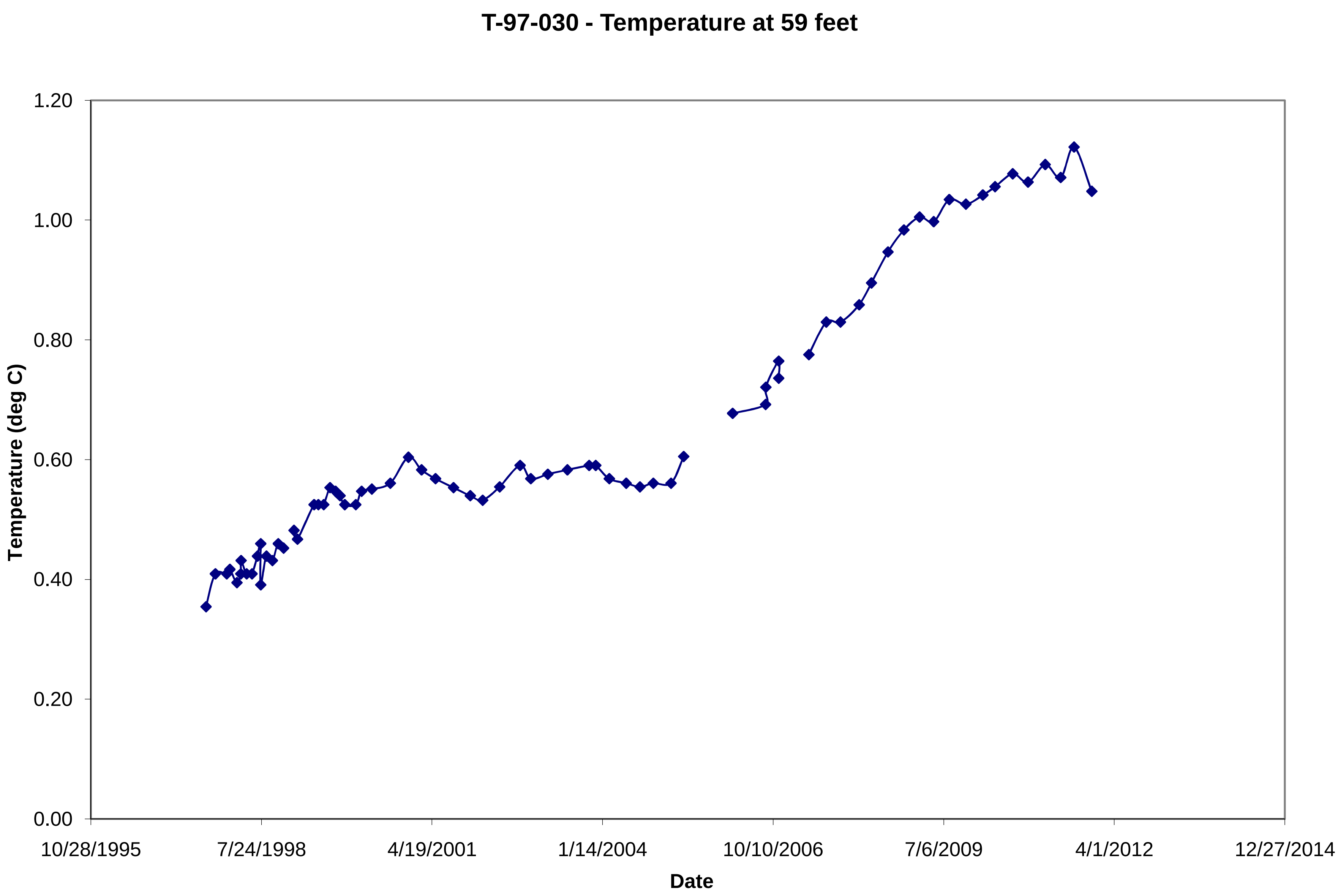


T-97-030 - Temperature at 34 feet
Temperature (deg C)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

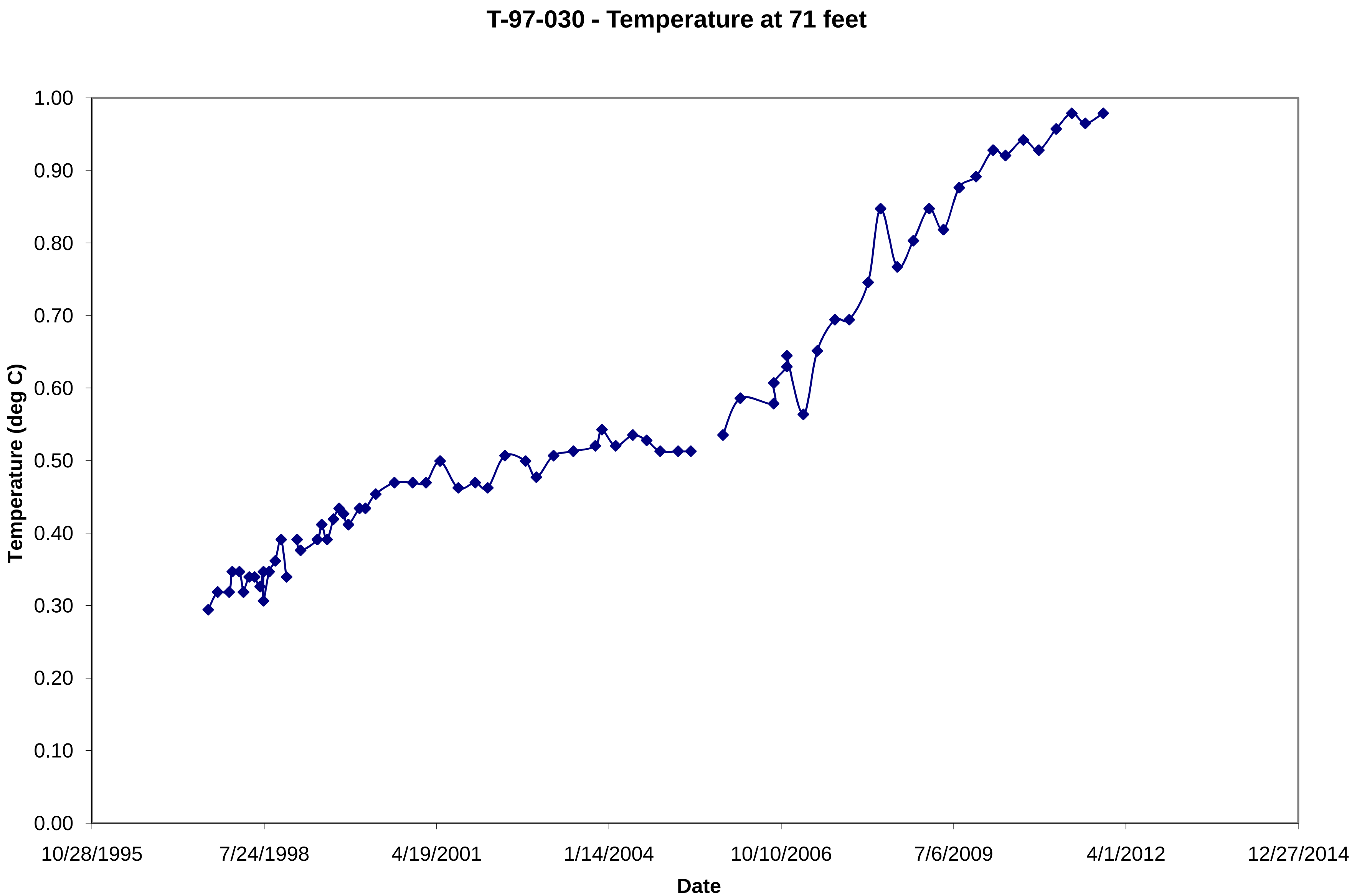


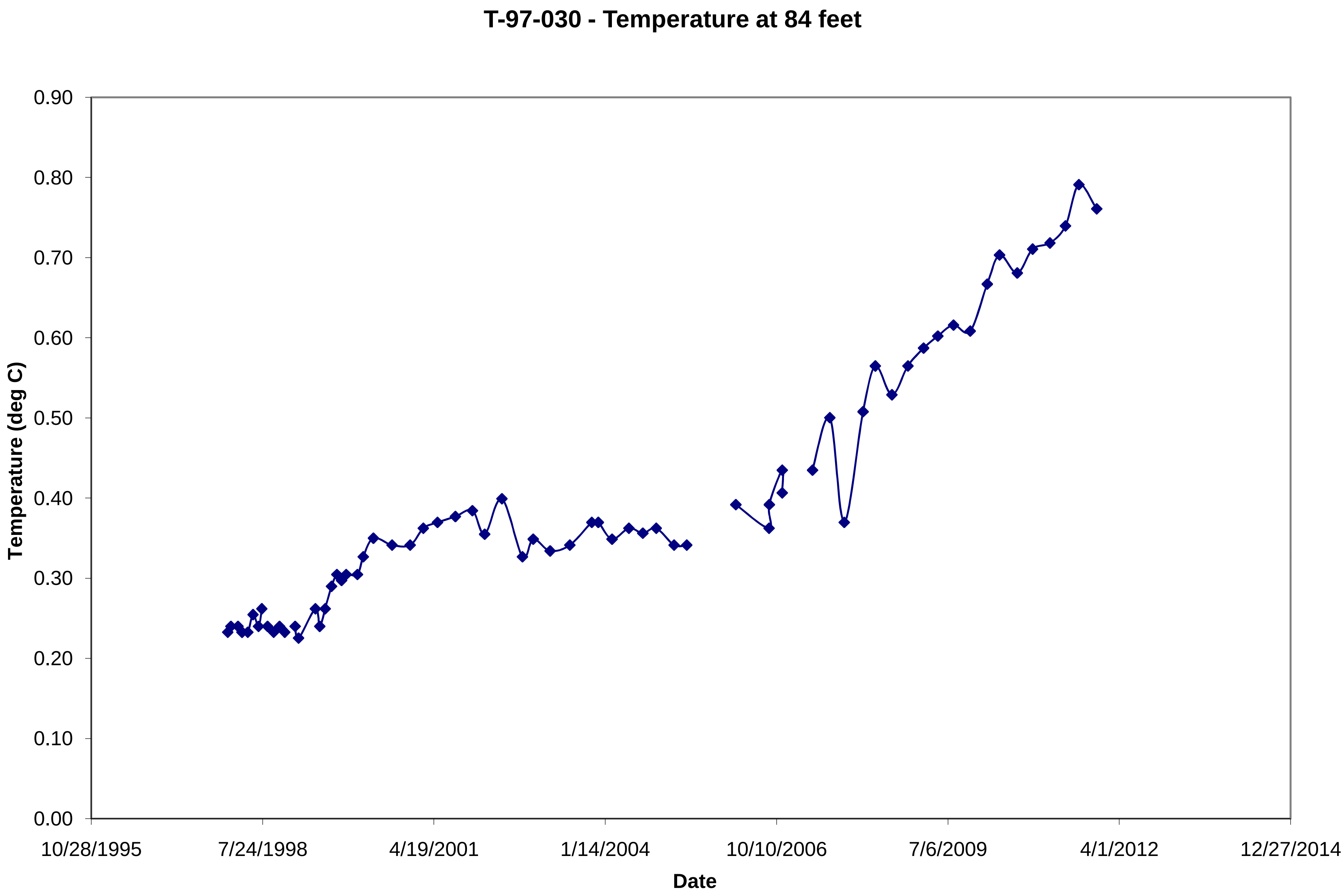
T-97-030 - Temperature at 40 feet
Temperature (deg C)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

