

September 15, 2016

## **MEMO TO THE MGA BOARD OF DIRECTORS**

Subject: Agenda Item 6.1

Title: Update on Quarterly Monitoring Data

### Attachment

1. Hydrographs and Salt Concentration Chemographs from Coastal Monitoring Wells Used to Evaluate Seawater Intrusion in the Santa Cruz Mid-County Groundwater Basin

### **BACKGROUND**

In the past HydroMetrics WRI has provided written quarterly monitoring reports of data from coastal monitoring wells used to evaluate seawater intrusion in the basin. These reports can be found at the Santa Cruz Mid-County Groundwater Agency's (MGA's) online resource library: <http://www.midcountygroundwater.org/resource-library>. However, at the March 17, 2016 meeting, the Board approved an alternative approach of HydroMetrics WRI continuing to review the data, but just present it verbally with potentially some visual aids (e.g., graphs, etc.) via webcast to MGA member agency staff. The reason for this new approach was that the written reports were not providing a beneficial value for money spent and due to the slow changes in the monitoring data. This approach allows the costs to be reduced from \$12,000 per year to \$4,000 per year. A biennial report is budgeted to be produced to cover conditions for Water Years 2015 and 2016 and HydroMetrics WRI will submit a proposal to produce the report at the November MGA Board meeting.

### **DISCUSSION**

In an email update to MGA member agency staff in May 2016, Cameron Tana of HydroMetrics WRI noted that coastal groundwater levels had risen above protective elevations at nearly all of the coastal monitoring wells likely as a result of recent reductions in basin pumping. However, Cameron stressed that this did not indicate that the basin had achieved recovery. Protective elevations are based on long-term groundwater levels to protect against seawater intrusion so the annual average groundwater level needs to be compared to protective elevations to evaluate recovery.

At a web meeting with MGA member agency staff August 31, 2016, HydroMetrics WRI reviewed the attached graphs and noted that:

- Groundwater levels are declining to or below protective elevations (green lines) at many of the wells since the high levels observed in the spring.
- Salt concentration trends do not appear to have changed significantly over the last year. One main indicator of seawater intrusion is chloride concentrations rising above 250 milligrams per liter (mg/L), the maximum contaminant limit in drinking water.

- HydroMetrics WRI also noted that City of Santa Cruz does have water quality data earlier than what is displayed, which shows concentrations declining long-term at the Moran Lake well and that concentrations at the Sequel Point well have been elevated since installation of the well in 2004.

Derrick Williams of HydroMetrics WRI will be present at the Board meeting and can answer any questions.

Possible Board Action:

1. Receive update and discuss as needed.

By



Ron Duncan

On behalf of the staff executive team of Ron Duncan, Rosemary Menard, John Ricker, and Ralph Bracamonte

