

June 4, 2020

Mr. Leo Hellested, P.E.
Office of Waste Management
Solid Waste Section
Rhode Island Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908-5767

Attn: Mr. Robert Schmidt

Re: **Quarterly Monitoring Report**
1st Quarter (March) 2020, Surface Water and Groundwater Monitoring, Sampling, and Analysis
Tiverton Municipal Sanitary Landfill
Pare Project No.: 94139.24

Dear Mr. Hellested:

Enclosed herewith are results of the statistical analysis of groundwater monitoring data for the first quarterly monitoring round of Year 2020 from the Tiverton Landfill (Landfill). Pare Corporation (Pare) has prepared this report on behalf of the Town of Tiverton (Town). Pare conducted the groundwater sampling on March 26, 2020 at the background wells OW-9, OW-12 and OW-17, and compliance wells OW-7, OW-13, OW-14, OW-15, and OW-16. June 2019 is the first quarterly monitoring period where OW-12 has been designated as a background well. OW-17 was installed as an additional background well in April 2019.

Groundwater samples were analyzed by New England Testing Laboratory (NETLAB) of West Warwick, Rhode Island for the constituents listed in the Rhode Island Department of Environmental Management's (RIDEM's) *Solid Waste Regulations No.2, Solid Waste Landfills (250-RICR-140-05-2)*, Section 2.3.26, *Constituents for Detection Monitoring*. Certified laboratory results data are enclosed as **Attachment 1** and are summarized on attached Table 1.

Groundwater field parameters consisting of temperature, pH, and specific conductivity were measured at each monitoring well, in accordance with the RIDEM-approved Groundwater Monitoring Plan for the Landfill. Field parameters were collected until three successive measurements stabilized within $\pm 3\%$ for temperature, ± 0.1 standard unit for pH, and $\pm 3\%$ for specific conductivity, in accordance with US EPA's Low-Flow (Minimal Drawdown) Groundwater Sampling Procedures. Field parameters are documented on Field Sampling Data Sheets, which are provided as **Attachment 2**.

Combustible gases are monitored at each well and at the top of the Landfill. Each of the well locations, with the exception of OW-15, had no detections of combustible gas observed during this monitoring round. OW-15 had a methane reading of $>99\%$ the Lower Explosive Limit (LEL). Historically, combustible gas monitoring during quarterly groundwater monitoring events had not resulted in detections of LEL exceedances until March 2019, when OW-15 produced a concentration of combustible gases at 44% of the LEL. Subsequent monitoring has resulted in continually increasing LEL fractions being detected, indicating that further assessment is warranted in this area. During the next monitoring round (June 2020), Pare will install a vented standpipe cap to mitigate interstitial vapor buildup at OW-15. LEL monitoring will continue with additional actions recommended if necessary.

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HUMAN HEALTH THRESHOLD EVALUATION

Background Well OW-9 – Eleven (11) target metals were reported in the groundwater sample collected from OW-9 above the laboratory detection limits. None (0) of the detected target metals were reported above their corresponding Safe Drinking Water Act Maximum Contaminant Levels (MCLs) or human health thresholds at OW-9. No (0) target volatile organic compounds (VOCs) were reported above laboratory detection limits at OW-9.

Background Well OW-12 – Six (6) target metals were reported in the groundwater sample collected from OW-12 above the laboratory detection limits. None (0) of the detected target metals were reported above their corresponding MCLs or human health thresholds at OW-12. No (0) target VOCs were reported above laboratory detection limits at OW-12.

Background Well OW-17 – Ten (10) target metals were reported in the groundwater sample collected from OW-17 above the laboratory detection limits. None (0) of the detected target metals were reported above their corresponding MCLs or human health thresholds at OW-17. No (0) target VOCs were reported above laboratory detection limits at OW-17.

Compliance Well OW-7 – Seven (7) target metals were reported in the groundwater sample collected from OW-7 above the laboratory detection limits. None (0) of the detected target metals were reported above their corresponding MCLs or human health thresholds at OW-7. One (1) target VOC, methyl tert-butyl ether (MTBE), was detected in excess of the laboratory detection limits but below the applicable MCL and human health threshold. No (0) other target VOCs were reported above laboratory detection limits at OW-7.

Compliance Well OW-13 – Eleven (11) target metals were reported in the groundwater sample collected from OW-13 above laboratory detection limits. None (0) of the detected target metals were reported above their corresponding MCLs or human health thresholds at OW-13. Three (3) target VOCs; 1,4-dichlorobenzene, chlorobenzene, and MTBE; were detected in excess of the laboratory detection limits but below the applicable MCLs and human health threshold values. No (0) other target VOCs were reported above laboratory detection limits at OW-13.

Compliance Well OW-14 – Ten (10) target metals were reported in the groundwater sample collected from OW-14 above laboratory detection limits. None (0) of the detected target metals were reported above their corresponding MCLs or human health thresholds at OW-14. Six (6) target VOCs; 1,4-dichlorobenzene, acetone, benzene, chlorobenzene, chloroethane, and MTBE; were reported above laboratory detection limits but below their respective MCLs and human health thresholds. No (0) other target VOCs were reported above their laboratory detection limits at OW-14.

Compliance Well OW-15 – Ten (10) target metals were reported in the groundwater sample collected from OW-15 above laboratory detection limits. None (0) of the detected target metals were reported above their corresponding MCLs or human health thresholds at OW-15. Four (4) target VOCs; benzene, chlorobenzene, 1,4-dichlorobenzene, and MTBE were reported above their laboratory detection limits but below their applicable MCLs and human health thresholds. No (0) other target VOCs were reported above their laboratory detection limits at OW-15.

Compliance Well OW-16 – Five (5) target metals were reported in the groundwater sample collected from OW-16 above laboratory detection limits. None (0) of the detected target metals were reported above their corresponding MCLs or human health thresholds at OW-16. No (0) target VOCs were reported above laboratory detection limits at OW-16.



TOLERANCE INTERVAL STATISTICAL EVALUATION

The Tolerance Interval (TI) approach was used to develop Tolerance Limits (TLs) for each target inorganic constituent (i.e., metals) using the background well analytical results from the eight preceding rounds for which analytical results are available. Historical metals data for each observation well is shown on **Attachment 3**. The data from OW-12, recently designated as a background well, was included in a re-evaluation of background TLs during this monitoring period. Due to occasional inability to sample one or more background wells, data from the present monitoring period through December 2016 were utilized to calculate applicable background TLs. The TI approach is considered inappropriate for analysis of organic constituents due to their presence being the result of anthropogenic activities. The TL for organic constituents is therefore presumed to be zero (i.e., not present); however, laboratory detection limits are unable to reach this level of certainty and as such, this method is not applicable to organic constituents and was therefore not performed to evaluate the results of reported VOCs.

Four (4) metals; arsenic, barium, cobalt and tin; had reported concentrations that exceeded their corresponding TLs calculated during the March 2020 monitoring round in at least one compliance well. In total, there were five (5) TL exceedances of these metals in this monitoring round. The TLs and the corresponding compliance well data from this monitoring round are presented in Table 1. Cobalt is routinely detected in groundwater beneath the landfill. Tin has periodically been detected in both background and compliance groundwater monitoring wells in excess of laboratory detection limits; however, the TL has been significantly lowered with the addition of OW-12 as a background monitoring well and is likely the result of these identified exceedances. None of the identified TL exceedances were present in excess of the applicable regulatory threshold values.

CUSUM METHOD STATISTICAL EVALUATION

The Shewhart-CUSUM Method, a supplemental statistical analysis method used in addition to the TI Method, was performed in accordance with the US EPA documents titled "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Interim Final Guidance, April 1989" and "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Addendum to Interim Final Guidance, July, 1992". Graphs of CUSUM values for inorganic metals for each observation well is shown on **Attachment 4**.

Barium at OW-12 and OW-13, and copper and zinc at OW-13 exceeded both of their respective Shewhart-CUSUM thresholds during the March 2020 monitoring round; however, concentrations appear to be consistent with those concentration detects during the past eight (8) rounds of sampling at these locations. The calculations utilized for determining the Shewhart-CUSUM thresholds for these compounds will be re-evaluated prior to submission of the next monitoring report, with adjustments if necessary.

ASSESSMENT MONITORING

The Shewhart-CUSUM analysis is utilized, along with the Tolerance Limits, to identify when Assessment Monitoring should be performed. In accordance with the May 2006 Groundwater Monitoring Plan, Assessment Monitoring is triggered if:

1. An inorganic parameter exceeds the upper Tolerance Limit in two (2) consecutive rounds *and* that parameter exceeds one of the two (2) Shewhart-CUSUM control limits in the latter monitoring round; or
2. An organic parameter exceeds one of the two Shewhart-CUSUM control limits.

Barium, copper, and zinc concentrations were detected at OW-13 in concentrations calculated to exceed the Shewhart-CUSUM thresholds for the current monitoring period. The concentrations of copper and zinc detected in OW-13 are compliant with the tolerance limits, and as such do not trigger Assessment Monitoring. Barium was detected in excess of both the tolerance limit and the calculated Shewhart-CUSUM threshold; however, barium is



frequently detected in groundwater at the property and was not observed in significantly different concentrations at OW-13 compared to other compliance wells. Additionally, the presence of barium in OW-12, now designated as a background well, in excess of the Shewhart-CUSUM threshold calculated, indicates that the statistical method may need to be re-evaluated to confirm that the statistics are representative of groundwater conditions at the property.

Barium has exceeded the Shewhart-CUSUM thresholds in OW-12 each monitoring round since 2014, however the concentration detected in OW-12 during this monitoring period is similar to other background wells (0.024 mg/kg at OW-12 vs. 0.023 mg/kg at OW-9) and is compliant with the current Tolerance Limit. As such, Pare is of the opinion that Assessment Monitoring is not warranted for OW-12 for the next quarterly monitoring event in June 2020.

SURFACE WATER MONITORING

Per the request of the RIDEM in a letter dated January 31, 2019, the Town began incorporating surface water monitoring at surface water locations SW-1, SW-2, and SW-3 into the existing regular quarterly monitoring program. The parameters for surface water monitoring include: Solid Waste Regulations No. 2, Section 2.3.26: *Detection Monitoring* metals, mercury, tin, iron, calcium, magnesium, ammonia, total Kjeldahl nitrogen (TKN), total nitrogen, total phosphorus, and hardness. Data are summarized in attached Table 3, and the laboratory analytical report is provided as **Attachment 5**. Additionally, field screening was performed at each surface water location to determine temperature, pH, and specific conductivity.

Monitoring Location SW-1 – Nine (9) targeted Detection Monitoring metals were identified in the surface water sample collected at SW-1 in excess of laboratory detection limits. Additional detected targeted metals included calcium, magnesium, and iron. One (1) metal, iron (0.304 mg/L), exceeded the human health threshold (0.3 mg/L). Additionally, ammonia, total nitrogen as nitrates and nitrites, and TKN were detected in the samples collected at SW-1; however, they did not exceed their given threshold values, or no threshold values have been established for these parameters.

Monitoring Location SW-2 – Nine (9) targeted Detection Monitoring metals were identified in the surface water sample collected at SW-2 in excess of laboratory detection limits. Additional detected targeted metals included calcium, magnesium, and iron. One metal; iron (0.911 mg/L); was detected above the human health threshold. Additionally, ammonia, total nitrogen, and TKN were detected in the samples collected at SW-2; they did not exceed their given threshold values, or no threshold values have been established for these parameters.

Monitoring Location SW-3 – Twelve (12) targeted Detection Monitoring metals were identified in the surface water sample collected at SW-3 in excess of laboratory detection limits. One (1) metal, iron (1.18 mg/L), was detected above its human health threshold (0.3 mg/L) and its chronic aquatic life threshold (1 mg/L). Additionally, ammonia, total nitrogen, and TKN were detected in the samples collected at SW-3; however, they did not exceed their given threshold values, or no threshold values have been established for these parameters.

Targeted analytes detected above the laboratory detection limit in the three (3) surface water samples appear to be consistent with historical detections of these parameters. Graphs depicting historical concentrations of inorganic metals identified in surface water are provided as **Attachment 6**. A seasonal variation in iron concentrations may be present based on higher concentrations detected during the June 2019 sampling event relative to other quarterly monitoring events; however, further data collection is warranted to verify this observation.

MTBE ANALYSIS

Many of the most recent Assessment Monitoring rounds have been conducted due to MTBE concentrations in groundwater. Reported MTBE concentrations have generally risen since September 2006, as depicted in **Attachment 7**. The figure compares the recent increases in reported MTBE data from September 2006 to March



2020. MTBE concentrations at OW-13, OW-14 and OW-15 are compared to historical concentrations and drinking water advisories defined in the US EPA document titled “2011 Edition of the Drinking Water Standards and Health Advisories”.

Although reported MTBE concentrations appeared to be trending slowly upward, MTBE has never been reported above its odor threshold (0.020 mg/L) or its taste threshold (0.040 mg/L). The US EPA has not established a human health advisory concentration for MTBE.

Since the beginning of quarterly monitoring in 2018, concentrations of MTBE now appear to be stabilizing in OW-13, OW-14, and OW-15, with all detected concentrations during the March 2020 round being lower than the highest concentrations historically detected at each well and well below the odor and taste thresholds as well as being below the RIDEM GA Groundwater Objectives. Past Assessment Monitoring performed due to MTBE Shewhart-CUSUM threshold exceedances in these wells has not recently identified detectable concentrations of Section 2.3.27 parameters, and as such, it is Pare’s opinion that the increasing trend in MTBE concentrations beneath the Landfill previously observed is an isolated phenomenon and not the result of a significant change in groundwater quality beneath the Landfill.

Despite CUSUM values of MTBE at OW-13, OW-14, and OW-15 remaining above their threshold during the March 20, 2020 monitoring round, Pare does not recommend Assessment Monitoring due to the aforementioned MTBE trend. The lack of Section 2.3.27 parameters in the past suggests that the presence of MTBE trend does not indicate an increased likelihood that Section 2.3.27 parameters would be present beneath the Landfill.

CONCLUSIONS AND RECOMMENDATIONS

Currently, the Town conducts Detection Monitoring at the Landfill for the parameters listed in Section 2.3.26 of the State Solid Waste Regulations, as well as mercury and tin. During this monitoring round, four (4) metals; arsenic, barium, cobalt and tin; exceeded their tolerance limits (TLs) in at least one well. Arsenic exceeded its TL during the previous monitoring round at OW-13 and OW-15. Barium exceeded its TL during the previous monitoring round at OW-13, OW-14, and OW-15. Cobalt exceeded its TL during the previous monitoring round at OW-13 and OW-15. No exceedances of the TL for tin were identified during the previous monitoring round. Exceedances in two consecutive monitoring rounds is one of the criteria used to consider performing Assessment Monitoring in subsequent monitoring rounds; however, the second requirement, an exceedance of the Shewhart-CUSUM threshold, was met only for barium at OW-13. Historically, barium is frequently detected in both background and compliance wells and Assessment Monitoring performed as a result of barium exceedances have not been indicative of Section 2.3.27 parameters. As such, Pare is of the opinion that the barium concentration does not warrant Assessment Monitoring and will evaluate the efficacy of the statistical method to ensure that the data accurately represents groundwater conditions. Based on this information, Pare does not recommend Assessment Monitoring be conducted at the Landfill during the upcoming June 2020 monitoring round.

Since the 2016 monitoring periods, a rising trend in detections of antimony at the compliance wells was observed; however, data from 2019 and the current monitoring period indicate that this parameter has since stabilized to concentrations below laboratory detection limits. As a result of the antimony detections, Assessment Monitoring was performed at OW-14 during 2017, which resulted in the detection of one Section 2.3.27 parameter, sulfides (0.04 mg/L) at this well. [MF1]OW-14 was sampled again in the December 2018 and March 2019 monitoring rounds, but sulfides were not detected in either round. Based on the absence of detectable concentrations of sulfides in the December 2018 and March 2019 sampling events, Pare requested and received approval from RIDEM to discontinue Assessment Monitoring.



Mr. Leo Hellested, P.E.

(6)

June 4, 2020

Pare recommended that wells OW-7 and OW-16 be incorporated into the compliance monitoring regimen in the 2017 Annual Groundwater Monitoring Report. Despite OW-7 having several years of sampling data, the sampling rounds were selected on a rotating basis with wells OW-6 and OW-8 for alternate monitoring. Pare recommended that wells OW-7 and OW-16 be sampled for two years, or eight consecutive monitoring rounds, prior to initiating statistical analysis. The March 2020 monitoring period marks the seventh monitoring round that these wells have been sampled. Samples were not collected from OW-7 and OW-16 in September 2019 due to concerns about Eastern Equine Encephalitis (EEE) and these wells were not sampled in December 2019 due to frozen well conditions. It is estimated that sufficient data to perform statistical analysis for the bedrock and overburden wells will be available upon completion of the June 2020 monitoring round.

Historically, methane has not been an issue at the Landfill; however, the last three (3) monitoring rounds have seen methane detections at monitoring well OW-15, including a >99% LEL reading in March 2020. Pare will install a vented standpipe cap at OW-15 during the June 2020 monitoring round and continue to monitor OW-15 for methane LEL exceedances. If LEL exceedances are still observed upon installation of the vented cap, additional measures will be evaluated to mitigate gas buildup.

Should the RIDEM have any questions regarding this letter or the attached data, please feel free to contact the undersigned at (401) 334-4100, thank you.

Very truly yours,

Timothy P. Thies, P.E.
Senior Vice President

TPT/AWB/abv

Attachments

Figure 1 – Site Plan Depicting Notable Features and Sampling Locations

Table 1 – Historical Analytical Data, Observation Wells

Table 2 – Tolerance Intervals for March 2020 Monitoring Period

Table 3 – Historical Analytical Data, Surface Water Sampling

Attachment 1 – Laboratory Analytical Report, Observation Well Sampling

Attachment 2 – Field Sampling Data Sheets, Surface Water and Observation Water Logs

Attachment 3 – Charts of Historical Inorganic Compound Detections, Observation Wells

Attachment 4 – Shewhart/CUSUM Graphs for Inorganic Compounds, Observation Wells

Attachment 5 – Laboratory Analytical Report, Surface Water Sampling

Attachment 6 – Charts of Historical Inorganic Compound Detections, Surface Water Sampling

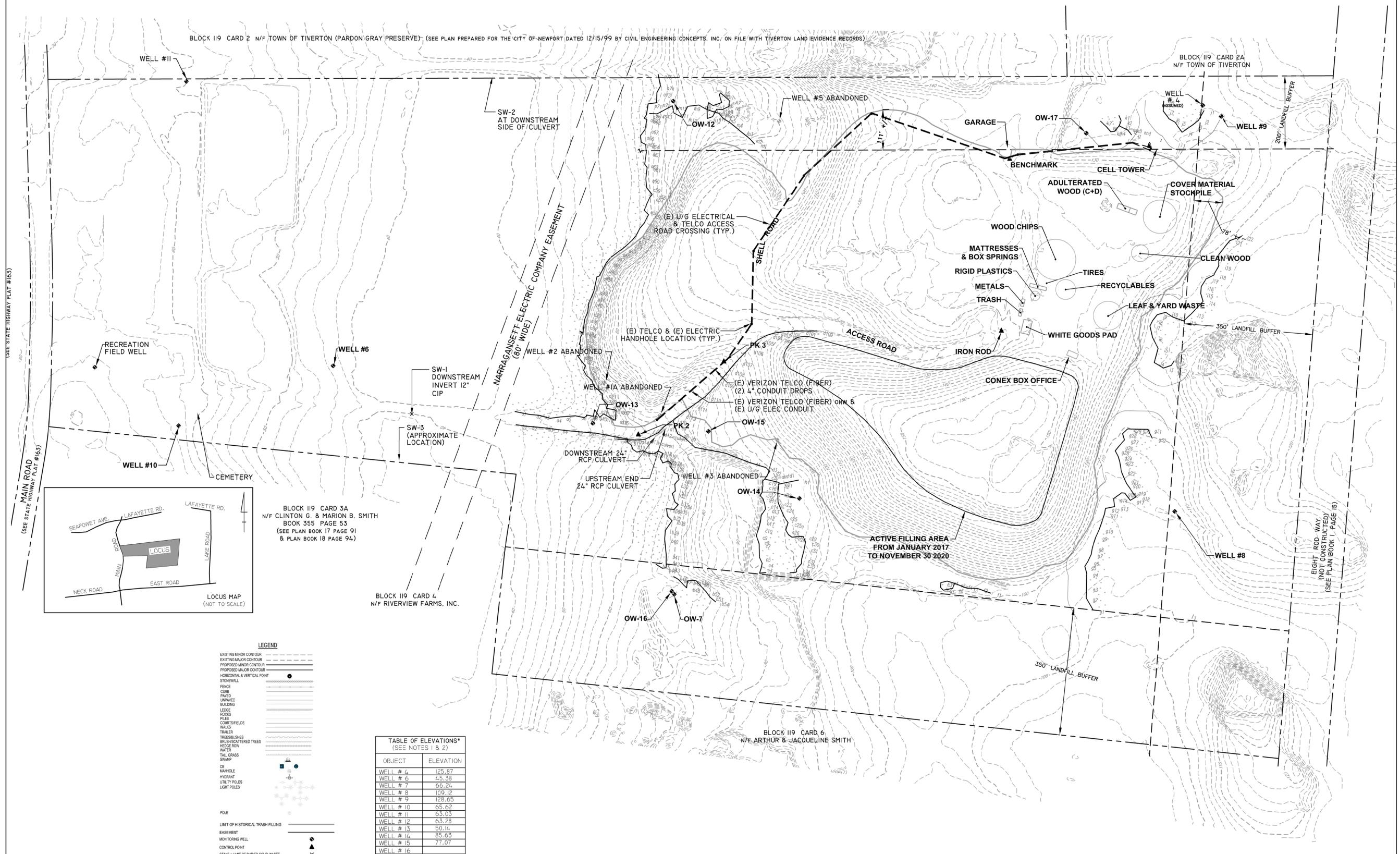
Attachment 7 – MTBE Historical Concentrations at OW-13, OW-14, and OW-15 and CUSUM charts

Cc: Richard Rogers, Tiverton Public Works Director (w/encl.)
Jay Lambert, Tiverton Landfill Subcommittee (w/encl.)
Christopher Cotta, Tiverton Town Administrator (w/encl.)
Arianne Barton, Pare Corporation (w/o encl.)

FIGURE 1

Site Plan Depicting Notable Features and Sampling Locations





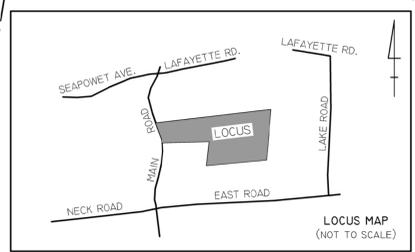
BLOCK 119 CARD 2 N/F TOWN OF TIVERTON (PARDON GRAY PRESERVE) (SEE PLAN PREPARED FOR THE CITY OF NEWPORT DATED 12/15/99 BY CIVIL ENGINEERING CONCEPTS, INC. ON FILE WITH TIVERTON LAND EVIDENCE RECORDS)

BLOCK 119 CARD 2A N/F TOWN OF TIVERTON

BLOCK 119 CARD 3A
N/F CLINTON G. & MARION B. SMITH
BOOK 355 PAGE 53
(SEE PLAN BOOK 17 PAGE 91
& PLAN BOOK 18 PAGE 94)

BLOCK 119 CARD 4
N/F RIVERVIEW FARMS, INC.

BLOCK 119 CARD 6
N/F ARTHUR & JACQUELINE SMITH



LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- HORIZONTAL & VERTICAL POINT
- STONEWALL
- FENCE
- CURB
- PAVED
- UNPAVED
- BUILDING
- LEDE
- ROCKS
- PILES
- COURTSPLEDS
- MARKS
- TRAILER
- TREES/SHRUBS
- BUSHES/SCATTERED TREES
- EDGE ROW
- WATER
- TALL GRASS
- SWAMP
- CB
- MARKS
- HORIZONTAL
- UTILITY POLES
- LIGHT POLES

POLE

LIMIT OF HISTORICAL TRASH FILLING

EASEMENT

MONITORING WELL

CONTROL POINT

STAKE = LIMIT OF BURIED SOLID WASTE

WETLAND

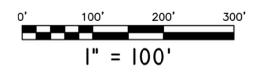
50' PERIMETER WETLAND

TABLE OF ELEVATIONS*
(SEE NOTES 1 & 2)

OBJECT	ELEVATION
WELL # 4	125.87
WELL # 6	25.53
WELL # 7	66.26
WELL # 8	109.12
WELL # 9	128.65
WELL # 10	65.62
WELL # 11	65.03
WELL # 12	63.28
WELL # 13	50.14
WELL # 14	85.65
WELL # 15	77.07
WELL # 16	
WELL # 17	
PK NAIL # 2	57.49
PK NAIL # 3	84.11
BENCHMARK	137.96

* ALL WELL ELEVATIONS ARE TO THE TOP OF THE FVC TUBE INSIDE THE WELL CASING.

DATUM = NGVD 29
BASE SURVEY PREPARED BY AEROTECH CORP. ON MAY 13, 2016,
UPDATED BY PARE ON FEBRUARY 9, 2018.