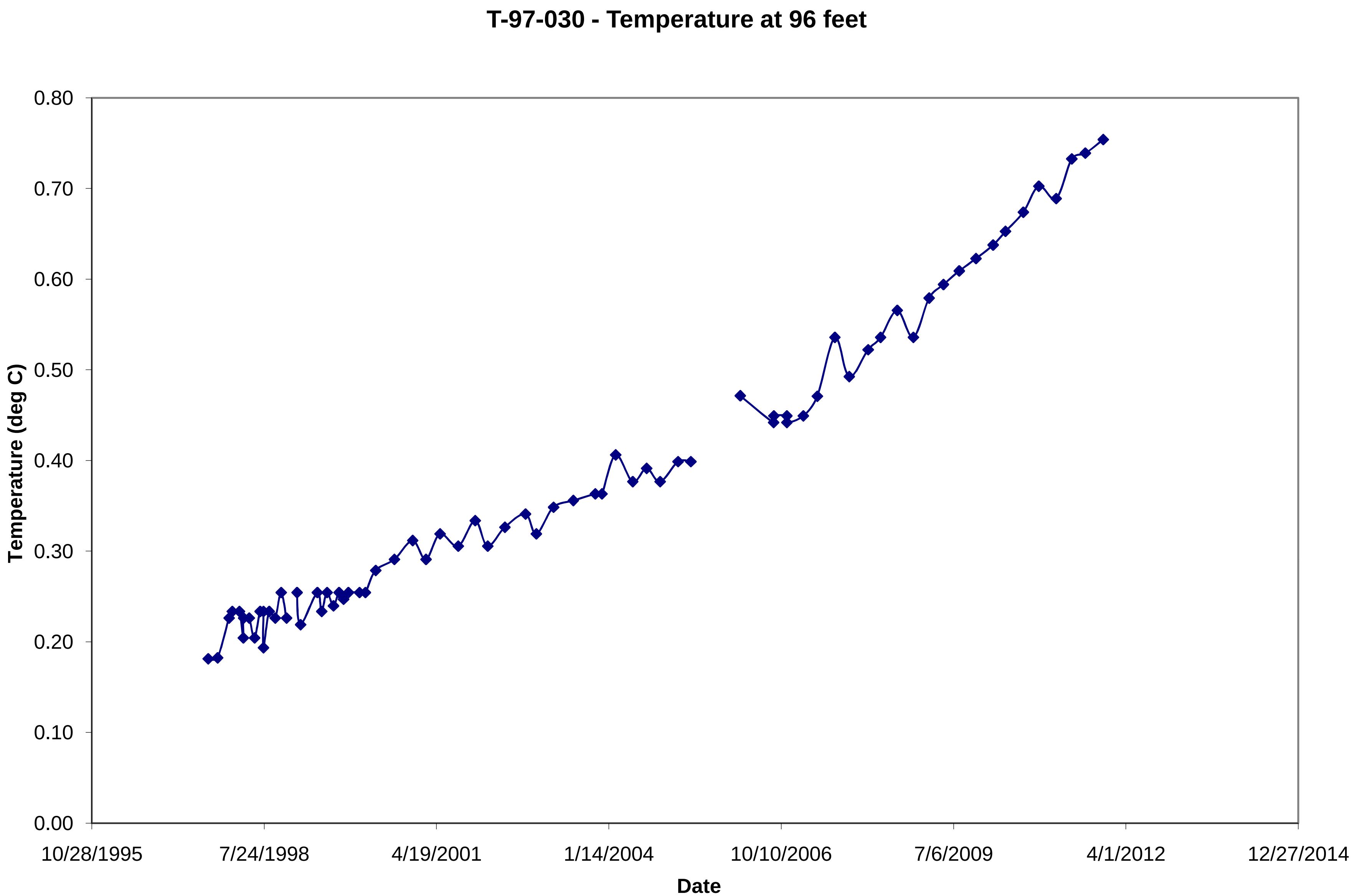

T-97-030 - Temperature at 46 feet
Temperature (deg C)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

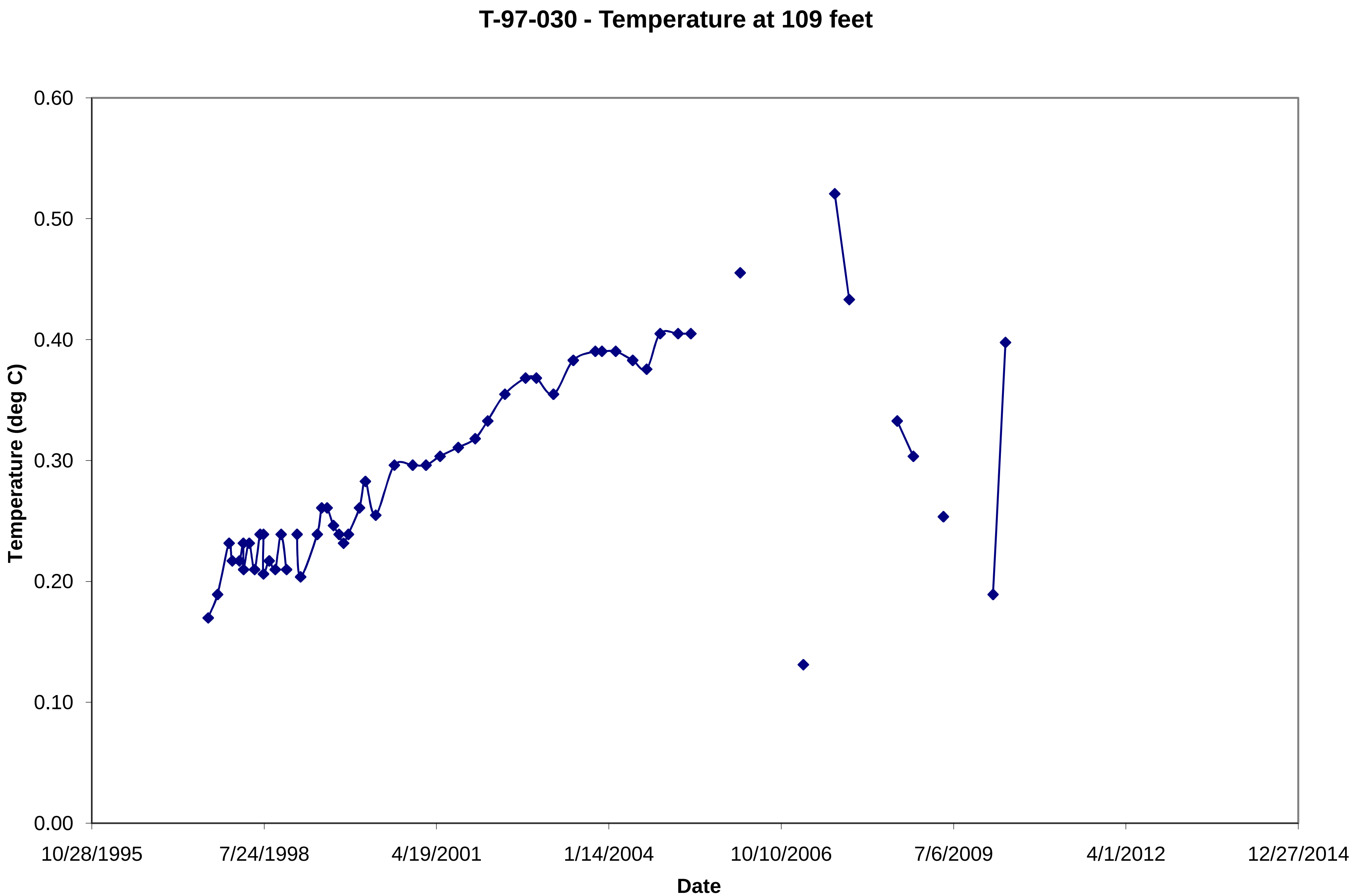


T-97-030 - Temperature at 59 feet
Temperature (deg C)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

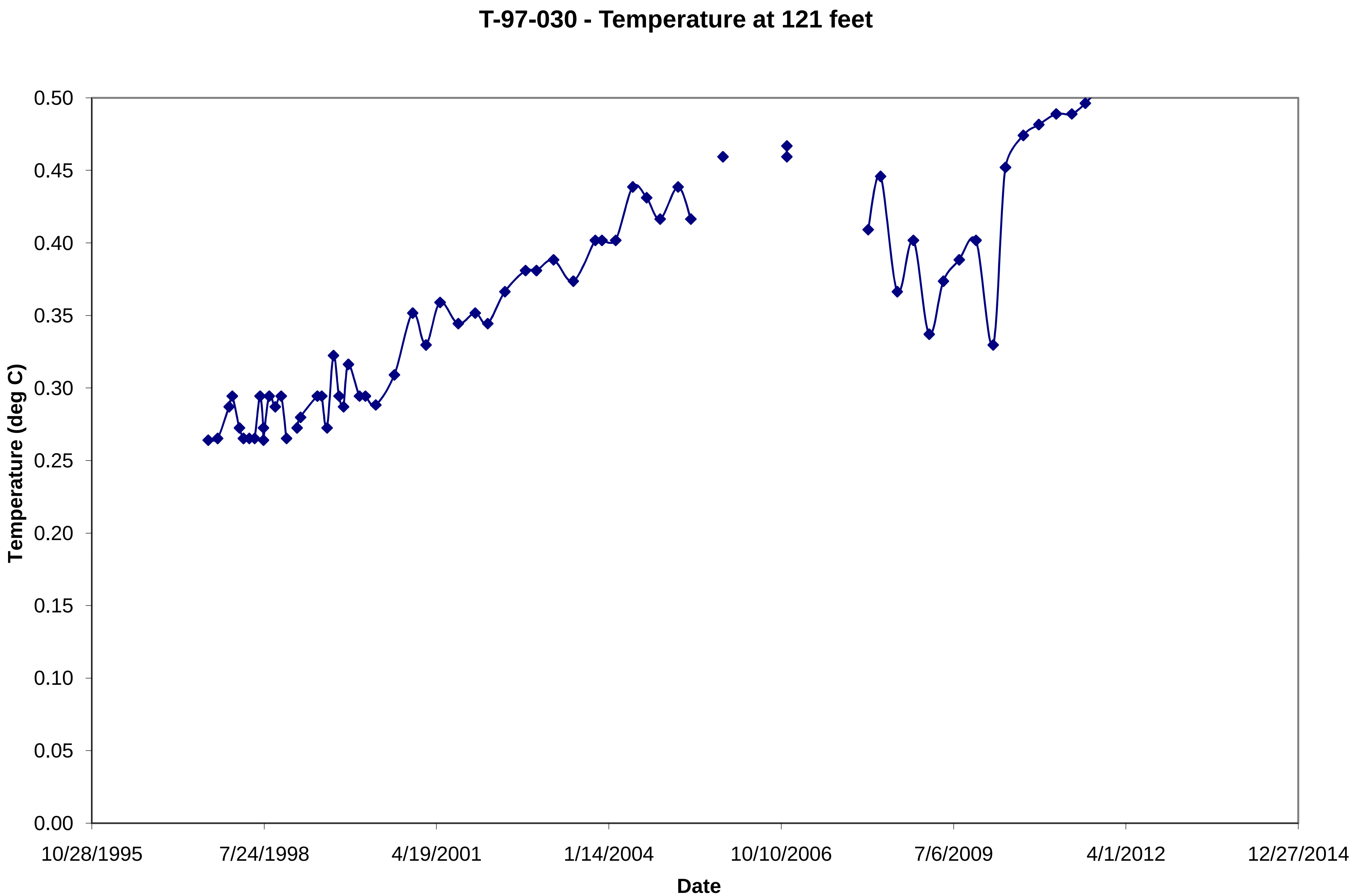

T-97-030 - Temperature at 71 feet
Temperature (deg C)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