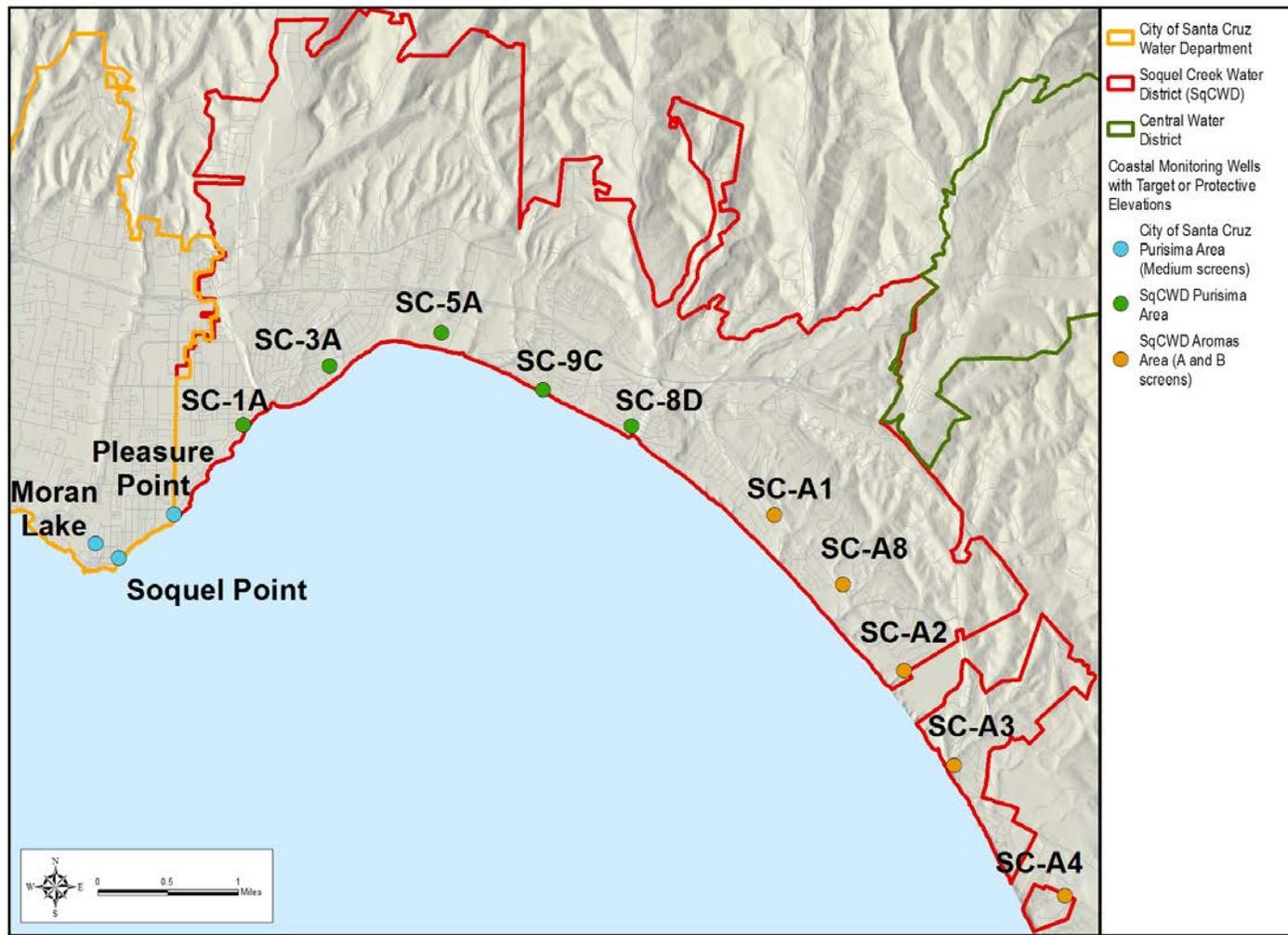
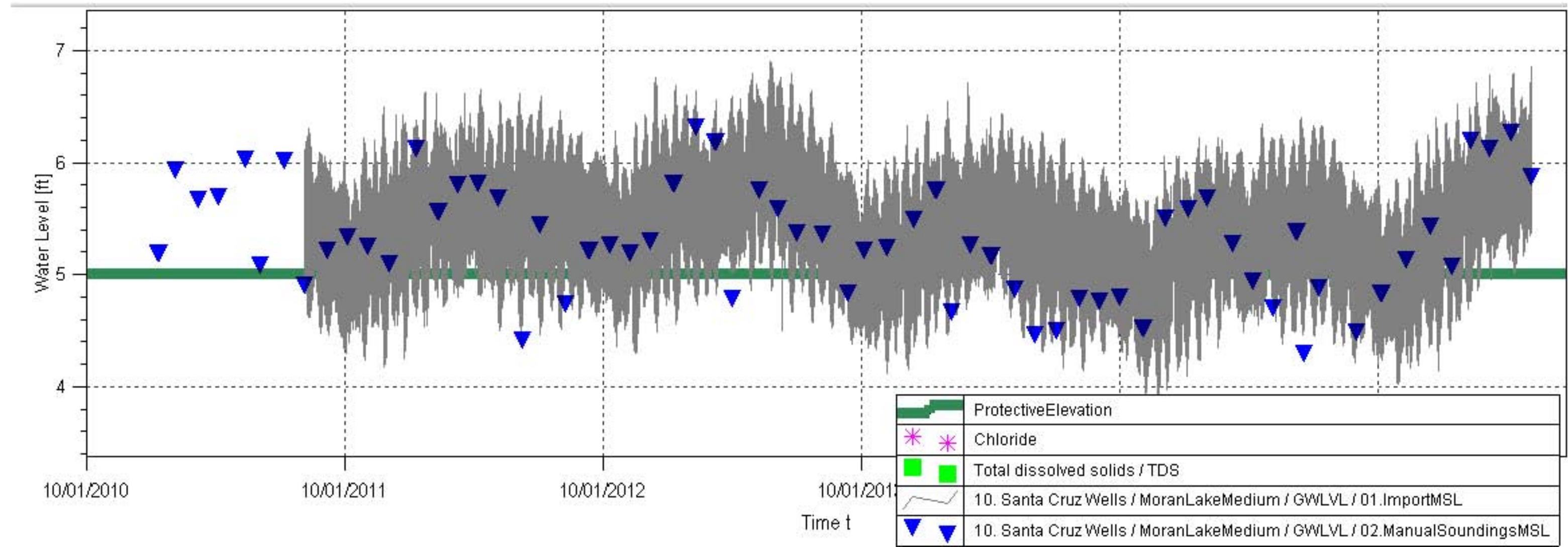
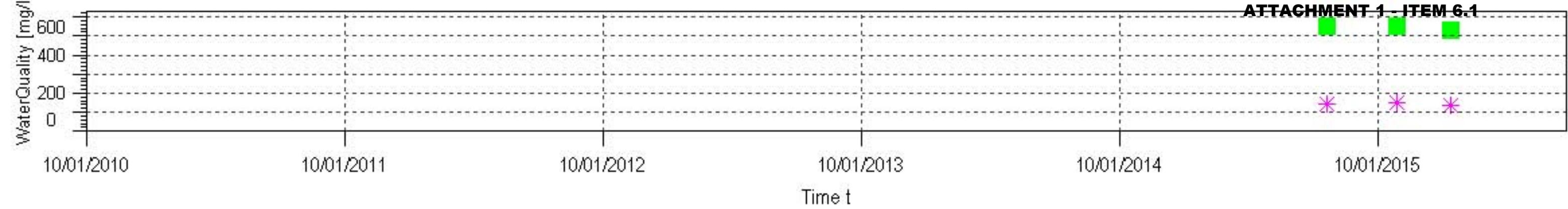
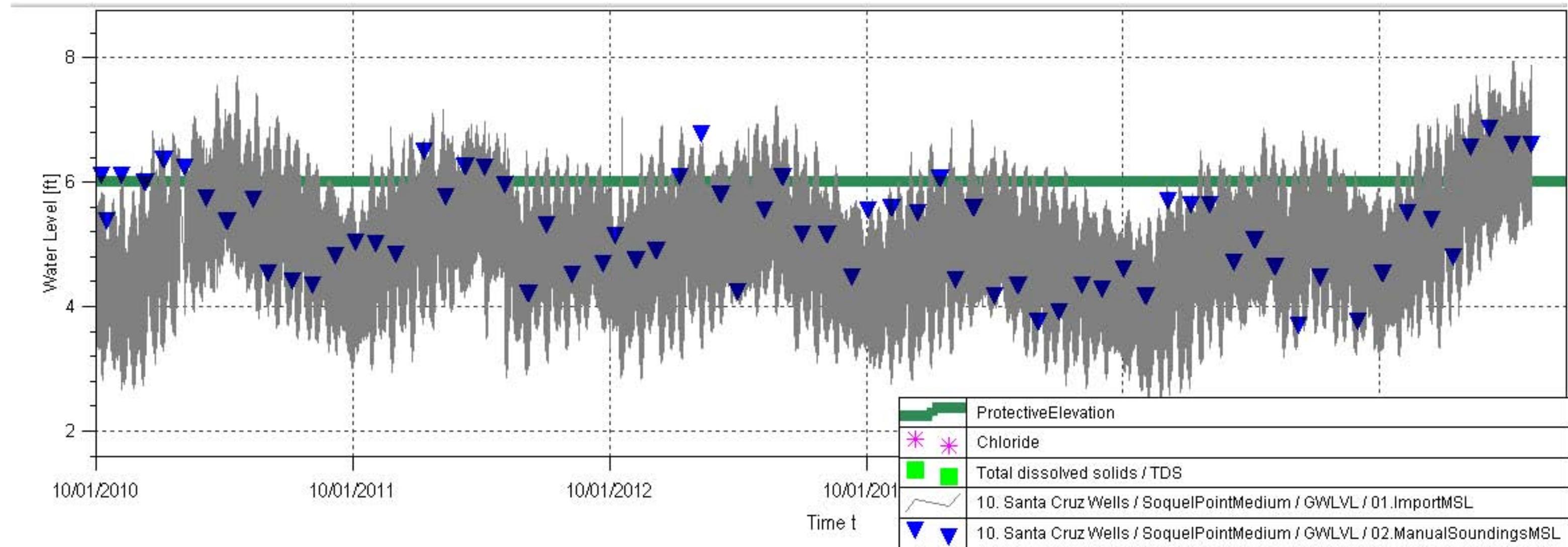
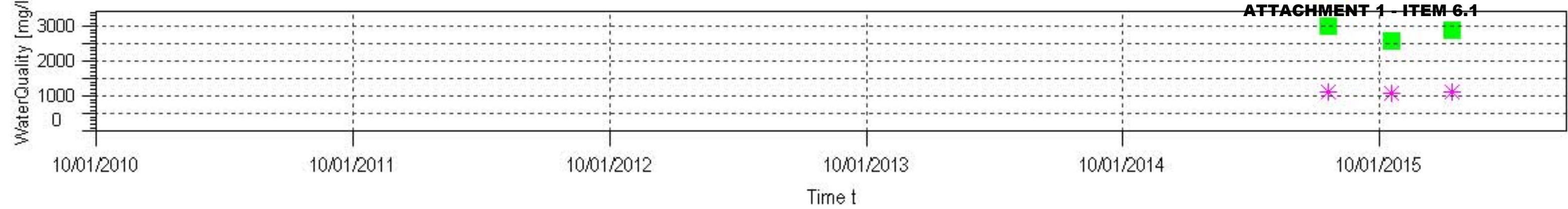
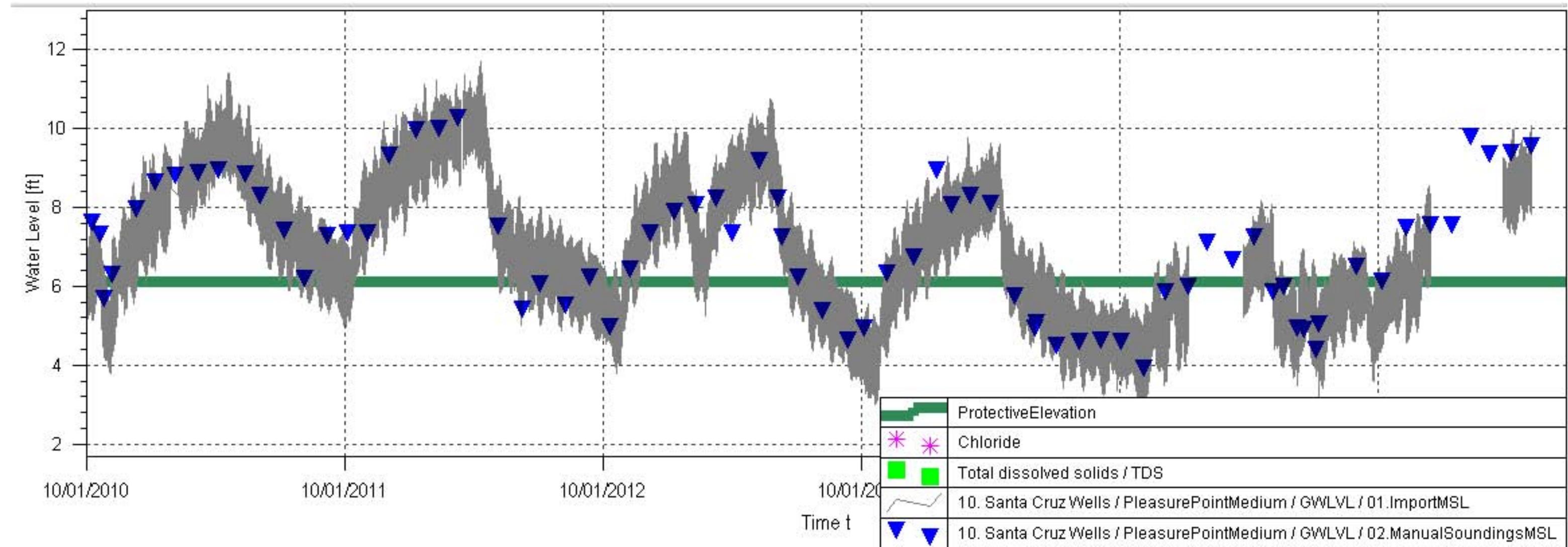
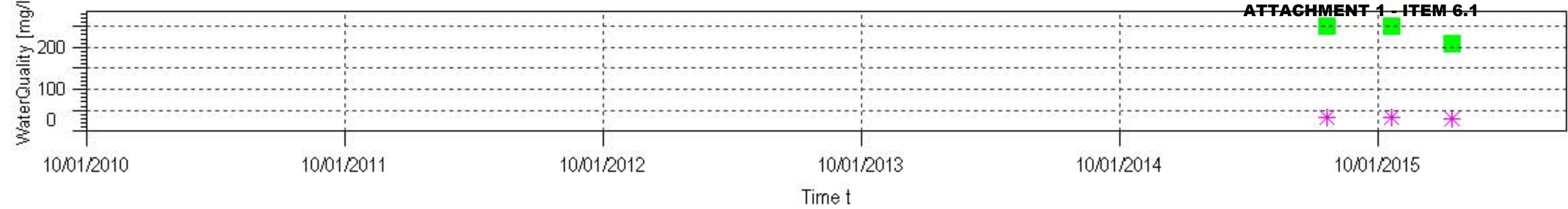
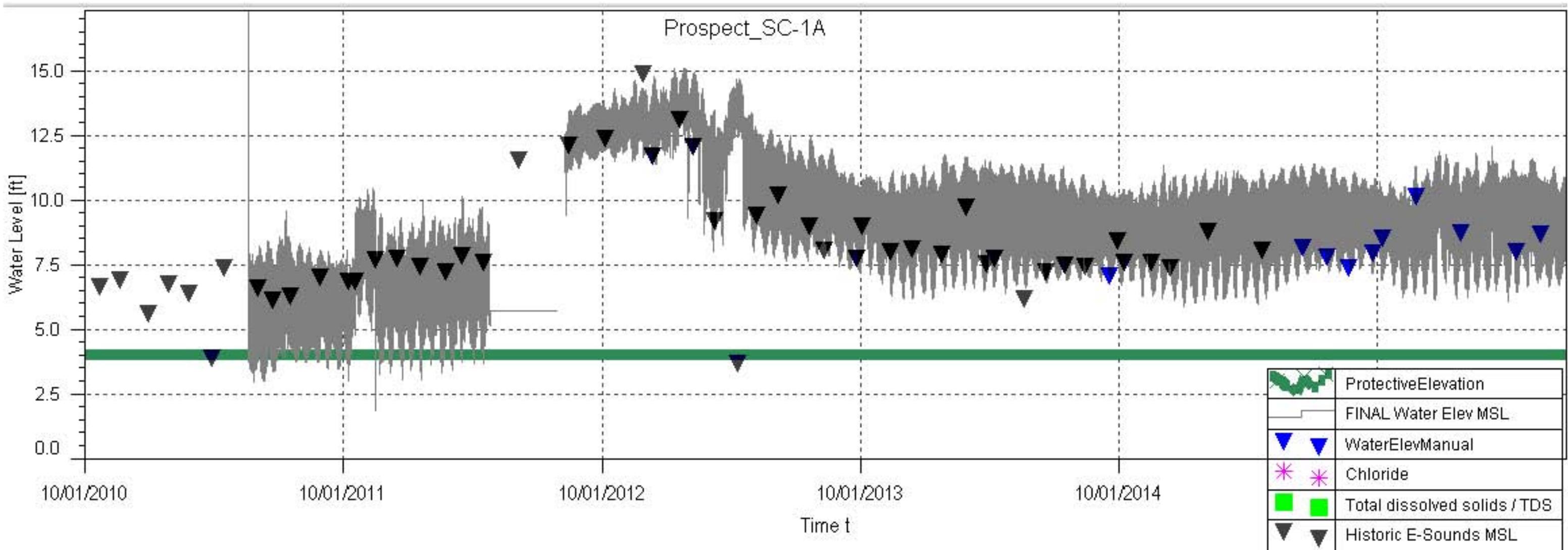
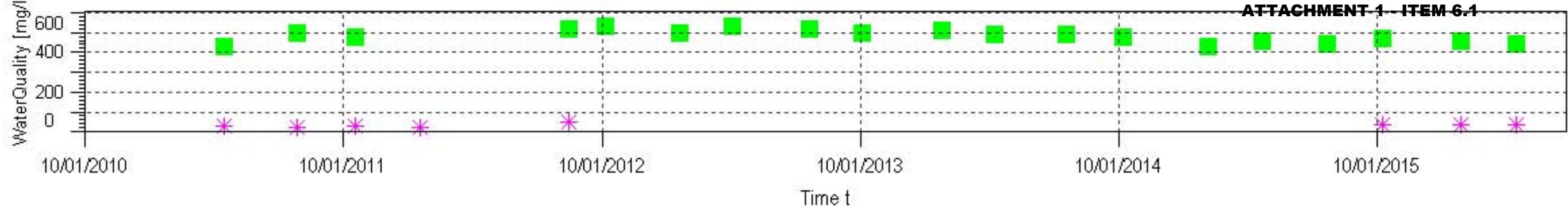