	DATE
	BY
	DESCRIPTION
	REV#
<p>TIVERTON LANDFILL EXISTING SITE PLAN</p> <p style="text-align: right;">RHODE ISLAND</p> <p style="text-align: right;">TIVERTON</p>	
<p>PROJECT NO. 94139.01/025</p> <p>FIGURE NO. EXC-1</p> <p>SHEET 1 OF 1</p>	<p>PROJ. MGR.: TPT</p> <p>DESIGNED: BMB</p> <p>DRAWN: TCJ</p> <p>CHECKED: TPT</p> <p>SCALE: 1"=100'</p> <p>DATE: MARCH 2020</p>

TABLE 1

Historical Analytical Data, Observation Wells



**TABLE 1 - OW-9
BACKGROUND WELL HISTORICAL RESULTS
CONSTITUENTS FOR DETECTION MONITORING
MONITORING WELL OW-9**
Concentration (Expressed in same units as Threshold Value)

Parameter	Threshold Value	MAR '20	DEC '19	JUN '19	MAR '19	DEC '18	SEP '18	JUN '18	MAR '18	DEC '17	SEP '17	JUN '17	MAR '17	DEC '16	SEP '16	JUN '16	MAR '16	DEC '15	SEP '15	JUN '15	MAR '15	DEC '14	SEP '14	JUN '14	MAR '14	DEC '13	SEP '13	JUN '13	MAR '13	DEC '12	SEP '12	JUN '12	MAR '12	DEC '11	SEP '11	JUN '11	MAR '11	DEC '10	SEP '10	JUN '10	
Antimony	0.006 mg/L ¹	ND	ND	ND	0.0001	ND	NT	ND	ND	0.0290	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	0.0160	0.2000	ND	ND	NT	ND	
Arsenic	0.010 mg/L ¹	0.0002	0.0001	ND	0.0001	ND	NT	ND	ND	ND	NT	NT	0.0030	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	NT	ND							
Barium	2 mg/L ¹	0.023	0.0110	0.0060	0.0060	0.0320	NT	0.0090	0.0130	0.0410	NT	NT	0.0100	0.0060	NT	NT	0.0110	0.0110	NT	NT	0.0070	0.0420	NT	0.0100	0.0120	0.0200	NT	0.0150	0.0130	0.0160	NT	0.0110	0.0120	0.0070	0.0120	0.0080	0.0221	0.0230	NT	0.0460	
Beryllium	0.004 mg/L ¹	ND	ND	0.0001	0.0003	ND	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	NT	0.0015		
Cadmium	0.005 mg/L ¹	0.0001	0.0002	0.0001	0.0001	ND	NT	ND	0.0020	0.3650	NT	NT	ND	ND	NT	NT	0.0010	ND	NT	NT	ND	0.0020	NT	ND	ND	0.0050	NT	0.0040	ND	0.0010	NT	ND	ND	ND	0.0020	ND	ND	ND	NT	ND	
Chromium	0.1 mg/L ¹	0.0036	0.0020	0.0019	0.0019	0.013	NT	0.003	0.0070	0.0300	NT	NT	0.0040	ND	NT	NT	0.0050	0.0070	NT	NT	0.0060	0.0270	NT	0.0060	0.0070	0.0150	NT	0.0070	0.0070	0.0120	NT	0.0050	0.0080	0.0040	0.0020	ND	0.0079	0.0068	NT	0.0230	
Cobalt	0.73 mg/L ²	0.0008	0.0004	ND	0.0003	0.0030	NT	ND	0.0010	0.0020	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	0.0100	NT	ND	0.0010	0.0030	NT	0.0020	0.0020	0.0030	NT	ND	0.0020	ND	ND	ND	ND	0.0019	0.0015	NT	0.0086
Copper	1.3 mg/L ¹	0.001	ND	ND	ND	0.0080	NT	ND	ND	0.0600	NT	NT	ND	ND	NT	NT	0.0020	ND	NT	NT	0.0020	0.0170	NT	ND	0.0060	0.0140	NT	0.0070	ND	0.0060	NT	ND	0.0080	0.0010	0.0100	0.0400	0.0041	0.0043	NT	0.0200	
Lead	0.015 mg/L ¹	0.003	0.0031	0.0004	0.0007	0.004	NT	0.001	0.0020	0.1620	NT	NT	0.0020	0.0060	NT	NT	ND	0.0050	NT	NT	0.0010	0.0160	NT	0.0060	0.0030	0.1020	NT	0.0080	0.0020	0.0060	NT	ND	0.0110	0.0010	0.0040	0.0060	ND	ND	NT	0.0140	
Mercury	0.002 mg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	NT	0.0150		
Nickel	0.1 mg/L ²	0.002	0.0010	ND	0.0010	0.006	NT	0.001	0.0040	0.0240	NT	NT	0.0040	ND	NT	NT	0.0030	0.0030	NT	NT	0.0170	0.0180	NT	0.0030	0.0040	0.0090	NT	0.0050	0.0050	0.0070	NT	0.0030	0.0040	0.0020	0.0080	0.0080	0.0046	0.0037	NT	0.0150	
Selenium	0.05 mg/L ²	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	0.0100	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	0.0060	NT	ND	ND	ND	NT	ND	ND	0.0100	0.1180	ND	ND	NT	ND		
Silver	0.1 mg/L ²	ND	ND	ND	0.0005	ND	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND			
Thallium	0.002 mg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND			
Tin	22 mg/L ²	0.037	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	0.0080	0.1310	NT	ND	ND	NT	ND	ND	ND	0.0190	ND	ND	NT	ND		
Vanadium	0.26 mg/L ²	0.0011	0.0005	ND	ND	0.0080	NT	ND	0.0020	ND	NT	NT	ND	ND	NT	NT	0.0010	0.0020	NT	NT	ND	0.0140	NT	0.0020	0.0030	0.0070	NT	0.0030	0.0020	0.0040	NT	ND	0.0010	ND	ND	ND	0.0034	0.0034	NT	0.0150	
Zinc	2 mg/L ²	0.01	0.0010	0.0030	0.0030	0.0250	NT	0.0090	0.0190	11.1000	NT	NT	0.0070	ND	NT	NT	0.0100	0.0050	NT	NT	ND	0.0410	NT	0.0110	0.0080	0.0170	NT	0.0210	0.0120	0.0160	NT	0.0150	0.0120	0.0090	0.0140	ND	0.0257	0.0190	NT	0.0330	
1,1,1,2-Tetrachloroethane	70 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	ND	NT	ND			
1,1,1-Trichloroethane	200 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	ND	NT	ND			
1,1,2,2-Tetrachloroethane	0.2 µg/L ²	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
1,1,2-Trichloroethane	5 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
1,1-Dichloroethane	5 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
1,1-Dichloroethylene	7 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
1,2,3-Trichloropropane	0.03 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
1,2-Dibromo-3-chloropropane (DBCP)	0.2 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
1,2-Dibromoethane (EDB)	0.05 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
1,2-Dichlorobenzene	600 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
1,2-Dichloroethane	5 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
1,2-Dichloropropane	5 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
1,4-Dichlorobenzene	75 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
4-Methyl-2-pentanone	µg/L	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
Acetone	610 µg/L ²	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
Acrylonitrile	0.039 µg/L ²	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
Benzene	5 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	ND	NT	ND				
Bromochloromethane	90 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	NT	ND					
Bromodichloromethane (THM)	80 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	ND	NT	ND					
Bromoform	80 µg/L ¹	ND	ND	ND	ND	NT	NT	ND	ND	ND	NT	NT	ND																												

TABLE 1 - OW-14
SUMMARY OF GROUNDWATER MONITORING RESULTS
CONSTITUENTS FOR DETECTION MONITORING
MONITORING WELL OW-14
 Concentration (Expressed in same units as Threshold Value)

Parameter	Threshold Value	MAR '20	DEC '19	JUN '19	MAR '19	DEC '18	SEP '18	JUN '18	MAR '18	DEC '17	SEP '17	JUN '17	MAR '17	DEC '16	SEP '16	JUN '16	MAR '16	DEC '15	SEP '15	JUN '15	MAR '15	DEC '14	SEP '14	JUN '14	MAR '14	DEC '13	SEP '13	JUN '13	MAR '13	DEC '12	SEP '12	JUN '12	MAR '12	DEC '11	SEP '11	JUN '11	MAR '11	DEC '10	SEP '10	
Antimony	0.006 mg/L ¹	0.0004	0.0002	0.0001	0.0001	0.0005	NT	ND	ND	0.0350	NT	0.0050	0.0410	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	0.0060	ND	ND	0.0110	0.0170	ND	ND	NT	
Arsenic	0.010 mg/L ¹	0.0015	0.0004	0.0036	0.0018	ND	NT	0.01	ND	0.0030	NT	0.0200	0.0120	ND	NT	ND	0.0070	0.0050	0.0050	NT	ND	ND	NT	ND	ND	ND	NT	0.0060	ND	ND	0.0060	ND	0.0074	ND	ND	NT				
Barium	2 mg/L ¹	0.19	0.168	0.199	0.202	0.21	NT	0.155	0.2240	0.1990	NT	0.2400	0.2490	0.2290	NT	0.1380	0.1750	0.1980	0.1140	NT	0.2020	0.0910	NT	0.1570	0.1840	0.0790	NT	0.1440	0.1760	0.1370	NT	0.1750	0.1770	0.1470	0.1610	0.2100	0.2700	0.2030	NT	
Beryllium	0.004 mg/L ¹	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	0.0030	ND	ND	NT	0.0010	0.0010	ND	0.0010	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	0.0010	NT		
Cadmium	0.005 mg/L ¹	ND	0.0002	ND	ND	0.0020	NT	0.006	0.0050	ND	NT	0.0050	0.0060	ND	NT	ND	0.0070	0.0080	0.0060	NT	ND	ND	NT	0.0050	0.0010	ND	NT	ND	0.0020	ND	NT	ND	0.0040	0.0030	0.0030	ND	ND ⁵	ND ⁵	NT	
Chromium	0.1 mg/L ¹	0.0005	0.0003	0.0006	0.0007	ND	NT	0.001	0.0060	0.0020	NT	0.0010	0.0020	ND	NT	0.0110	0.0030	0.0030	0.0170	NT	0.0050	0.0050	NT	0.0040	0.0010	0.0080	NT	ND	0.0050	ND	NT	ND	ND	ND	ND	ND	ND	0.0065	NT	
Cobalt	0.73 mg/L ⁵	0.0064	0.0036	0.0058	0.0059	0.011	NT	0.006	0.0140	0.0090	NT	0.0140	0.0130	0.0360	NT	0.0100	0.0100	0.0100	0.0120	NT	0.0170	0.0120	NT	0.0080	0.0150	0.0120	NT	0.0080	0.0160	0.0370	NT	0.0140	0.0100	0.0100	0.0160	0.0090	0.0457	0.0261	NT	
Copper	1.3 mg/L ¹	ND	0.002	ND	ND	0.007	NT	ND	0.0090	ND	NT	0.0100	ND	0.0200	NT	0.0010	0.0010	ND	0.0170	NT	0.0100	0.0090	NT	0.0070	0.0050	0.0200	NT	0.0030	0.0080	0.0100	NT	ND	ND	0.0010	0.0090	ND	0.0049	0.0140	NT	
Lead	0.015 mg/L ¹	0.0003	0.0014	0.0002	0.001	ND	NT	ND	0.0060	ND	NT	0.0170	ND	ND	NT	0.0160	0.0070	ND	0.0090	NT	0.0050	0.0050	NT	0.0040	0.0040	0.0070	NT	0.0020	0.0050	0.0030	NT	0.0020	ND	0.0090	0.0020	ND	ND	0.0039	NT	
Mercury	0.002 mg/L ¹	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	NT	
Nickel	0.1 mg/L ²	0.012	0.007	0.011	0.011	0.019	NT	0.012	0.0220	0.0320	NT	0.0220	0.0470	0.0400	NT	0.0160	0.0160	0.0170	0.0200	NT	0.0270	0.0180	NT	0.0150	0.0230	0.0200	NT	0.0120	0.0200	0.0350	NT	0.0190	0.0170	0.0150	0.0180	0.0180	0.0460	0.0407	NT	
Selenium	0.05 mg/L ¹	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	0.0350	0.0140	NT	ND	ND	0.0260	NT	ND	ND	ND	NT	0.0200	0.0310	0.0240	0.0300	ND	ND	ND	NT	
Silver	0.1 mg/L ^{2,3}	ND	ND	ND	0.0002	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	0.0040	NT	0.0020	ND	NT	0.0020	0.0020	ND	NT	ND	0.0020	ND	NT	ND	0.0040	ND	0.0050	ND	ND	ND	NT	
Thallium	0.002 mg/L ¹	ND	ND	ND	ND	ND	NT	ND	0.0003	0.0003	NT	ND	ND	ND	NT	ND	ND	ND	0.0010	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	0.0010	ND	ND	ND	ND	NT	
Tin	22 mg/L ⁵	0.055	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	0.0350	ND	0.0070	0.0010	NT	ND	ND	NT	ND	0.0220	0.0180	NT	0.0310	ND	ND	NT	ND	ND	ND	ND	ND	ND ⁵	ND	NT	
Vanadium	0.26 mg/L ⁵	0.0005	ND	0.0006	0.0007	0.004	NT	ND	0.0070	0.0030	NT	0.0070	ND	ND	NT	0.0170	ND	ND	0.0140	NT	0.0080	0.0050	NT	0.0050	0.0020	0.0080	NT	0.0030	0.0060	ND	NT	ND	ND	ND	ND	0.0290	ND	0.0063	NT	
Zinc	2 mg/L ^{2,3}	0.003	0.004	0.005	0.004	0.014	NT	0.031	0.0480	0.0160	NT	0.0600	0.0230	0.0300	NT	0.0280	0.0170	0.0140	0.0680	NT	0.0240	0.0190	NT	0.0070	0.0100	0.0310	NT	0.0120	0.0310	0.0210	NT	0.0160	0.0070	0.0070	0.0270	ND	0.0453	0.0570	NT	
1,1,1,2-Tetrachloroethane	70 µg/L ²	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,1,1-Trichloroethane	200 µg/L ¹	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,1,2,2-Tetrachloroethane	0.2 µg/L ²	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,1,2-Trichloroethane	5 µg/L ¹	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,1-Dichloroethane	5 µg/L ⁵	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,1-Dichloroethylene	7 µg/L ¹	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,2,3-Trichloropropane	0.03 µg/L ⁷	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,2-Dibromo-3-chloropropane (DBCP)	0.2 µg/L ¹	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,2-Dibromoethane (EDB)	0.05 µg/L ¹	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,2-Dichlorobenzene	600 µg/L ¹	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,2-Dichloroethane	5 µg/L ¹	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,2-Dichloropropane	5 µg/L ¹	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
1,4-Dichlorobenzene	75 µg/L ¹	2	2.02	2.04	2.1	2.38	NT	2.62	ND	ND	NT	ND	ND	ND	NT	1.8	ND	ND	2.2	NT	3.3	ND	NT	3.4	ND	ND	NT	2.2	2.9	1.8	NT	1.4	2.7	2.2	3.2	1.8	2.7	1.9	NT	
4-Methyl-2-pentanone	µg/L	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
Acetone	610 µg/L ⁵	6	ND	20.96	ND	ND	NT	ND	ND	ND	NT	6.9	ND	NT	ND	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	6.4	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
Acrylonitrile	0.039 µg/L ⁵	ND	ND	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT
Benzene	5 µg/L ¹	2	1.56	2.24	2.1	2.28	NT	2.77	ND	ND	NT	3.2	4.1	ND	NT	2.7	3.1	3.9	2.0	NT	3.5	ND	NT	3.3	3.6	ND	NT	2.9	4.3	1.9	NT	1.8	3.5	3.6	4.1	2.1	3.7	1.7	NT	
Bromochloromethane	90 µg/L ²	ND																																						

TABLE 1 - OW-16
SUMMARY OF GROUNDWATER MONITORING RESULTS
CONSTITUENTS FOR DETECTION MONITORING
MONITORING WELL OW-16
 Concentration (Expressed in same units as Threshold Value)

Parameter	Threshold Value	MAR '20	DEC '19	JUN '19	MAR '19	DEC '18	SEP '18	JUN '18	MAR '18	NOV '17
Antimony	0.006 mg/L ¹	ND	NT	ND	ND	ND	ND	0.002	ND	ND
Arsenic	0.010 mg/L ¹	ND	NT	ND	ND	ND	ND	0.01	ND	ND
Barium	2 mg/L ¹	0.009	NT	0.008	0.014	0.017	0.027	0.011	0.0190	0.1000
Beryllium	0.004 mg/L ¹	ND	NT	0.0002	0.0001	ND	ND	ND	ND	ND
Cadmium	0.005 mg/L ¹	0.0002	NT	0.0002	0.0003	ND	ND	ND	ND	ND
Chromium	0.1 mg/L ¹	ND	NT	ND	ND	0.003	0.004	0.004	0.0060	0.0050
Cobalt	0.73 mg/L ²	0.0007	NT	0.0009	0.0008	0.006	0.004	0.002	0.0050	0.0050
Copper	1.3 mg/L ¹	ND	NT	ND						
Lead	0.015 mg/L ¹	ND	NT	ND						
Mercury	0.002 mg/L ¹	ND	NT	ND	ND	ND	NT	ND	ND	ND
Nickel	0.1 mg/L ²	0.002	NT	0.002	0.002	0.013	0.01	0.009	0.0100	0.0100
Selenium	0.05 mg/L ¹	ND	NT	ND	ND	0.009	0.003	ND	0.0100	0.0050
Silver	0.1 mg/L ²⁻³	ND	NT	ND	0.0001	ND	ND	ND	ND	ND
Thallium	0.002 mg/L ¹	ND	NT	ND	ND	ND	ND	ND	0.0003	ND
Tin	22 mg/L ⁵	ND	NT	ND	ND	ND	NT	ND	ND	ND
Vanadium	0.26 mg/L ⁵	ND	NT	ND						
Zinc	2 mg/L ²⁻³	0.003	NT	0.004	0.004	0.025	0.019	0.022	0.024	0.0210
1,1,1,2-Tetrachloroethane	70 µg/L ²	ND	NT	ND						
1,1,1-Trichloroethane	200 µg/L ¹	ND	NT	ND						
1,1,2,2-Tetrachloroethane	0.2 µg/L ²	ND	NT	ND						
1,1,2-Trichloroethane	5 µg/L ¹	ND	NT	ND						
1,1-Dichloroethane	5 µg/L ⁵	ND	NT	ND						
1,1-Dichloroethylene	7 µg/L ¹	ND	NT	ND						
1,2,3-Trichloropropane	0.03 µg/L ¹	ND	NT	ND						
1,2-Dibromo-3-chloropropane (DBCP)	0.2 µg/L ¹	ND	NT	ND						
1,2-Dibromoethane (EDB)	0.05 µg/L ¹	ND	NT	ND						
1,2-Dichlorobenzene	600 µg/L ¹	ND	NT	ND						
1,2-Dichloroethane	5 µg/L ¹	ND	NT	ND						
1,2-Dichloropropane	5 µg/L ¹	ND	NT	ND						
1,4-Dichlorobenzene	75 µg/L ¹	ND	NT	ND						
4-Methyl-2-pentanone	µg/L	ND	NT	ND						
Acetone	610 µg/L ⁵	ND	NT	ND						
Acrylonitrile	0.039 µg/L ⁵	ND	NT	ND						
Benzene	5 µg/L ¹	ND	NT	ND						
Bromochloromethane	90 µg/L ²	ND	NT	ND						
Bromodichloromethane (THM)	80 µg/L ¹	ND	NT	ND						
Bromoform	80 µg/L ¹	ND	NT	ND						
Bromomethane	10 µg/L ²	ND	NT	ND						
Carbon disulfide	1000 µg/L ⁵	ND	NT	ND						
Carbon tetrachloride	5 µg/L ¹	ND	NT	ND						
Chlorobenzene	100 µg/L ¹	ND	NT	ND						
Chlorodibromomethane (THM)	80 µg/L ¹	ND	NT	ND						
Chloroethane	4.6 µg/L ⁵	ND	NT	ND						
Chloroform	80 µg/L ¹	ND	NT	ND						
Chloromethane	3 µg/L ²	ND	NT	ND						
cis-1,2-Dichloroethene	70 µg/L ¹	ND	NT	ND						
cis-1,3-Dichloropropene	0.27 µg/L ⁵⁻⁹	ND	NT	ND						
Dibromomethane	61 µg/L ⁵	ND	NT	ND						
Ethylbenzene	700 µg/L ¹	ND	NT	ND						
Methyl butyl ketone(2-Hexanone)	160 µg/L ⁵	ND	NT	ND						
Methyl ethyl ketone(2-Butanone)	4000 µg/L ²	ND	NT	ND						
Methyl iodide	µg/L	ND	NT	ND						
Methyl tert-butyl ether (MTBE)	20 - 40 µg/L ⁴	ND	NT	4.9	4.67	3.77	3.42	6.53	7.8	4.6
Methylene chloride	5 µg/L ¹	ND	NT	ND						
Styrene	100 µg/L ¹	ND	NT	ND						
Tetrachloroethylene(PCE)	5 µg/L ¹	ND	NT	ND						
Toluene	1000 µg/L ¹	ND	NT	ND						
trans-1,2-Dichloroethene	100 µg/L ¹	ND	NT	ND						
trans-1,3-Dichloropropene	0.27 µg/L ⁵⁻⁹	ND	NT	ND						
trans-1,4-Dichloro-2-butene	µg/L	ND	NT	ND						
Trichloroethylene(TCE)	5 µg/L ¹	ND	NT	ND						
Trichlorofluoromethane	2000 µg/L ²	ND	NT	ND						
Vinyl acetate	410 µg/L ⁵	ND	NT	ND						
Vinyl chloride	2 µg/L ¹	ND	NT	ND						
Xylenes	10000 µg/L ¹	ND	NT	ND						

= Concentration exceeds the specified Threshold Value

1. Threshold value given is the Maximum Contaminant Level (MCL) as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
2. Threshold value given is the lifetime health advisory as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
3. Threshold value given is the Secondary Drinking Water Regulation (SDWR) as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
4. Threshold value given is the Drinking Water Advisory as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
5. Threshold value given is the Preliminary Remedial Goal (PRG) for tap water, as provided in the October 2002 USEPA Region 9 PRGs Table 2002 Up
6. Threshold value given is derived from the EPA's National Recommended Water Quality Criteria for Human Health for the consumption of water and organisms, amended 2015.
7. Threshold value given is derived from the EPA's Unregulated Contaminant Monitoring Rule's minimum reporting levels.

a. The Threshold value given for these compounds is the threshold value for a mixture of isomers. For example, cis- and trans-1,3-dichloropropylene were not identified as having individual threshold values, however 1,3-dichloropropylene was identified as having a numerical value under the National Recommended Water Quality Criteria for Human Health for consumption of water and organisms. As such, the value for total 1,3-dichloropropylene was used as the threshold value for the cis- and trans- isomers. The total of the two (2) isomers should not exceed this value even if each individual isomer is present at a concentration below the provided threshold value.

b. No threshold value was identified for 1,1-dichloroethane, however due to the molecular similarities between this compound and 1,2-dichloroethane, the threshold value for 1,2-dichloroethane is used for reference purposes.

No threshold value has been provided for parameters not identified in the sources listed above

" " = One half of the laboratory detection limit "DL"

NT = Not Tested due to dry conditions at well.

TABLE 1 - OW-17
SUMMARY OF GROUNDWATER MONITORING RESULTS
CONSTITUENTS FOR DETECTION MONITORING
MONITORING WELL OW-17

Concentration (expressed in same units as Threshold Value)

<u>Parameter</u>	<u>Threshold</u>	
	<u>Value</u>	<u>MAR '20</u>
Antimony	0.006 mg/L ¹	0.0001
Arsenic	0.010 mg/L ¹	0.0002
Barium	2 mg/L ¹	0.018
Beryllium	0.004 mg/L ¹	ND
Cadmium	0.005 mg/L ¹	ND
Chromium	0.1 mg/L ¹	0.0006
Cobalt	0.73 mg/L ⁵	0.0005
Copper	1.3 mg/L ¹	ND
Lead	0.015 mg/L ¹	0.0024
Mercury	0.002 mg/L ¹	ND
Nickel	0.1 mg/L ²	0.001
Selenium	0.05 mg/L ¹	ND
Silver	0.1 mg/L ^{2,3}	ND
Thallium	0.002 mg/L ¹	ND
Tin	22 mg/L ⁵	0.007
Vanadium	0.26 mg/L ⁵	0.0006
Zinc	2 mg/L ^{2,3}	0.008
1,1,1,2-Tetrachloroethane	70 µg/L ²	ND
1,1,1-Trichloroethane	200 µg/L ¹	ND
1,1,2,2-Tetrachloroethane	0.2 µg/L ²	ND
1,1,2-Trichloroethane	5 µg/L ¹	ND
1,1-Dichloroethane	5 µg/L ^b	ND
1,1-Dichloroethylene	7 µg/L ¹	ND
1,2,3-Trichloropropane	0.03 µg/L ⁷	ND
1,2-Dibromo-3-chloropropane	0.2 µg/L ¹	ND
1,2-Dibromoethane	0.05 µg/L ¹	ND
1,2-Dichlorobenzene	600 µg/L ¹	ND
1,2-Dichloroethane	5 µg/L ¹	ND
1,2-Dichloropropane	5 µg/L ¹	ND
1,4-Dichlorobenzene	75 µg/L ¹	ND
4-Methyl-2-pentanone	µg/L	ND
Acetone	610 µg/L ⁵	ND
Acrylonitrile	0.039 µg/L ⁵	ND
Benzene	5 µg/L ¹	ND
Bromochloromethane	90 µg/L ²	ND
Bromodichloromethane	80 µg/L ¹	ND
Bromoform	80 µg/L ¹	ND
Bromomethane	10 µg/L ²	ND
Carbon disulfide	1000 µg/L ⁵	ND
Carbon tetrachloride	5 µg/L ¹	ND
Chlorobenzene	100 µg/L ¹	ND
Chlorodibromomethane	80 µg/L ¹	ND
Chloroethane	4.6 µg/L ⁵	ND
Chloroform	80 µg/L ¹	ND
Chloromethane	3 µg/L ²	ND
cis-1,2-Dichloroethylene	70 µg/L ¹	ND
cis-1,3-Dichloropropene	0.27 µg/L ^{6,a}	ND
Dibromomethane	61 µg/L ⁵	ND
Ethylbenzene	700 µg/L ¹	ND
Methyl butyl ketone(2-Hexanone)	160 µg/L ⁵	ND
Methyl ethyl ketone(2-Butanone)	4000 µg/L ²	ND
Methyl iodide	µg/L	ND
Methyl tert-butyl ether (MTBE)	20 - 40 µg/L ⁴	ND
Methylene chloride	5 µg/L ¹	ND
Styrene	100 µg/L ¹	ND
Tetrachloroethylene(PCE)	5 µg/L ¹	ND
Toluene	1000 µg/L ¹	ND
Trans-1,2-Dichloroethylene	100 µg/L ¹	ND
trans-1,3-Dichloropropene	0.27 µg/L ^{6,a}	ND
trans-1,4-Dichlo-2-butene	µg/L	ND
Trichloroethylene(TCE)	5 µg/L ¹	ND
Trichlorofluoromethane	2000 µg/L ²	ND
Vinyl acetate	410 µg/L ⁵	ND
Vinyl chloride	2 µg/L ¹	ND
Xylenes	10000 µg/L ¹	ND

= Concentration exceeds the specified Threshold Value

1. Threshold value given is the Maximum Contaminant Level (MCL) as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
2. Threshold value given is the lifetime health advisory as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
3. Threshold value given is the Secondary Drinking Water Regulation (SDWR) as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
4. Threshold value given is the Drinking Water Advisory as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
5. Threshold value given is the Preliminary Remedial Goal (PRG) for tap water, as provided in the October 2002 USEPA Region 9 PRGs Table 2002 Update
6. Threshold value given is derived from the EPA's National Recommended Water Quality Criteria for Human Health for the consumption of water and organisms, amended 2015.
7. Threshold value given is derived from the EPA's Unregulated Contaminant Monitoring Rule's minimum reporting levels.

a. The Threshold value given for these compounds is the threshold value for a mixture of isomers. For example, cis- and trans-1,3-dichloropropylene were not identified as having individual threshold values, however 1,3-dichloropropylene was identified as having a numerical value under the National Recommended Water Quality Criteria for Human Health for consumption of water and organisms. As such, the value for total 1,3-dichloropropylene was used as the threshold value for the cis- and trans- isomers. The total of the two (2) isomers should not exceed this value even if each individual isomer is present at a concentration below the provided threshold value.

b. No threshold value was identified for 1,1-dichloroethane, however due to the molecular similarities between this compounds and 1,2-dichloroethane, the threshold value for 1,2-dichloroethane is used for reference purposes.

No threshold value has been provided for parameters not identified in the sources listed above

" " = One half of the laboratory detection limit "DL"

NT = Not Tested due to dry conditions at well.

TABLE 2

Tolerance Intervals for March 2020 Monitoring Period



TABLE 3

Historical Analytical Data, Surface Water Sampling



**TABLE 3
SUMMARY OF SURFACE WATER MONITORING RESULTS
SURFACE WATER SW-1
MARCH 2020 MONITORING ROUND**

Concentration (expressed in same units as Human Health Threshold)

Parameter	Human Health	Freshwater Aquatic Life		Units	Mar '20	Dec '19	Jun '19	Mar '19	Dec '18	Sep '18	Jun '18	Mar '18	Dec '17	Sep '17	Jun '17	Mar '17
	Threshold	(Acute)	(Chronic)													
Antimony	0.0056	0.4500	0.0100	mg/L ¹	0.0001	ND	ND	ND	0.002	ND	ND	ND	ND	0.006	0.002	0.006
Arsenic	0.00018	0.3400	0.1500	mg/L ¹	0.0002	0.0002	0.0009	0.0002	ND	ND	0.01	0.004	0.004	ND	0.003	ND
Barium	2	--	--	mg/L ¹	0.017	0.019	0.068	0.023	0.031	0.036	0.04	0.022	0.022	0.473	0.025	0.016
Beryllium	0.004	0.0075	0.00017	mg/L ¹	ND											
Cadmium	0.005	0.0016	0.00021	mg/L ¹	ND	0.08	0.001	ND								
Calcium	--	--	--	mg/L	23.5	35.4	62.2	NT								
Chromium	0.1	0.0160	0.0110	mg/L ¹	0.0004	0.0004	0.0005	0.0002	ND	ND	ND	ND	ND	0.004	0.001	ND
Cobalt	0.73	--	--	mg/L ⁵	0.0002	0.0002	0.0014	0.0002	ND	ND	ND	ND	ND	0.006	0.004	ND
Copper	1.3	0.0108	0.0073	mg/L ¹	0.001	ND										
Iron	0.3	--	1.0000	mg/L ³	0.304	0.647	10.7	0.521	NT							
Lead	0.015	0.0820	0.0032	mg/L ¹	0.0005	0.0003	0.0003	0.0003	ND	ND	ND	ND	ND	0.019	0.002	ND
Magnesium	--	--	--	mg/L	4.98	4.93	11.8	NT								
Mercury	0.00014	0.0014	0.00077	mg/L ¹	ND											
Nickel	0.61	0.3848	0.0427	mg/L ²	0.001	0.003	0.003	0.001	0.002	0.003	0.001	0.003	0.003	0.014	0.005	0.003
Selenium	0.05	0.0200	0.0031	mg/L ⁷	ND											
Silver	0.1	0.0023	--	mg/L ²	ND											
Thallium	0.00024	0.0460	0.0010	mg/L ¹	ND											
Tin	22	--	--	mg/L ⁵	ND											
Vanadium	0.26	--	--	mg/L ⁵	ND	ND	ND	ND	0.001	0.001	ND	ND	ND	0.117	0.006	ND
Zinc	2	0.0963	0.0971	mg/L ³	0.003	0.005	0.006	0.002	0.012	0.005	0.015	0.009	0.009	0.097	0.02	0.006
Hardness (CaCO ₃)	--	--	< 20	mg/L	79.3	109	204	112	182	128	166	106	71.8	300	35.2	70.2
Ammonia	30	18.4	5.20	mg/L ²	ND	0.2	0.1	0.2	NT							
TKN	--	--	--	mg/L	0.4	1.1	0.4	0.4	NT							
Total Phosphorus	0.025	--	--	mg/L ⁶	ND	ND	ND	0.05	NT							
Total Nitrogen	10	--	--	mg/L ⁹	0.86	1.15	0.4	1.5	NT							

1. Threshold value given is the Maximum Contaminant Level (MCL) as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
2. Threshold value given is the lifetime health advisory as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
3. Threshold value given is the Secondary Drinking Water Regulation (SDWR) as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
4. Threshold value given is the Drinking Water Advisory as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
5. Threshold value given is the Preliminary Remedial Goal (PRG) for tap water, as provided in the October 2002 USEPA Region 9 PRGs Table 2002 Update
6. Ambient water quality standard.
7. Ambient water quality standard for selenium was selected from the EPA's 2016 Final Guidance for Aquatic Life Ambient Water Quality Criterion for Selenium. This guidance provides four chronic values that are dependent on site conditions, and the Lotic Water Chronic Criterion has been selected as it appears to be most applicable to site conditions.