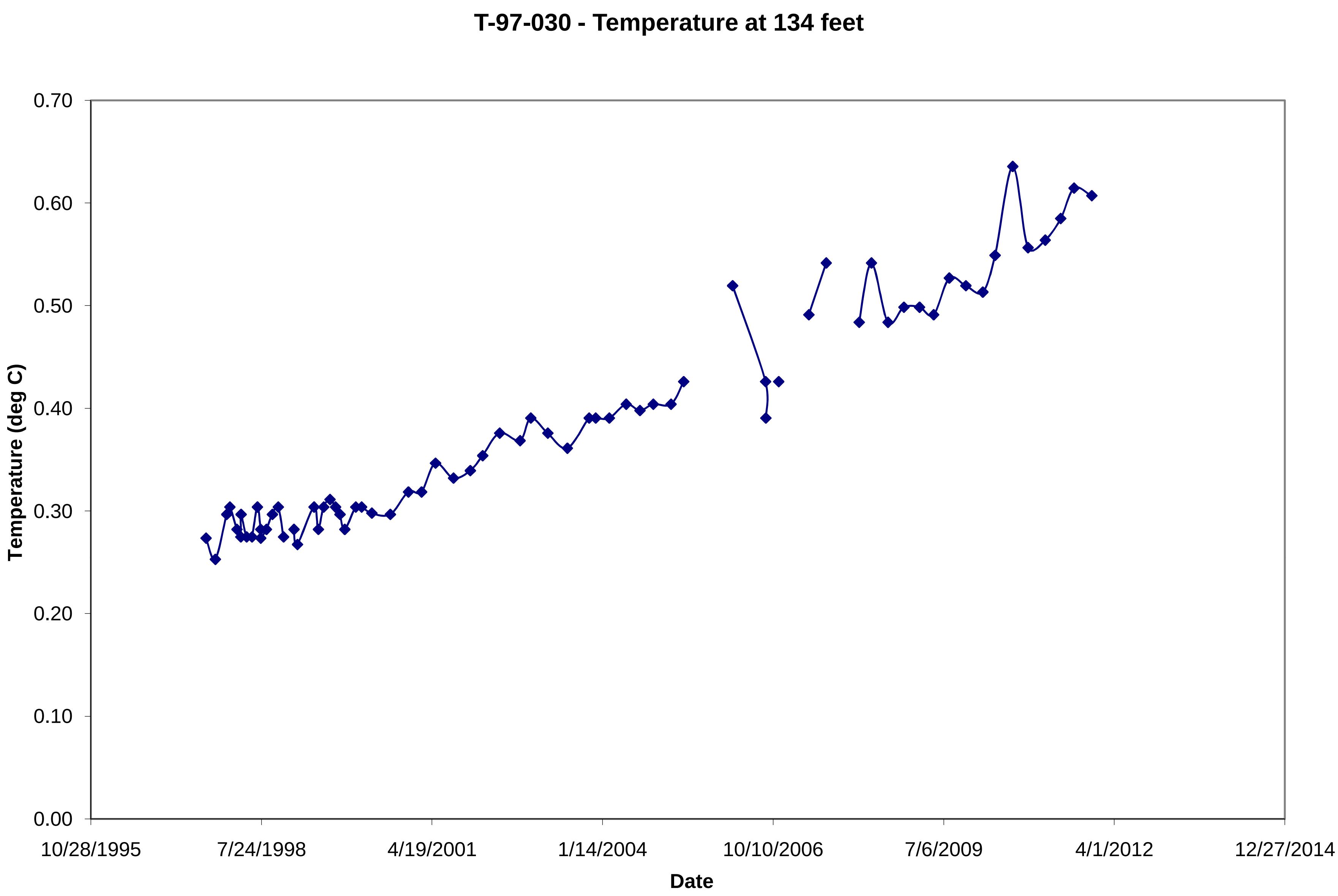

T-97-030 - Temperature at 84 feet
Temperature (deg C)
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

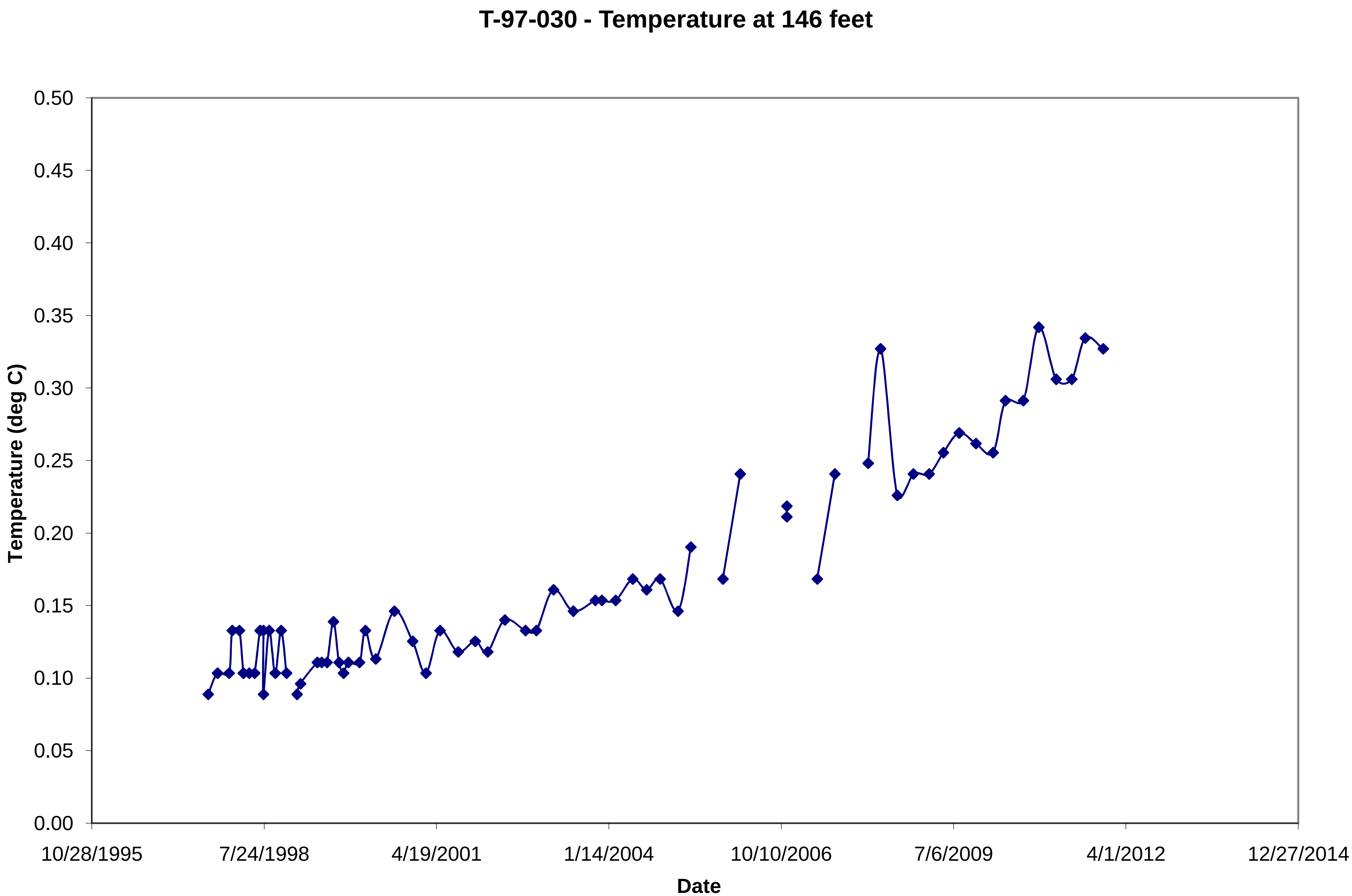

T-97-030 - Temperature at 96 feet
Temperature (deg C)
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

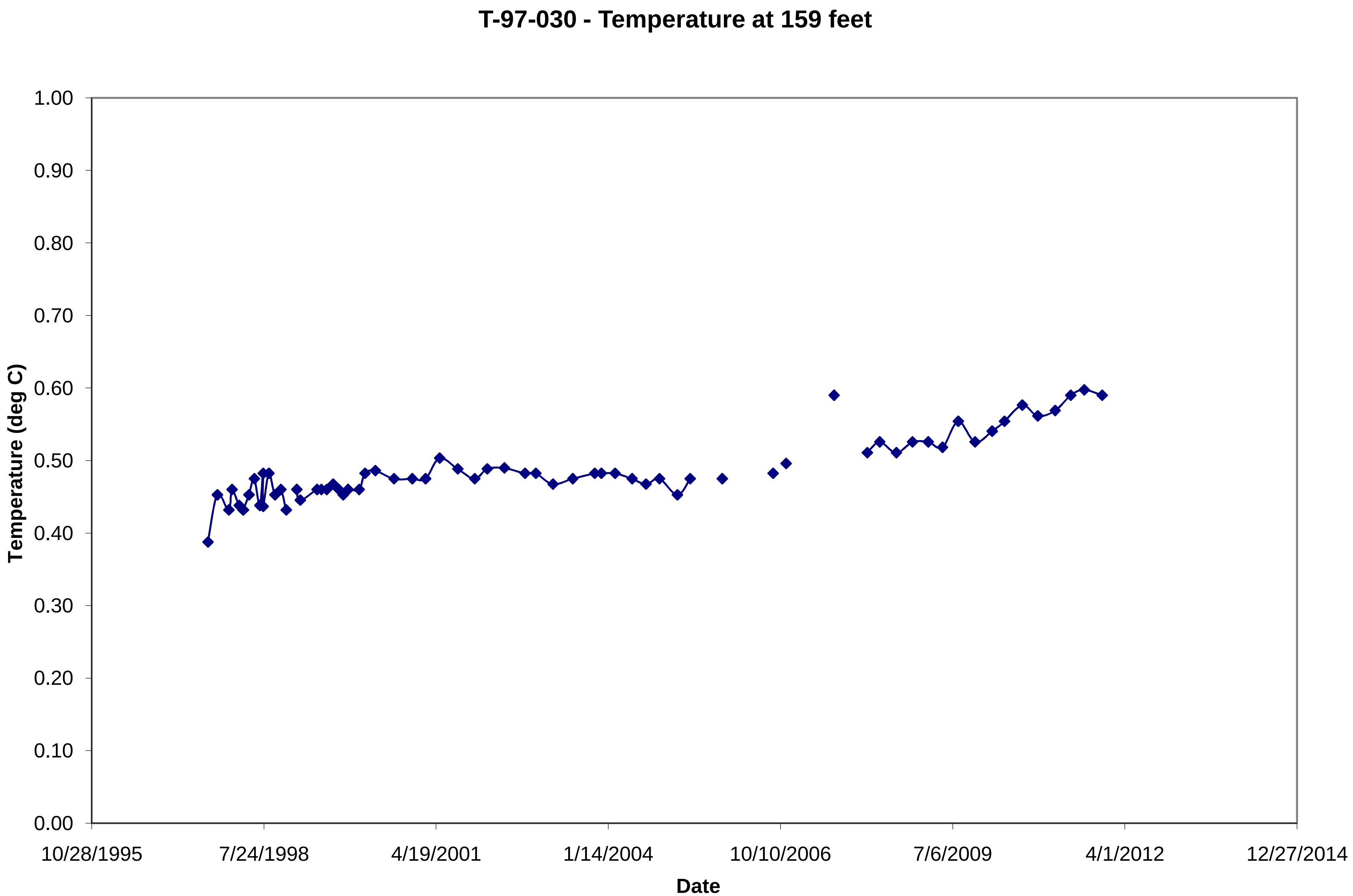


T-97-030 - Temperature at 109 feet
Temperature (deg C)
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