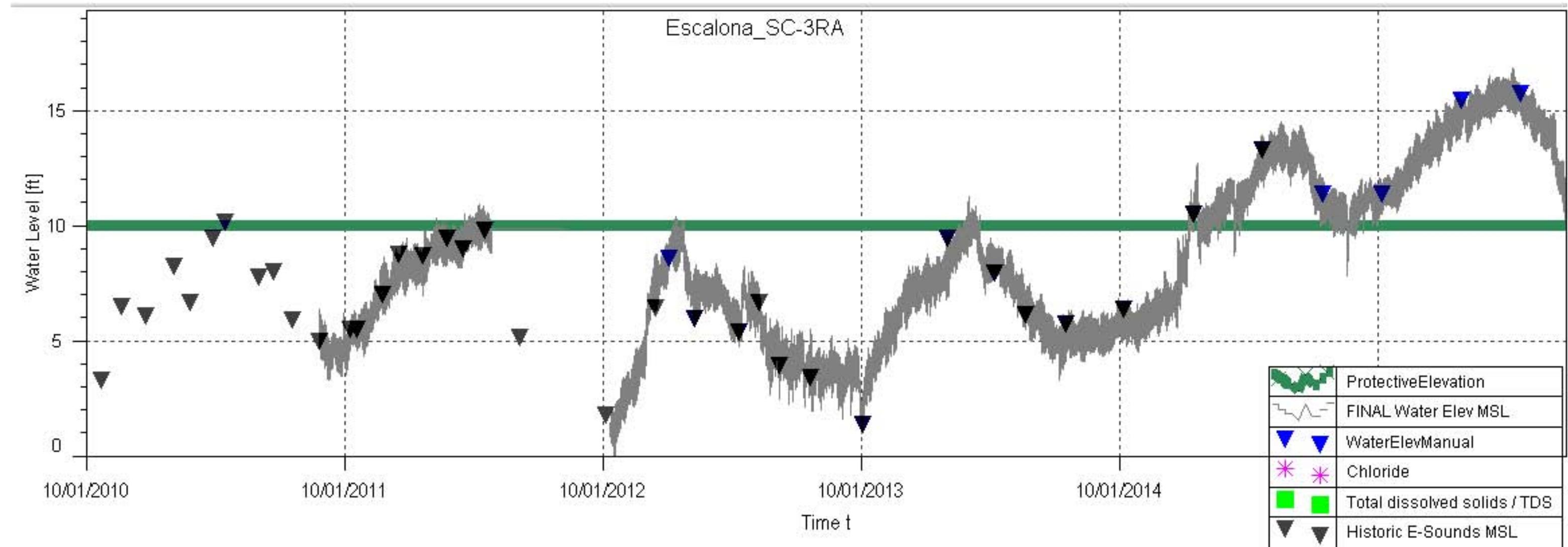
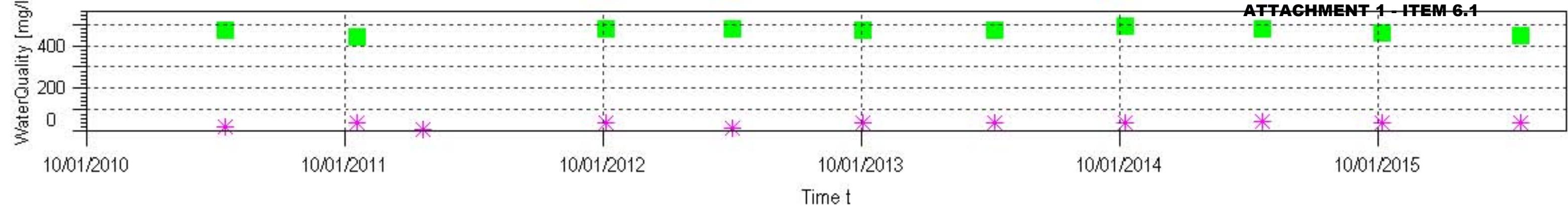
Figure 1. Locations of Coastal Monitoring Wells where Target or Protective Groundwater Elevations Have Been Estimated