###	Concentration exceeds the applicable Human Health Criteria
###	Concentration exceeds the applicable Freshwater Acute Exposure Criteria
###	Concentration exceeds the applicable Freshwater Chronic Exposure Criteria
###	Concentration exceeds both the Human Health Criteria and the Freshwater Acute Exposure Criteria
###	Concentration exceeds both the Human Health Criteria and the Freshwater Chronic Exposure Criteria

No threshold value has been provided for parameters not identified in the sources listed above

Aquatic Life criteria provided above from RIDEM Water Quality Regulations or the EPA's National Recommended Water Quality Criteria, Human Health Criteria for Consumption of water and organisms. "--" represents parameters for which no aquatic life criteria has been established.

"O.R." - Threshold value is temperature and/or pH dependent. Temperature and/ or pH was outside of the range for which a threshold value is established.

TABLE 3 (CONT.)
SUMMARY OF SURFACE WATER MONITORING RESULTS
SURFACE WATER SW-2
MARCH 2020 MONITORING ROUND
Concentration (expressed in same units as Human Health Threshold)

Parameter	Human Health Threshold	Freshwater Aquatic Life Threshold		Units	Mar '20	Dec '19	Jun '19	Mar '19	Dec '18	Sep '18	Jun '18	Mar '18	Dec '17	Sep '17	Jun '17	Mar '17
		(Acute)	(Chronic)													
Antimony	0.0056	0.4500	0.0100	mg/L ¹	ND	ND	ND	ND	0.002	0.003	0.001	ND	0.003	ND	0.002	ND
Arsenic	0.00018	0.3400	0.1500	mg/L ¹	0.0002	0.0002	0.0006	0.0003	ND	ND	0.005	ND	ND	ND	ND	ND
Barium	2	--	--	mg/L ¹	0.007	0.006	0.011	0.006	0.006	0.017	0.011	0.009	0.008	0.013	0.01	0.008
Beryllium	0.004	0.0075	0.00017	mg/L ¹	ND											
Cadmium	0.005	0.0004	0.00007	mg/L ¹	ND											
Calcium	--	--	--	mg/L	3.98	3.34	7.51	NT								
Chromium	0.1	0.0160	0.0110	mg/L ¹	0.0006	0.0006	0.0007	0.0005	ND	ND	ND	ND	ND	ND	0.001	ND
Cobalt	0.73	--	--	mg/L ⁵	0.0012	0.0005	0.0025	0.0002	ND	0.002	ND	ND	ND	0.001	0.002	ND
Copper	1.3	0.0026	0.0020	mg/L ¹	0.001	ND										
Iron	0.3	--	1.0000	mg/L ³	0.911	0.661	3.05	0.516	NT							
Lead	0.015	0.0820	0.0032	mg/L ¹	0.0007	0.0006	0.0009	0.0003	ND	ND	ND	ND	ND	ND	0.002	0.002
Magnesium	--	--	--	mg/L	1.9	1.42	2.75	NT								
Mercury	0.00014	0.0014	0.00077	mg/L ¹	ND											
Nickel	0.61	0.1087	0.0121	mg/L ²	0.002	0.001	0.002	0.001	0.002	0.002	0.003	0.002	0.001	0.002	0.004	0.003
Selenium	0.05	0.0200	0.0031	mg/L ⁷	ND											
Silver	0.1	0.0002	--	mg/L ²	ND	0.002	ND	ND								
Thallium	0.00024	0.0460	0.0010	mg/L ¹	ND											
Tin	22	--	--	mg/L ⁵	ND											
Vanadium	0.26	--	--	mg/L ⁵	0.0007	0.0007	0.0013	0.0006	ND	0.001	0.002	ND	ND	0.002	0.002	0.002
Zinc	2	0.0271	0.0274	mg/L ³	0.003	0.005	0.006	0.003	0.012	0.006	0.019	0.014	ND	0.006	0.01	0.011
Hardness (CaCO3)	--	--	< 20	mg/L	17.8	14.2	30.1	20.6	19.5	34.9	17.3	16.2	27.9	20	16.5	18.4
Ammonia	30	18.4	5.20	mg/L ²	0.1	ND	0.4	ND	NT							
TKN	--	--	--	mg/L	0.4	1.1	1	0.5	NT							
Total Phosphorus	0.025	--	--	mg/L ⁶	ND	ND	ND	ND	NT							
Total Nitrogen	10	--	--	mg/L ⁶	0.4	1.63	1	0.5	NT							

1. Threshold value given is the Maximum Contaminant Level (MCL) as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
2. Threshold value given is the lifetime health advisory as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
3. Threshold value given is the Secondary Drinking Water Regulation (SDWR) as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
4. Threshold value given is the Drinking Water Advisory as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
5. Threshold value given is the Preliminary Remedial Goal (PRG) for tap water, as provided in the October 2002 USEPA Region 9 PRGs Table 2002 Update
6. Ambient water quality standard.
7. Ambient water quality standard for selenium was selected from the EPA's 2016 Final Guidance for Aquatic Life Ambient Water Quality Criterion for Selenium. This guidance provides four chronic values that are dependent on site conditions, and the Lotic Water Chronic Criterion has been selected as it appears to be most applicable to site conditions.

###	Concentration exceeds the applicable Human Health Criteria
###	Concentration exceeds the applicable Freshwater Acute Exposure Criteria
###	Concentration exceeds the applicable Freshwater Chronic Exposure Criteria
###	Concentration exceeds both the Human Health Criteria and the Freshwater Acute Exposure Criteria
###	Concentration exceeds both the Human Health Criteria and the Freshwater Chronic Exposure Criteria

No threshold value has been provided for parameters not identified in the sources listed above

Aquatic Life criteria provided above from RIDEM Water Quality Regulations or the EPA's National Recommended Water Quality Criteria, Human Health Criteria for Consumption of water and organisms. "--" represents parameters for which no aquatic life criteria has been established.

"O.R." - Threshold value is temperature and/or pH dependent. Temperature and/ or pH was outside of the range for which a threshold value is established.

TABLE 3 (CONT.)
SUMMARY OF SURFACE WATER MONITORING RESULTS
SURFACE WATER SW-3
MARCH 2020 MONITORING ROUND
 Concentration (expressed in same units as Human Health Threshold)

Parameter	Human Health	Freshwater Aquatic Life Threshold		Units	Mar '20	Dec '19	Jun '19	Mar '19	Dec '18	Sep '18	Jun '18	Mar '18	Dec '17	Sep '17	Jun '17	Mar '17
	Threshold	(Acute)	(Chronic)		Mar '20	Dec '19	Jun '19	Mar '19	Dec '18	Sep '18	Jun '18	Mar '18	Dec '17	Sep '17	Jun '17	Mar '17
Antimony	0.0056	0.4500	0.0100	mg/L ¹	0.0001	ND	ND	ND	0.002	0.003	0.005	ND	0.011	NT	0.02	ND
Arsenic	0.00018	0.3400	0.1500	mg/L ¹	0.0002	0.0002	0.0006	0.0002	ND	ND	0.02	ND	ND	NT	ND	ND
Barium	2	--	--	mg/L ¹	0.019	0.007	0.014	0.007	0.01	0.018	1.66	1.33	0.087	NT	0.211	0.015
Beryllium	0.004	0.0075	0.00017	mg/L ¹	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND
Cadmium	0.005	0.0016	0.00021	mg/L ¹	ND	ND	ND	ND	ND	ND	0.008	0.051	ND	NT	0.009	ND
Calcium	--	--	--	mg/L	23.3	5.54	10.8	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chromium	0.1	0.0160	0.0110	mg/L ¹	0.0007	0.0005	0.0007	0.0003	ND	ND	ND	0.249	0.006	NT	0.017	ND
Cobalt	0.73	--	--	mg/L ⁵	0.0002	0.0004	0.0023	0.0002	ND	0.004	0.003	0.132	0.006	NT	0.019	ND
Copper	1.3	0.0108	0.0073	mg/L ¹	0.001	0.002	ND	ND	ND	ND	ND	0.24	ND	NT	ND	ND
Iron	0.3	--	1.0000	mg/L ³	1.18	0.788	4.13	0.449	NT	NT	NT	NT	NT	NT	NT	NT
Lead	0.015	0.0820	0.0032	mg/L ¹	0.0018	0.0003	0.0005	0.0009	ND	ND	ND	0.715	0.011	NT	0.029	ND
Magnesium	--	--	--	mg/L	5.06	2.18	3.33	NT	NT	NT	NT	NT	NT	NT	NT	NT
Mercury	0.00014	0.0014	0.00077	mg/L ¹	ND	0.0003	ND	ND	ND	ND	ND	0.0013	ND	NT	ND	ND
Nickel	0.61	0.3836	0.0426	mg/L ²	0.001	0.001	0.002	0.002	0.001	0.006	0.018	0.433	0.01	NT	0.131	0.006
Selenium	0.05	0.0200	0.0031	mg/L ⁷	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND
Silver	0.1	0.0023	--	mg/L ²	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND
Thallium	0.00024	0.0460	0.0010	mg/L ¹	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND
Tin	22	--	--	mg/L ⁵	0.025	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND
Vanadium	0.26	--	--	mg/L ⁵	0.0006	0.0005	0.0012	ND	ND	0.003	0.004	0.418	0.026	NT	0.028	ND
Zinc	2	0.0960	0.0968	mg/L ³	0.004	0.007	0.006	0.004	0.007	0.011	0.505	2.52	0.058	NT	0.11	0.016
Hardness (CaCO3)	--	--	< 20	mg/L	79	22.8	40.7	23.7	50.7	47.2	79.5	441	65.1	NT	294	47.1
Ammonia	30	18.4	5.20	mg/L ²	ND	ND	0.2	ND	NT	NT	NT	NT	NT	NT	NT	NT
TKN	--	--	--	mg/L	0.8	0.4	0.5	0.3	NT	NT	NT	NT	NT	NT	NT	NT
Total Phosphorus	0.025	--	--	mg/L ⁶	ND	ND	0.22	ND	NT	NT	NT	NT	NT	NT	NT	NT
Total Nitrogen	10	--	--	mg/L ⁶	1.27	0.53	0.5	0.3	NT	NT	NT	NT	NT	NT	NT	NT

1. Threshold value given is the Maximum Contaminant Level (MCL) as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
2. Threshold value given is the lifetime health advisory as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
3. Threshold value given is the Secondary Drinking Water Regulation (SDWR) as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
4. Threshold value given is the Drinking Water Advisory as provided in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories
5. Threshold value given is the Preliminary Remedial Goal (PRG) for tap water, as provided in the October 2002 USEPA Region 9 PRGs Table 2002 Update
6. Ambient water quality standard.
7. Ambient water quality standard for selenium was selected from the EPA's 2016 Final Guidance for Aquatic Life Ambient Water Quality Criterion for Selenium. This guidance provides four chronic values that are dependent on site conditions, and the Lotic Water Chronic Criterion has been selected as it appears to be most applicable to site conditions.

###	Concentration exceeds the applicable Human Health Criteria
###	Concentration exceeds the applicable Freshwater Acute Exposure Criteria
###	Concentration exceeds the applicable Freshwater Chronic Exposure Criteria
###	Concentration exceeds both the Human Health Criteria and the Freshwater Acute Exposure Criteria
###	Concentration exceeds both the Human Health Criteria and the Freshwater Chronic Exposure Criteria

No threshold value has been provided for parameters not identified in the sources listed above
 Aquatic Life criteria provided above from RIDEM Water Quality Regulations or the EPA's National Recommended Water Quality Criteria, Human Health Criteria for Consumption of water and organisms. "--" represents parameters for which no aquatic life criteria has been established.
 "O.R." - Threshold value is temperature and/or pH dependent. Temperature and/ or pH was outside of the range for which a threshold value is established.

ATTACHMENT 1

Laboratory Analytical Report, Observation Well Sampling





New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 0C27017
Client Project: 94139 - Tiverton Landfill

Report Date: 03-April-2020

Prepared for:

Travis Johnson
Pare Corporation
8 Blackstone Valley Place
Lincoln, RI 02865

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
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Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 03/27/20. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 0C27017. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
0C27017-01	OW-9	Water	03/26/2020	03/27/2020
0C27017-02	OW-12	Water	03/26/2020	03/27/2020
0C27017-03	OW-14	Water	03/26/2020	03/27/2020
0C27017-04	OW-15	Water	03/26/2020	03/27/2020
0C27017-05	OW-17	Water	03/26/2020	03/27/2020
0C27017-06	OW-7	Water	03/26/2020	03/27/2020
0C27017-07	OW-16	Water	03/26/2020	03/27/2020
0C27017-08	OW-13	Water	03/26/2020	03/27/2020

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

OW-12 (Lab Number: 0C27017-02)**Analysis**

Antimony
Appendix A Volatile Organics
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Tin
Vanadium
Zinc

Method

EPA 200.8
EPA 8260C
EPA 200.8
EPA 7470A
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8

OW-13 (Lab Number: 0C27017-08)**Analysis**

Antimony
Appendix A Volatile Organics
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Tin
Vanadium
Zinc

Method

EPA 200.8
EPA 8260C
EPA 200.8
EPA 7470A
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8

OW-14 (Lab Number: 0C27017-03)**Analysis**

Antimony
Appendix A Volatile Organics
Arsenic
Barium
Beryllium
Cadmium
Chromium

Method

EPA 200.8
EPA 8260C
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8

Request for Analysis (continued)

OW-14 (Lab Number: 0C27017-03) (continued)

Analysis

Cobalt
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Tin
Vanadium
Zinc

Method

EPA 200.8
EPA 200.8
EPA 200.8
EPA 7470A
EPA 200.8
EPA 200.8

OW-15 (Lab Number: 0C27017-04)

Analysis

Antimony
Appendix A Volatile Organics
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Tin
Vanadium
Zinc

Method

EPA 200.8
EPA 8260C
EPA 200.8
EPA 7470A
EPA 200.8
EPA 200.8

OW-16 (Lab Number: 0C27017-07)

Analysis

Antimony
Appendix A Volatile Organics
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Tin
Vanadium
Zinc

Method

EPA 200.8
EPA 8260C
EPA 200.8
EPA 7470A
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8

Request for Analysis (continued)

OW-17 (Lab Number: 0C27017-05)

Analysis

Antimony
Appendix A Volatile Organics
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Tin
Vanadium
Zinc

Method

EPA 200.8
EPA 8260C
EPA 200.8
EPA 7470A
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8

OW-7 (Lab Number: 0C27017-06)

Analysis

Antimony
Appendix A Volatile Organics
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Tin
Vanadium
Zinc

Method

EPA 200.8
EPA 8260C
EPA 200.8
EPA 7470A
EPA 200.8
EPA 200.8

Request for Analysis (continued)

OW-9 (Lab Number: 0C27017-01)

Analysis

Antimony
Appendix A Volatile Organics
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Tin
Vanadium
Zinc

Method

EPA 200.8
EPA 8260C
EPA 200.8
EPA 7470A
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8

Method References

Methods for the Determination of Metals in Environmental Samples EPA-600/R-94/111, USEPA, 1994

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

CASE NARRATIVE:

Sample Receipt

The samples were all appropriately cooled and preserved upon receipt. The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Metals

All analyses were performed according to NETLAB's documented Standard Operating Procedures, within all required holding times, and with appropriate quality control measures. All QC was within laboratory established acceptance criteria. The samples were received, processed, and reported with no anomalies.

Volatile Organic Compounds

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria. Those compounds whose names include "TIC" were qualitatively screened via reconstructed ion chromatography and no detections were identified to the listed PQLs.

Results: Total Metals**Sample: OW-9****Lab Number: 0C27017-01 (Water)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.0001	mg/L	03/30/20	03/30/20
Arsenic	0.0002		0.0001	mg/L	03/30/20	03/30/20
Barium	0.023		0.001	mg/l	03/30/20	03/30/20
Beryllium	ND		0.0001	mg/L	03/30/20	03/30/20
Cadmium	0.0001		0.0001	mg/L	03/30/20	03/30/20
Chromium	0.0036		0.0001	mg/L	03/30/20	03/30/20
Cobalt	0.0008		0.0001	mg/L	03/30/20	03/30/20
Copper	0.001		0.001	mg/l	03/30/20	03/30/20
Mercury	ND		0.0002	mg/L	03/30/20	03/30/20
Nickel	0.002		0.001	mg/l	03/30/20	03/30/20
Selenium	ND		0.005	mg/L	03/30/20	03/30/20
Silver	ND		0.0001	mg/L	03/30/20	03/30/20
Thallium	ND		0.0001	mg/L	03/30/20	03/30/20
Tin	0.037		0.005	mg/l	03/30/20	03/30/20
Vanadium	0.0011		0.0005	mg/L	03/30/20	03/30/20
Zinc	0.010		0.001	mg/l	03/30/20	03/30/20
Lead	0.0030		0.0001	mg/L	03/30/20	03/30/20

Results: Total Metals

Sample: OW-12

Lab Number: 0C27017-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.0001	mg/L	03/30/20	03/30/20
Arsenic	ND		0.0001	mg/L	03/30/20	03/30/20
Barium	0.024		0.001	mg/l	03/30/20	03/30/20
Beryllium	ND		0.0001	mg/L	03/30/20	03/30/20
Cadmium	0.0005		0.0001	mg/L	03/30/20	03/30/20
Chromium	ND		0.0001	mg/L	03/30/20	03/30/20
Cobalt	0.0011		0.0001	mg/L	03/30/20	03/30/20
Copper	ND		0.001	mg/l	03/30/20	03/30/20
Mercury	ND		0.0002	mg/L	03/30/20	03/30/20
Nickel	0.011		0.001	mg/l	03/30/20	03/30/20
Selenium	ND		0.005	mg/L	03/30/20	03/30/20
Silver	ND		0.0001	mg/L	03/30/20	03/30/20
Thallium	ND		0.0001	mg/L	03/30/20	03/30/20
Tin	ND		0.005	mg/l	03/30/20	03/30/20
Vanadium	ND		0.0005	mg/L	03/30/20	03/30/20
Zinc	0.002		0.001	mg/l	03/30/20	03/30/20
Lead	0.0004		0.0001	mg/L	03/30/20	03/30/20

Results: Total Metals

Sample: OW-14

Lab Number: 0C27017-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	0.0004		0.0001	mg/L	03/30/20	03/30/20
Arsenic	0.0015		0.0001	mg/L	03/30/20	03/30/20
Barium	0.190		0.001	mg/l	03/30/20	03/30/20
Beryllium	ND		0.0001	mg/L	03/30/20	03/30/20
Cadmium	ND		0.0001	mg/L	03/30/20	03/30/20
Chromium	0.0005		0.0001	mg/L	03/30/20	03/30/20
Cobalt	0.0064		0.0001	mg/L	03/30/20	03/30/20
Copper	ND		0.001	mg/l	03/30/20	03/30/20
Mercury	ND		0.0002	mg/L	03/30/20	03/30/20
Nickel	0.012		0.001	mg/l	03/30/20	03/30/20
Selenium	ND		0.005	mg/L	03/30/20	03/30/20
Silver	ND		0.0001	mg/L	03/30/20	03/30/20
Thallium	ND		0.0001	mg/L	03/30/20	03/30/20
Tin	0.055		0.005	mg/l	03/30/20	03/30/20
Vanadium	0.0005		0.0005	mg/L	03/30/20	03/30/20
Zinc	0.003		0.001	mg/l	03/30/20	03/30/20
Lead	0.0003		0.0001	mg/L	03/30/20	03/30/20

Results: Total Metals**Sample: OW-15****Lab Number: 0C27017-04 (Water)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	0.0001		0.0001	mg/L	03/30/20	03/30/20
Arsenic	0.0066		0.0001	mg/L	03/30/20	03/30/20
Barium	0.191		0.001	mg/l	03/30/20	03/30/20
Beryllium	ND		0.0001	mg/L	03/30/20	03/30/20
Cadmium	ND		0.0001	mg/L	03/30/20	03/30/20
Chromium	0.0009		0.0001	mg/L	03/30/20	03/30/20
Cobalt	0.0035		0.0001	mg/L	03/30/20	03/30/20
Copper	ND		0.001	mg/l	03/30/20	03/30/20
Mercury	ND		0.0002	mg/L	03/30/20	03/30/20
Nickel	0.012		0.001	mg/l	03/30/20	03/30/20
Selenium	ND		0.005	mg/L	03/30/20	03/30/20
Silver	ND		0.0001	mg/L	03/30/20	03/30/20
Thallium	ND		0.0001	mg/L	03/30/20	03/30/20
Tin	0.015		0.005	mg/l	03/30/20	03/30/20
Vanadium	0.0006		0.0005	mg/L	03/30/20	03/30/20
Zinc	0.003		0.001	mg/l	03/30/20	03/30/20
Lead	0.0003		0.0001	mg/L	03/30/20	03/30/20

Results: Total Metals**Sample: OW-17****Lab Number: 0C27017-05 (Water)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	0.0001		0.0001	mg/L	03/30/20	03/30/20
Arsenic	0.0002		0.0001	mg/L	03/30/20	03/30/20
Barium	0.018		0.001	mg/l	03/30/20	03/30/20
Beryllium	ND		0.0001	mg/L	03/30/20	03/30/20
Cadmium	ND		0.0001	mg/L	03/30/20	03/30/20
Chromium	0.0006		0.0001	mg/L	03/30/20	03/30/20
Cobalt	0.0005		0.0001	mg/L	03/30/20	03/30/20
Copper	ND		0.001	mg/l	03/30/20	03/30/20
Mercury	ND		0.0002	mg/L	03/30/20	03/30/20
Nickel	0.001		0.001	mg/l	03/30/20	03/30/20
Selenium	ND		0.005	mg/L	03/30/20	03/30/20
Silver	ND		0.0001	mg/L	03/30/20	03/30/20
Thallium	ND		0.0001	mg/L	03/30/20	03/30/20
Tin	0.007		0.005	mg/l	03/30/20	03/30/20
Vanadium	0.0006		0.0005	mg/L	03/30/20	03/30/20
Zinc	0.008		0.001	mg/l	03/30/20	03/30/20
Lead	0.0024		0.0001	mg/L	03/30/20	03/30/20

Results: Total Metals

Sample: OW-7

Lab Number: 0C27017-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.0001	mg/L	03/30/20	03/30/20
Arsenic	ND		0.0001	mg/L	03/30/20	03/30/20
Barium	0.033		0.001	mg/l	03/30/20	03/30/20
Beryllium	ND		0.0001	mg/L	03/30/20	03/30/20
Cadmium	0.0005		0.0001	mg/L	03/30/20	03/30/20
Chromium	0.0001		0.0001	mg/L	03/30/20	03/30/20
Cobalt	0.0072		0.0001	mg/L	03/30/20	03/30/20
Copper	ND		0.001	mg/l	03/30/20	03/30/20
Mercury	ND		0.0002	mg/L	03/30/20	03/30/20
Nickel	0.009		0.001	mg/l	03/30/20	03/30/20
Selenium	ND		0.005	mg/L	03/30/20	03/30/20
Silver	ND		0.0001	mg/L	03/30/20	03/30/20
Thallium	ND		0.0001	mg/L	03/30/20	03/30/20
Tin	ND		0.005	mg/l	03/30/20	03/30/20
Vanadium	ND		0.0005	mg/L	03/30/20	03/30/20
Zinc	0.004		0.001	mg/l	03/30/20	03/30/20
Lead	0.0003		0.0001	mg/L	03/30/20	03/30/20

Results: Total Metals

Sample: OW-16

Lab Number: 0C27017-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	ND		0.0001	mg/L	03/30/20	03/30/20
Arsenic	ND		0.0001	mg/L	03/30/20	03/30/20
Barium	0.009		0.001	mg/l	03/30/20	03/30/20
Beryllium	ND		0.0001	mg/L	03/30/20	03/30/20
Cadmium	0.0002		0.0001	mg/L	03/30/20	03/30/20
Chromium	ND		0.0001	mg/L	03/30/20	03/30/20
Cobalt	0.0007		0.0001	mg/L	03/30/20	03/30/20
Copper	ND		0.001	mg/l	03/30/20	03/30/20
Mercury	ND		0.0002	mg/L	03/30/20	03/30/20
Nickel	0.002		0.001	mg/l	03/30/20	03/30/20
Selenium	ND		0.005	mg/L	03/30/20	03/30/20
Silver	ND		0.0001	mg/L	03/30/20	03/30/20
Thallium	ND		0.0001	mg/L	03/30/20	03/30/20
Tin	ND		0.005	mg/l	03/30/20	03/30/20
Vanadium	ND		0.0005	mg/L	03/30/20	03/30/20
Zinc	0.003		0.001	mg/l	03/30/20	03/30/20
Lead	ND		0.0001	mg/L	03/30/20	03/30/20

Results: Total Metals

Sample: OW-13

Lab Number: 0C27017-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Antimony	0.0001		0.0001	mg/L	03/30/20	03/30/20
Arsenic	0.0065		0.0001	mg/L	03/30/20	03/30/20
Barium	0.139		0.001	mg/l	03/30/20	03/30/20
Beryllium	ND		0.0001	mg/L	03/30/20	03/30/20
Cadmium	0.0005		0.0001	mg/L	03/30/20	03/30/20
Chromium	0.0005		0.0001	mg/L	03/30/20	03/30/20
Cobalt	0.0099		0.0001	mg/L	03/30/20	03/30/20
Copper	0.005		0.001	mg/l	03/30/20	03/30/20
Mercury	ND		0.0002	mg/L	03/30/20	03/30/20
Nickel	0.009		0.001	mg/l	03/30/20	03/30/20
Selenium	ND		0.005	mg/L	03/30/20	03/30/20
Silver	ND		0.0001	mg/L	03/30/20	03/30/20
Thallium	ND		0.0001	mg/L	03/30/20	03/30/20
Tin	0.009		0.005	mg/l	03/30/20	03/30/20
Vanadium	ND		0.0005	mg/L	03/30/20	03/30/20
Zinc	0.017		0.001	mg/l	03/30/20	03/30/20
Lead	0.0016		0.0001	mg/L	03/30/20	03/30/20

Results: Volatile Organic Compounds

Sample: OW-9

Lab Number: 0C27017-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,1-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
1,2,3-Trichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromoethane (EDB)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,3-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2-Hexanone	ND		5	ug/l	04/01/20	04/01/20
4-Methyl-2-pentanone	ND		5	ug/l	04/01/20	04/01/20
Acetone	ND		5	ug/l	04/01/20	04/01/20
Acetonitrile	ND		5	ug/l	04/01/20	04/01/20
Acrolein	ND		5	ug/l	04/01/20	04/01/20
Acrylonitrile	ND		5	ug/l	04/01/20	04/01/20
Allyl chloride (TIC)	ND		5	ug/l	04/01/20	04/01/20
Benzene	ND		1	ug/l	04/01/20	04/01/20
Bromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromodichloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromoform	ND		1	ug/l	04/01/20	04/01/20
Carbon Disulfide	ND		1	ug/l	04/01/20	04/01/20
Carbon Tetrachloride	ND		1	ug/l	04/01/20	04/01/20
Chlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Chloroethane	ND		1	ug/l	04/01/20	04/01/20
Chloroform	ND		1	ug/l	04/01/20	04/01/20
Chloroprene (TIC)	ND		1	ug/l	04/01/20	04/01/20
cis-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
cis-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
Dibromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Dichlorodifluoromethane	ND		1	ug/l	04/01/20	04/01/20
Ethyl Methacrylate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Ethylbenzene	ND		1	ug/l	04/01/20	04/01/20
Isobutyl Alcohol (TIC)	ND		20	ug/l	04/01/20	04/01/20
Isodrin (TIC)	ND		5	ug/l	04/01/20	04/01/20
1,3-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Methacrylonitrile (TIC)	ND		10	ug/l	04/01/20	04/01/20
Bromomethane	ND		1	ug/l	04/01/20	04/01/20
Chloromethane	ND		1	ug/l	04/01/20	04/01/20
2-Butanone	ND		5	ug/l	04/01/20	04/01/20
Methyl iodide (TIC)	ND		5	ug/l	04/01/20	04/01/20
Methylmethacrylate	ND		10	ug/l	04/01/20	04/01/20
Dibromomethane	ND		1	ug/l	04/01/20	04/01/20
Methylene Chloride	ND		1	ug/l	04/01/20	04/01/20