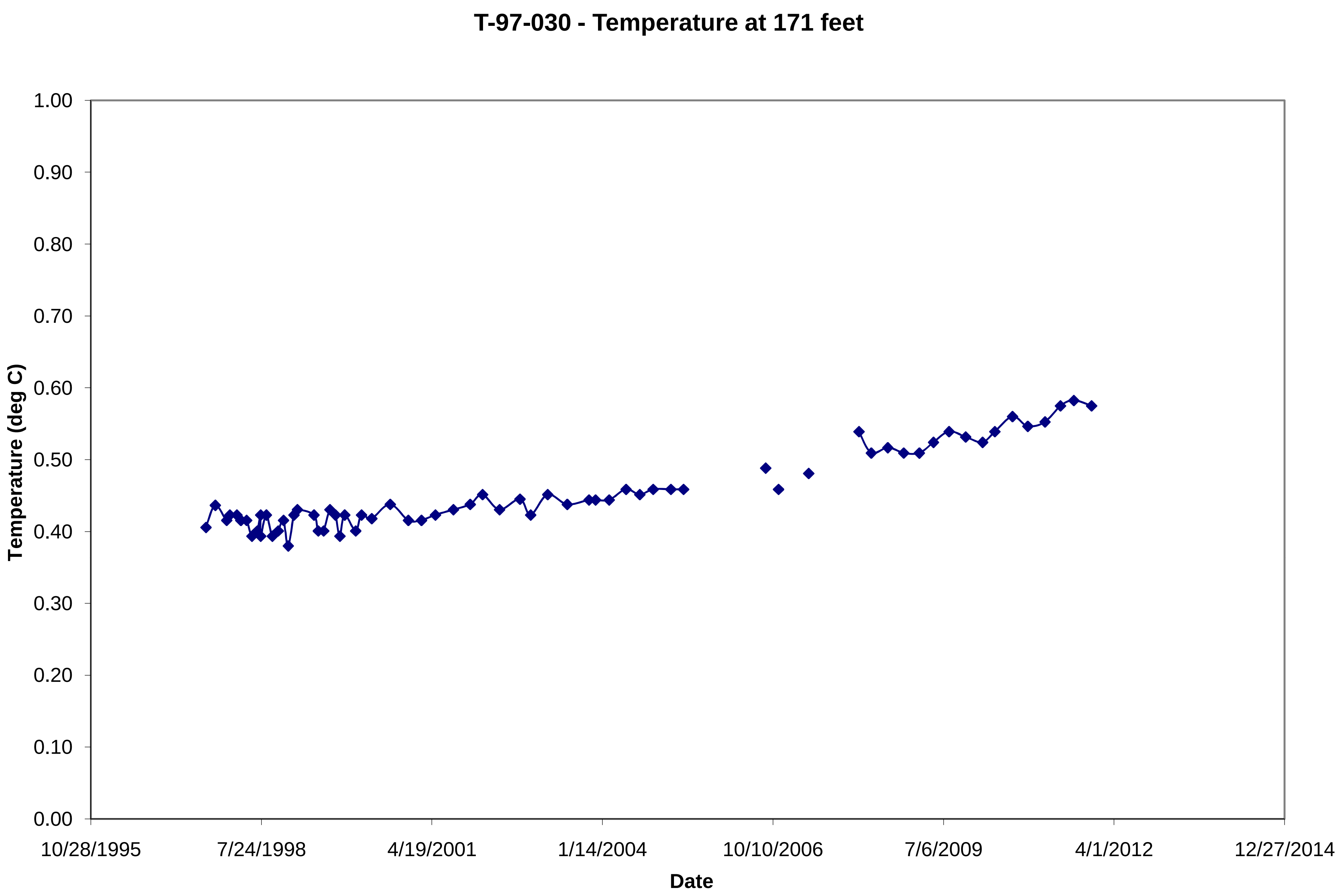

T-97-030 - Temperature at 121 feet
Temperature (deg C)
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

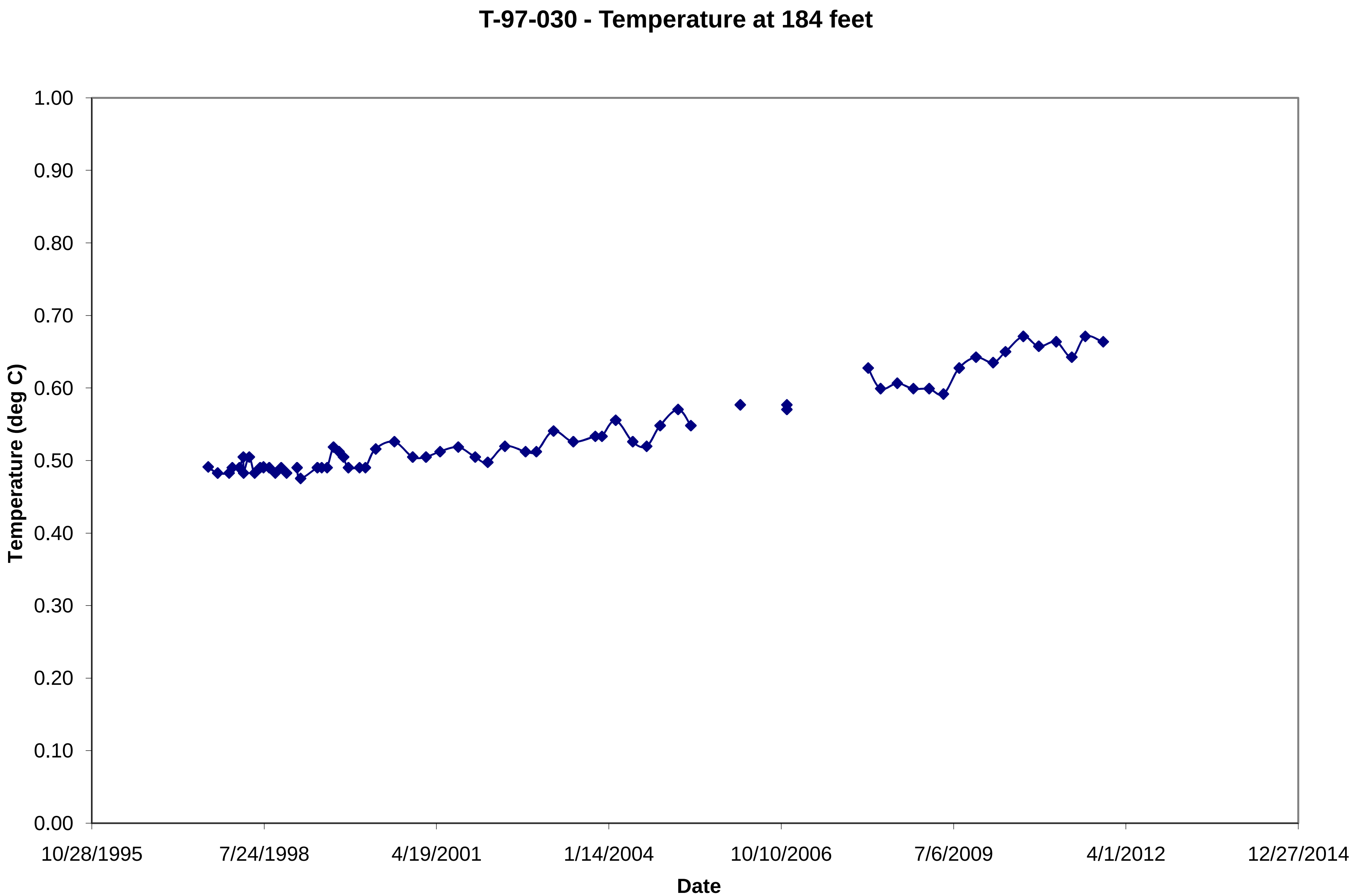

T-97-030 - Temperature at 134 feet
Temperature (deg C)
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

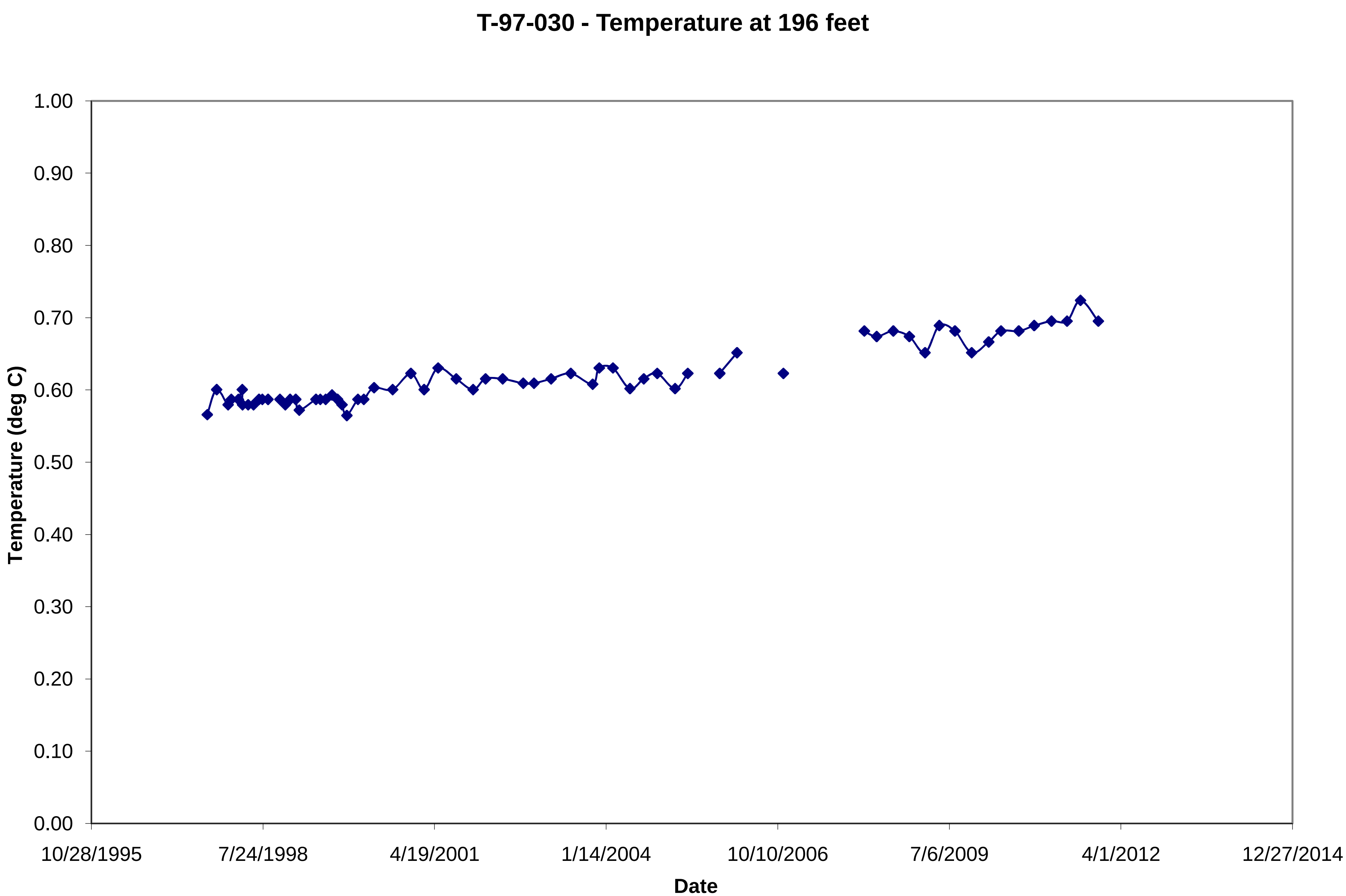

T-97-030 - Temperature at 146 feet
Temperature (deg C)
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