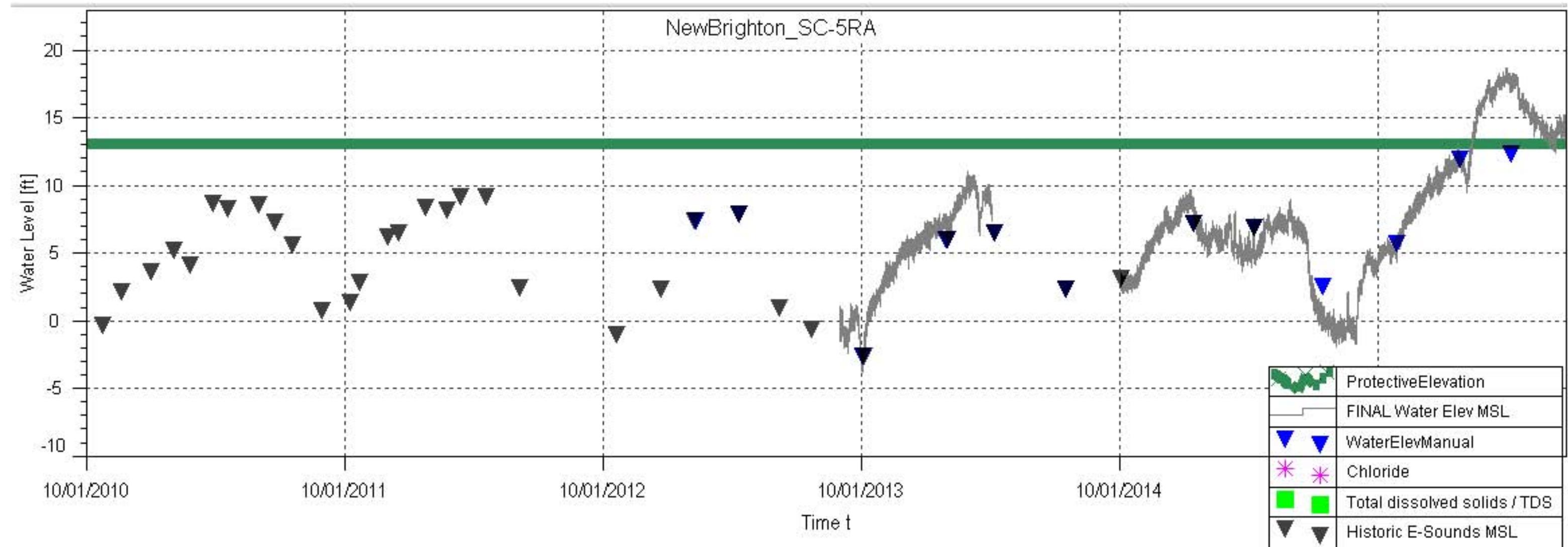
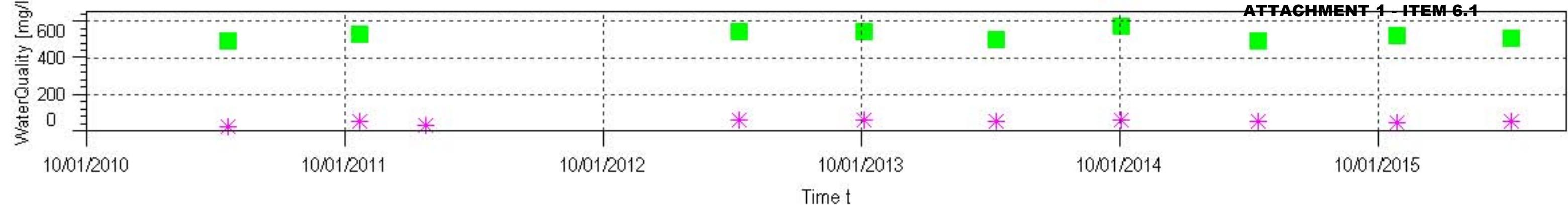


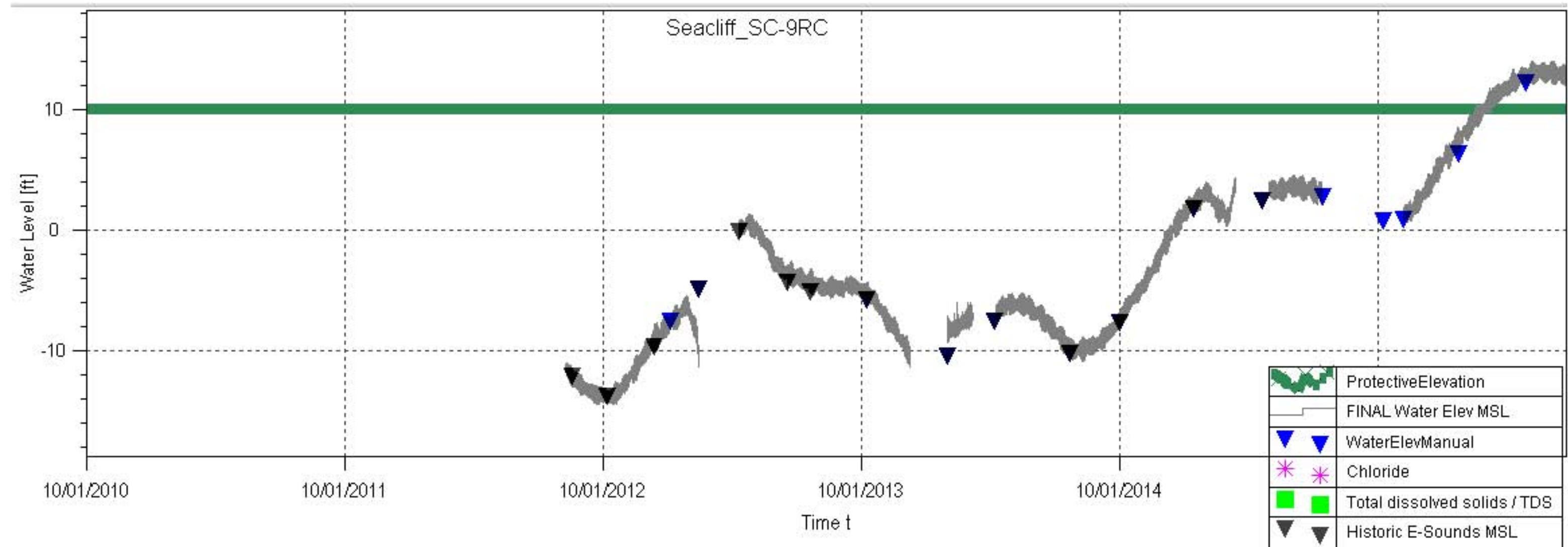
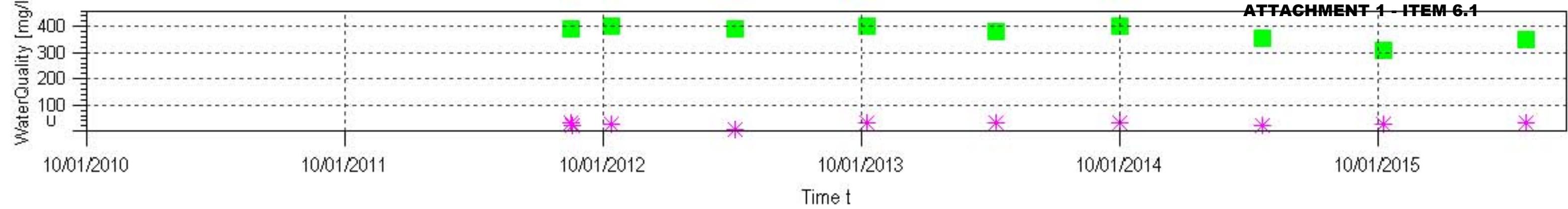




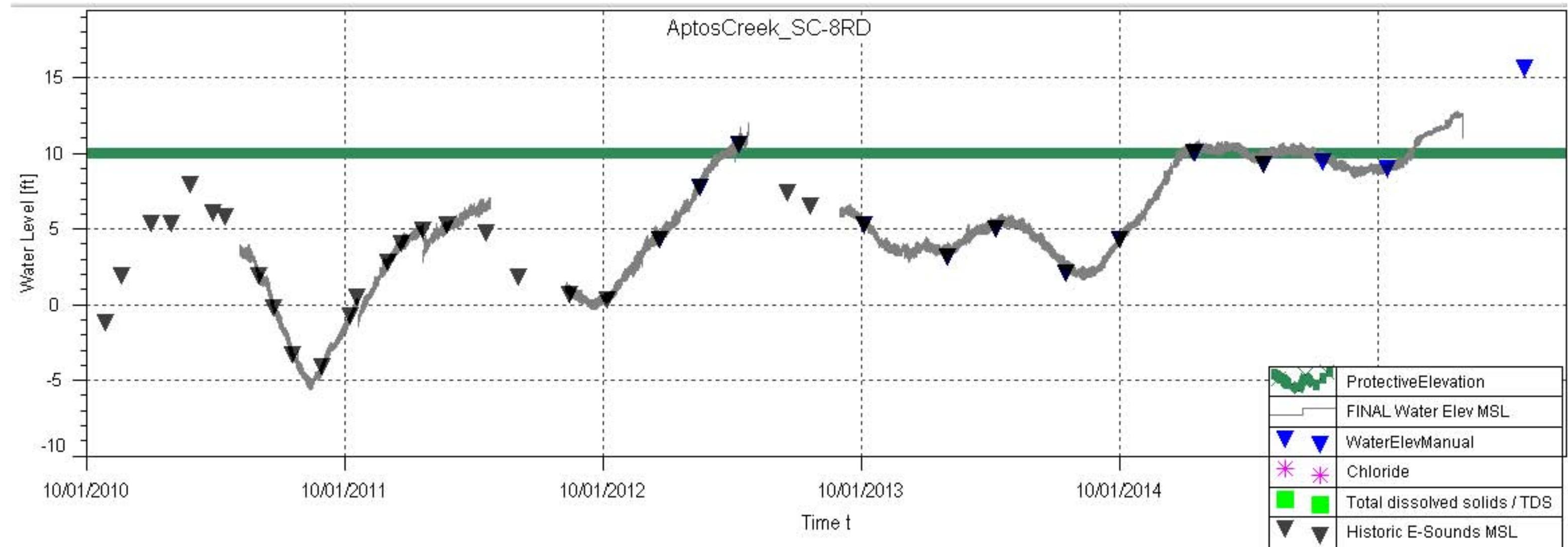
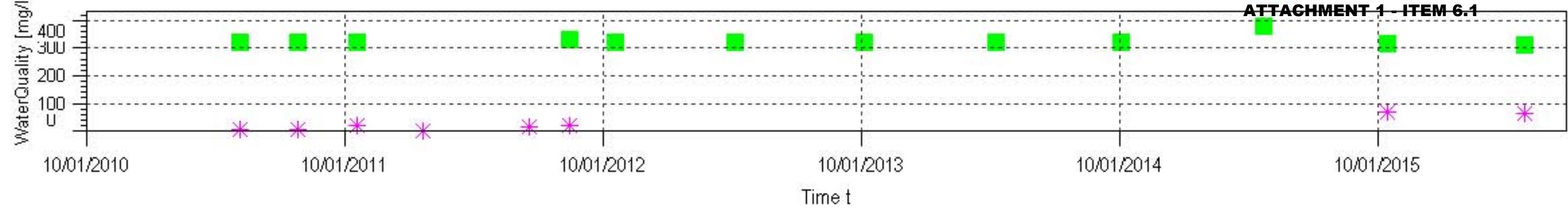