Results: Volatile Organic Compounds (Continued)

Sample: OW-9 (Continued)

Lab Number: 0C27017-01 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
1,4-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Propionitrile (TIC)	ND		20	ug/l	04/01/20	04/01/20
Styrene	ND		1	ug/l	04/01/20	04/01/20
Tetrachloroethene	ND		1	ug/l	04/01/20	04/01/20
Methyl t-butyl ether (MTBE)	ND		1	ug/l	04/01/20	04/01/20
Toluene	ND		1	ug/l	04/01/20	04/01/20
trans-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
trans-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
trans-1,4-Dichloro-2-Butene (TIC)	ND		5	ug/l	04/01/20	04/01/20
Trichloroethene	ND		1	ug/l	04/01/20	04/01/20
Trichlorofluoromethane	ND		1	ug/l	04/01/20	04/01/20
Vinyl acetate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Vinyl Chloride	ND		1	ug/l	04/01/20	04/01/20
Total xylenes	ND		2	ug/l	04/01/20	04/01/20
Surrogate(s)	Recovery%		Limits			
<i>Toluene-d8</i>	97.0%		70-130		04/01/20	04/01/20
<i>1,2-Dichloroethane-d4</i>	102%		70-130		04/01/20	04/01/20
<i>4-Bromofluorobenzene</i>	94.7%		70-130		04/01/20	04/01/20

Results: Volatile Organic Compounds

Sample: OW-12

Lab Number: 0C27017-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,1-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
1,2,3-Trichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromoethane (EDB)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,3-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2-Hexanone	ND		5	ug/l	04/01/20	04/01/20
4-Methyl-2-pentanone	ND		5	ug/l	04/01/20	04/01/20
Acetone	ND		5	ug/l	04/01/20	04/01/20
Acetonitrile	ND		5	ug/l	04/01/20	04/01/20
Acrolein	ND		5	ug/l	04/01/20	04/01/20
Acrylonitrile	ND		5	ug/l	04/01/20	04/01/20
Allyl chloride (TIC)	ND		5	ug/l	04/01/20	04/01/20
Benzene	ND		1	ug/l	04/01/20	04/01/20
Bromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromodichloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromoform	ND		1	ug/l	04/01/20	04/01/20
Carbon Disulfide	ND		1	ug/l	04/01/20	04/01/20
Carbon Tetrachloride	ND		1	ug/l	04/01/20	04/01/20
Chlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Chloroethane	ND		1	ug/l	04/01/20	04/01/20
Chloroform	ND		1	ug/l	04/01/20	04/01/20
Chloroprene (TIC)	ND		1	ug/l	04/01/20	04/01/20
cis-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
cis-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
Dibromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Dichlorodifluoromethane	ND		1	ug/l	04/01/20	04/01/20
Ethyl Methacrylate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Ethylbenzene	ND		1	ug/l	04/01/20	04/01/20
Isobutyl Alcohol (TIC)	ND		20	ug/l	04/01/20	04/01/20
Isodrin (TIC)	ND		5	ug/l	04/01/20	04/01/20
1,3-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Methacrylonitrile (TIC)	ND		10	ug/l	04/01/20	04/01/20
Bromomethane	ND		1	ug/l	04/01/20	04/01/20
Chloromethane	ND		1	ug/l	04/01/20	04/01/20
2-Butanone	ND		5	ug/l	04/01/20	04/01/20
Methyl iodide (TIC)	ND		5	ug/l	04/01/20	04/01/20
Methylmethacrylate	ND		10	ug/l	04/01/20	04/01/20
Dibromomethane	ND		1	ug/l	04/01/20	04/01/20
Methylene Chloride	ND		1	ug/l	04/01/20	04/01/20

Results: Volatile Organic Compounds (Continued)

Sample: OW-12 (Continued)

Lab Number: 0C27017-02 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
1,4-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Propionitrile (TIC)	ND		20	ug/l	04/01/20	04/01/20
Styrene	ND		1	ug/l	04/01/20	04/01/20
Tetrachloroethene	ND		1	ug/l	04/01/20	04/01/20
Methyl t-butyl ether (MTBE)	ND		1	ug/l	04/01/20	04/01/20
Toluene	ND		1	ug/l	04/01/20	04/01/20
trans-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
trans-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
trans-1,4-Dichloro-2-Butene (TIC)	ND		5	ug/l	04/01/20	04/01/20
Trichloroethene	ND		1	ug/l	04/01/20	04/01/20
Trichlorofluoromethane	ND		1	ug/l	04/01/20	04/01/20
Vinyl acetate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Vinyl Chloride	ND		1	ug/l	04/01/20	04/01/20
Total xylenes	ND		2	ug/l	04/01/20	04/01/20
Surrogate(s)	Recovery%		Limits			
<i>Toluene-d8</i>	97.9%		70-130		04/01/20	04/01/20
<i>1,2-Dichloroethane-d4</i>	102%		70-130		04/01/20	04/01/20
<i>4-Bromofluorobenzene</i>	94.2%		70-130		04/01/20	04/01/20

Results: Volatile Organic Compounds

Sample: OW-14

Lab Number: 0C27017-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,1-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
1,2,3-Trichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromoethane (EDB)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,3-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2-Hexanone	ND		5	ug/l	04/01/20	04/01/20
4-Methyl-2-pentanone	ND		5	ug/l	04/01/20	04/01/20
Acetone	6		5	ug/l	04/01/20	04/01/20
Acetonitrile	ND		5	ug/l	04/01/20	04/01/20
Acrolein	ND		5	ug/l	04/01/20	04/01/20
Acrylonitrile	ND		5	ug/l	04/01/20	04/01/20
Allyl chloride (TIC)	ND		5	ug/l	04/01/20	04/01/20
Benzene	2		1	ug/l	04/01/20	04/01/20
Bromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromodichloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromoform	ND		1	ug/l	04/01/20	04/01/20
Carbon Disulfide	ND		1	ug/l	04/01/20	04/01/20
Carbon Tetrachloride	ND		1	ug/l	04/01/20	04/01/20
Chlorobenzene	10		1	ug/l	04/01/20	04/01/20
Chloroethane	1		1	ug/l	04/01/20	04/01/20
Chloroform	ND		1	ug/l	04/01/20	04/01/20
Chloroprene (TIC)	ND		1	ug/l	04/01/20	04/01/20
cis-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
cis-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
Dibromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Dichlorodifluoromethane	ND		1	ug/l	04/01/20	04/01/20
Ethyl Methacrylate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Ethylbenzene	ND		1	ug/l	04/01/20	04/01/20
Isobutyl Alcohol (TIC)	ND		20	ug/l	04/01/20	04/01/20
Isodrin (TIC)	ND		5	ug/l	04/01/20	04/01/20
1,3-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Methacrylonitrile (TIC)	ND		10	ug/l	04/01/20	04/01/20
Bromomethane	ND		1	ug/l	04/01/20	04/01/20
Chloromethane	ND		1	ug/l	04/01/20	04/01/20
2-Butanone	ND		5	ug/l	04/01/20	04/01/20
Methyl iodide (TIC)	ND		5	ug/l	04/01/20	04/01/20
Methylmethacrylate	ND		10	ug/l	04/01/20	04/01/20
Dibromomethane	ND		1	ug/l	04/01/20	04/01/20
Methylene Chloride	ND		1	ug/l	04/01/20	04/01/20

Results: Volatile Organic Compounds (Continued)

Sample: OW-14 (Continued)

Lab Number: 0C27017-03 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
1,4-Dichlorobenzene	2		1	ug/l	04/01/20	04/01/20
Propionitrile (TIC)	ND		20	ug/l	04/01/20	04/01/20
Styrene	ND		1	ug/l	04/01/20	04/01/20
Tetrachloroethene	ND		1	ug/l	04/01/20	04/01/20
Methyl t-butyl ether (MTBE)	6		1	ug/l	04/01/20	04/01/20
Toluene	ND		1	ug/l	04/01/20	04/01/20
trans-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
trans-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
trans-1,4-Dichloro-2-Butene (TIC)	ND		5	ug/l	04/01/20	04/01/20
Trichloroethene	ND		1	ug/l	04/01/20	04/01/20
Trichlorofluoromethane	ND		1	ug/l	04/01/20	04/01/20
Vinyl acetate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Vinyl Chloride	ND		1	ug/l	04/01/20	04/01/20
Total xylenes	ND		2	ug/l	04/01/20	04/01/20
Surrogate(s)	Recovery%		Limits			
<i>Toluene-d8</i>	98.4%		70-130		04/01/20	04/01/20
<i>1,2-Dichloroethane-d4</i>	102%		70-130		04/01/20	04/01/20
<i>4-Bromofluorobenzene</i>	96.3%		70-130		04/01/20	04/01/20

Results: Volatile Organic Compounds

Sample: OW-15

Lab Number: 0C27017-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,1-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
1,2,3-Trichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromoethane (EDB)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,3-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2-Hexanone	ND		5	ug/l	04/01/20	04/01/20
4-Methyl-2-pentanone	ND		5	ug/l	04/01/20	04/01/20
Acetone	ND		5	ug/l	04/01/20	04/01/20
Acetonitrile	ND		5	ug/l	04/01/20	04/01/20
Acrolein	ND		5	ug/l	04/01/20	04/01/20
Acrylonitrile	ND		5	ug/l	04/01/20	04/01/20
Allyl chloride (TIC)	ND		5	ug/l	04/01/20	04/01/20
Benzene	1		1	ug/l	04/01/20	04/01/20
Bromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromodichloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromoform	ND		1	ug/l	04/01/20	04/01/20
Carbon Disulfide	ND		1	ug/l	04/01/20	04/01/20
Carbon Tetrachloride	ND		1	ug/l	04/01/20	04/01/20
Chlorobenzene	15		1	ug/l	04/01/20	04/01/20
Chloroethane	ND		1	ug/l	04/01/20	04/01/20
Chloroform	ND		1	ug/l	04/01/20	04/01/20
Chloroprene (TIC)	ND		1	ug/l	04/01/20	04/01/20
cis-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
cis-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
Dibromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Dichlorodifluoromethane	ND		1	ug/l	04/01/20	04/01/20
Ethyl Methacrylate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Ethylbenzene	ND		1	ug/l	04/01/20	04/01/20
Isobutyl Alcohol (TIC)	ND		20	ug/l	04/01/20	04/01/20
Isodrin (TIC)	ND		5	ug/l	04/01/20	04/01/20
1,3-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Methacrylonitrile (TIC)	ND		10	ug/l	04/01/20	04/01/20
Bromomethane	ND		1	ug/l	04/01/20	04/01/20
Chloromethane	ND		1	ug/l	04/01/20	04/01/20
2-Butanone	ND		5	ug/l	04/01/20	04/01/20
Methyl iodide (TIC)	ND		5	ug/l	04/01/20	04/01/20
Methylmethacrylate	ND		10	ug/l	04/01/20	04/01/20
Dibromomethane	ND		1	ug/l	04/01/20	04/01/20
Methylene Chloride	ND		1	ug/l	04/01/20	04/01/20

Results: Volatile Organic Compounds (Continued)

Sample: OW-15 (Continued)

Lab Number: 0C27017-04 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
1,4-Dichlorobenzene	2		1	ug/l	04/01/20	04/01/20
Propionitrile (TIC)	ND		20	ug/l	04/01/20	04/01/20
Styrene	ND		1	ug/l	04/01/20	04/01/20
Tetrachloroethene	ND		1	ug/l	04/01/20	04/01/20
Methyl t-butyl ether (MTBE)	6		1	ug/l	04/01/20	04/01/20
Toluene	ND		1	ug/l	04/01/20	04/01/20
trans-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
trans-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
trans-1,4-Dichloro-2-Butene (TIC)	ND		5	ug/l	04/01/20	04/01/20
Trichloroethene	ND		1	ug/l	04/01/20	04/01/20
Trichlorofluoromethane	ND		1	ug/l	04/01/20	04/01/20
Vinyl acetate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Vinyl Chloride	ND		1	ug/l	04/01/20	04/01/20
Total xylenes	ND		2	ug/l	04/01/20	04/01/20
Surrogate(s)	Recovery%		Limits			
<i>Toluene-d8</i>	97.5%		70-130		04/01/20	04/01/20
<i>1,2-Dichloroethane-d4</i>	103%		70-130		04/01/20	04/01/20
<i>4-Bromofluorobenzene</i>	99.0%		70-130		04/01/20	04/01/20

Results: Volatile Organic Compounds

Sample: OW-17

Lab Number: 0C27017-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1	ug/l	04/02/20	04/02/20
1,1,1-Trichloroethane	ND		1	ug/l	04/02/20	04/02/20
1,1,2,2-Tetrachloroethane	ND		1	ug/l	04/02/20	04/02/20
1,1,2-Trichloroethane	ND		1	ug/l	04/02/20	04/02/20
1,1-Dichloroethane	ND		1	ug/l	04/02/20	04/02/20
1,1-Dichloroethene	ND		1	ug/l	04/02/20	04/02/20
1,1-Dichloropropene	ND		1	ug/l	04/02/20	04/02/20
1,2,3-Trichloropropane	ND		1	ug/l	04/02/20	04/02/20
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l	04/02/20	04/02/20
1,2-Dibromoethane (EDB)	ND		1	ug/l	04/02/20	04/02/20
1,2-Dichloroethane	ND		1	ug/l	04/02/20	04/02/20
1,2-Dichloropropane	ND		1	ug/l	04/02/20	04/02/20
1,3-Dichloropropane	ND		1	ug/l	04/02/20	04/02/20
2,2-Dichloropropane	ND		1	ug/l	04/02/20	04/02/20
2-Hexanone	ND		5	ug/l	04/02/20	04/02/20
4-Methyl-2-pentanone	ND		5	ug/l	04/02/20	04/02/20
Acetone	ND		5	ug/l	04/02/20	04/02/20
Acetonitrile	ND		5	ug/l	04/02/20	04/02/20
Acrolein	ND		5	ug/l	04/02/20	04/02/20
Acrylonitrile	ND		5	ug/l	04/02/20	04/02/20
Allyl chloride (TIC)	ND		5	ug/l	04/02/20	04/02/20
Benzene	ND		1	ug/l	04/02/20	04/02/20
Bromochloromethane	ND		1	ug/l	04/02/20	04/02/20
Bromodichloromethane	ND		1	ug/l	04/02/20	04/02/20
Bromoform	ND		1	ug/l	04/02/20	04/02/20
Carbon Disulfide	ND		1	ug/l	04/02/20	04/02/20
Carbon Tetrachloride	ND		1	ug/l	04/02/20	04/02/20
Chlorobenzene	ND		1	ug/l	04/02/20	04/02/20
Chloroethane	ND		1	ug/l	04/02/20	04/02/20
Chloroform	ND		1	ug/l	04/02/20	04/02/20
Chloroprene (TIC)	ND		1	ug/l	04/02/20	04/02/20
cis-1,2-Dichloroethene	ND		1	ug/l	04/02/20	04/02/20
cis-1,3-Dichloropropene	ND		1	ug/l	04/02/20	04/02/20
Dibromochloromethane	ND		1	ug/l	04/02/20	04/02/20
Dichlorodifluoromethane	ND		1	ug/l	04/02/20	04/02/20
Ethyl Methacrylate (TIC)	ND		5	ug/l	04/02/20	04/02/20
Ethylbenzene	ND		1	ug/l	04/02/20	04/02/20
Isobutyl Alcohol (TIC)	ND		20	ug/l	04/02/20	04/02/20
Isodrin (TIC)	ND		5	ug/l	04/02/20	04/02/20
1,3-Dichlorobenzene	ND		1	ug/l	04/02/20	04/02/20
Methacrylonitrile (TIC)	ND		10	ug/l	04/02/20	04/02/20
Bromomethane	ND		1	ug/l	04/02/20	04/02/20
Chloromethane	ND		1	ug/l	04/02/20	04/02/20
2-Butanone	ND		5	ug/l	04/02/20	04/02/20
Methyl iodide (TIC)	ND		5	ug/l	04/02/20	04/02/20
Methylmethacrylate	ND		10	ug/l	04/02/20	04/02/20
Dibromomethane	ND		1	ug/l	04/02/20	04/02/20
Methylene Chloride	ND		1	ug/l	04/02/20	04/02/20

Results: Volatile Organic Compounds (Continued)

Sample: OW-17 (Continued)

Lab Number: 0C27017-05 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	ND		1	ug/l	04/02/20	04/02/20
1,4-Dichlorobenzene	ND		1	ug/l	04/02/20	04/02/20
Propionitrile (TIC)	ND		20	ug/l	04/02/20	04/02/20
Styrene	ND		1	ug/l	04/02/20	04/02/20
Tetrachloroethene	ND		1	ug/l	04/02/20	04/02/20
Methyl t-butyl ether (MTBE)	ND		1	ug/l	04/02/20	04/02/20
Toluene	ND		1	ug/l	04/02/20	04/02/20
trans-1,2-Dichloroethene	ND		1	ug/l	04/02/20	04/02/20
trans-1,3-Dichloropropene	ND		1	ug/l	04/02/20	04/02/20
trans-1,4-Dichloro-2-Butene (TIC)	ND		5	ug/l	04/02/20	04/02/20
Trichloroethene	ND		1	ug/l	04/02/20	04/02/20
Trichlorofluoromethane	ND		1	ug/l	04/02/20	04/02/20
Vinyl acetate (TIC)	ND		5	ug/l	04/02/20	04/02/20
Vinyl Chloride	ND		1	ug/l	04/02/20	04/02/20
Total xylenes	ND		2	ug/l	04/02/20	04/02/20
Surrogate(s)	Recovery%		Limits			
<i>Toluene-d8</i>	<i>89.7%</i>		<i>70-130</i>		04/02/20	04/02/20
<i>1,2-Dichloroethane-d4</i>	<i>103%</i>		<i>70-130</i>		04/02/20	04/02/20
<i>4-Bromofluorobenzene</i>	<i>89.0%</i>		<i>70-130</i>		04/02/20	04/02/20

Results: Volatile Organic Compounds

Sample: OW-7

Lab Number: 0C27017-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,1-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
1,2,3-Trichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromoethane (EDB)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,3-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2-Hexanone	ND		5	ug/l	04/01/20	04/01/20
4-Methyl-2-pentanone	ND		5	ug/l	04/01/20	04/01/20
Acetone	ND		5	ug/l	04/01/20	04/01/20
Acetonitrile	ND		5	ug/l	04/01/20	04/01/20
Acrolein	ND		5	ug/l	04/01/20	04/01/20
Acrylonitrile	ND		5	ug/l	04/01/20	04/01/20
Allyl chloride (TIC)	ND		5	ug/l	04/01/20	04/01/20
Benzene	ND		1	ug/l	04/01/20	04/01/20
Bromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromodichloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromoform	ND		1	ug/l	04/01/20	04/01/20
Carbon Disulfide	ND		1	ug/l	04/01/20	04/01/20
Carbon Tetrachloride	ND		1	ug/l	04/01/20	04/01/20
Chlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Chloroethane	ND		1	ug/l	04/01/20	04/01/20
Chloroform	ND		1	ug/l	04/01/20	04/01/20
Chloroprene (TIC)	ND		1	ug/l	04/01/20	04/01/20
cis-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
cis-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
Dibromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Dichlorodifluoromethane	ND		1	ug/l	04/01/20	04/01/20
Ethyl Methacrylate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Ethylbenzene	ND		1	ug/l	04/01/20	04/01/20
Isobutyl Alcohol (TIC)	ND		20	ug/l	04/01/20	04/01/20
Isodrin (TIC)	ND		5	ug/l	04/01/20	04/01/20
1,3-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Methacrylonitrile (TIC)	ND		10	ug/l	04/01/20	04/01/20
Bromomethane	ND		1	ug/l	04/01/20	04/01/20
Chloromethane	ND		1	ug/l	04/01/20	04/01/20
2-Butanone	ND		5	ug/l	04/01/20	04/01/20
Methyl iodide (TIC)	ND		5	ug/l	04/01/20	04/01/20
Methylmethacrylate	ND		10	ug/l	04/01/20	04/01/20
Dibromomethane	ND		1	ug/l	04/01/20	04/01/20
Methylene Chloride	ND		1	ug/l	04/01/20	04/01/20

Results: Volatile Organic Compounds (Continued)

Sample: OW-7 (Continued)

Lab Number: 0C27017-06 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
1,4-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Propionitrile (TIC)	ND		20	ug/l	04/01/20	04/01/20
Styrene	ND		1	ug/l	04/01/20	04/01/20
Tetrachloroethene	ND		1	ug/l	04/01/20	04/01/20
Methyl t-butyl ether (MTBE)	4		1	ug/l	04/01/20	04/01/20
Toluene	ND		1	ug/l	04/01/20	04/01/20
trans-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
trans-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
trans-1,4-Dichloro-2-Butene (TIC)	ND		5	ug/l	04/01/20	04/01/20
Trichloroethene	ND		1	ug/l	04/01/20	04/01/20
Trichlorofluoromethane	ND		1	ug/l	04/01/20	04/01/20
Vinyl acetate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Vinyl Chloride	ND		1	ug/l	04/01/20	04/01/20
Total xylenes	ND		2	ug/l	04/01/20	04/01/20
Surrogate(s)	Recovery%		Limits			
<i>Toluene-d8</i>	96.9%		70-130		04/01/20	04/01/20
<i>1,2-Dichloroethane-d4</i>	102%		70-130		04/01/20	04/01/20
<i>4-Bromofluorobenzene</i>	95.1%		70-130		04/01/20	04/01/20

Results: Volatile Organic Compounds

Sample: OW-16

Lab Number: 0C27017-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,1-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
1,2,3-Trichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromoethane (EDB)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,3-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2-Hexanone	ND		5	ug/l	04/01/20	04/01/20
4-Methyl-2-pentanone	ND		5	ug/l	04/01/20	04/01/20
Acetone	ND		5	ug/l	04/01/20	04/01/20
Acetonitrile	ND		5	ug/l	04/01/20	04/01/20
Acrolein	ND		5	ug/l	04/01/20	04/01/20
Acrylonitrile	ND		5	ug/l	04/01/20	04/01/20
Allyl chloride (TIC)	ND		5	ug/l	04/01/20	04/01/20
Benzene	ND		1	ug/l	04/01/20	04/01/20
Bromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromodichloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromoform	ND		1	ug/l	04/01/20	04/01/20
Carbon Disulfide	ND		1	ug/l	04/01/20	04/01/20
Carbon Tetrachloride	ND		1	ug/l	04/01/20	04/01/20
Chlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Chloroethane	ND		1	ug/l	04/01/20	04/01/20
Chloroform	ND		1	ug/l	04/01/20	04/01/20
Chloroprene (TIC)	ND		1	ug/l	04/01/20	04/01/20
cis-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
cis-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
Dibromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Dichlorodifluoromethane	ND		1	ug/l	04/01/20	04/01/20
Ethyl Methacrylate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Ethylbenzene	ND		1	ug/l	04/01/20	04/01/20
Isobutyl Alcohol (TIC)	ND		20	ug/l	04/01/20	04/01/20
Isodrin (TIC)	ND		5	ug/l	04/01/20	04/01/20
1,3-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Methacrylonitrile (TIC)	ND		10	ug/l	04/01/20	04/01/20
Bromomethane	ND		1	ug/l	04/01/20	04/01/20
Chloromethane	ND		1	ug/l	04/01/20	04/01/20
2-Butanone	ND		5	ug/l	04/01/20	04/01/20
Methyl iodide (TIC)	ND		5	ug/l	04/01/20	04/01/20
Methylmethacrylate	ND		10	ug/l	04/01/20	04/01/20
Dibromomethane	ND		1	ug/l	04/01/20	04/01/20
Methylene Chloride	ND		1	ug/l	04/01/20	04/01/20

Results: Volatile Organic Compounds (Continued)

Sample: OW-16 (Continued)

Lab Number: 0C27017-07 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
1,4-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Propionitrile (TIC)	ND		20	ug/l	04/01/20	04/01/20
Styrene	ND		1	ug/l	04/01/20	04/01/20
Tetrachloroethene	ND		1	ug/l	04/01/20	04/01/20
Methyl t-butyl ether (MTBE)	ND		1	ug/l	04/01/20	04/01/20
Toluene	ND		1	ug/l	04/01/20	04/01/20
trans-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
trans-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
trans-1,4-Dichloro-2-Butene (TIC)	ND		5	ug/l	04/01/20	04/01/20
Trichloroethene	ND		1	ug/l	04/01/20	04/01/20
Trichlorofluoromethane	ND		1	ug/l	04/01/20	04/01/20
Vinyl acetate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Vinyl Chloride	ND		1	ug/l	04/01/20	04/01/20
Total xylenes	ND		2	ug/l	04/01/20	04/01/20
Surrogate(s)	Recovery%		Limits			
<i>Toluene-d8</i>	97.3%		70-130		04/01/20	04/01/20
<i>1,2-Dichloroethane-d4</i>	102%		70-130		04/01/20	04/01/20
<i>4-Bromofluorobenzene</i>	94.9%		70-130		04/01/20	04/01/20

Results: Volatile Organic Compounds

Sample: OW-13

Lab Number: 0C27017-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,1,1,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,1-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2,2-Tetrachloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1,2-Trichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
1,1-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
1,2,3-Trichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dibromoethane (EDB)	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloroethane	ND		1	ug/l	04/01/20	04/01/20
1,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
1,3-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2,2-Dichloropropane	ND		1	ug/l	04/01/20	04/01/20
2-Hexanone	ND		5	ug/l	04/01/20	04/01/20
4-Methyl-2-pentanone	ND		5	ug/l	04/01/20	04/01/20
Acetone	ND		5	ug/l	04/01/20	04/01/20
Acetonitrile	ND		5	ug/l	04/01/20	04/01/20
Acrolein	ND		5	ug/l	04/01/20	04/01/20
Acrylonitrile	ND		5	ug/l	04/01/20	04/01/20
Allyl chloride (TIC)	ND		5	ug/l	04/01/20	04/01/20
Benzene	ND		1	ug/l	04/01/20	04/01/20
Bromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromodichloromethane	ND		1	ug/l	04/01/20	04/01/20
Bromoform	ND		1	ug/l	04/01/20	04/01/20
Carbon Disulfide	ND		1	ug/l	04/01/20	04/01/20
Carbon Tetrachloride	ND		1	ug/l	04/01/20	04/01/20
Chlorobenzene	5		1	ug/l	04/01/20	04/01/20
Chloroethane	ND		1	ug/l	04/01/20	04/01/20
Chloroform	ND		1	ug/l	04/01/20	04/01/20
Chloroprene (TIC)	ND		1	ug/l	04/01/20	04/01/20
cis-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
cis-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
Dibromochloromethane	ND		1	ug/l	04/01/20	04/01/20
Dichlorodifluoromethane	ND		1	ug/l	04/01/20	04/01/20
Ethyl Methacrylate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Ethylbenzene	ND		1	ug/l	04/01/20	04/01/20
Isobutyl Alcohol (TIC)	ND		20	ug/l	04/01/20	04/01/20
Isodrin (TIC)	ND		5	ug/l	04/01/20	04/01/20
1,3-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
Methacrylonitrile (TIC)	ND		10	ug/l	04/01/20	04/01/20
Bromomethane	ND		1	ug/l	04/01/20	04/01/20
Chloromethane	ND		1	ug/l	04/01/20	04/01/20
2-Butanone	ND		5	ug/l	04/01/20	04/01/20
Methyl iodide (TIC)	ND		5	ug/l	04/01/20	04/01/20
Methylmethacrylate	ND		10	ug/l	04/01/20	04/01/20
Dibromomethane	ND		1	ug/l	04/01/20	04/01/20
Methylene Chloride	ND		1	ug/l	04/01/20	04/01/20

Results: Volatile Organic Compounds (Continued)

Sample: OW-13 (Continued)