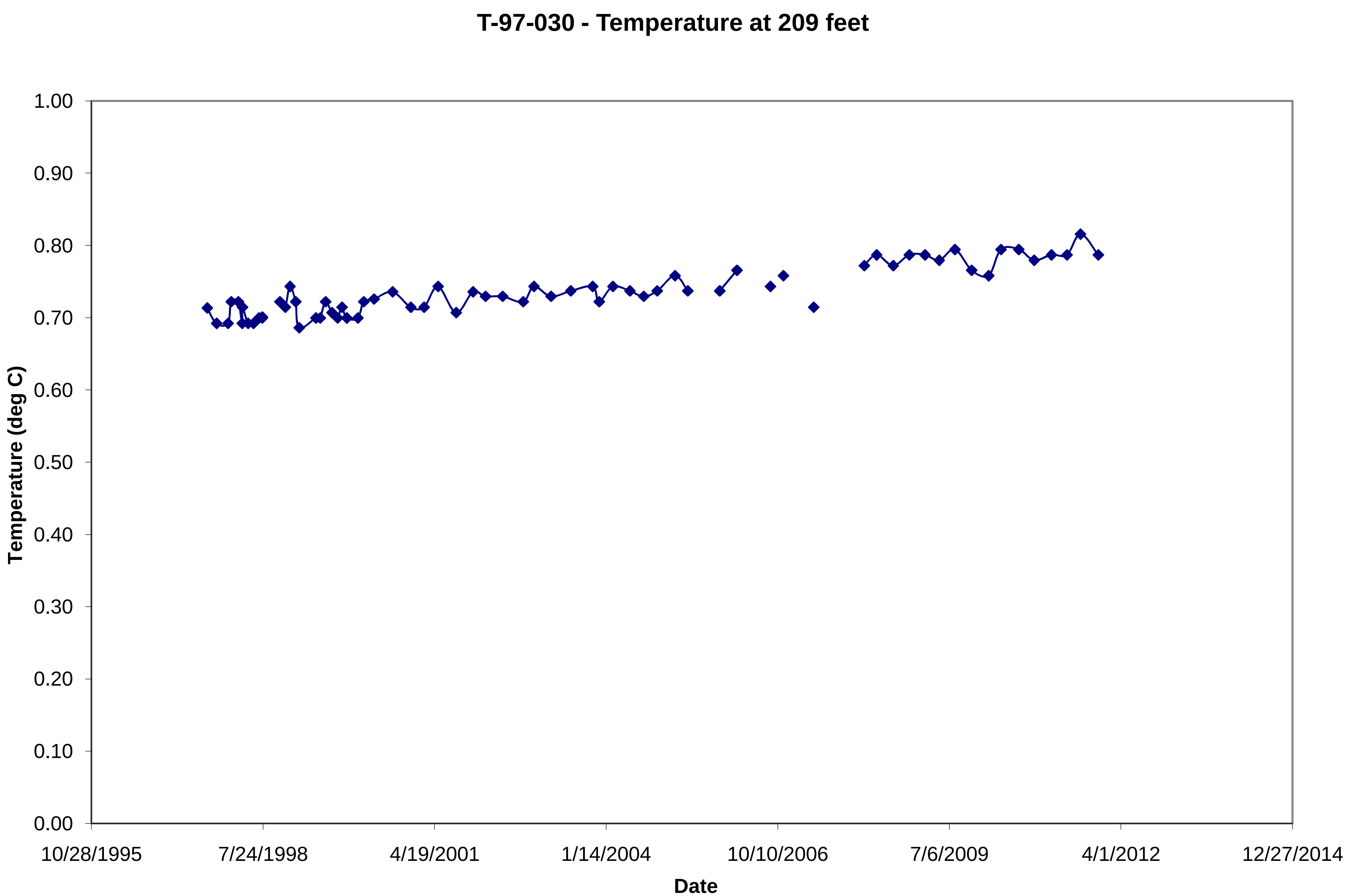


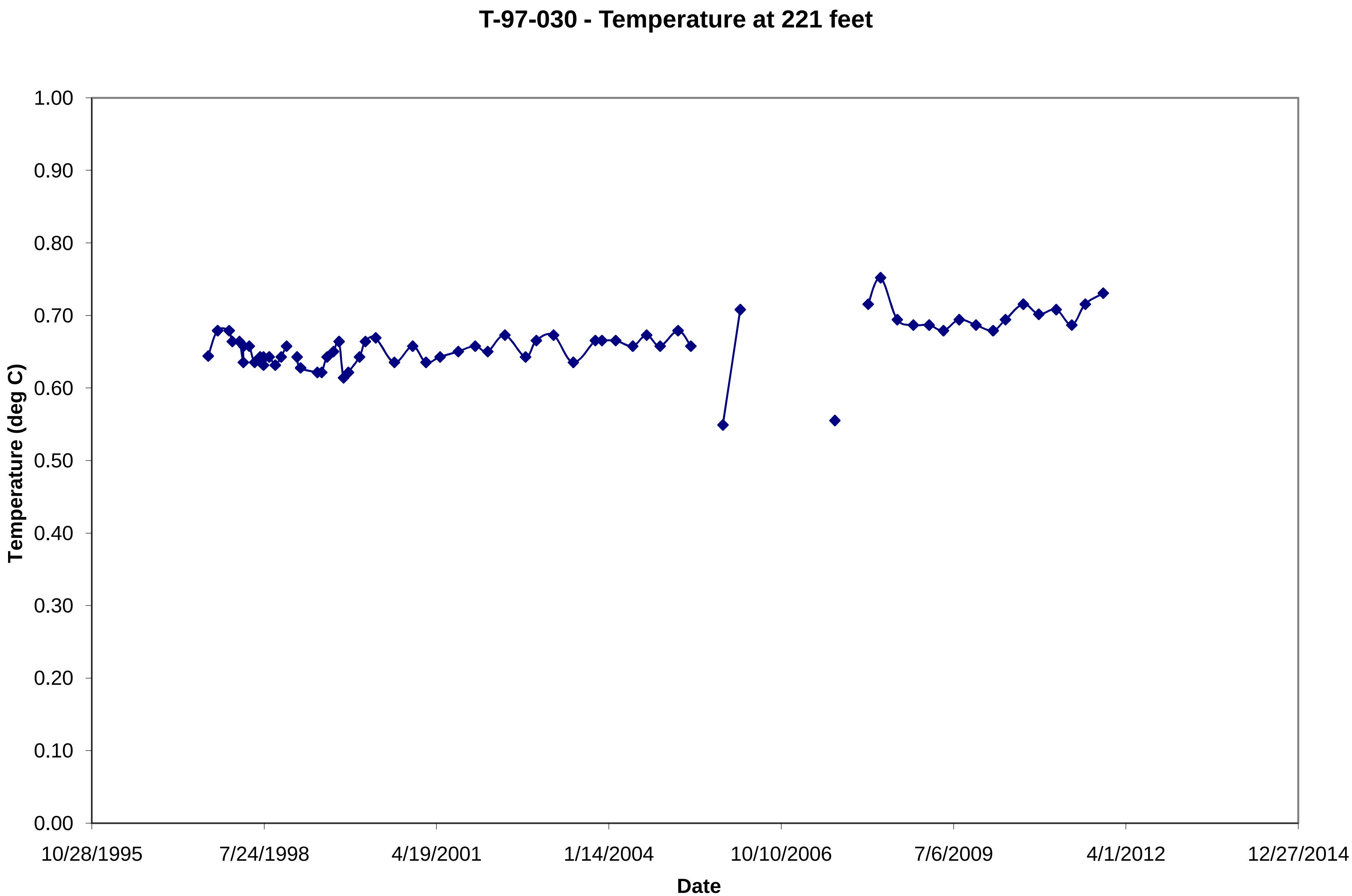
T-97-030 - Temperature at 159 feet
Temperature (deg C)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

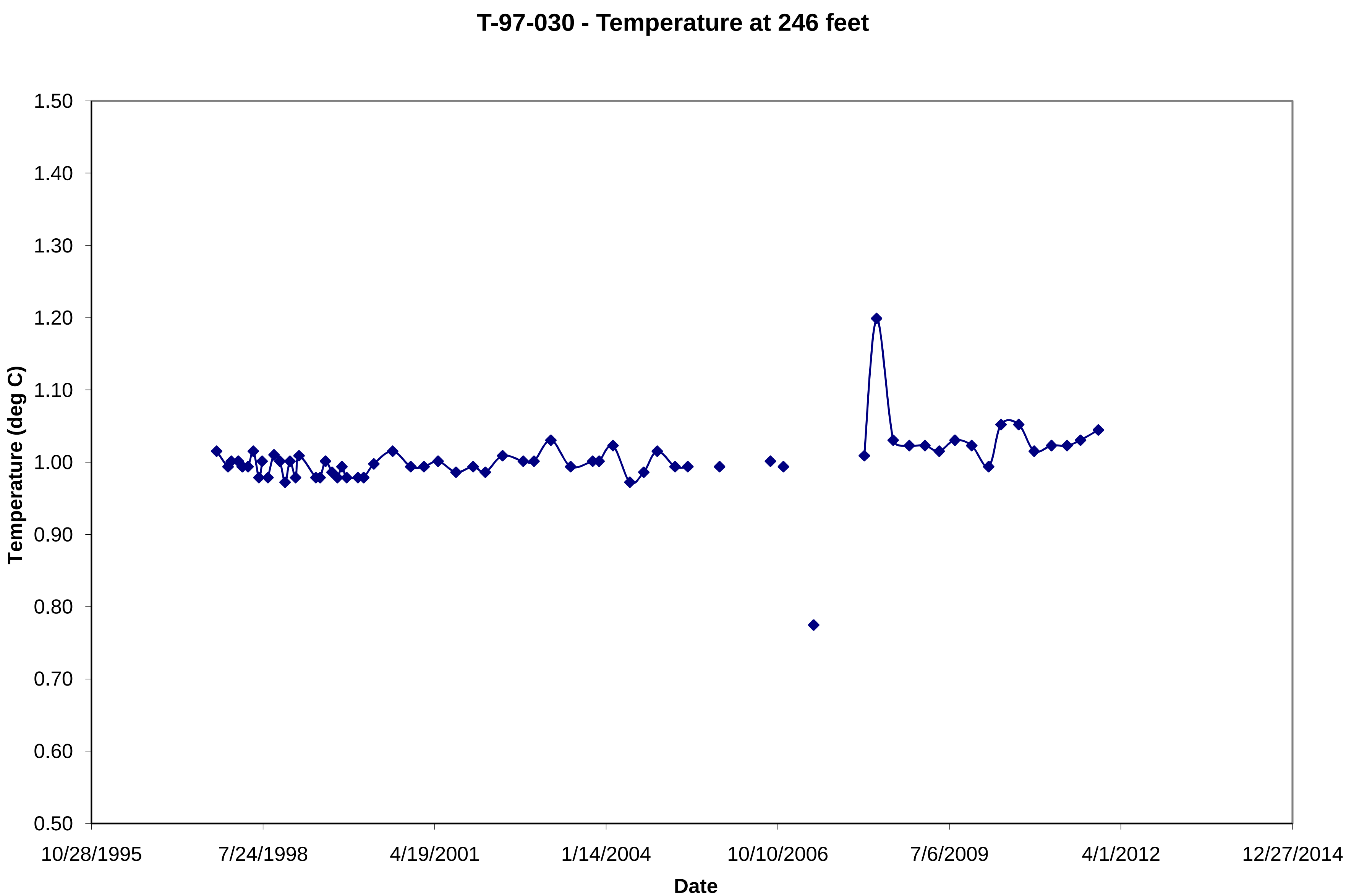

T-97-030 - Temperature at 171 feet
Temperature (deg C)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-97-030 - Temperature at 184 feet
Temperature (deg C)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