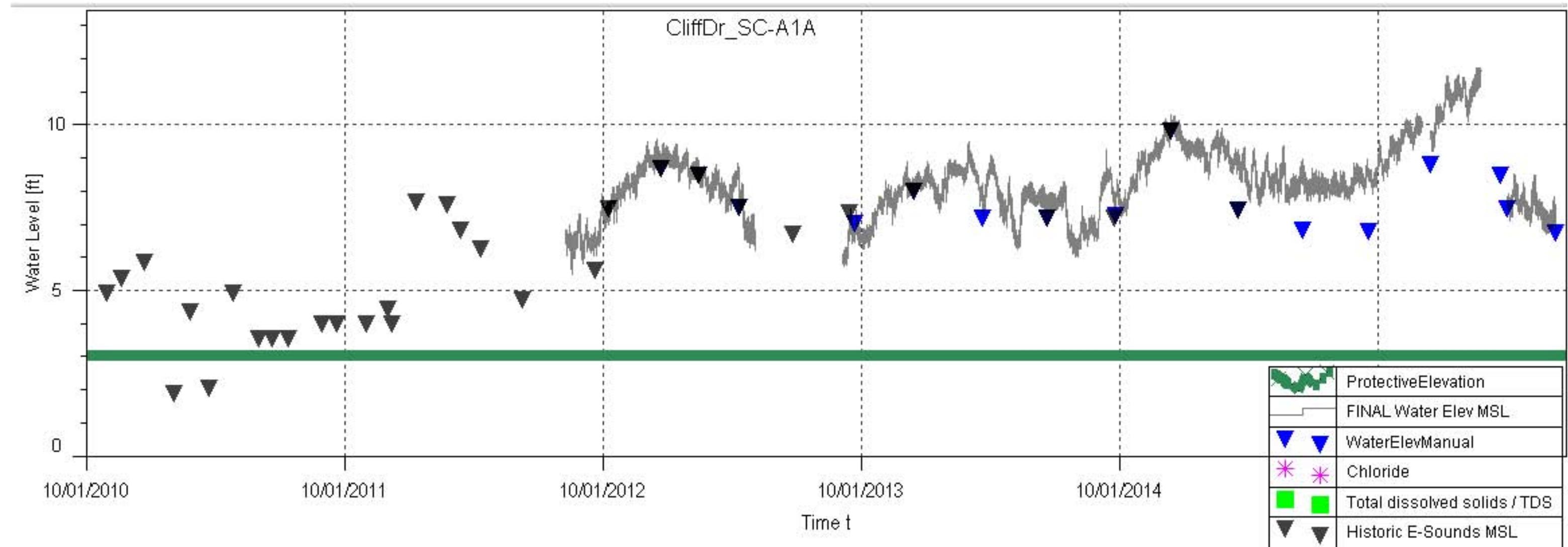
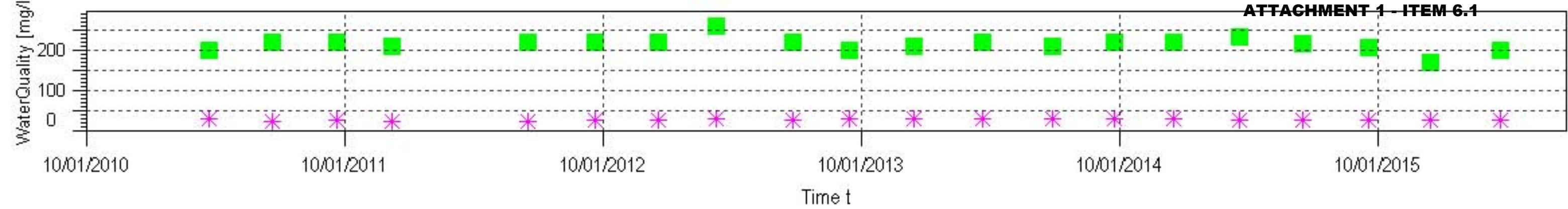


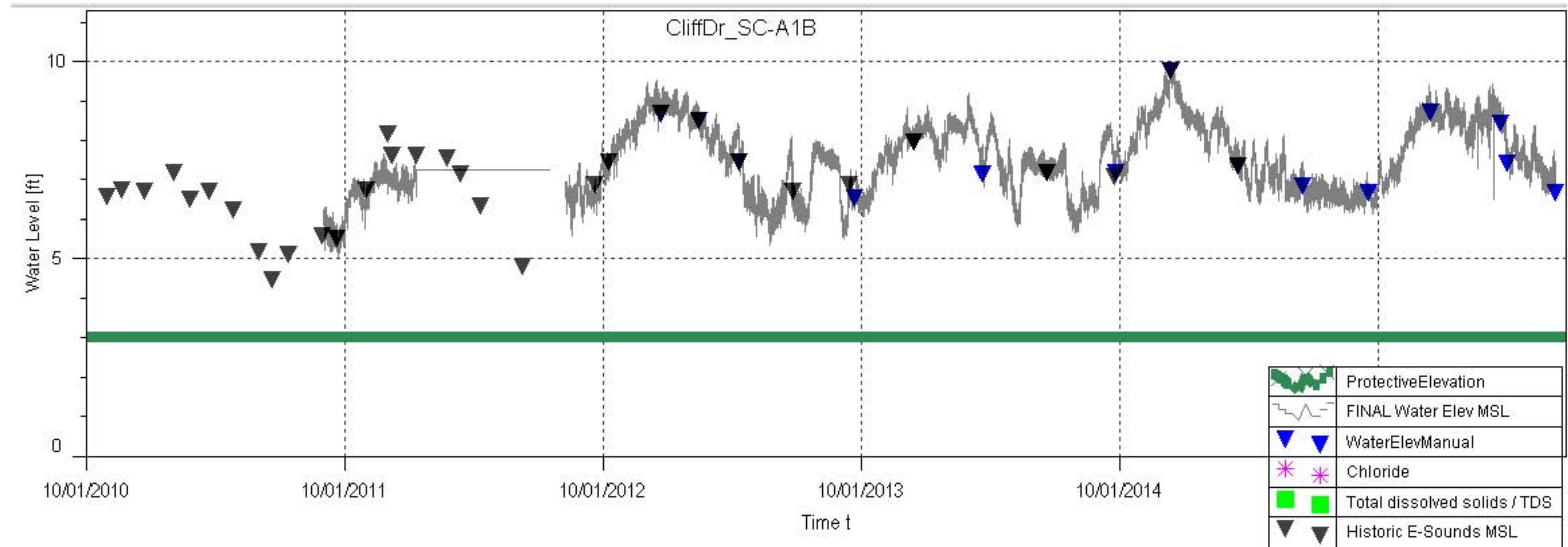
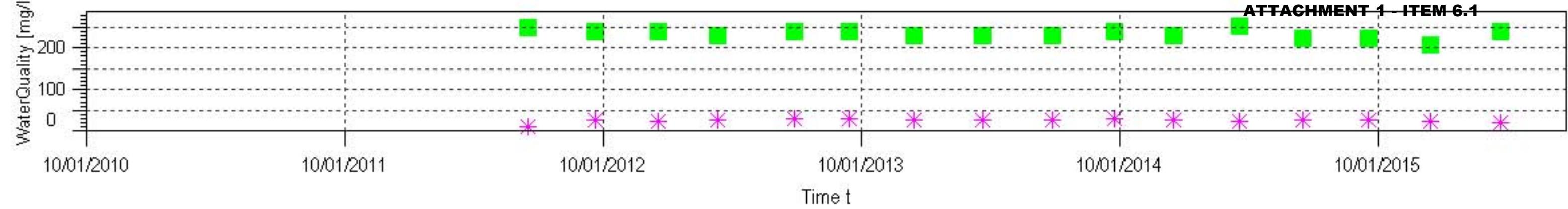