Lab Number: 0C27017-08 (Water)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2-Dichlorobenzene	ND		1	ug/l	04/01/20	04/01/20
1,4-Dichlorobenzene	1		1	ug/l	04/01/20	04/01/20
Propionitrile (TIC)	ND		20	ug/l	04/01/20	04/01/20
Styrene	ND		1	ug/l	04/01/20	04/01/20
Tetrachloroethene	ND		1	ug/l	04/01/20	04/01/20
Methyl t-butyl ether (MTBE)	4		1	ug/l	04/01/20	04/01/20
Toluene	ND		1	ug/l	04/01/20	04/01/20
trans-1,2-Dichloroethene	ND		1	ug/l	04/01/20	04/01/20
trans-1,3-Dichloropropene	ND		1	ug/l	04/01/20	04/01/20
trans-1,4-Dichloro-2-Butene (TIC)	ND		5	ug/l	04/01/20	04/01/20
Trichloroethene	ND		1	ug/l	04/01/20	04/01/20
Trichlorofluoromethane	ND		1	ug/l	04/01/20	04/01/20
Vinyl acetate (TIC)	ND		5	ug/l	04/01/20	04/01/20
Vinyl Chloride	ND		1	ug/l	04/01/20	04/01/20
Total xylenes	ND		2	ug/l	04/01/20	04/01/20
Surrogate(s)	Recovery%		Limits			
<i>Toluene-d8</i>	97.9%		70-130		04/01/20	04/01/20
<i>1,2-Dichloroethane-d4</i>	102%		70-130		04/01/20	04/01/20
<i>4-Bromofluorobenzene</i>	96.3%		70-130		04/01/20	04/01/20

Quality Control

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0C1210 - Metals Digestion Waters										
Blank (B0C1210-BLK1)					Prepared & Analyzed: 03/30/20					
Thallium	ND		0.0001	mg/L						
Antimony	ND		0.0001	mg/L						
Cobalt	ND		0.0001	mg/L						
Cadmium	ND		0.0001	mg/L						
Nickel	ND		0.001	mg/l						
Selenium	ND		0.005	mg/L						
Chromium	ND		0.0001	mg/L						
Tin	ND		0.005	mg/l						
Beryllium	ND		0.0001	mg/L						
Copper	ND		0.001	mg/l						
Barium	ND		0.001	mg/l						
Vanadium	ND		0.0005	mg/L						
Zinc	ND		0.001	mg/l						
Arsenic	ND		0.0001	mg/L						
Silver	ND		0.0001	mg/L						
Lead	ND		0.0001	mg/L						
LCS (B0C1210-BS2)					Prepared & Analyzed: 03/30/20					
Nickel	0.190		0.001	mg/l	0.200		95.1	85-115		
Silver	0.0189		0.0001	mg/L	0.0200		94.5	85-115		
Antimony	0.0201		0.0001	mg/L	0.0200		100	85-115		
Tin	0.019		0.005	mg/l	0.0200		95.6	85-115		
Thallium	0.0201		0.0001	mg/L	0.0200		100	85-115		
Vanadium	0.0197		0.0005	mg/L	0.0200		98.6	85-115		
Zinc	0.173		0.001	mg/l	0.200		86.3	85-115		
Selenium	0.017		0.005	mg/L	0.0200		85.9	85-115		
Beryllium	0.0200		0.0001	mg/L	0.0200		99.9	85-115		
Copper	0.173		0.001	mg/l	0.200		86.6	85-115		
Chromium	0.0202		0.0001	mg/L	0.0200		101	85-115		
Cobalt	0.0197		0.0001	mg/L	0.0200		98.4	85-115		
Barium	0.220		0.001	mg/l	0.200		110	85-115		
Cadmium	0.0198		0.0001	mg/L	0.0200		98.8	85-115		
Arsenic	0.0178		0.0001	mg/L	0.0200		88.9	85-115		
Lead	0.0205		0.0001	mg/L	0.0200		103	85-115		

Quality Control
(Continued)

Total Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0C1244 - Metals Cold-Vapor Mercury										
Blank (B0C1244-BLK1)										
Mercury	ND		0.0002	mg/L						Prepared & Analyzed: 03/30/20
LCS (B0C1244-BS1)										
Mercury	0.0010		0.0002	mg/L	0.00100		105	85-115		Prepared & Analyzed: 03/30/20

Quality Control
(Continued)

Volatile Organic Compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0D0047 - Purge-Trap										
Blank (B0D0047-BLK1)					Prepared & Analyzed: 04/01/20					
1,1,1,2-Tetrachloroethane	ND		1	ug/l						
1,1,1-Trichloroethane	ND		1	ug/l						
1,1,2,2-Tetrachloroethane	ND		1	ug/l						
1,1,2-Trichloroethane	ND		1	ug/l						
1,1-Dichloroethane	ND		1	ug/l						
1,1-Dichloroethene	ND		1	ug/l						
1,1-Dichloropropene	ND		1	ug/l						
1,2,3-Trichloropropane	ND		1	ug/l						
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l						
1,2-Dibromoethane (EDB)	ND		1	ug/l						
1,2-Dichloroethane	ND		1	ug/l						
1,2-Dichloropropane	ND		1	ug/l						
1,3-Dichloropropane	ND		1	ug/l						
2,2-Dichloropropane	ND		1	ug/l						
2-Hexanone	ND		5	ug/l						
4-Methyl-2-pentanone	ND		5	ug/l						
Acetone	ND		5	ug/l						
Acetonitrile	ND		5	ug/l						
Acrolein	ND		5	ug/l						
Acrylonitrile	ND		5	ug/l						
Allyl chloride (TIC)	ND		5	ug/l						
Benzene	ND		1	ug/l						
Bromochloromethane	ND		1	ug/l						
Bromodichloromethane	ND		1	ug/l						
Bromoform	ND		1	ug/l						
Carbon Disulfide	ND		1	ug/l						
Carbon Tetrachloride	ND		1	ug/l						
Chlorobenzene	ND		1	ug/l						
Chloroethane	ND		1	ug/l						
Chloroform	ND		1	ug/l						
Chloroprene (TIC)	ND		1	ug/l						
cis-1,2-Dichloroethene	ND		1	ug/l						
cis-1,3-Dichloropropene	ND		1	ug/l						
Dibromochloromethane	ND		1	ug/l						
Dichlorodifluoromethane	ND		1	ug/l						
Ethyl Methacrylate (TIC)	ND		5	ug/l						
Ethylbenzene	ND		1	ug/l						
Isobutyl Alcohol (TIC)	ND		20	ug/l						
Isodrin (TIC)	ND		5	ug/l						
1,3-Dichlorobenzene	ND		1	ug/l						
Methacrylonitrile (TIC)	ND		10	ug/l						
Bromomethane	ND		1	ug/l						
Chloromethane	ND		1	ug/l						
2-Butanone	ND		5	ug/l						
Methyl iodide (TIC)	ND		5	ug/l						
Methylmethacrylate	ND		10	ug/l						
Dibromomethane	ND		1	ug/l						
Methylene Chloride	ND		1	ug/l						
1,2-Dichlorobenzene	ND		1	ug/l						
1,4-Dichlorobenzene	ND		1	ug/l						
Propionitrile (TIC)	ND		20	ug/l						
Styrene	ND		1	ug/l						
Tetrachloroethene	ND		1	ug/l						
Methyl t-butyl ether (MTBE)	ND		1	ug/l						
Toluene	ND		1	ug/l						
trans-1,2-Dichloroethene	ND		1	ug/l						
trans-1,3-Dichloropropene	ND		1	ug/l						

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0D0047 - Purge-Trap (Continued)										
Blank (B0D0047-BLK1)					Prepared & Analyzed: 04/01/20					
trans-1,4-Dichloro-2-Butene (TIC)	ND		5	ug/l						
Trichloroethene	ND		2	ug/l						
Trichlorofluoromethane	ND		1	ug/l						
Vinyl acetate (TIC)	ND		5	ug/l						
Vinyl Chloride	ND		1	ug/l						
Total xylenes	ND		2	ug/l						
<hr/>										
<i>Surrogate: Toluene-d8</i>			<i>48.7</i>	<i>ug/l</i>	<i>50.0</i>		<i>97.3</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>51.7</i>	<i>ug/l</i>	<i>50.0</i>		<i>103</i>	<i>70-130</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>47.5</i>	<i>ug/l</i>	<i>50.0</i>		<i>95.0</i>	<i>70-130</i>		
LCS (B0D0047-BS1)					Prepared & Analyzed: 04/01/20					
1,1,1,2-Tetrachloroethane	51			ug/l	50.0		103	70-130		
1,1,1-Trichloroethane	53			ug/l	50.0		105	70-130		
1,1,2,2-Tetrachloroethane	52			ug/l	50.0		104	70-130		
1,1,2-Trichloroethane	52			ug/l	50.0		104	70-130		
1,1-Dichloroethane	51			ug/l	50.0		102	70-130		
1,1-Dichloroethene	53			ug/l	50.0		107	70-130		
1,1-Dichloropropene	54			ug/l	50.0		108	70-130		
1,2,3-Trichloropropane	52			ug/l	50.0		105	70-130		
1,2-Dibromo-3-chloropropane (DBCP)	51			ug/l	50.0		103	70-130		
1,2-Dibromoethane (EDB)	52			ug/l	50.0		104	70-130		
1,2-Dichloroethane	50			ug/l	50.0		99.2	70-130		
1,2-Dichloropropane	52			ug/l	50.0		104	70-130		
1,3-Dichloropropane	53			ug/l	50.0		105	70-130		
2,2-Dichloropropane	55			ug/l	50.0		109	70-130		
2-Hexanone	56			ug/l	50.0		112	70-130		
4-Methyl-2-pentanone	52			ug/l	50.0		105	70-130		
Acetone	56			ug/l	50.0		111	70-130		
Benzene	52			ug/l	50.0		105	70-130		
Bromochloromethane	51			ug/l	50.0		102	70-130		
Bromodichloromethane	51			ug/l	50.0		102	70-130		
Bromoform	47			ug/l	50.0		93.5	70-130		
Carbon Disulfide	54			ug/l	50.0		108	70-130		
Carbon Tetrachloride	54			ug/l	50.0		107	70-130		
Chlorobenzene	50			ug/l	50.0		99.9	70-130		
Chloroethane	50			ug/l	50.0		100	70-130		
Chloroform	50			ug/l	50.0		100	70-130		
cis-1,2-Dichloroethene	47			ug/l	50.0		94.2	70-130		
cis-1,3-Dichloropropene	53			ug/l	50.0		105	70-130		
Dibromochloromethane	52			ug/l	50.0		104	70-130		
Dichlorodifluoromethane	55			ug/l	50.0		110	70-130		
Ethylbenzene	55			ug/l	50.0		109	70-130		
1,3-Dichlorobenzene	51			ug/l	50.0		102	70-130		
Bromomethane	44			ug/l	50.0		87.9	70-130		
Chloromethane	46			ug/l	50.0		92.6	70-130		
2-Butanone	55			ug/l	50.0		109	70-130		
Dibromomethane	52			ug/l	50.0		104	70-130		
Methylene Chloride	57			ug/l	50.0		113	70-130		
1,2-Dichlorobenzene	51			ug/l	50.0		102	70-130		
1,4-Dichlorobenzene	50			ug/l	50.0		99.5	70-130		
Styrene	56			ug/l	50.0		111	70-130		
Tetrachloroethene	53			ug/l	50.0		106	70-130		
Methyl t-butyl ether (MTBE)	53			ug/l	50.0		106	70-130		
Toluene	52			ug/l	50.0		104	70-130		
trans-1,2-Dichloroethene	51			ug/l	50.0		102	70-130		
trans-1,3-Dichloropropene	55			ug/l	50.0		109	70-130		
Trichloroethene	51			ug/l	50.0		101	70-130		

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0D0047 - Purge-Trap (Continued)										
LCS (B0D0047-BS1)					Prepared & Analyzed: 04/01/20					
Trichlorofluoromethane	51			ug/l	50.0		101	70-130		
Vinyl Chloride	51			ug/l	50.0		101	70-130		
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<i>Surrogate: Toluene-d8</i>			<i>50.2</i>	<i>ug/l</i>	<i>50.0</i>		<i>100</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>48.8</i>	<i>ug/l</i>	<i>50.0</i>		<i>97.6</i>	<i>70-130</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>50.1</i>	<i>ug/l</i>	<i>50.0</i>		<i>100</i>	<i>70-130</i>		
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LCS Dup (B0D0047-BSD1)					Prepared & Analyzed: 04/01/20					
1,1,1,2-Tetrachloroethane	51			ug/l	50.0		101	70-130	1.58	200
1,1,1-Trichloroethane	52			ug/l	50.0		104	70-130	1.74	200
1,1,2,2-Tetrachloroethane	53			ug/l	50.0		106	70-130	2.39	200
1,1,2-Trichloroethane	52			ug/l	50.0		104	70-130	0.272	200
1,1-Dichloroethane	50			ug/l	50.0		101	70-130	1.67	200
1,1-Dichloroethene	51			ug/l	50.0		101	70-130	5.46	200
1,1-Dichloropropene	52			ug/l	50.0		105	70-130	3.18	200
1,2,3-Trichloropropane	54			ug/l	50.0		107	70-130	2.36	200
1,2-Dibromo-3-chloropropane (DBCP)	54			ug/l	50.0		107	70-130	4.32	200
1,2-Dibromoethane (EDB)	53			ug/l	50.0		106	70-130	1.96	200
1,2-Dichloroethane	49			ug/l	50.0		98.8	70-130	0.396	200
1,2-Dichloropropane	51			ug/l	50.0		102	70-130	1.99	200
1,3-Dichloropropane	52			ug/l	50.0		105	70-130	0.732	200
2,2-Dichloropropane	53			ug/l	50.0		106	70-130	3.58	200
2-Hexanone	58			ug/l	50.0		115	70-130	2.89	200
4-Methyl-2-pentanone	54			ug/l	50.0		108	70-130	3.61	200
Acetone	55			ug/l	50.0		110	70-130	1.69	200
Benzene	51			ug/l	50.0		103	70-130	2.16	200
Bromochloromethane	51			ug/l	50.0		102	70-130	0.362	200
Bromodichloromethane	51			ug/l	50.0		101	70-130	1.09	200
Bromoform	48			ug/l	50.0		95.1	70-130	1.73	200
Carbon Disulfide	49			ug/l	50.0		98.1	70-130	9.66	200
Carbon Tetrachloride	52			ug/l	50.0		104	70-130	3.00	200
Chlorobenzene	49			ug/l	50.0		98.7	70-130	1.17	200
Chloroethane	47			ug/l	50.0		94.8	70-130	5.75	200
Chloroform	49			ug/l	50.0		97.8	70-130	2.23	200
cis-1,2-Dichloroethene	47			ug/l	50.0		93.8	70-130	0.402	200
cis-1,3-Dichloropropene	52			ug/l	50.0		105	70-130	0.772	200
Dibromochloromethane	52			ug/l	50.0		104	70-130	0.149	200
Dichlorodifluoromethane	53			ug/l	50.0		106	70-130	4.01	200
Ethylbenzene	54			ug/l	50.0		107	70-130	2.14	200
1,3-Dichlorobenzene	51			ug/l	50.0		102	70-130	0.0694	200
Bromomethane	42			ug/l	50.0		83.5	70-130	5.11	200
Chloromethane	44			ug/l	50.0		87.9	70-130	5.18	200
2-Butanone	55			ug/l	50.0		110	70-130	0.814	200
Dibromomethane	52			ug/l	50.0		104	70-130	0.0240	200
Methylene Chloride	57			ug/l	50.0		115	70-130	1.30	200
1,2-Dichlorobenzene	52			ug/l	50.0		103	70-130	1.12	200
1,4-Dichlorobenzene	50			ug/l	50.0		99.8	70-130	0.351	200
Styrene	54			ug/l	50.0		109	70-130	2.11	200
Tetrachloroethene	52			ug/l	50.0		103	70-130	2.59	200
Methyl t-butyl ether (MTBE)	52			ug/l	50.0		105	70-130	1.36	200
Toluene	50			ug/l	50.0		101	70-130	2.55	200
trans-1,2-Dichloroethene	51			ug/l	50.0		102	70-130	0.864	200
trans-1,3-Dichloropropene	54			ug/l	50.0		108	70-130	0.975	200
Trichloroethene	50			ug/l	50.0		99.8	70-130	1.57	200
Trichlorofluoromethane	49			ug/l	50.0		98.9	70-130	2.34	200
Vinyl Chloride	49			ug/l	50.0		97.7	70-130	3.71	200
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<i>Surrogate: Toluene-d8</i>			<i>50.0</i>	<i>ug/l</i>	<i>50.0</i>		<i>99.9</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>51.1</i>	<i>ug/l</i>	<i>50.0</i>		<i>102</i>	<i>70-130</i>		

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch: B0D0047 - Purge-Trap (Continued)

LCS Dup (B0D0047-BSD1)

Prepared & Analyzed: 04/01/20

<i>Surrogate: 4-Bromofluorobenzene</i>			50.8	ug/l	50.0		102	70-130		
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Batch: B0D0107 - Purge-Trap

Blank (B0D0107-BLK1)

Prepared & Analyzed: 04/02/20

1,1,1,2-Tetrachloroethane	ND		1	ug/l						
1,1,1-Trichloroethane	ND		1	ug/l						
1,1,2,2-Tetrachloroethane	ND		1	ug/l						
1,1,2-Trichloroethane	ND		1	ug/l						
1,1-Dichloroethane	ND		1	ug/l						
1,1-Dichloroethene	ND		1	ug/l						
1,1-Dichloropropene	ND		1	ug/l						
1,2,3-Trichloropropane	ND		1	ug/l						
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/l						
1,2-Dibromoethane (EDB)	ND		1	ug/l						
1,2-Dichloroethane	ND		1	ug/l						
1,2-Dichloropropane	ND		1	ug/l						
1,3-Dichloropropane	ND		1	ug/l						
2,2-Dichloropropane	ND		1	ug/l						
2-Hexanone	ND		5	ug/l						
4-Methyl-2-pentanone	ND		5	ug/l						
Acetone	ND		5	ug/l						
Acetonitrile	ND		5	ug/l						
Acrolein	ND		5	ug/l						
Acrylonitrile	ND		5	ug/l						
Allyl chloride (TIC)	ND		5	ug/l						
Benzene	ND		1	ug/l						
Bromochloromethane	ND		1	ug/l						
Bromodichloromethane	ND		1	ug/l						
Bromoform	ND		1	ug/l						
Carbon Disulfide	ND		1	ug/l						
Carbon Tetrachloride	ND		1	ug/l						
Chlorobenzene	ND		1	ug/l						
Chloroethane	ND		1	ug/l						
Chloroform	ND		1	ug/l						
Chloroprene (TIC)	ND		1	ug/l						
cis-1,2-Dichloroethene	ND		1	ug/l						
cis-1,3-Dichloropropene	ND		1	ug/l						
Dibromochloromethane	ND		1	ug/l						
Dichlorodifluoromethane	ND		1	ug/l						
Ethyl Methacrylate (TIC)	ND		5	ug/l						
Ethylbenzene	ND		1	ug/l						
Isobutyl Alcohol (TIC)	ND		20	ug/l						
Isodrin (TIC)	ND		5	ug/l						
1,3-Dichlorobenzene	ND		1	ug/l						
Methacrylonitrile (TIC)	ND		10	ug/l						
Bromomethane	ND		1	ug/l						
Chloromethane	ND		1	ug/l						
2-Butanone	ND		5	ug/l						
Methyl iodide (TIC)	ND		5	ug/l						
Methylmethacrylate	ND		10	ug/l						
Dibromomethane	ND		1	ug/l						
Methylene Chloride	ND		1	ug/l						
1,2-Dichlorobenzene	ND		1	ug/l						
1,4-Dichlorobenzene	ND		1	ug/l						
Propionitrile (TIC)	ND		20	ug/l						
Styrene	ND		1	ug/l						
Tetrachloroethene	ND		1	ug/l						

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0D0107 - Purge-Trap (Continued)										
Blank (B0D0107-BLK1)					Prepared & Analyzed: 04/02/20					
Methyl t-butyl ether (MTBE)	ND		1	ug/l						
Toluene	ND		1	ug/l						
trans-1,2-Dichloroethene	ND		1	ug/l						
trans-1,3-Dichloropropene	ND		1	ug/l						
trans-1,4-Dichloro-2-Butene (TIC)	ND		5	ug/l						
Trichloroethene	ND		1	ug/l						
Trichlorofluoromethane	ND		1	ug/l						
Vinyl acetate (TIC)	ND		5	ug/l						
Vinyl Chloride	ND		1	ug/l						
Total xylenes	ND		2	ug/l						
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<i>Surrogate: Toluene-d8</i>			44.9	ug/l	50.0		89.8	70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			51.3	ug/l	50.0		103	70-130		
<i>Surrogate: 4-Bromofluorobenzene</i>			44.2	ug/l	50.0		88.4	70-130		
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LCS (B0D0107-BS1)					Prepared & Analyzed: 04/02/20					
1,1,1,2-Tetrachloroethane	50			ug/l	50.0		101	70-130		
1,1,1-Trichloroethane	42			ug/l	50.0		83.1	70-130		
1,1,2,2-Tetrachloroethane	51			ug/l	50.0		102	70-130		
1,1,2-Trichloroethane	41			ug/l	50.0		81.0	70-130		
1,1-Dichloroethane	38			ug/l	50.0		76.4	70-130		
1,1-Dichloroethene	39			ug/l	50.0		77.4	70-130		
1,1-Dichloropropene	44			ug/l	50.0		88.2	70-130		
1,2,3-Trichloropropane	46			ug/l	50.0		91.3	70-130		
1,2-Dibromo-3-chloropropane (DBCP)	52			ug/l	50.0		103	70-130		
1,2-Dibromoethane (EDB)	40			ug/l	50.0		81.0	70-130		
1,2-Dichloroethane	40			ug/l	50.0		79.2	70-130		
1,2-Dichloropropane	41			ug/l	50.0		82.0	70-130		
1,3-Dichloropropane	41			ug/l	50.0		81.9	70-130		
2,2-Dichloropropane	50			ug/l	50.0		99.3	70-130		
2-Hexanone	44			ug/l	50.0		88.9	70-130		
4-Methyl-2-pentanone	42			ug/l	50.0		83.5	70-130		
Acetone	34			ug/l	50.0		68.0	70-130		
Benzene	41			ug/l	50.0		81.7	70-130		
Bromochloromethane	41			ug/l	50.0		81.7	70-130		
Bromodichloromethane	40			ug/l	50.0		80.8	70-130		
Bromoform	51			ug/l	50.0		102	70-130		
Carbon Disulfide	39			ug/l	50.0		78.8	70-130		
Carbon Tetrachloride	42			ug/l	50.0		83.7	70-130		
Chlorobenzene	49			ug/l	50.0		98.0	70-130		
Chloroethane	40			ug/l	50.0		80.1	70-130		
Chloroform	40			ug/l	50.0		79.6	70-130		
cis-1,2-Dichloroethene	43			ug/l	50.0		85.7	70-130		
cis-1,3-Dichloropropene	42			ug/l	50.0		84.3	70-130		
Dibromochloromethane	42			ug/l	50.0		83.9	70-130		
Dichlorodifluoromethane	38			ug/l	50.0		75.9	70-130		
Ethylbenzene	53			ug/l	50.0		106	70-130		
1,3-Dichlorobenzene	50			ug/l	50.0		99.2	70-130		
Bromomethane	42			ug/l	50.0		84.9	70-130		
Chloromethane	34			ug/l	50.0		67.3	70-130		
2-Butanone	41			ug/l	50.0		81.4	70-130		
Dibromomethane	40			ug/l	50.0		80.8	70-130		
Methylene Chloride	37			ug/l	50.0		73.9	70-130		
1,2-Dichlorobenzene	53			ug/l	50.0		107	70-130		
1,4-Dichlorobenzene	52			ug/l	50.0		103	70-130		
Styrene	55			ug/l	50.0		110	70-130		
Tetrachloroethene	41			ug/l	50.0		82.8	70-130		
Methyl t-butyl ether (MTBE)	43			ug/l	50.0		85.7	70-130		

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0D0107 - Purge-Trap (Continued)										
LCS (B0D0107-BS1)					Prepared & Analyzed: 04/02/20					
Toluene	41			ug/l	50.0		82.5	70-130		
trans-1,2-Dichloroethene	38			ug/l	50.0		75.5	70-130		
trans-1,3-Dichloropropene	44			ug/l	50.0		88.8	70-130		
Trichloroethene	37			ug/l	50.0		74.0	70-130		
Trichlorofluoromethane	43			ug/l	50.0		86.1	70-130		
Vinyl Chloride	39			ug/l	50.0		78.9	70-130		
<hr/>										
<i>Surrogate: Toluene-d8</i>			45.2	ug/l	50.0		90.5	70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			49.7	ug/l	50.0		99.4	70-130		
<i>Surrogate: 4-Bromofluorobenzene</i>			47.8	ug/l	50.0		95.5	70-130		
LCS Dup (B0D0107-BSD1)					Prepared & Analyzed: 04/02/20					
1,1,1,2-Tetrachloroethane	50			ug/l	50.0		101	70-130	0.238	200
1,1,1-Trichloroethane	42			ug/l	50.0		83.3	70-130	0.264	200
1,1,2,2-Tetrachloroethane	49			ug/l	50.0		97.5	70-130	4.37	200
1,1,2-Trichloroethane	40			ug/l	50.0		80.5	70-130	0.644	200
1,1-Dichloroethane	40			ug/l	50.0		79.4	70-130	3.88	200
1,1-Dichloroethene	38			ug/l	50.0		75.1	70-130	3.02	200
1,1-Dichloropropene	44			ug/l	50.0		87.7	70-130	0.569	200
1,2,3-Trichloropropane	44			ug/l	50.0		87.3	70-130	4.48	200
1,2-Dibromo-3-chloropropane (DBCP)	50			ug/l	50.0		99.7	70-130	3.62	200
1,2-Dibromoethane (EDB)	40			ug/l	50.0		79.8	70-130	1.49	200
1,2-Dichloroethane	41			ug/l	50.0		81.1	70-130	2.27	200
1,2-Dichloropropane	41			ug/l	50.0		81.9	70-130	0.0976	200
1,3-Dichloropropane	41			ug/l	50.0		81.2	70-130	0.834	200
2,2-Dichloropropane	55			ug/l	50.0		110	70-130	10.1	200
2-Hexanone	41			ug/l	50.0		83.0	70-130	6.89	200
4-Methyl-2-pentanone	41			ug/l	50.0		82.0	70-130	1.86	200
Acetone	34			ug/l	50.0		68.0	70-130	0.0294	200
Benzene	41			ug/l	50.0		81.5	70-130	0.245	200
Bromochloromethane	41			ug/l	50.0		82.2	70-130	0.683	200
Bromodichloromethane	40			ug/l	50.0		80.7	70-130	0.149	200
Bromoform	50			ug/l	50.0		100	70-130	1.80	200
Carbon Disulfide	41			ug/l	50.0		81.0	70-130	2.75	200
Carbon Tetrachloride	42			ug/l	50.0		84.2	70-130	0.572	200
Chlorobenzene	48			ug/l	50.0		96.5	70-130	1.50	200
Chloroethane	45			ug/l	50.0		90.9	70-130	12.6	200
Chloroform	39			ug/l	50.0		79.0	70-130	0.832	200
cis-1,2-Dichloroethene	45			ug/l	50.0		90.8	70-130	5.80	200
cis-1,3-Dichloropropene	42			ug/l	50.0		84.8	70-130	0.544	200
Dibromochloromethane	41			ug/l	50.0		82.3	70-130	1.97	200
Dichlorodifluoromethane	40			ug/l	50.0		80.4	70-130	5.86	200
Ethylbenzene	52			ug/l	50.0		105	70-130	0.684	200
1,3-Dichlorobenzene	49			ug/l	50.0		97.2	70-130	2.00	200
Bromomethane	49			ug/l	50.0		98.0	70-130	14.3	200
Chloromethane	38			ug/l	50.0		76.3	70-130	12.5	200
2-Butanone	42			ug/l	50.0		84.9	70-130	4.14	200
Dibromomethane	40			ug/l	50.0		80.4	70-130	0.521	200
Methylene Chloride	37			ug/l	50.0		73.4	70-130	0.760	200
1,2-Dichlorobenzene	53			ug/l	50.0		107	70-130	0.0187	200
1,4-Dichlorobenzene	52			ug/l	50.0		104	70-130	1.00	200
Styrene	54			ug/l	50.0		107	70-130	2.30	200
Tetrachloroethene	42			ug/l	50.0		83.1	70-130	0.313	200
Methyl t-butyl ether (MTBE)	42			ug/l	50.0		83.4	70-130	2.79	200
Toluene	41			ug/l	50.0		82.1	70-130	0.511	200
trans-1,2-Dichloroethene	35			ug/l	50.0		70.6	70-130	6.71	200
trans-1,3-Dichloropropene	45			ug/l	50.0		89.2	70-130	0.472	200
Trichloroethene	39			ug/l	50.0		77.0	70-130	4.08	200

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0D0107 - Purge-Trap (Continued)										
LCS Dup (B0D0107-BSD1)					Prepared & Analyzed: 04/02/20					
Trichlorofluoromethane	41			ug/l	50.0		81.6	70-130	5.44	200
Vinyl Chloride	42			ug/l	50.0		83.2	70-130	5.21	200

<i>Surrogate: Toluene-d8</i>			<i>45.5</i>	<i>ug/l</i>	<i>50.0</i>		<i>91.1</i>	<i>70-130</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>49.5</i>	<i>ug/l</i>	<i>50.0</i>		<i>99.1</i>	<i>70-130</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>46.8</i>	<i>ug/l</i>	<i>50.0</i>		<i>93.5</i>	<i>70-130</i>		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

NEW ENGLAND TESTING LABORATORY, INC.
 59 Greenhill Street
 West Warwick, RI 02893
 1-888-863-8522

CHAIN OF CUSTODY RECORD



PROJ. NO.	PROJECT NAME/LOCATION	SCIENCE				PRESERVATIVE	TESTS**	REMARKS
		ADCDY	SOIL	OTHER	NO. OF CONTAINERS			
94139.24	Tiverton landfill Quarterly Monitoring							
CLIENT		Par. Corporation						
REPORT TO		mflynn@percscorp.com, sboston@percscorp.com						
INVOICE TO		Accounting						
DATE	TIME	C O M P.	G R A B	SAMPLE I.D.				
3/26/20	1100	X		OW-9	X	1 x 500ml HDOS 2 x 40ml HCL	X	X
	1145			OW-12			X	X
	1245			OW-14			X	X
	1320			OW-15			X	X
	1430			OW-17			X	X
	1535			OW-7			X	X
	1600			OW-16			X	X
	1635			OW-13			X	X
Sampled by (Signature)		Date/Time		Received by (Signature)		Date/Time		Laboratory Remarks: Temp received <u>6</u> Cooled <input type="checkbox"/>
Reinquired by (Signature)		Date/Time		Received by (Signature)		Date/Time		
M. [Signature]		3/26/20 1635		B. [Signature]		3/27/20 1236		Special Instructions: List Specific Detection Limit Requirements: Turnaround (Business Days)
M. [Signature]		3/27/20 1236		B. [Signature]		3/27/20 1315		
B. [Signature]		3/27/20 1315		[Signature]		[Signature]		

**Netlab subcontracts the following tests: Radiologicals, Radon, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates, CT ETPH

ATTACHMENT 2

***Field Sampling Data Sheets, Surface Water and Observation
Water Logs***



FIELD SAMPLING DATA SHEET

PROJECT NAME: TIVERTON LANDFILL
PARE PROJECT NO.: 94139.01

DATE: 3/26/2020
WEATHER: Sunny, ~40°F

FIELD TESTING RESULTS:

SURFACE WATER LOCATION: SW-1

READING 1

pH: 6.59 pH UNITS
SPEC. COND: 0.383 mS/cm
TEMPERATURE: 5.4 °C

SURFACE WATER LOCATION: SW-2

READING 1

pH: 5.73 pH UNITS
SPEC. COND: 0.297 mS/cm
TEMPERATURE: 4.8 °C

SURFACE WATER LOCATION: SW-3

READING 1

pH: 6.80 pH UNITS
SPEC. COND: 0.322 mS/cm
TEMPERATURE: 5.5 °C

NOTES:

All surface water samples were clear with a brownish tinge.