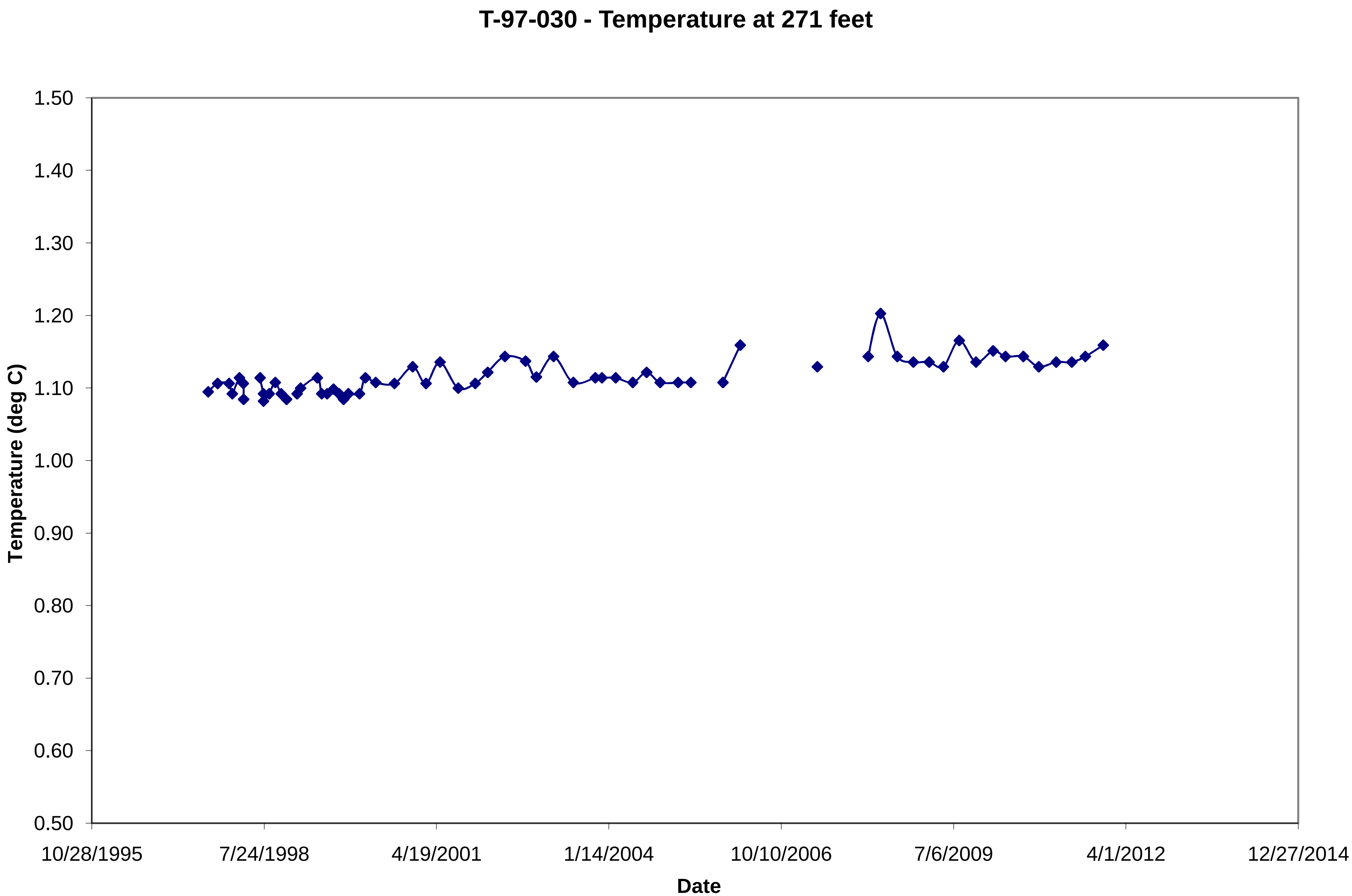

T-97-030 - Temperature at 196 feet
Temperature (deg C)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-97-030 - Temperature at 209 feet
Temperature (deg C)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-97-030 - Temperature at 221 feet
Temperature (deg C)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

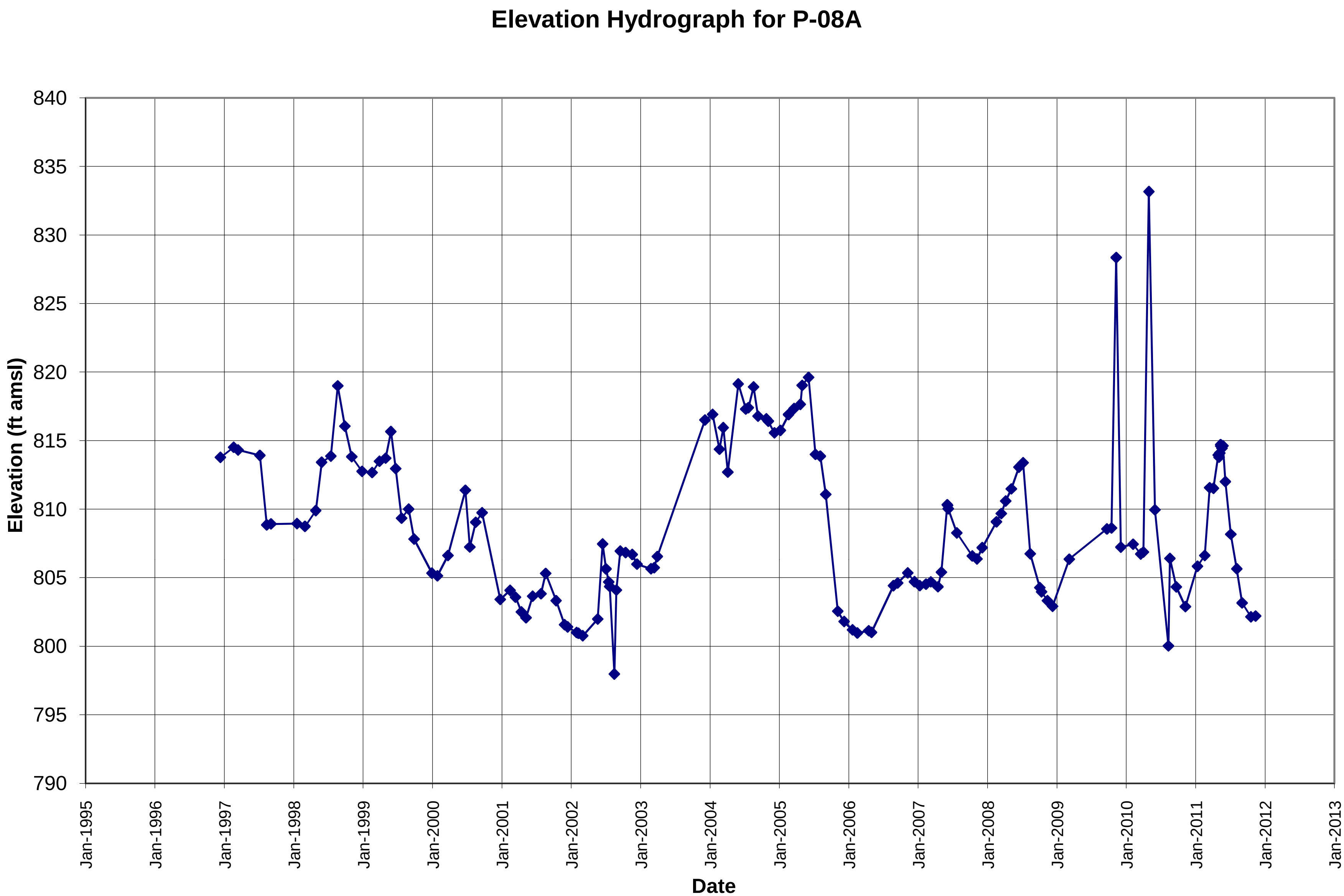


T-97-030 - Temperature at 246 feet
Temperature (deg C)
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date


T-97-030 - Temperature at 271 feet
Temperature (deg C)
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
10/28/1995
7/24/1998
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
Date