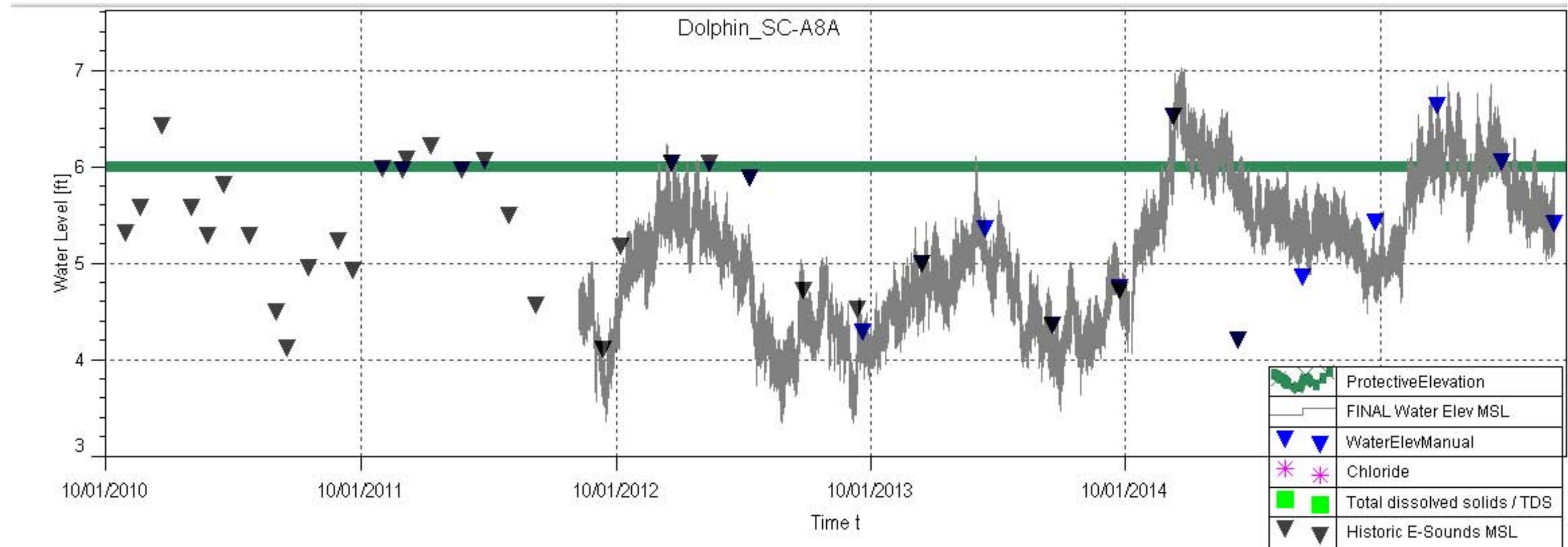
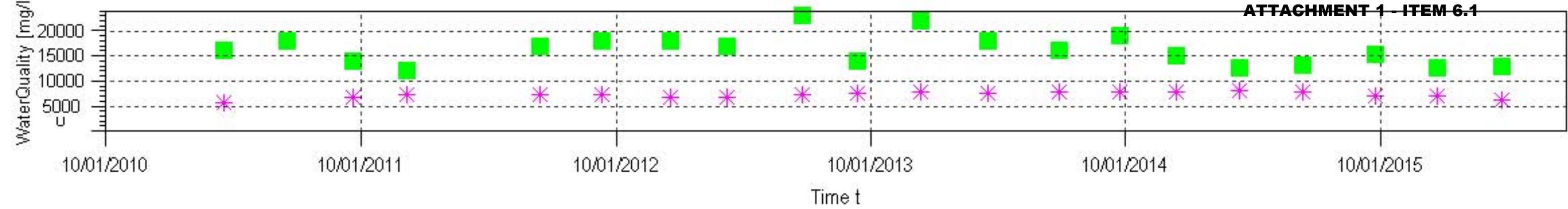
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	Chloride
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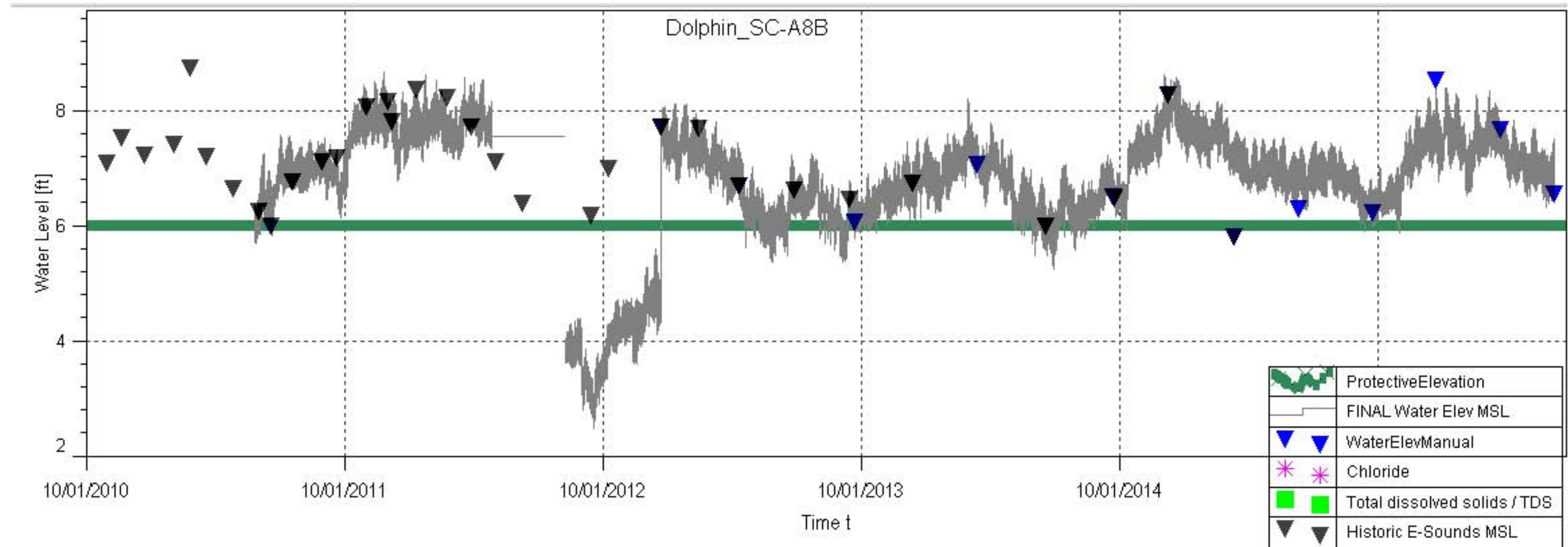
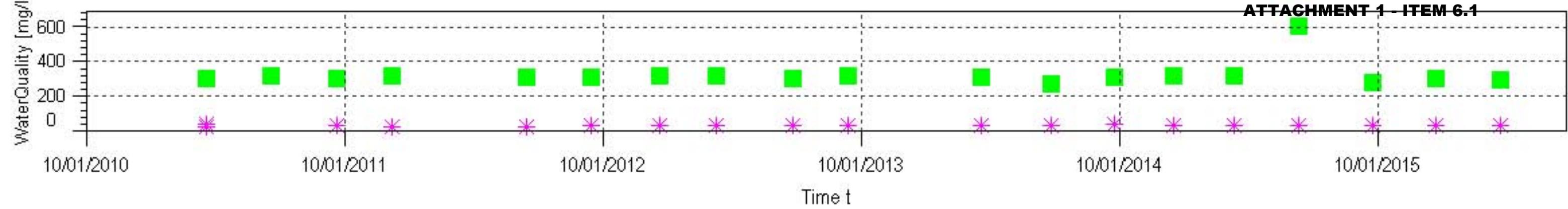