FIELD SAMPLING DATA SHEET

PROJECT NAME: TIVERTON LANDFILL
PROJECT NO.: 94139.24

DATE: 3/26/2020
WEATHER: Sunny, ~40°F

WELL ID: OW-9

DIAMETER (INCHES): 2

PURGE DATA

WELL DEPTH: 15.54 feet
PURGE VOLUME (GAL): 0.6 gallons
PURGER TYPE: Peristaltic pump

MEASURE POINT: Top of Casing
PURGE RATE (GPM): 0.1 +/-
ELAPSED TIME (MIN): 20 +/-

WATER LEVEL DATA

DEPTH: 12.2 feet
MEASURE POINT: Top of Casing

ELEVATION: See Site Plan
DEVICE: Water Level Indicator

FIELD TESTING RESULTS

Time:	1033	1035	1040	1042	1045	1050				
pH:	6.20	5.92	5.80	5.66	5.67	5.65				
Sp.Con. (mS/cm):	0.24	0.11	0.10	0.16	0.09	0.09				
Temp (°C):	9.40	9.90	9.50	9.50	9.50	9.50				

NOTES:

Sample noted as generally clear and low in turbidity based on visual observations.

Sample collected at 1100 hours.

Methane Reading (% LEL): 0

FIELD SAMPLING DATA SHEET

PROJECT NAME: TIVERTON LANDFILL
PROJECT NO.: 94139.24

DATE: 3/26/2020
WEATHER: Sunny, ~40°F

WELL ID: OW-12

DIAMETER (INCHES): 2

PURGE DATA

WELL DEPTH: 15.98 feet
PURGE VOLUME (GAL): 2.2 gallons
PURGER TYPE: Peristaltic pump

MEASURE POINT: Top of Casing
PURGE RATE (GPM): 0.1 +/-
ELAPSED TIME (MIN): 20 +/-

WATER LEVEL DATA

DEPTH: 2.7 feet
MEASURE POINT: Top of Casing

ELEVATION: See Site Plan
DEVICE: Water Level Indicator

FIELD TESTING RESULTS

Time:	1127	1131	1138	1142						
pH:	5.92	5.99	6.00	6.01						
Sp.Con. (mS/cm):	0.41	0.37	0.37	0.37						
Temp (°C):	11.20	9.90	9.70	9.70						

NOTES:

Sample noted as generally clear and low in turbidity based on visual observations.

Sample collected at 1145 hours.

Methane Reading (% LEL): 0

FIELD SAMPLING DATA SHEET

PROJECT NAME: TIVERTON LANDFILL
PROJECT NO.: 94139.24

DATE: 3/26/2020
WEATHER: Sunny, ~40°F

WELL ID: OW-13

DIAMETER (INCHES): 2

PURGE DATA

WELL DEPTH: 14.5 feet
PURGE VOLUME (GAL): 2.0 gallons
PURGER TYPE: Peristaltic pump

MEASURE POINT: Top of Casing
PURGE RATE (GPM): 0.1 +/-
ELAPSED TIME (MIN): 20 +/-

WATER LEVEL DATA

DEPTH: 3.8 feet
MEASURE POINT: Top of Casing

ELEVATION: See Site Plan
DEVICE: Water Level Indicator

FIELD TESTING RESULTS

Time:	1628	1633	1637	1642						
pH:	6.46	6.52	6.54	6.55						
Sp.Con. (mS/cm):	1.13	0.99	1.02	1.01						
Temp (°C):	9.70	9.10	8.90	9.00						

NOTES:

Sample noted as generally clear and low in turbidity based on visual observations.

Sample collected at 1645 hours.

Methane Reading (% LEL): 0

FIELD SAMPLING DATA SHEET

PROJECT NAME: TIVERTON LANDFILL
PROJECT NO.: 94139.24

DATE: 3/26/2020
WEATHER: Sunny, ~40°F

WELL ID: OW-14

DIAMETER (INCHES): 2

PURGE DATA

WELL DEPTH: 10.6 feet
PURGE VOLUME (GAL): 1.2 gallons
PURGER TYPE: Peristaltic pump

MEASURE POINT: Top of Casing
PURGE RATE (GPM): 0.1 +/-
ELAPSED TIME (MIN): 15 +/-

WATER LEVEL DATA

DEPTH: 3.3 feet
MEASURE POINT: Top of Casing

ELEVATION: See Site Plan
DEVICE: Water Level Indicator

FIELD TESTING RESULTS

Time:	1231	1237	1243							
pH:	6.49	6.50	6.51							
Sp.Con. (mS/cm):	1.20	1.29	1.29							
Temp (°C):	10.80	10.60	10.40							

NOTES:

Sample noted as slightly cloudy with a reddish tinge based on visual observations.

Sample collected at 1245 hours.

Methane Reading (% LEL): 0

FIELD SAMPLING DATA SHEET

PROJECT NAME: TIVERTON LANDFILL
 PROJECT NO.: 94139.24

DATE: 3/26/2020
 WEATHER: Sunny, ~40°F

WELL ID: OW-15

DIAMETER (INCHES): 2

PURGE DATA

WELL DEPTH: 16.48 feet
 PURGE VOLUME (GAL): 2.0 gallons
 PURGER TYPE: Peristaltic pump

MEASURE POINT: Top of Casing
 PURGE RATE (GPM): 0.1 +/-
 ELAPSED TIME (MIN): 20 +/-

WATER LEVEL DATA

DEPTH: 6.7 feet
 MEASURE POINT: Top of Casing

ELEVATION: See Site Plan
 DEVICE: Water Level Indicator

FIELD TESTING RESULTS

Time:	1304	1312	1317							
pH:	6.61	6.60	6.62							
Sp.Con. (mS/cm):	1.15	1.16	1.15							
Temp (°C):	13.60	12.20	12.10							

NOTES:

Sample noted as generally clear and low in turbidity based on visual observations.
 Evidence of positive hydrostatic pressure observed audibly and visually with a "bubbling" noise and rise in groundwater level several inches upon opening the well. The well was allowed to settle for 10 minutes prior to regauging and the depth to water provided is the value produced upon gauging the well twice after allowing to settle.
 Sample collected at 1320 hours.
Methane Reading (% LEL): 99%, Total VOCs (ppm) 2.3

FIELD SAMPLING DATA SHEET

PROJECT NAME: TIVERTON LANDFILL
 PROJECT NO.: 94139.24

DATE: 3/26/2020
 WEATHER: Sunny, ~40°F

WELL ID: OW-7

DIAMETER (INCHES): 2

PURGE DATA

WELL DEPTH: 11.8 feet
 PURGE VOLUME (GAL): 2.1 gallons
 PURGER TYPE: Peristaltic pump

MEASURE POINT: Top of Casing
 PURGE RATE (GPM): 0.1 +/-
 ELAPSED TIME (MIN): 20 +/-

WATER LEVEL DATA

DEPTH: 0.8 feet
 MEASURE POINT: Top of Casing

ELEVATION: See Site Plan
 DEVICE: Water Level Indicator

FIELD TESTING RESULTS

Time:	1508	1512	1521	1532						
pH:	6.35	6.43	6.45	6.47						
Sp.Con. (mS/cm):	0.74	0.67	0.67	0.67						
Temp (°C):	10.30	9.00	8.80	8.60						

NOTES:

Sample noted as generally clear and low in turbidity based on visual observations.

Sample collected at 1535 hours.

Methane Reading (% LEL): 0

FIELD SAMPLING DATA SHEET

PROJECT NAME: TIVERTON LANDFILL
 PROJECT NO.: 94139.24

DATE: 3/26/2020
 WEATHER: Sunny, ~40°F

WELL ID: OW-16

DIAMETER (INCHES): 2

PURGE DATA

WELL DEPTH: 45.8 feet
 PURGE VOLUME (GAL): 7.3 gallons
 PURGER TYPE: Peristaltic pump

MEASURE POINT: Top of Casing
 PURGE RATE (GPM): 0.3 +/-
 ELAPSED TIME (MIN): 25 +/-

WATER LEVEL DATA

DEPTH: 1.0 feet
 MEASURE POINT: Top of Casing

ELEVATION: See Site Plan
 DEVICE: Water Level Indicator

FIELD TESTING RESULTS

Time:	1546	1551	1554	1558						
pH:	6.67	6.65	6.66	6.68						
Sp.Con. (mS/cm):	0.84	0.73	0.73	0.73						
Temp (°C):	11.00	11.00	11.00	10.90						

NOTES:

Sample noted as generally clear and low in turbidity based on visual observations.

Sample collected at 1600 hours. Approximately 5-gallons purged prior to start of field parameter testing.

Methane Reading (% LEL): 0

FIELD SAMPLING DATA SHEET

PROJECT NAME: TIVERTON LANDFILL
PROJECT NO.: 94139.24

DATE: 3/26/2020
WEATHER: Sunny, ~40°F

WELL ID: OW-17

DIAMETER (INCHES): 2

PURGE DATA

WELL DEPTH: 22.23 feet
PURGE VOLUME (GAL): 2.7 gallons
PURGER TYPE: Peristaltic pump

MEASURE POINT: Top of Casing
PURGE RATE (GPM): 0.1 +/-
ELAPSED TIME (MIN): 30 +/-

WATER LEVEL DATA

DEPTH: 6.1 feet
MEASURE POINT: Top of Casing

ELEVATION: See Site Plan
DEVICE: Water Level Indicator

FIELD TESTING RESULTS

Time:	1405	1410	1412	1415	1417					
pH:	6.62	6.42	6.26	6.27	6.27					
Sp.Con. (mS/cm):	0.16	0.21	0.17	0.17	0.17					
Temp (°C):	11.60	9.50	9.50	9.40	9.30					

NOTES:

Sample noted as generally clear and low in turbidity based on visual observations.

Sample collected at 1430 hours.

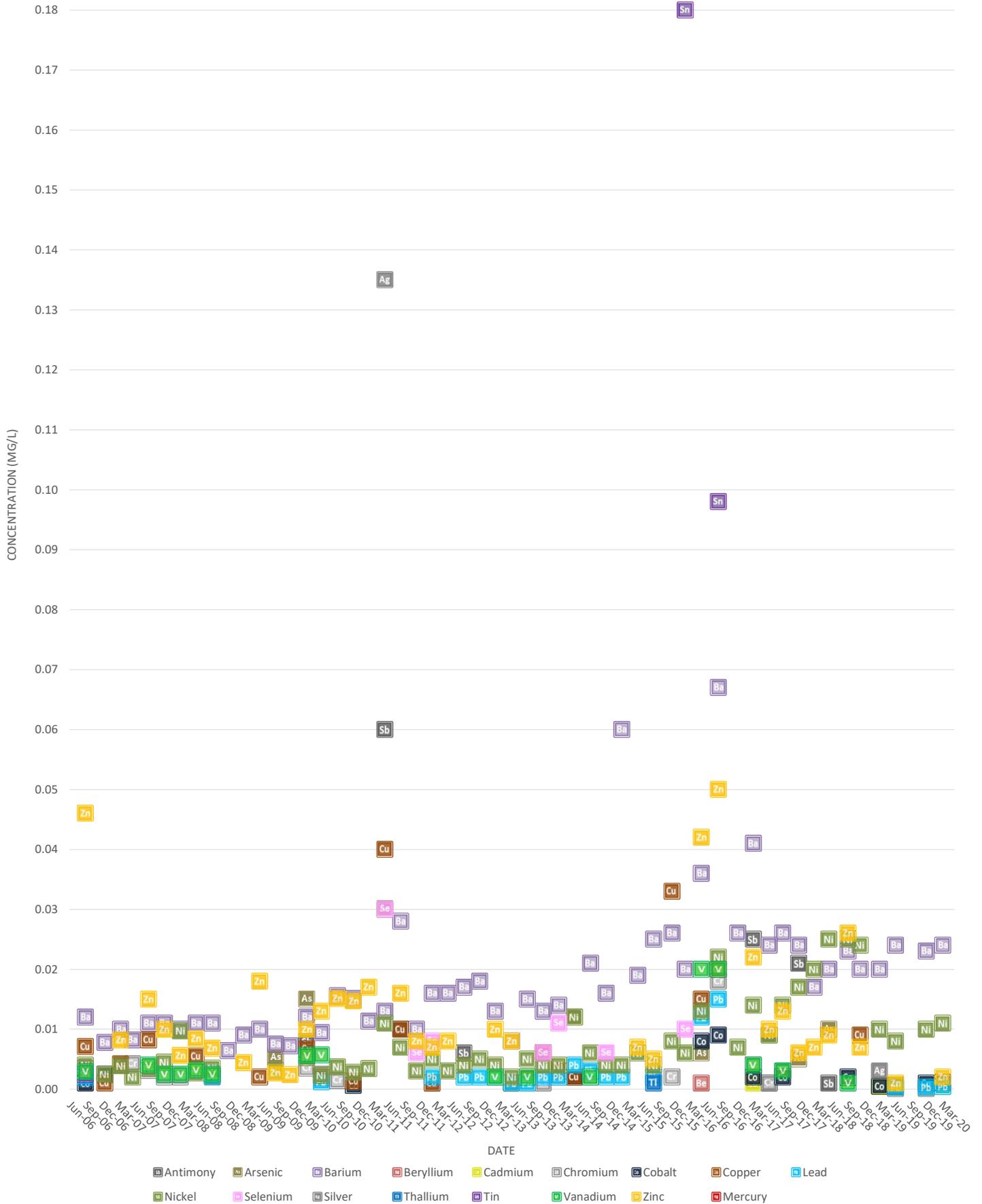
Methane Reading (% LEL): 0

ATTACHMENT 3

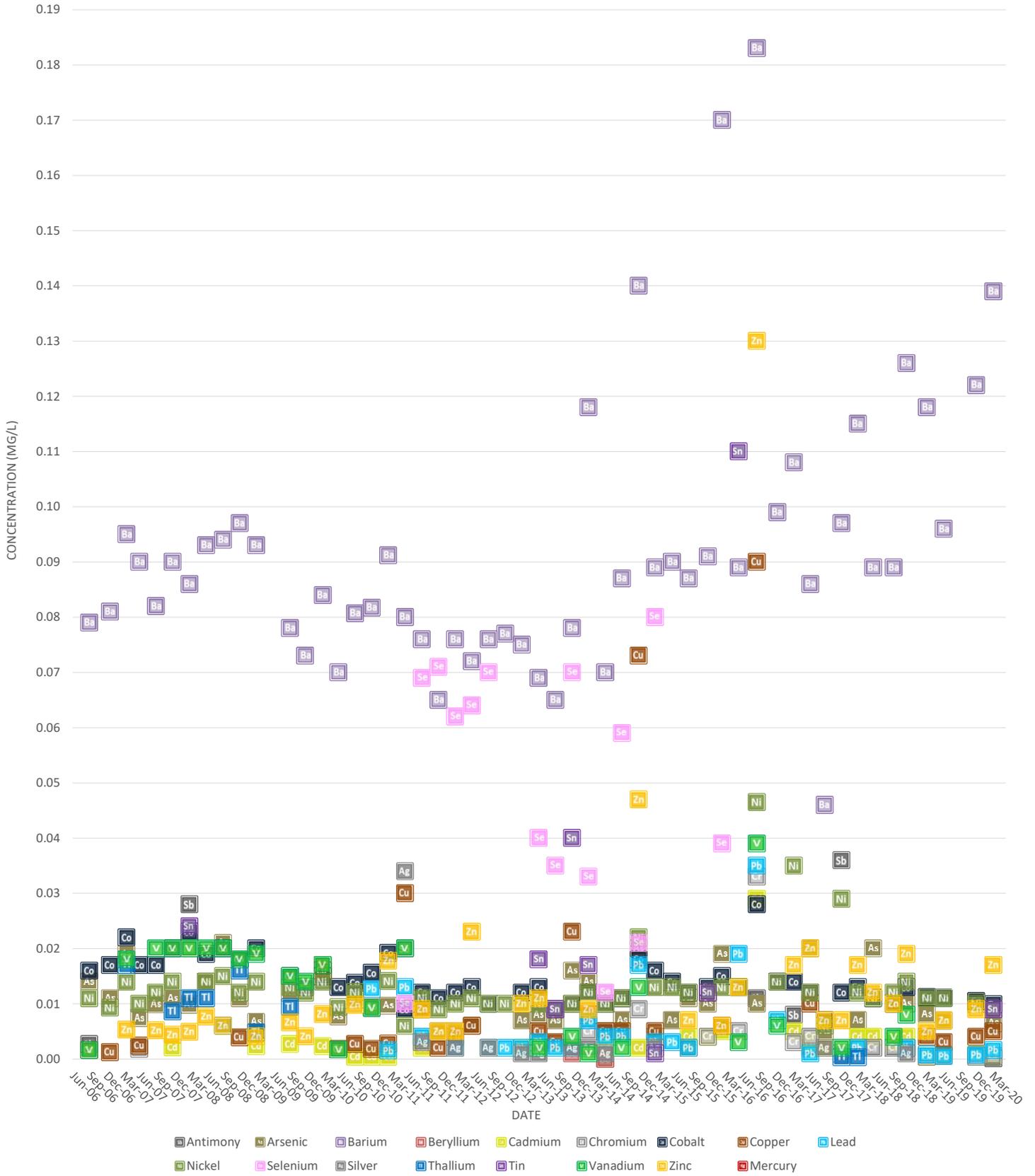
***Charts of Historical Inorganic Compound Detections,
Observation Wells***



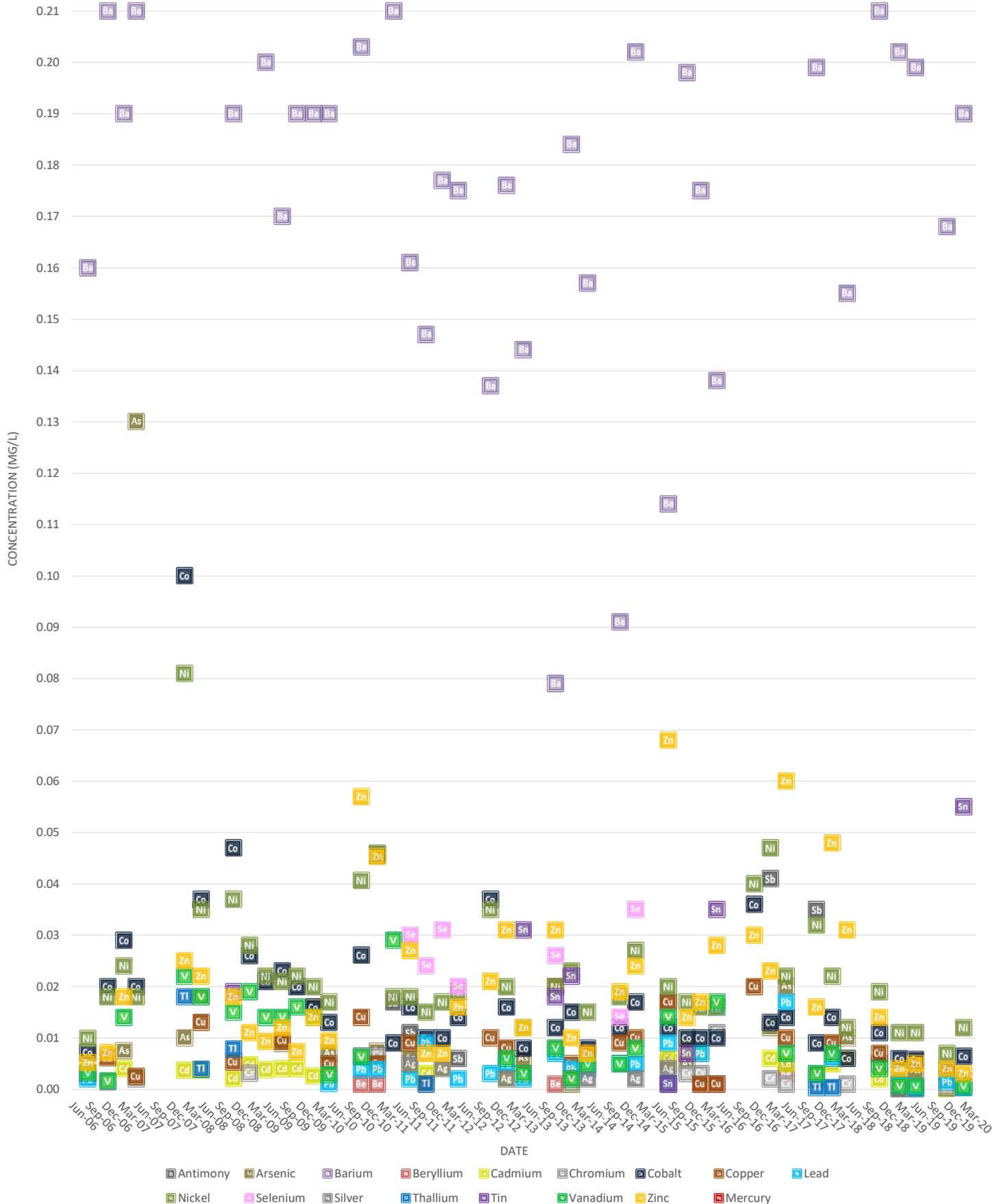
Detected Metals in OW-12 Tiverton Landfill



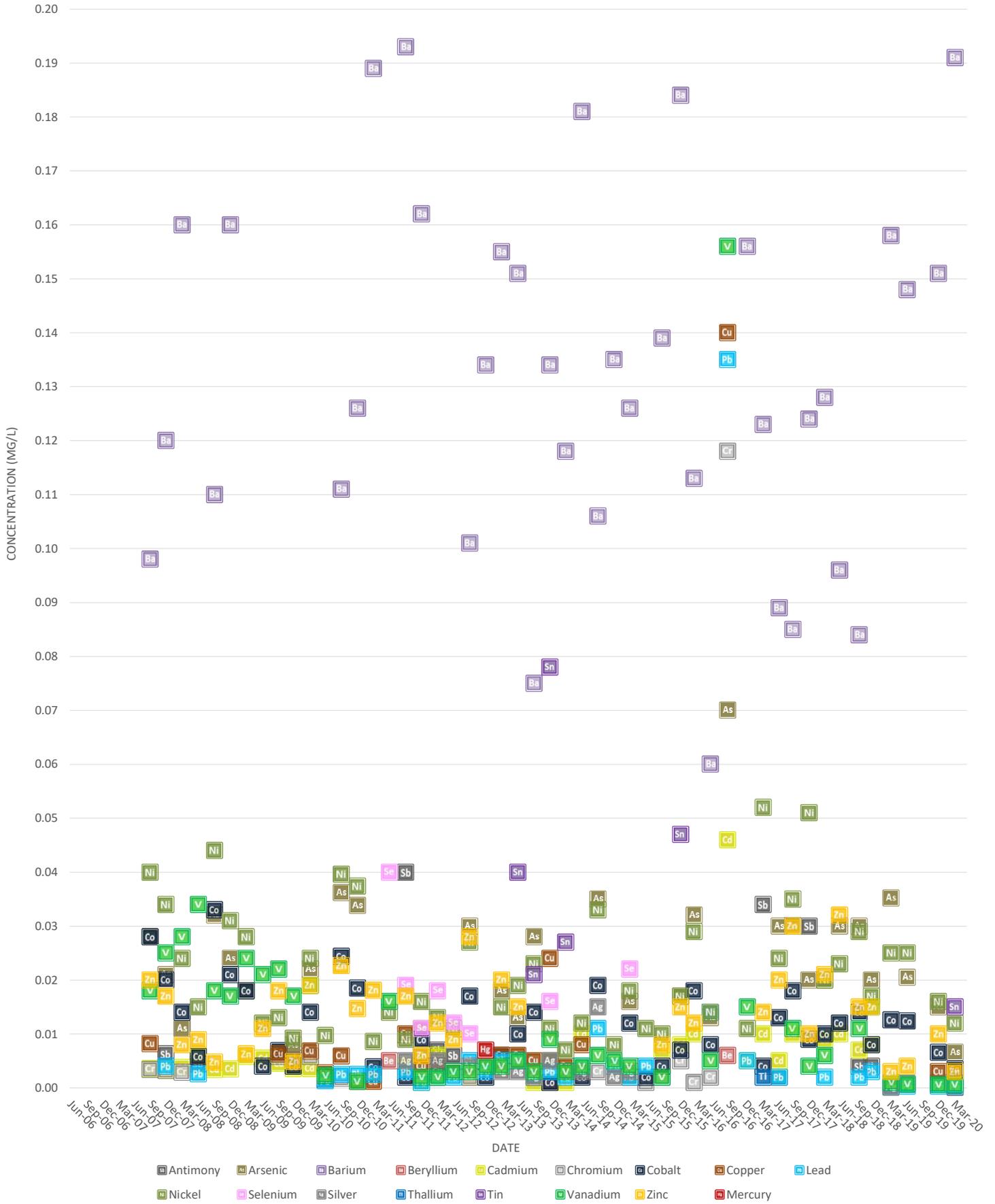
Detected Metals in OW-13 Tiverton Landfill