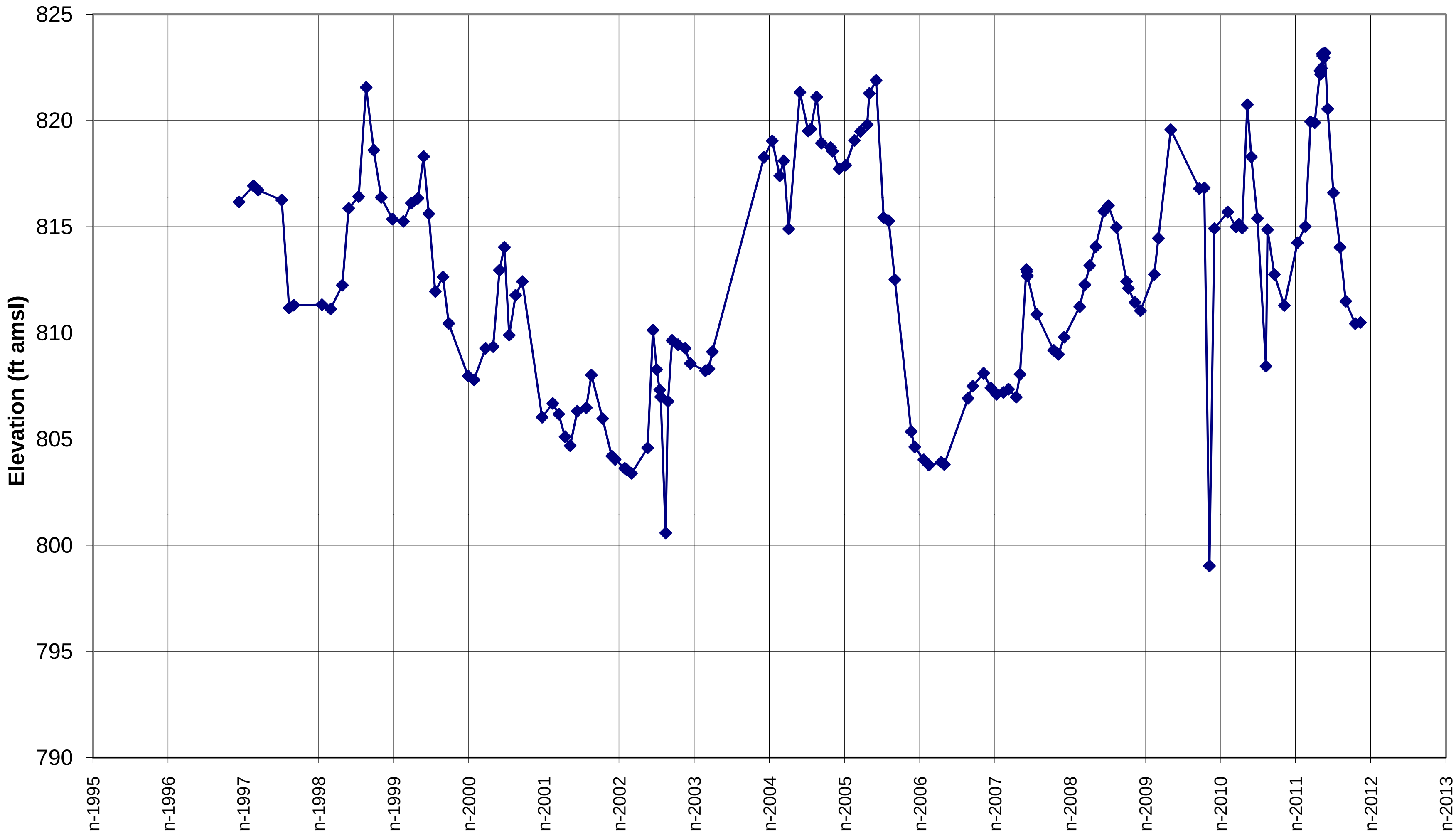
APPENDIX C

Water Level Data from Long-Term Monitoring Locations

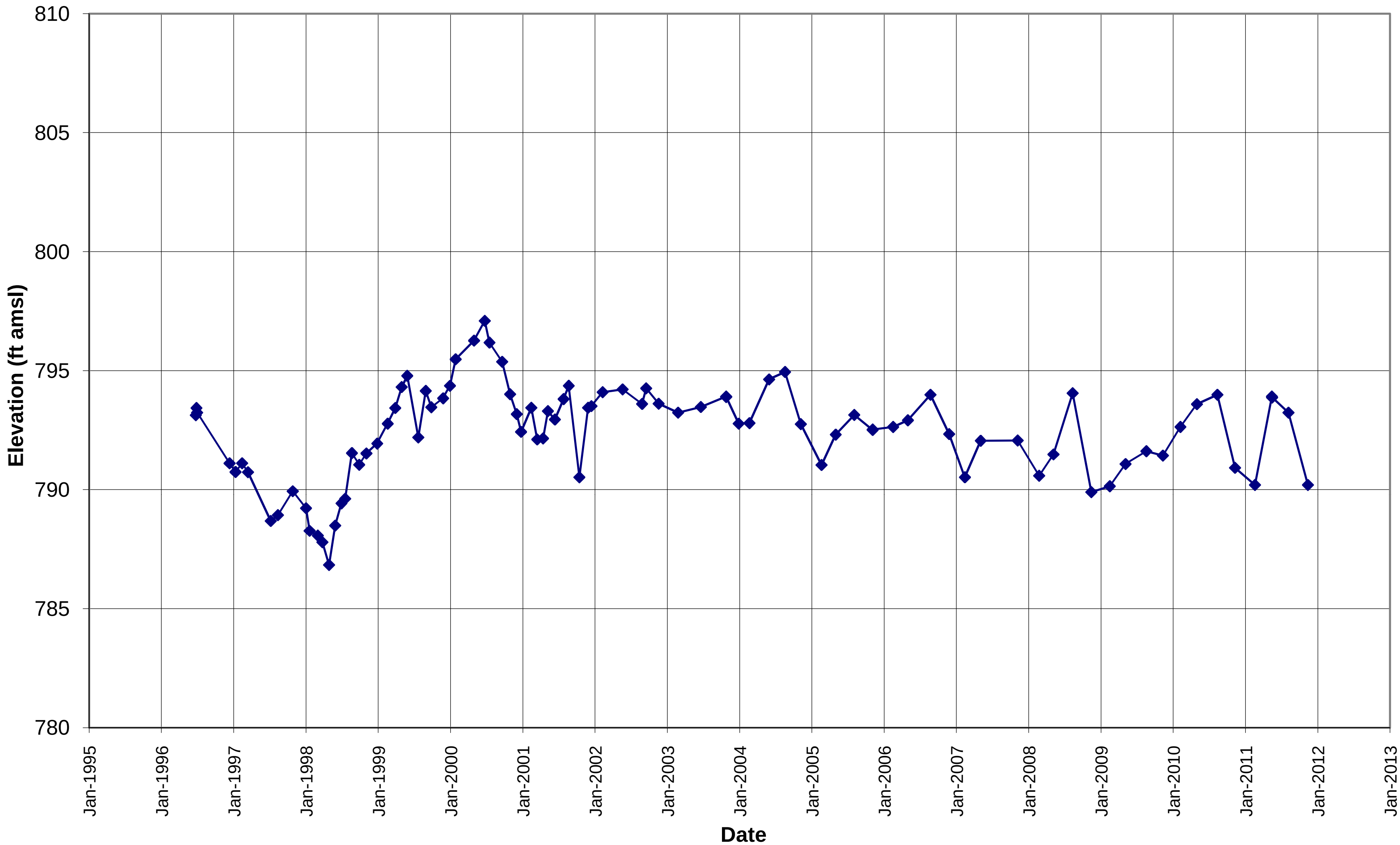


Elevation Hydrograph for P-08A
Elevation (ft amsl)
840
835
830
825
820
815
810
805
800
795
790
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Date