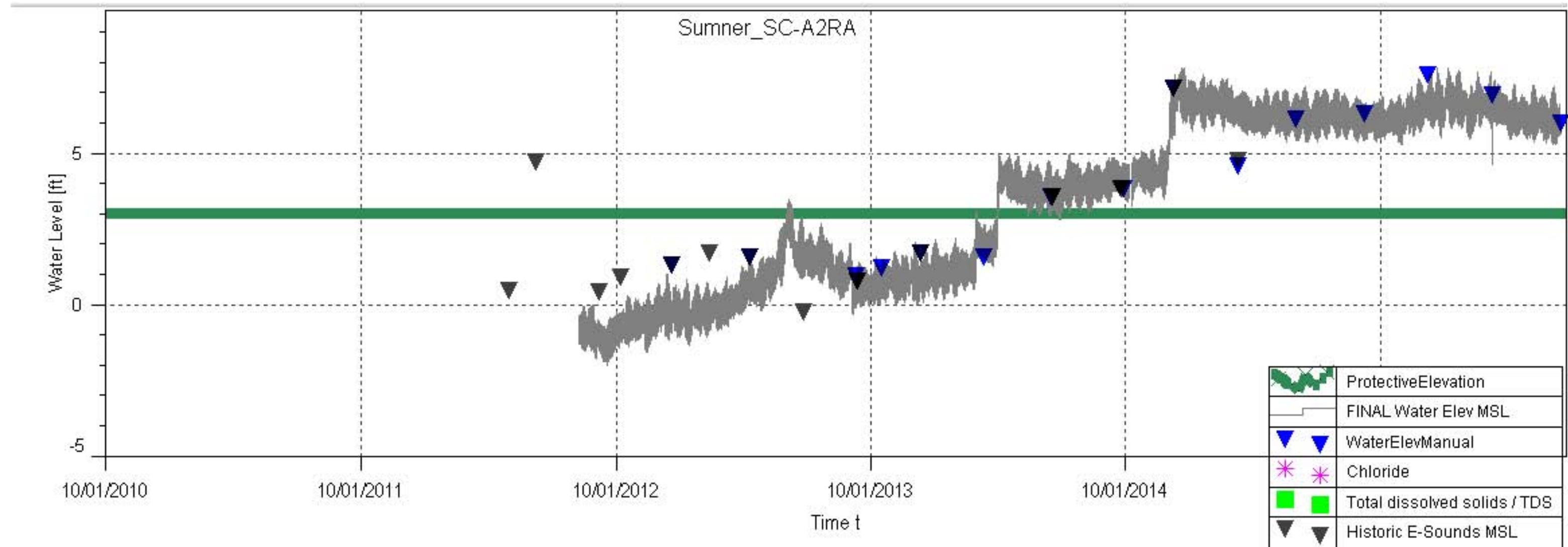
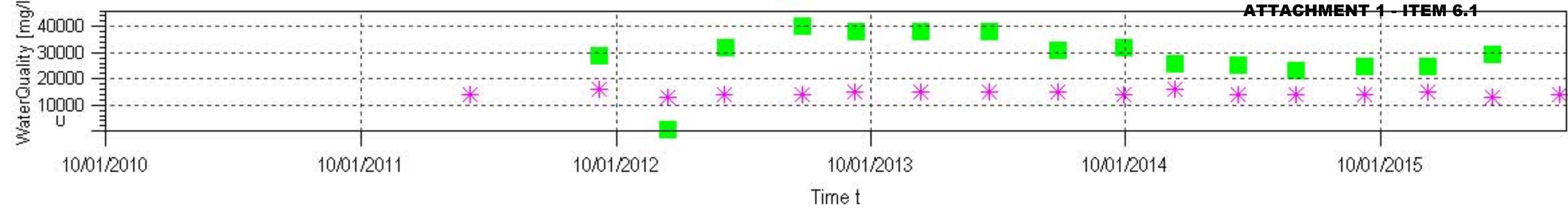
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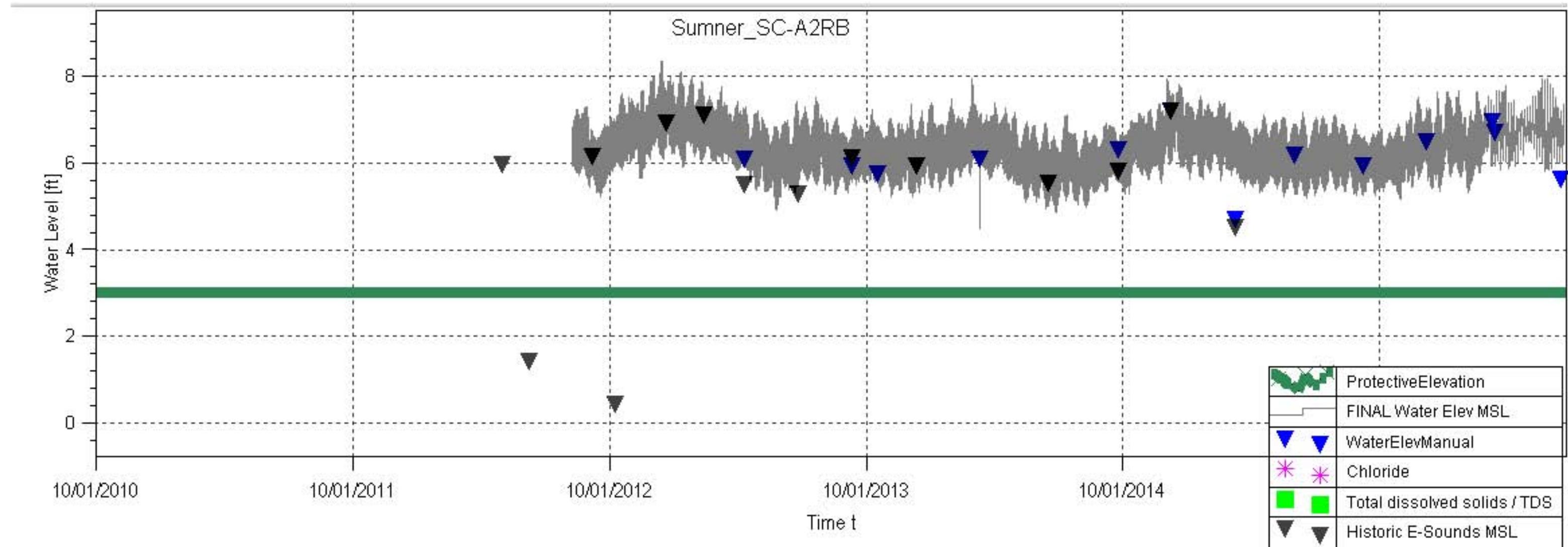
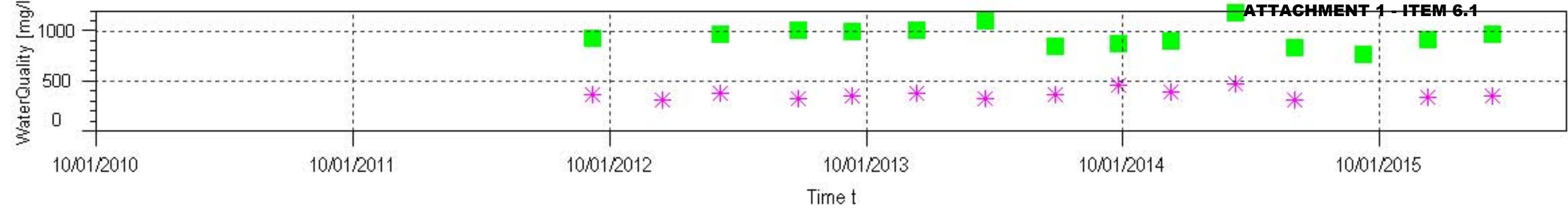




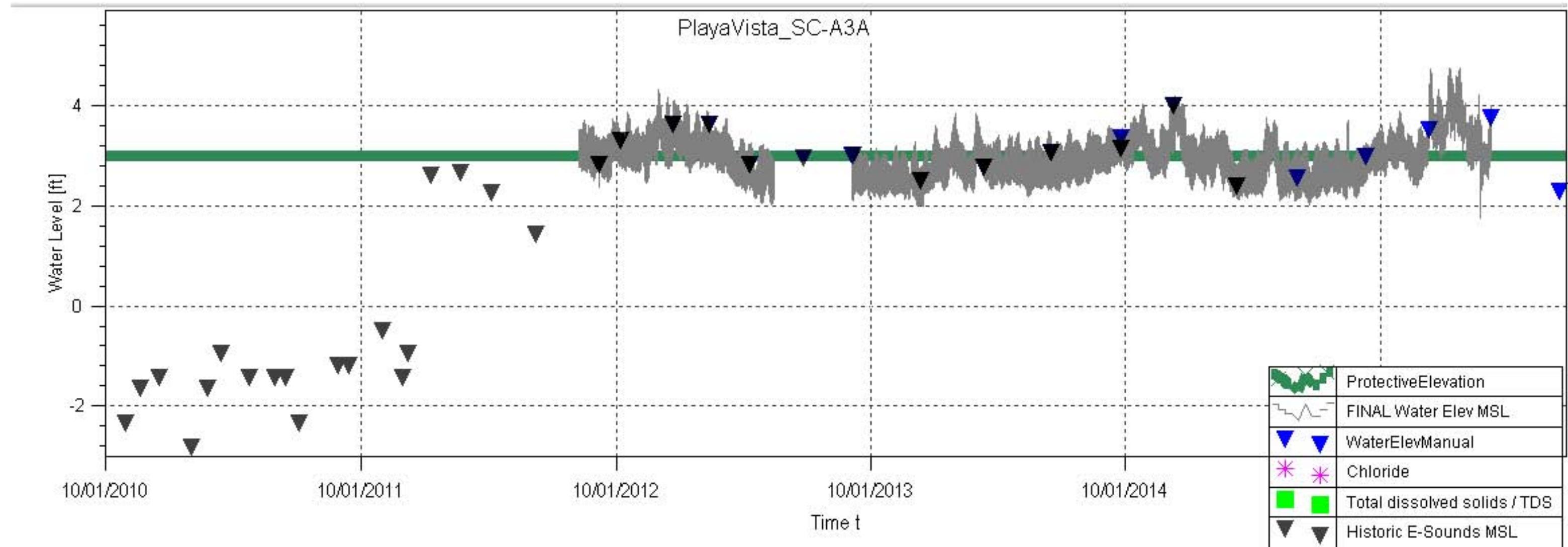
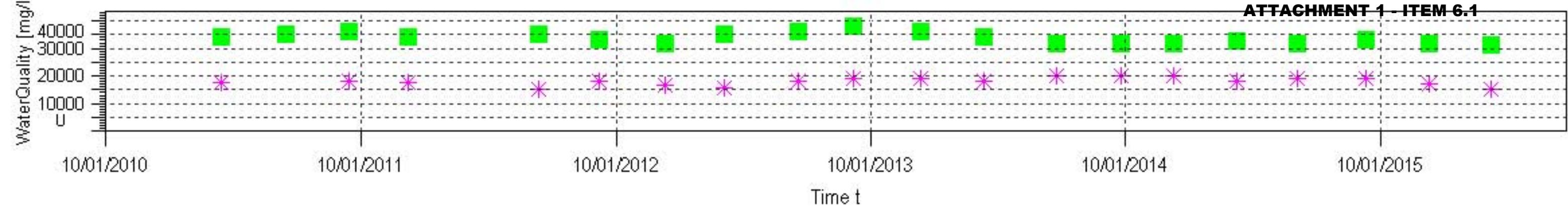