Detected Metals in OW-14 Tiverton Landfill



Detected Metals in OW-15 Tiverton Landfill



Detected Metals in OW-16 Tiverton Landfill



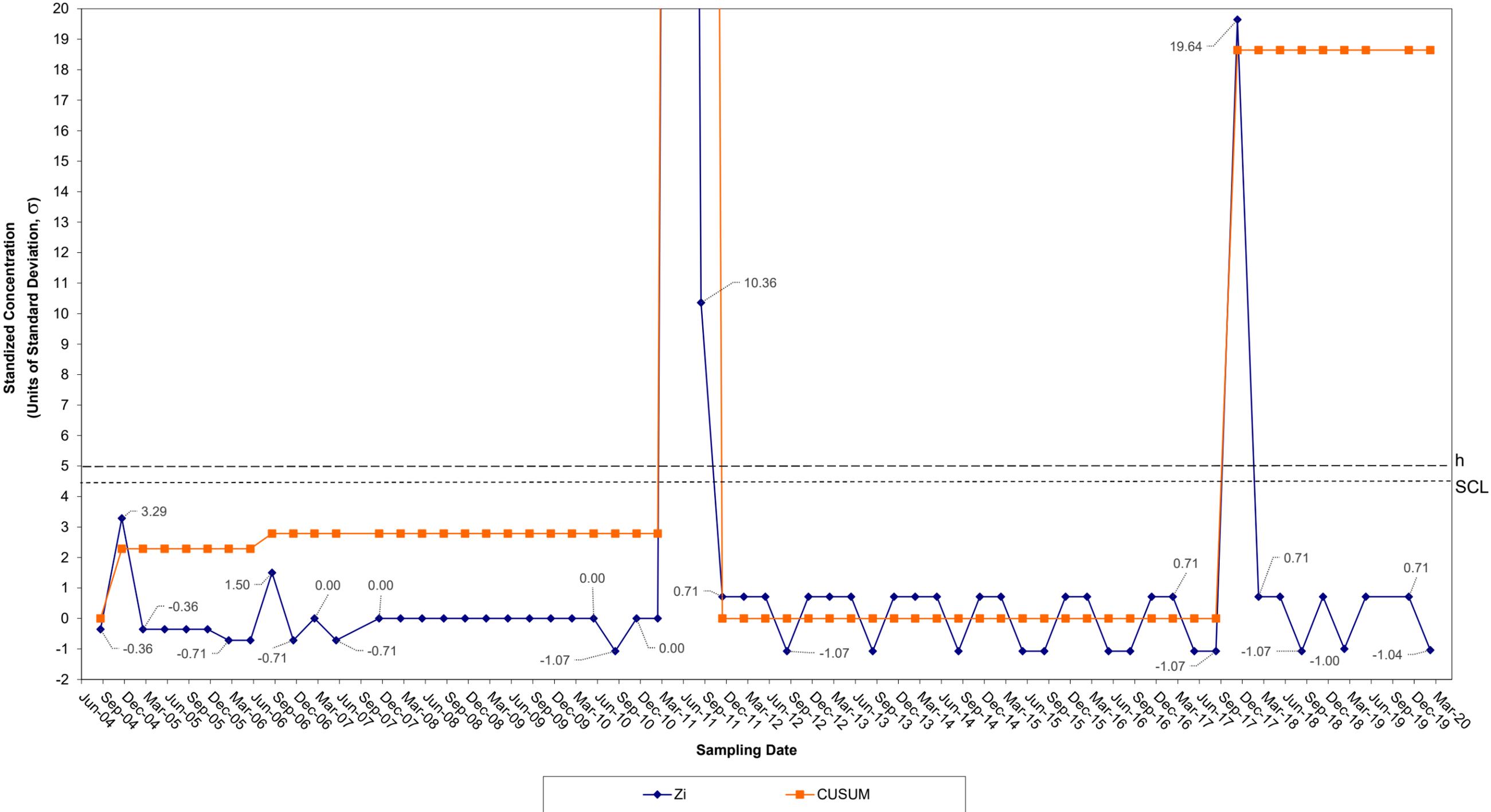
- DATE
- | | | | | | | | | |
|----------|----------|--------|-----------|---------|----------|--------|---------|------|
| Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium | Cobalt | Copper | Lead |
| Nickel | Selenium | Silver | Thallium | Tin | Vanadium | Zinc | Mercury | |

ATTACHMENT 4

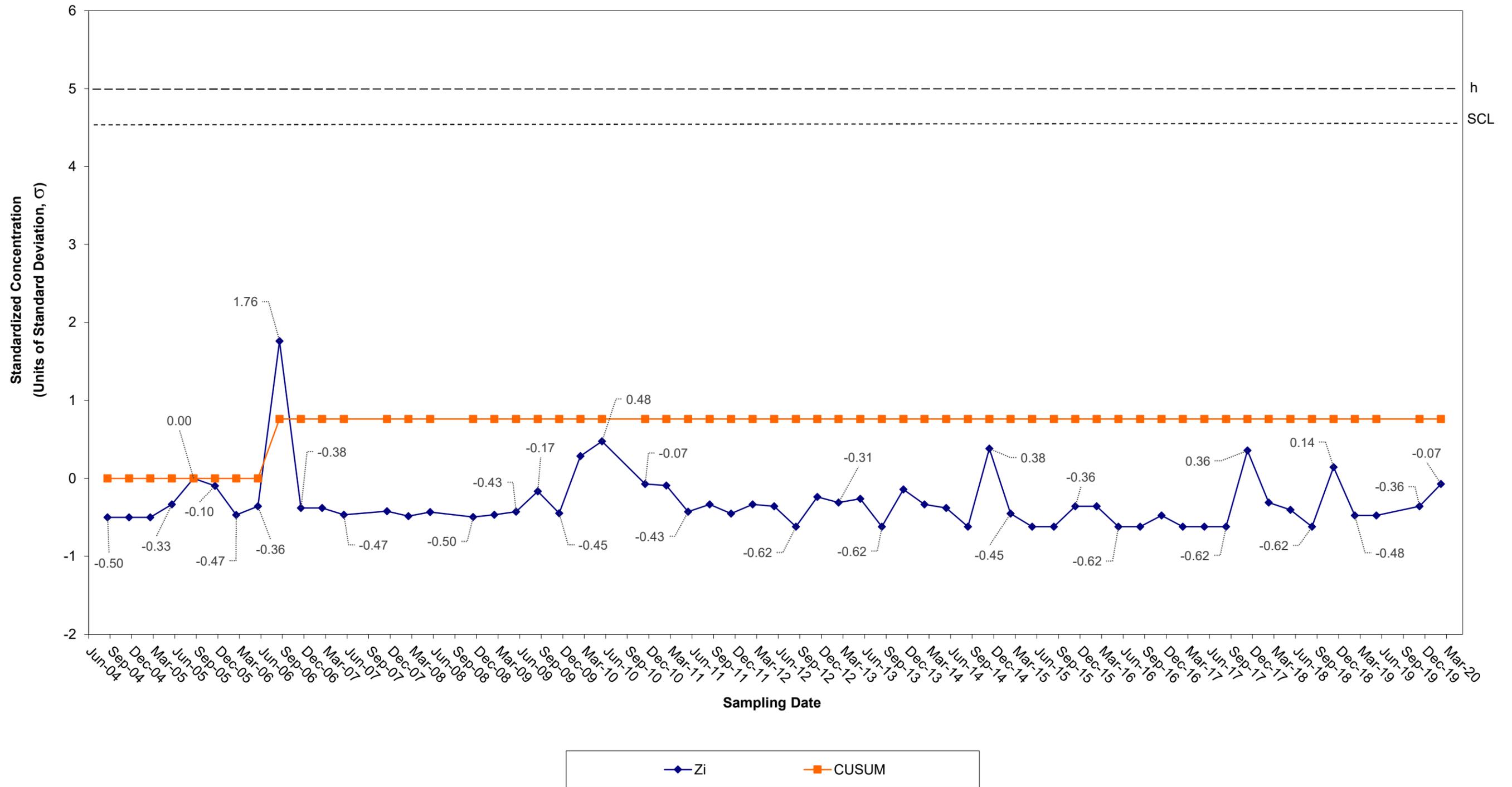
***Shewhart/CUSUM Graphs for Inorganic Compounds,
Observation Wells***



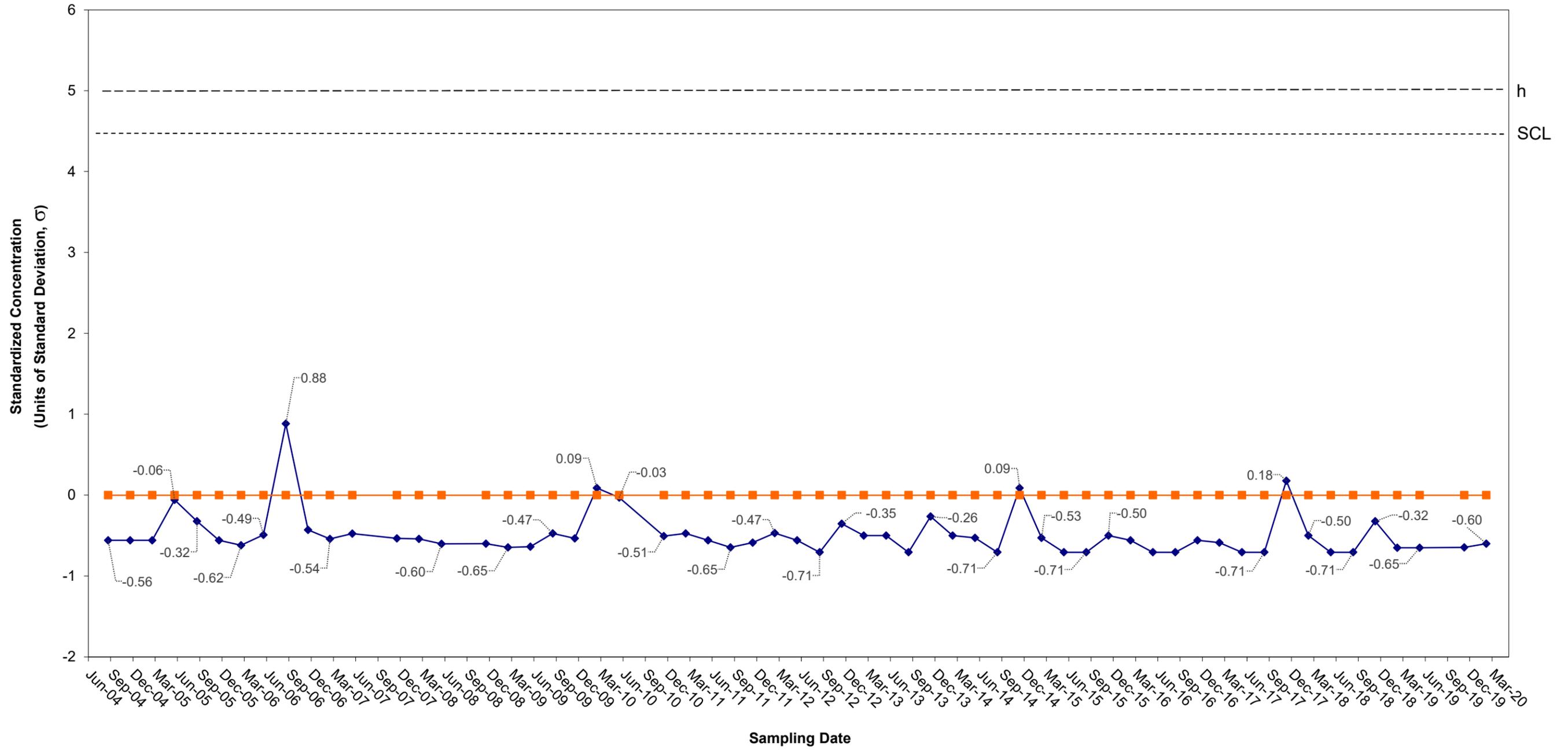
CUSUM Control Chart for Antimony
Tiverton Landfill Groundwater Background Well OW-9



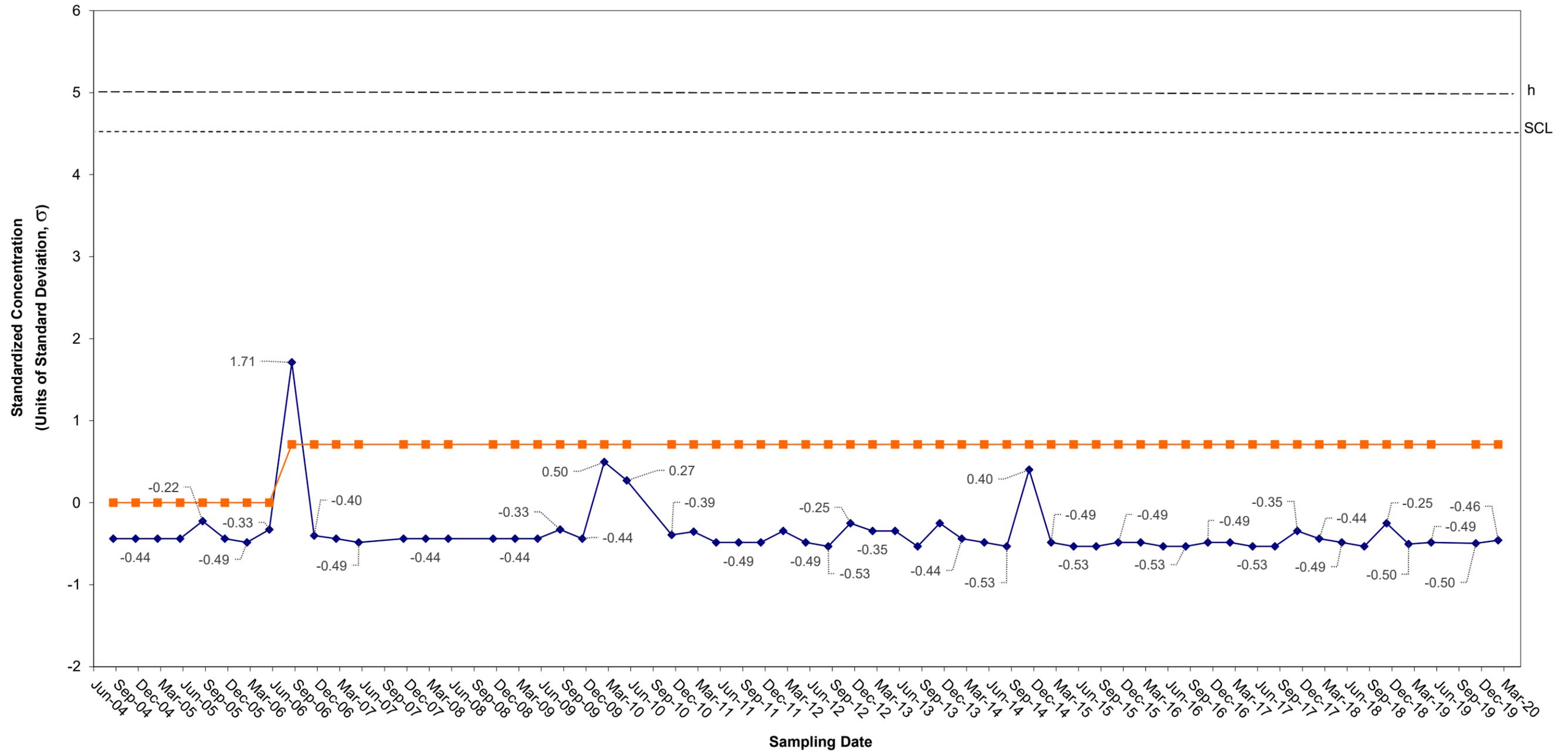
CUSUM Control Chart for Barium
Tiverton Landfill Groundwater Background Well OW-9



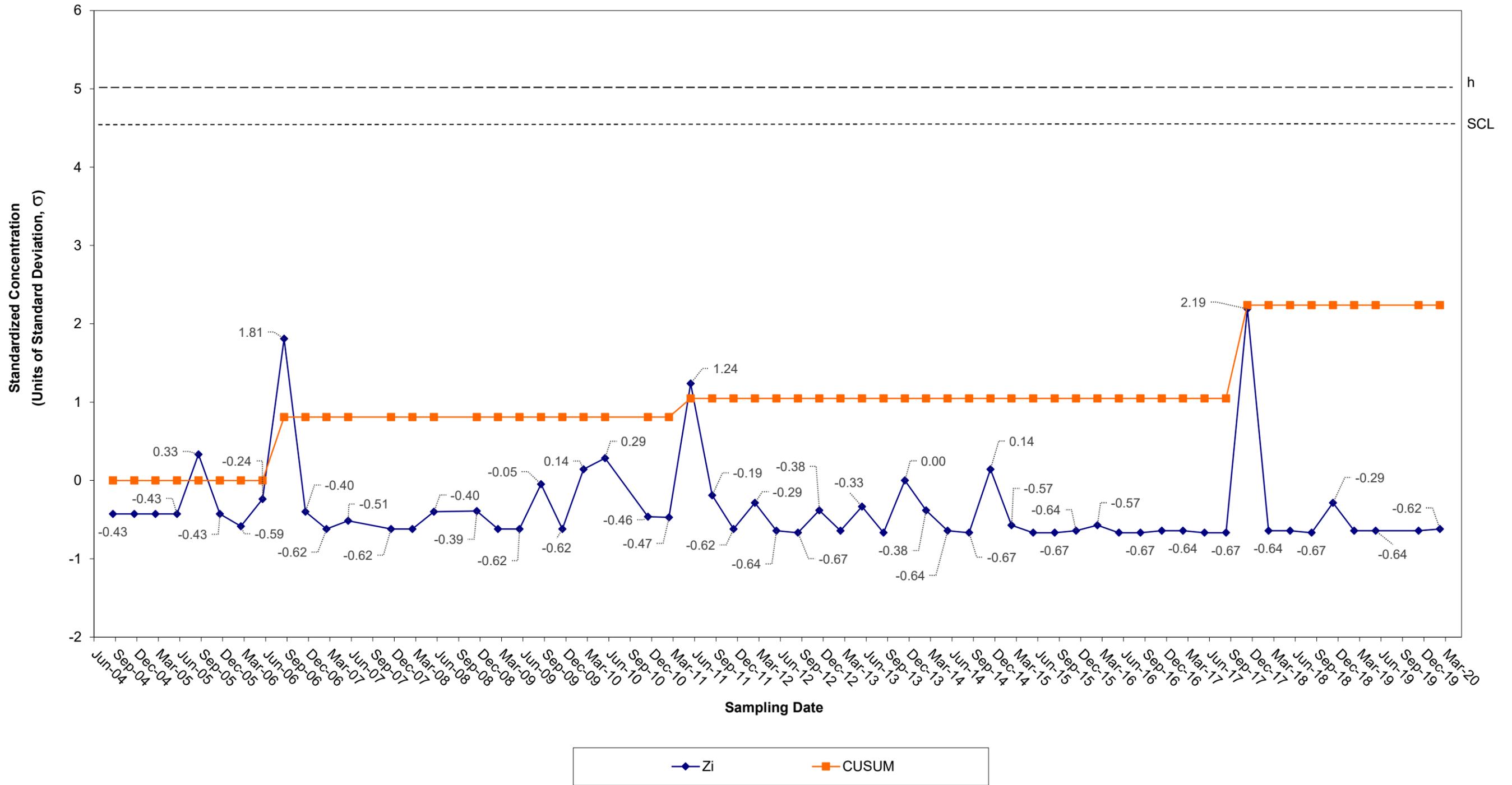
CUSUM Control Chart for Chromium
Tiverton Landfill Groundwater Background Well OW-9



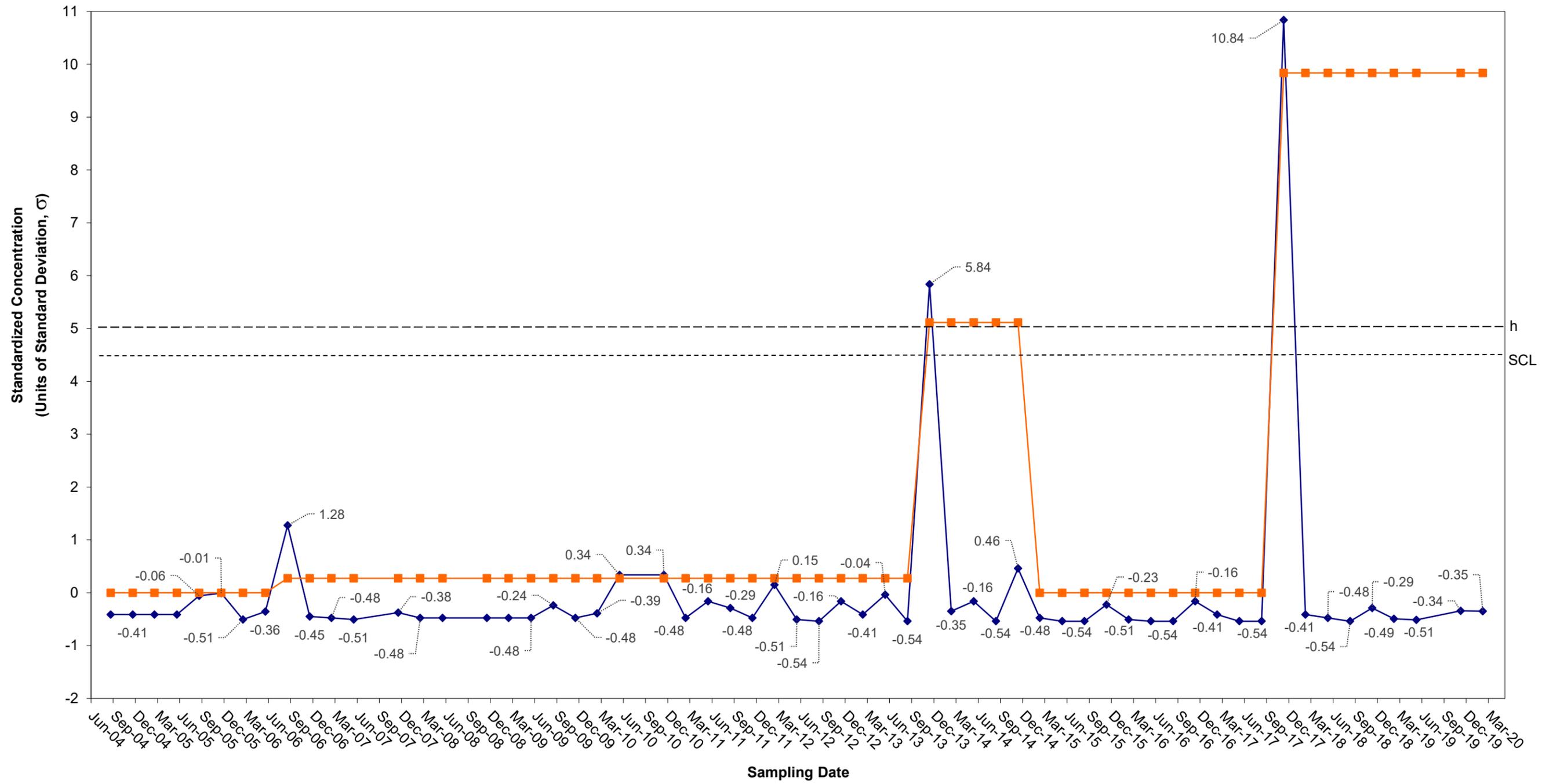
CUSUM Control Chart for Cobalt
Tiverton Landfill Groundwater Background Well OW-9



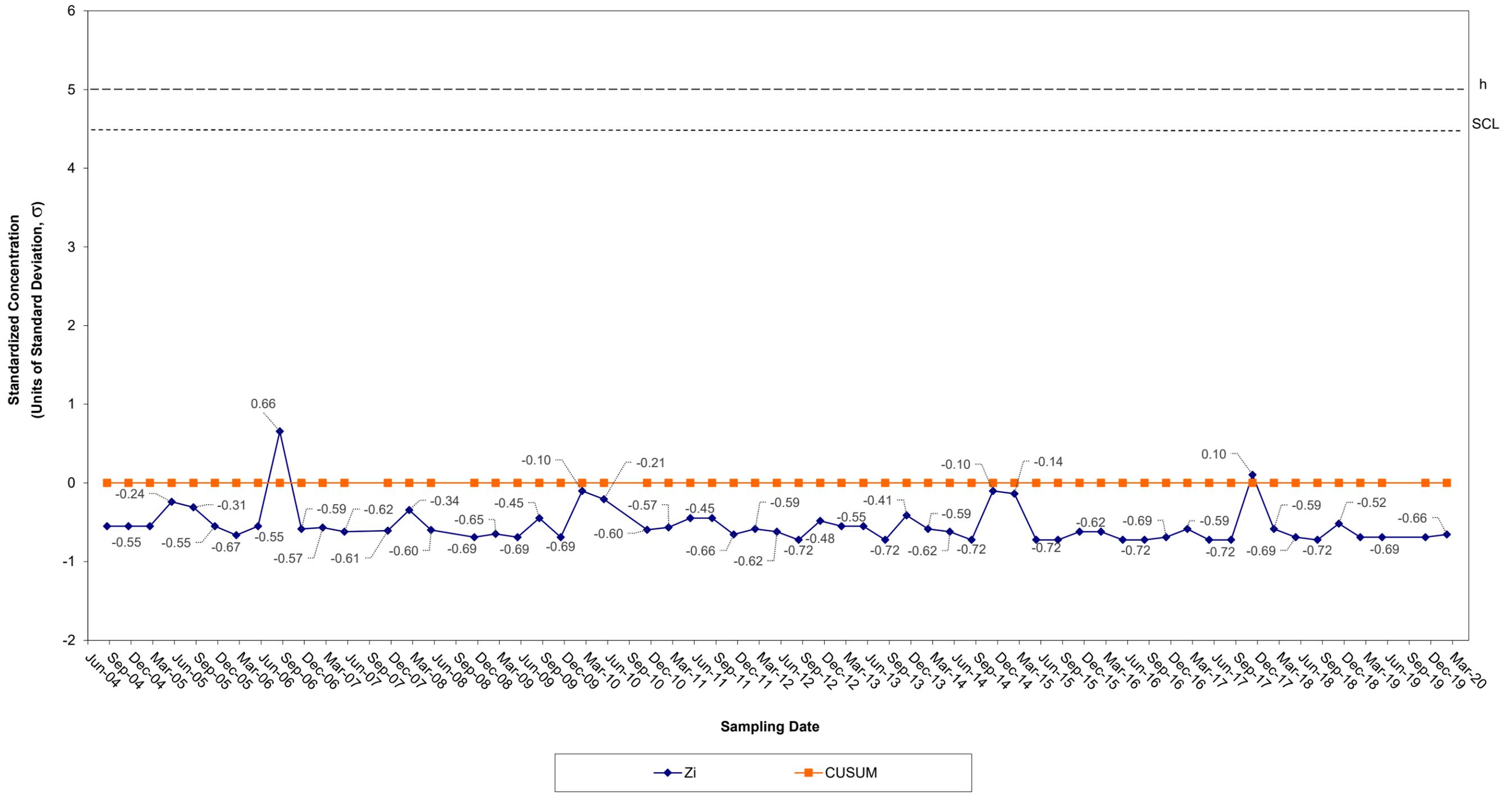
**CUSUM Control Chart for Copper
Tiverton Landfill Groundwater Background Well OW-9**