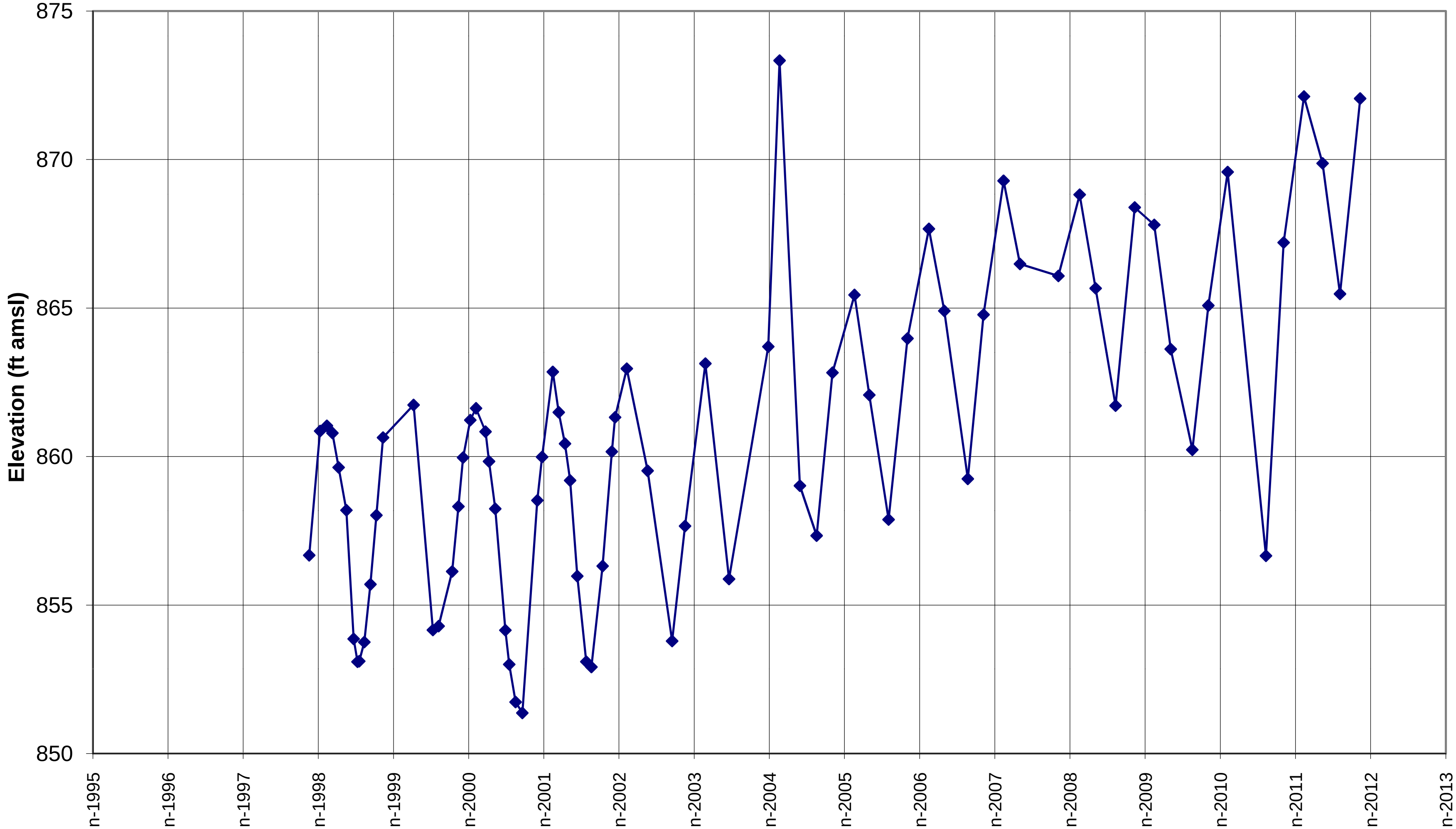
Elevation Hydrograph for P-08B

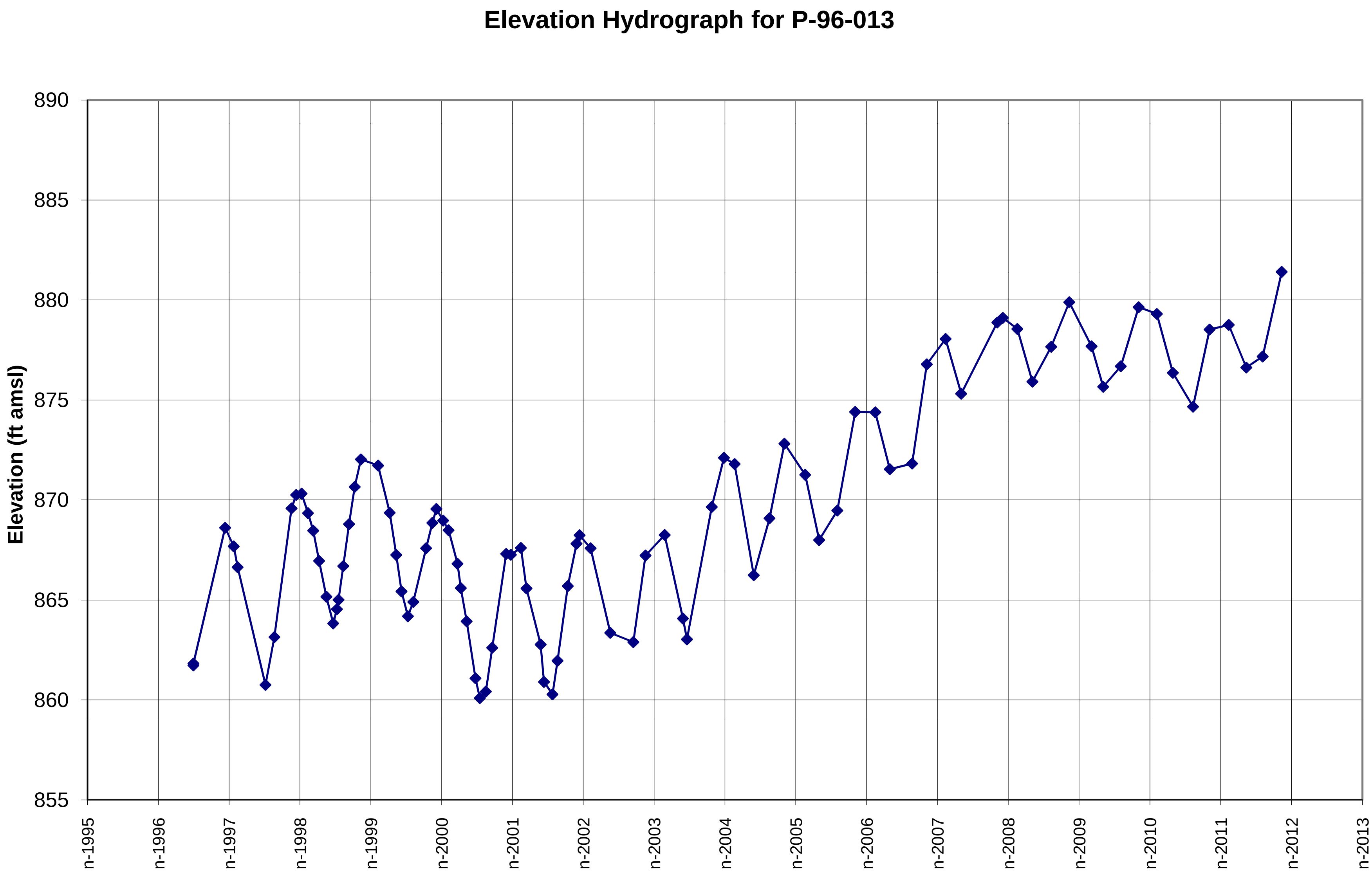


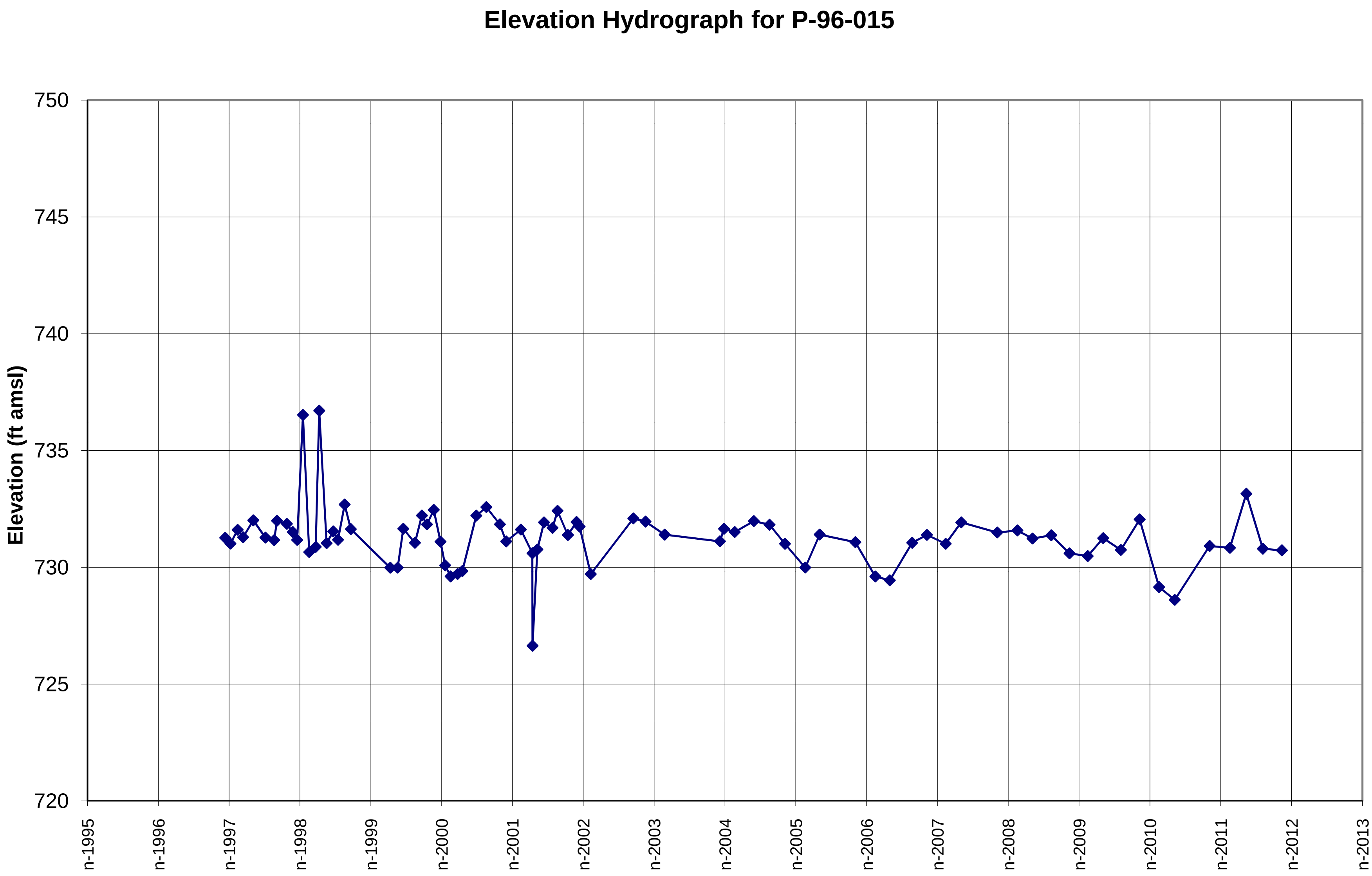
Elevation Hydrograph for P-96-010



Elevation Hydrograph for P-97-012

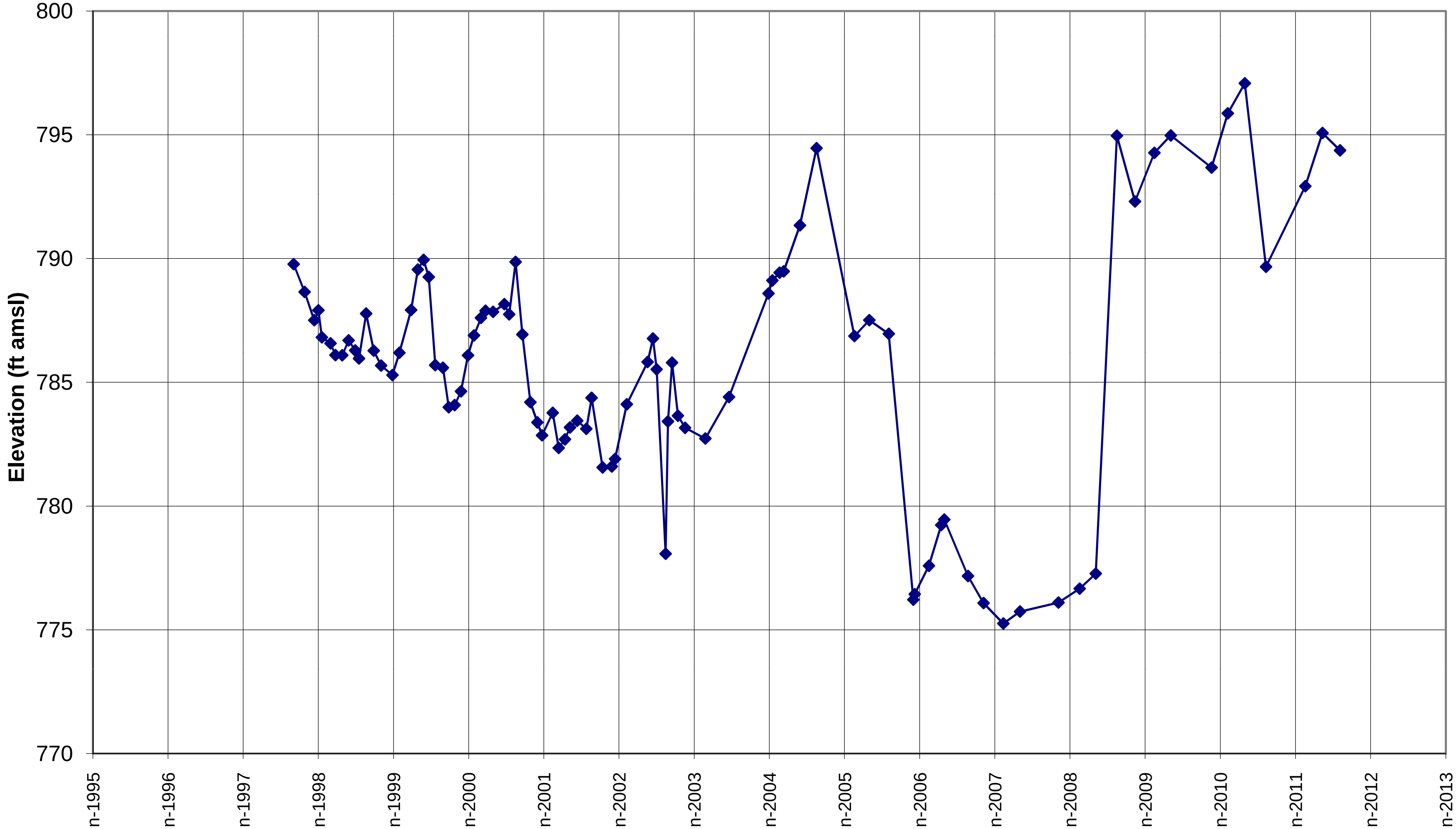



Elevation Hydrograph for P-96-013
Elevation (ft amsl)
890
885
880
875
870
865
860
855
n-1995
n-1996
n-1997
n-1998
n-1999
n-2000
n-2001
n-2002
n-2003
n-2004
n-2005
n-2006
n-2007
n-2008
n-2009
n-2010
n-2011
n-2012
n-2013

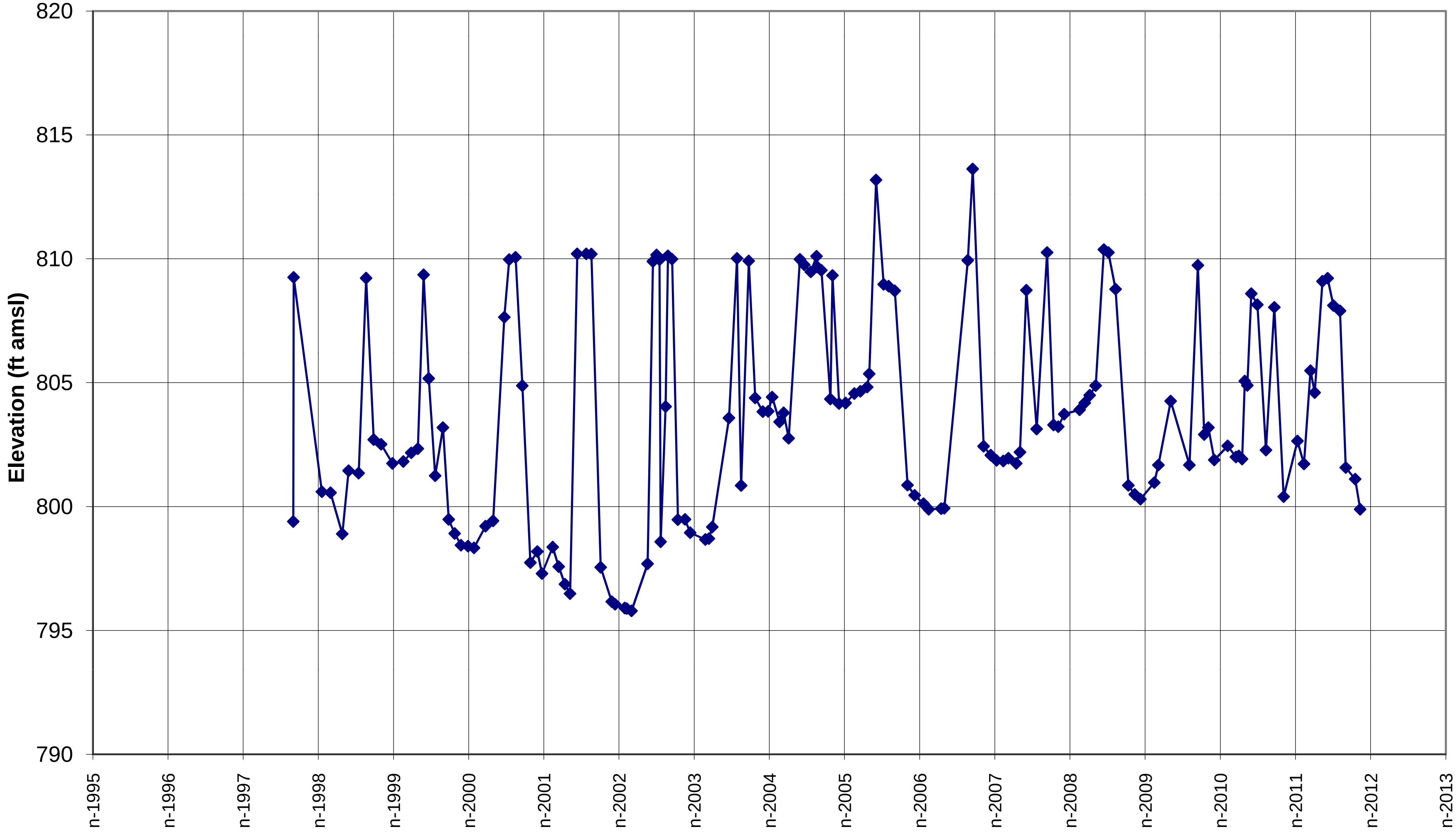


Elevation Hydrograph for P-96-015
Elevation (ft amsl)
750
745
740
735
730
725
720
n-1995
n-1996
n-1997
n-1998
n-1999
n-2000
n-2001
n-2002
n-2003
n-2004
n-2005
n-2006
n-2007
n-2008
n-2009
n-2010
n-2011
n-2012
n-2013

Elevation Hydrograph for P-97-020



Elevation Hydrograph for P-97-028



Elevation Hydrograph for SPP-97-002