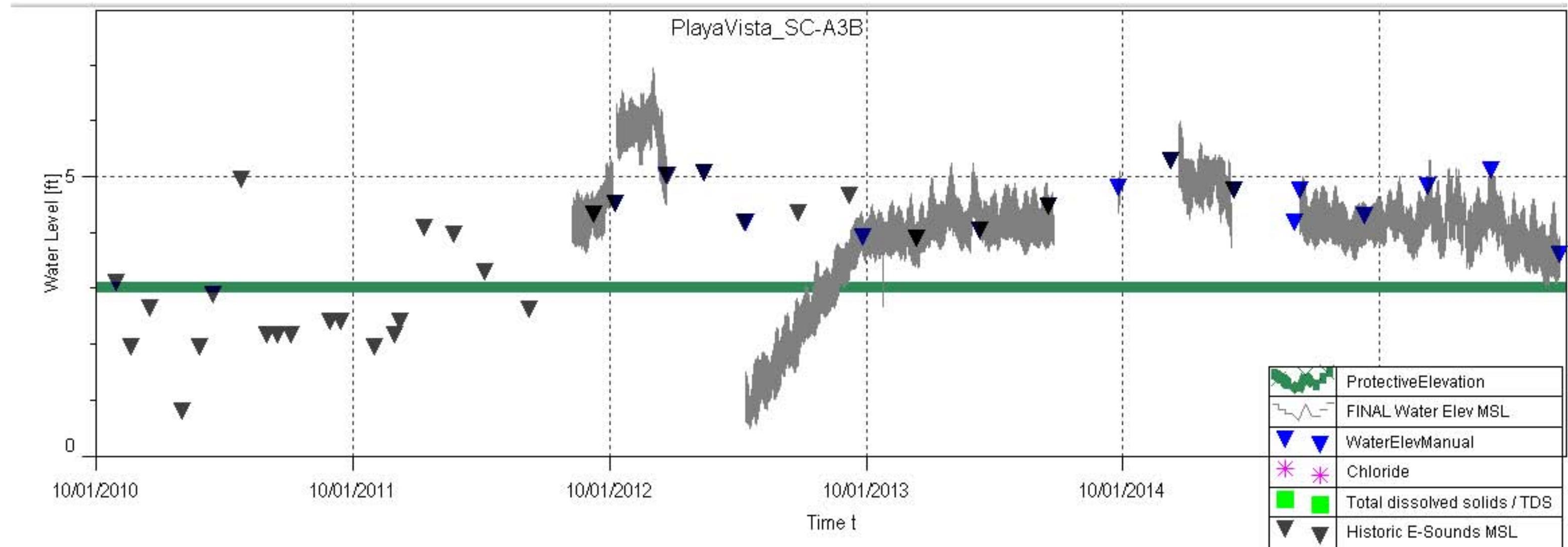
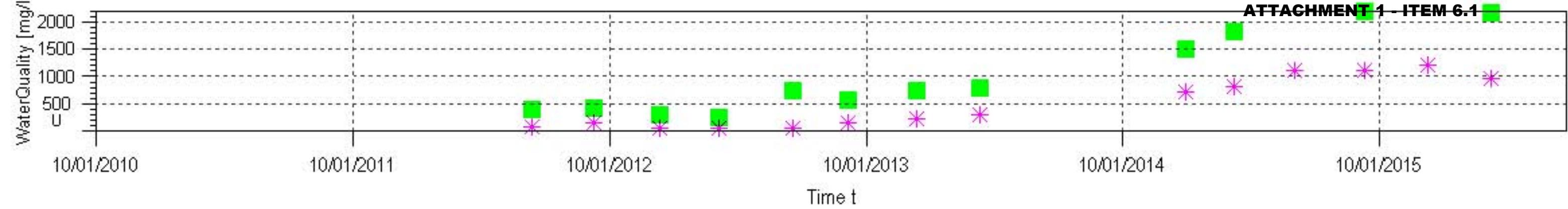


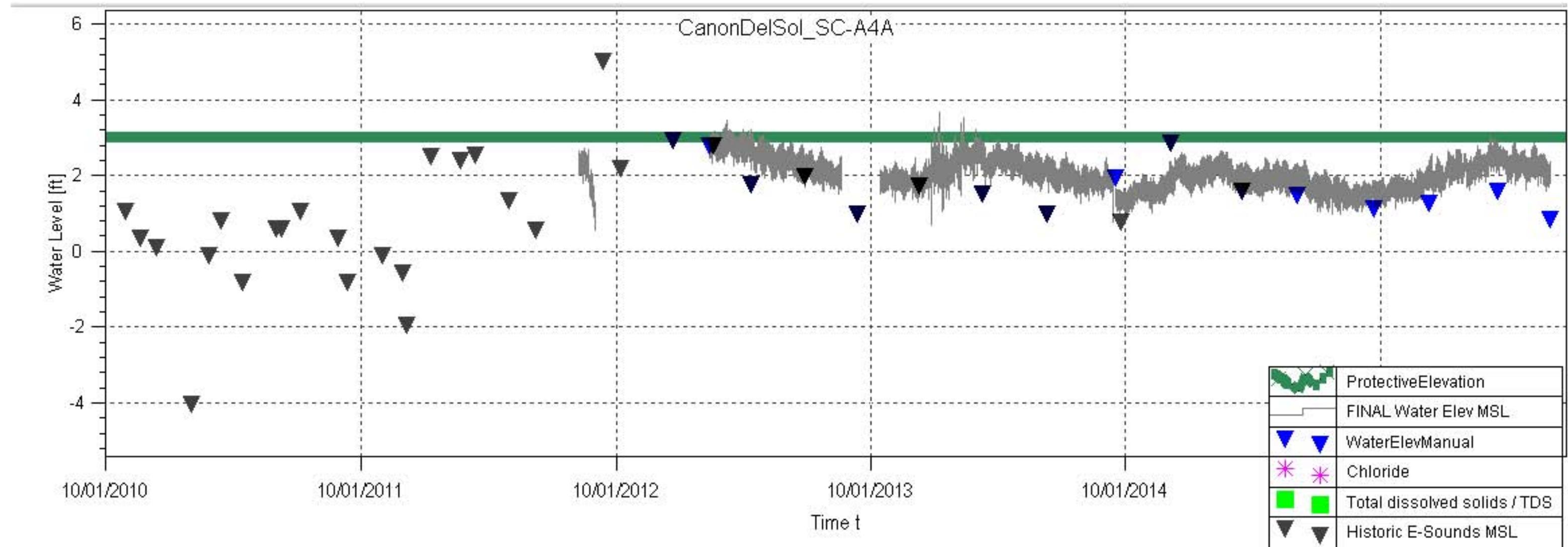
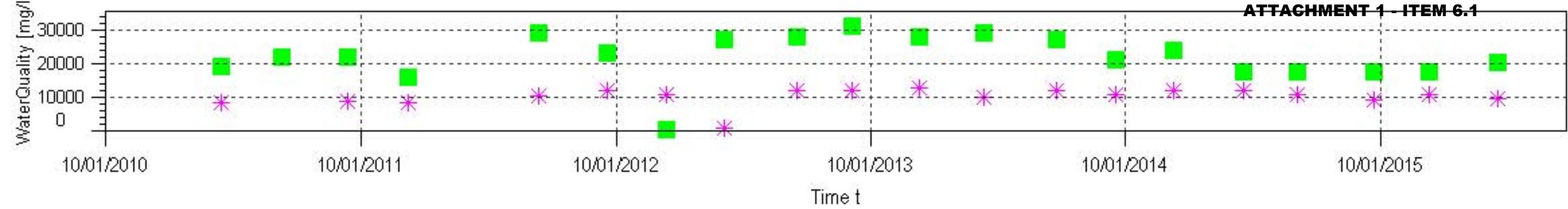
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