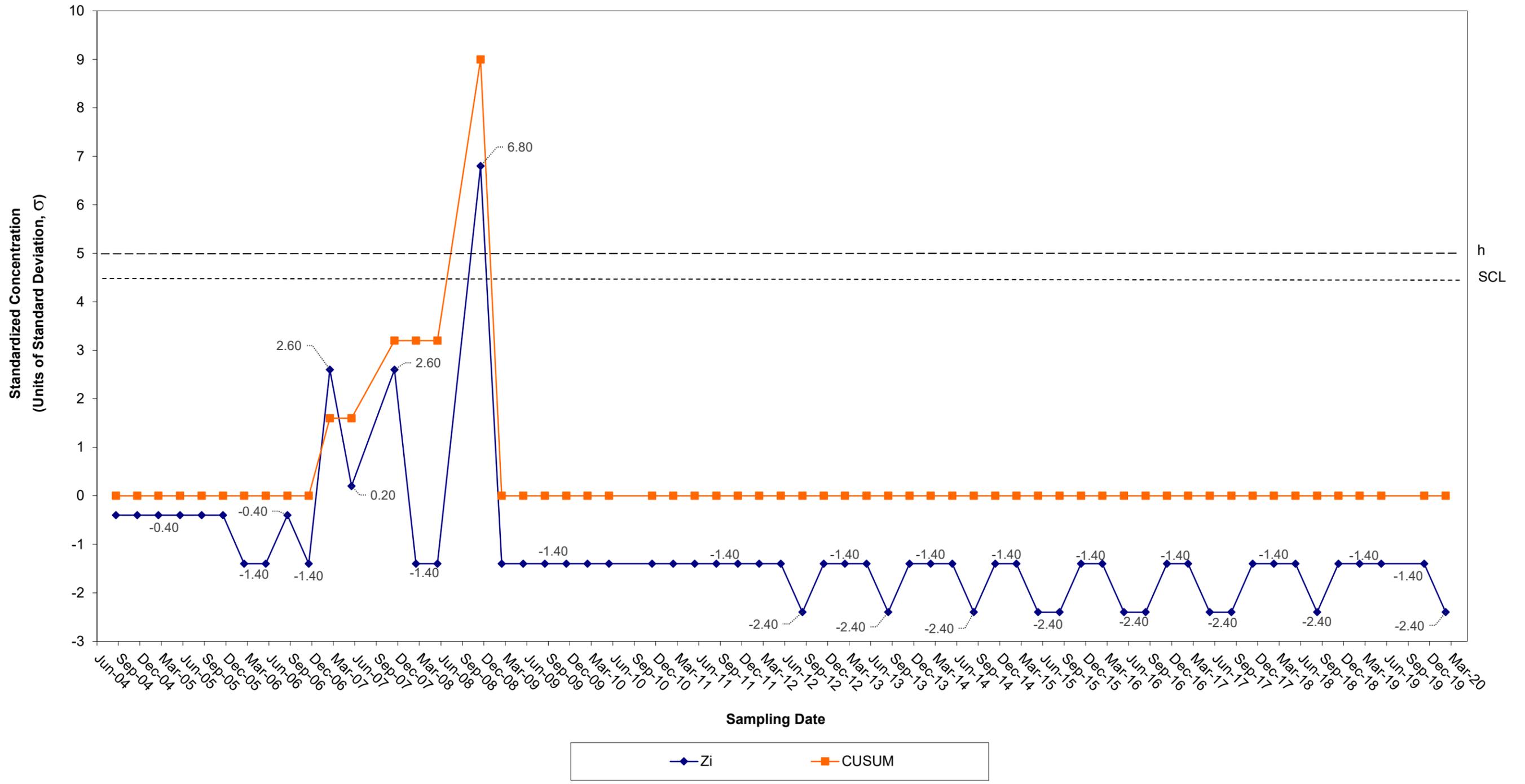
CUSUM Control Chart for Lead Tiverton Landfill Groundwater Background Well OW-9



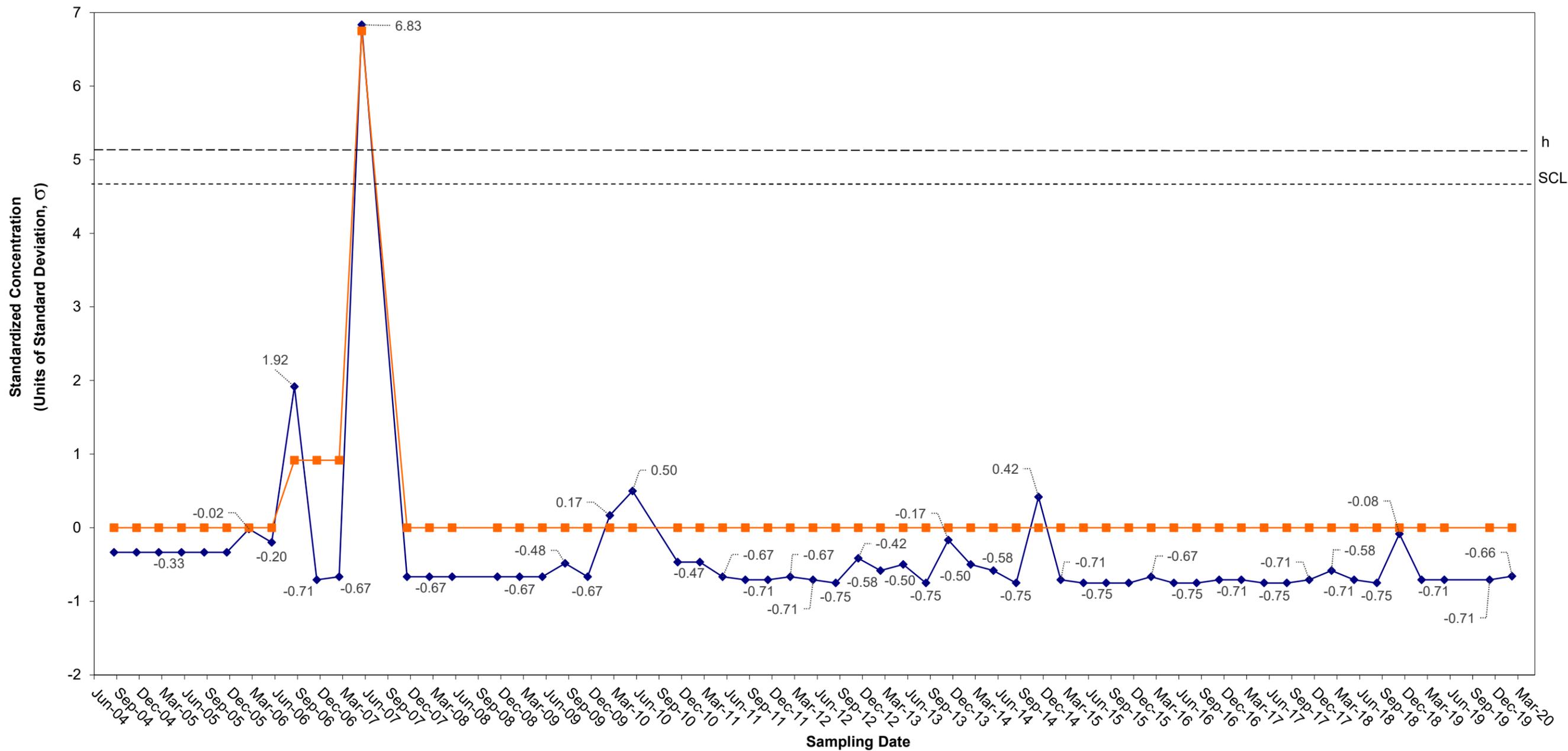
CUSUM Control Chart for Nickel
Tiverton Landfill Groundwater Background Well OW-9



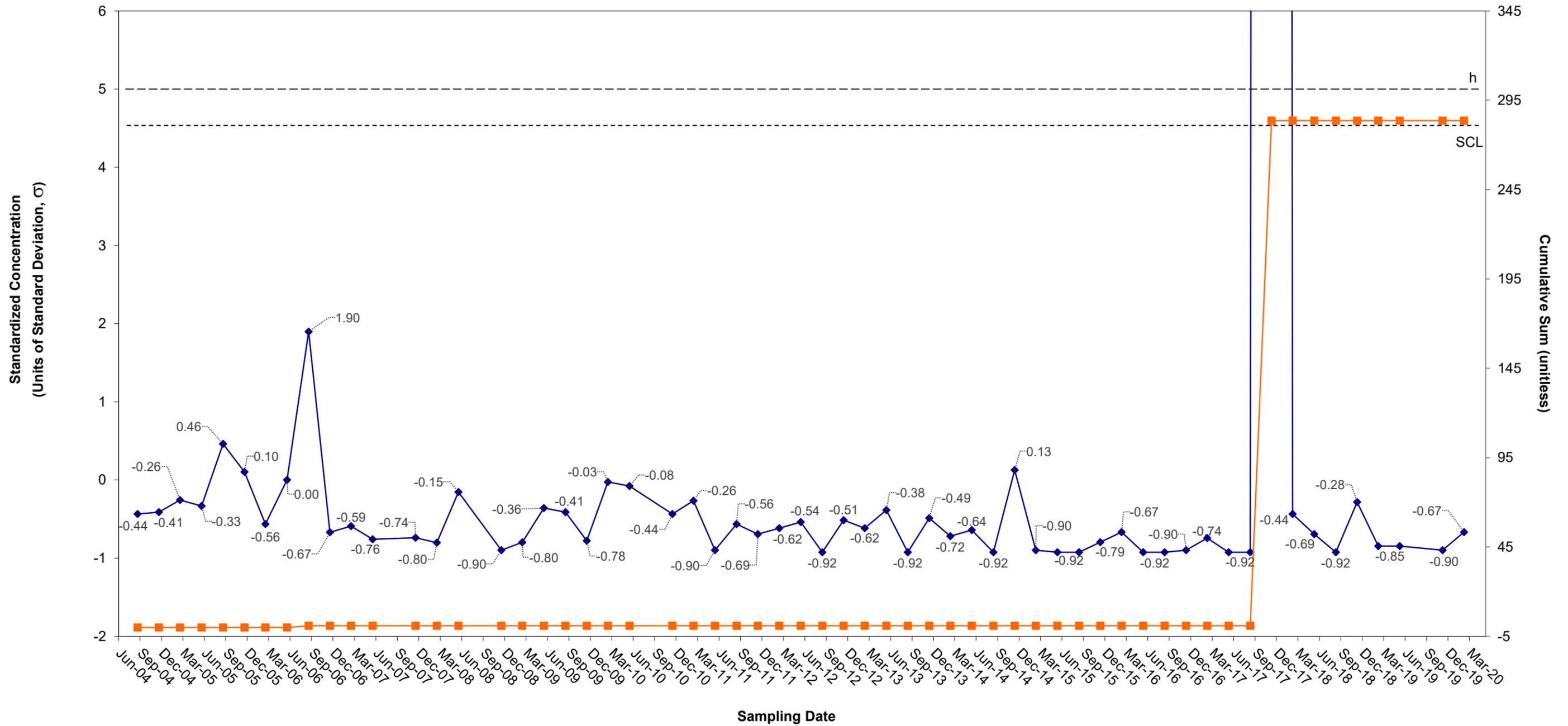
CUSUM Control Chart for Thallium Tiverton Landfill Groundwater Background Well OW-9



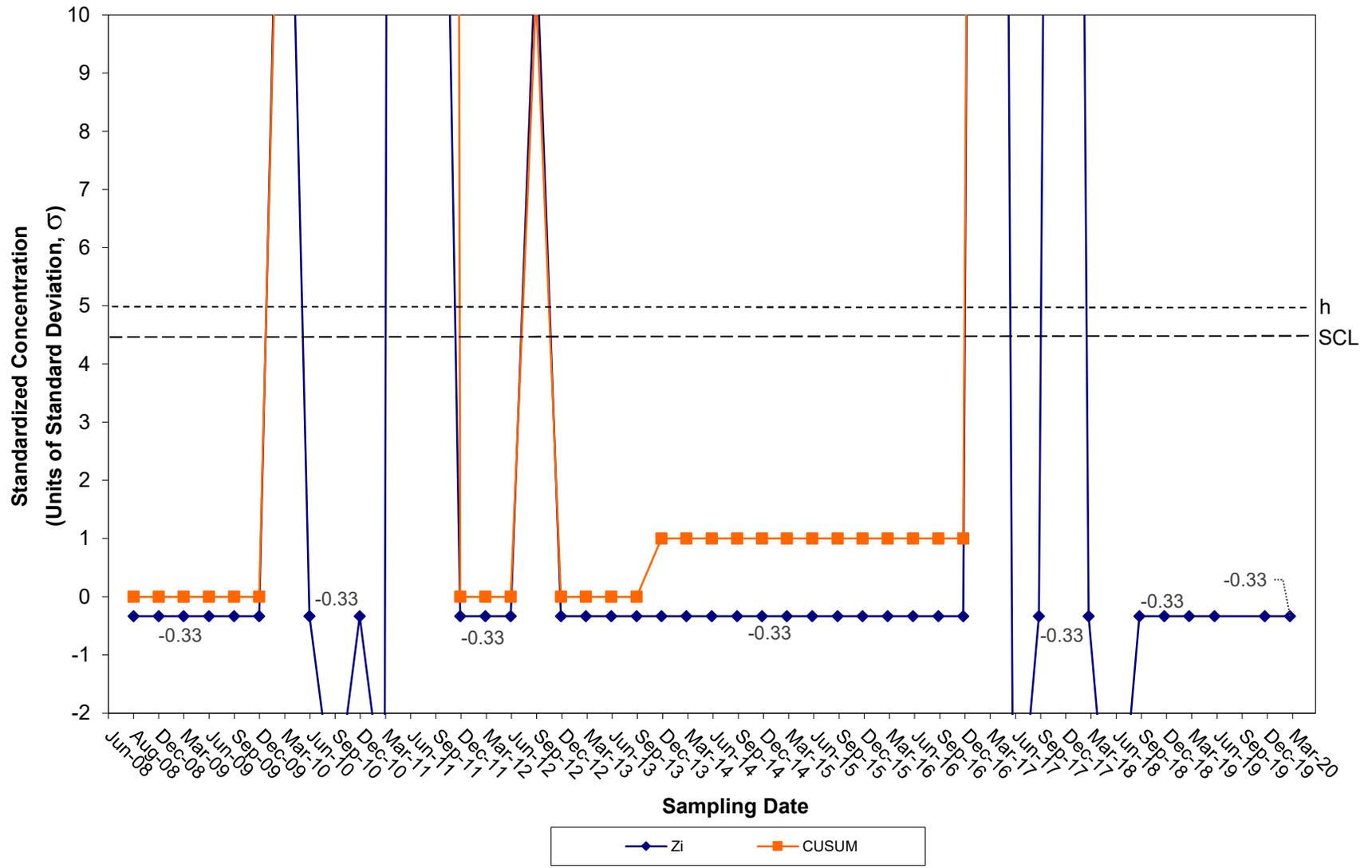
**CUSUM Control Chart for Vanadium
Tiverton Landfill Groundwater Background Well OW-9**



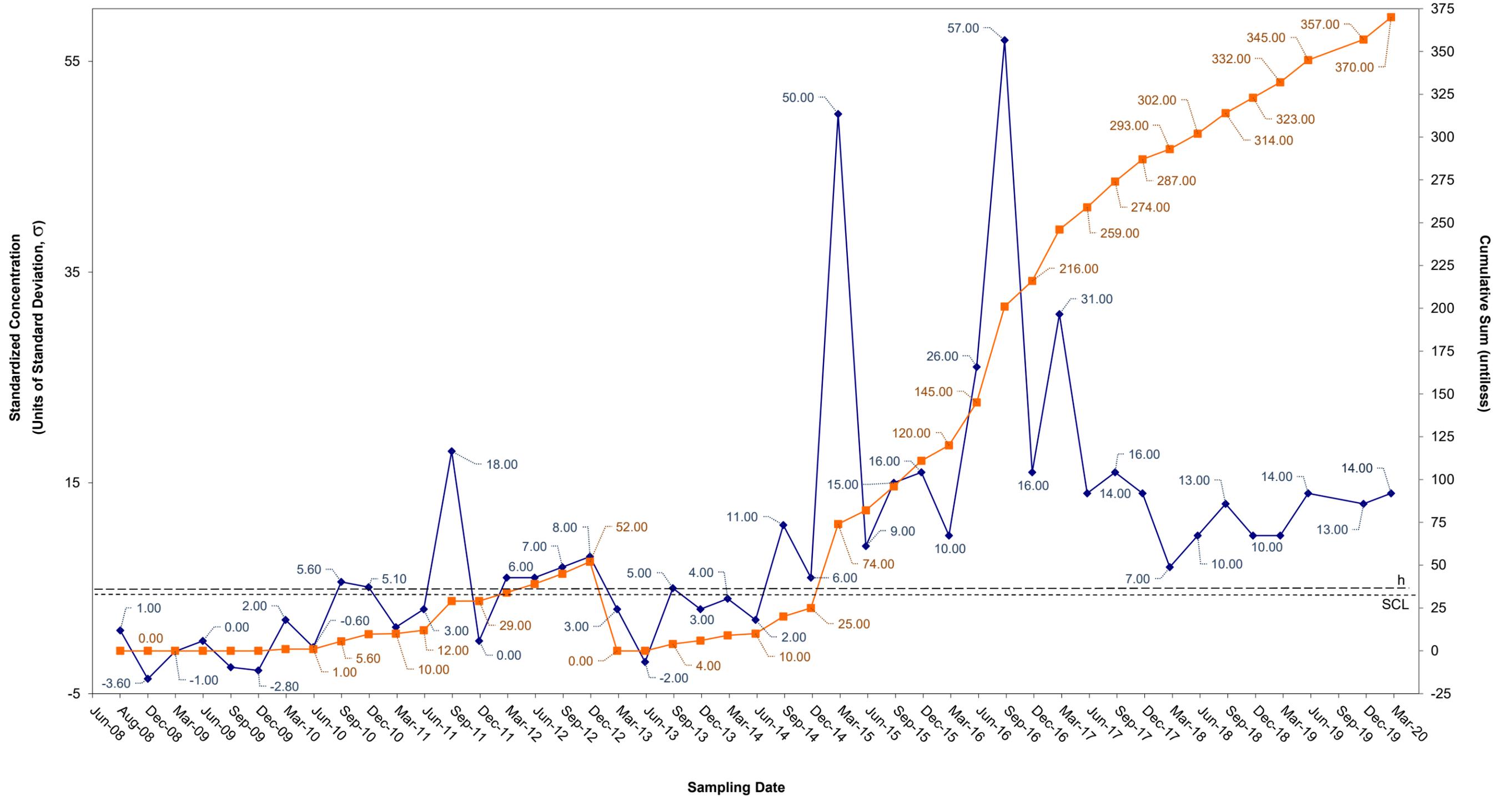
CUSUM Control Chart for Zinc
Tiverton Landfill Groundwater Background Well OW-9



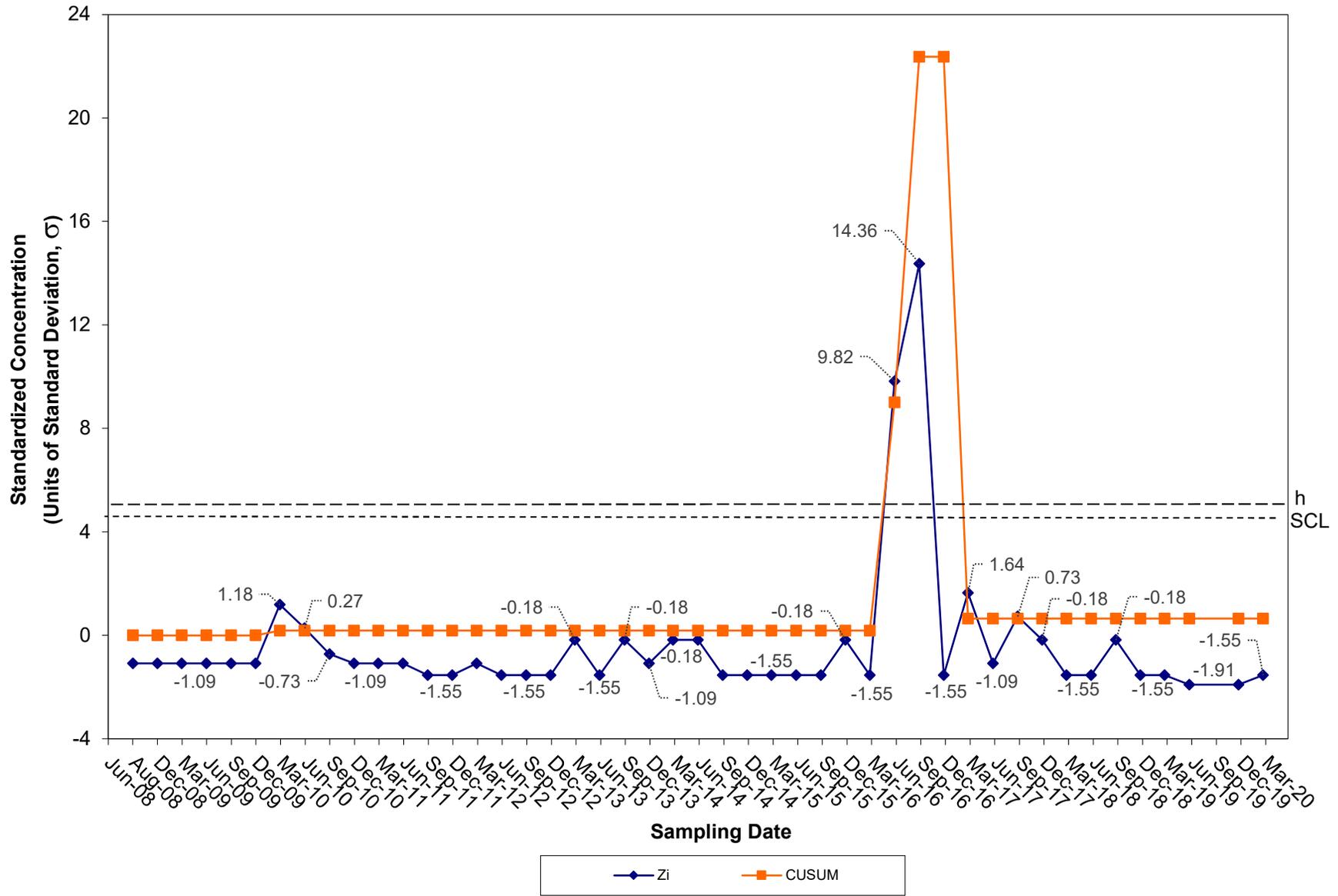
CUSUM Control Chart for Antimony Tiverton Landfill Groundwater Background Well OW-12



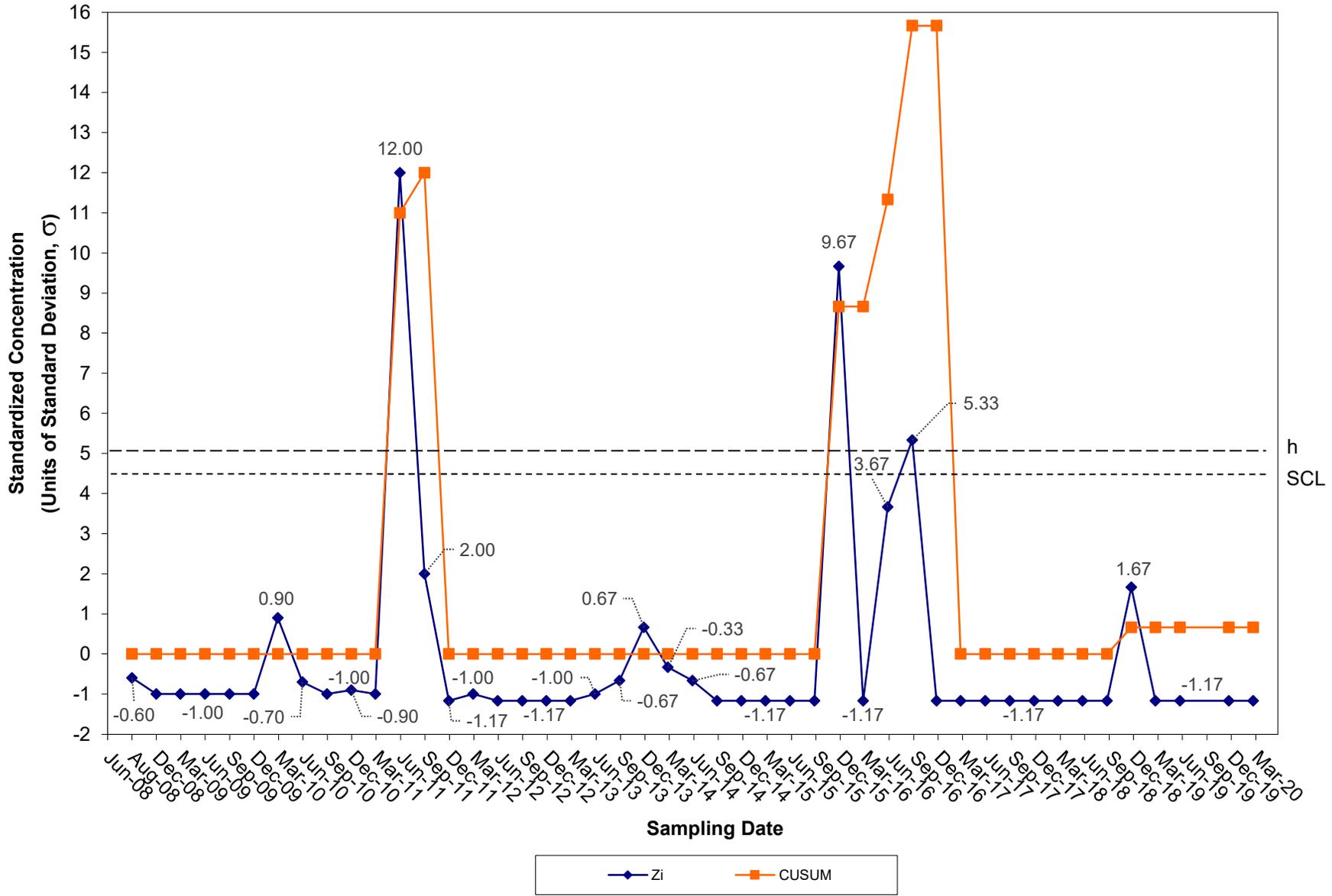
CUSUM Control Chart for Barium
Tiverton Landfill Groundwater Background Well OW-12



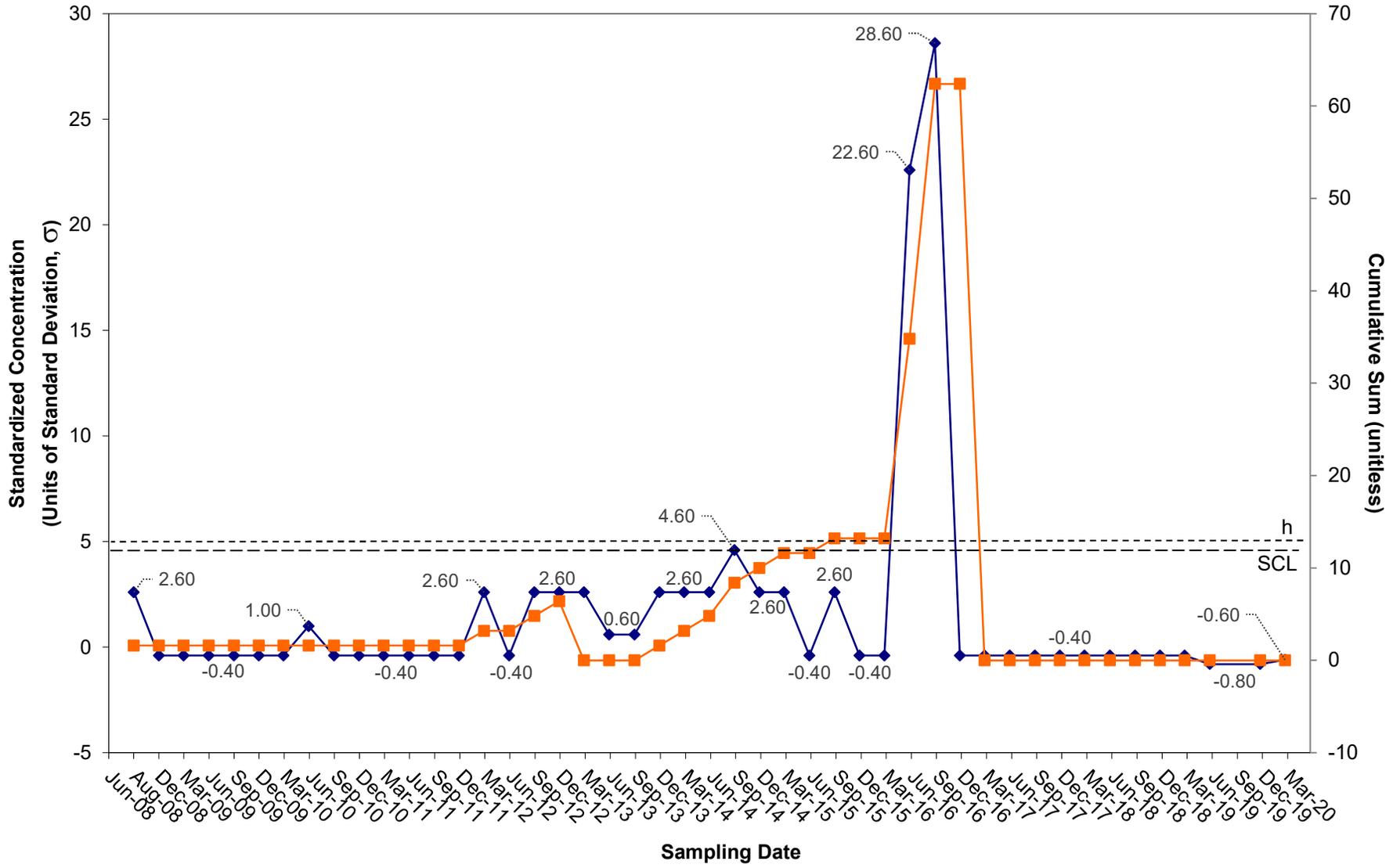
CUSUM Control Chart for Chromium Tiverton Landfill Groundwater Background Well OW-12



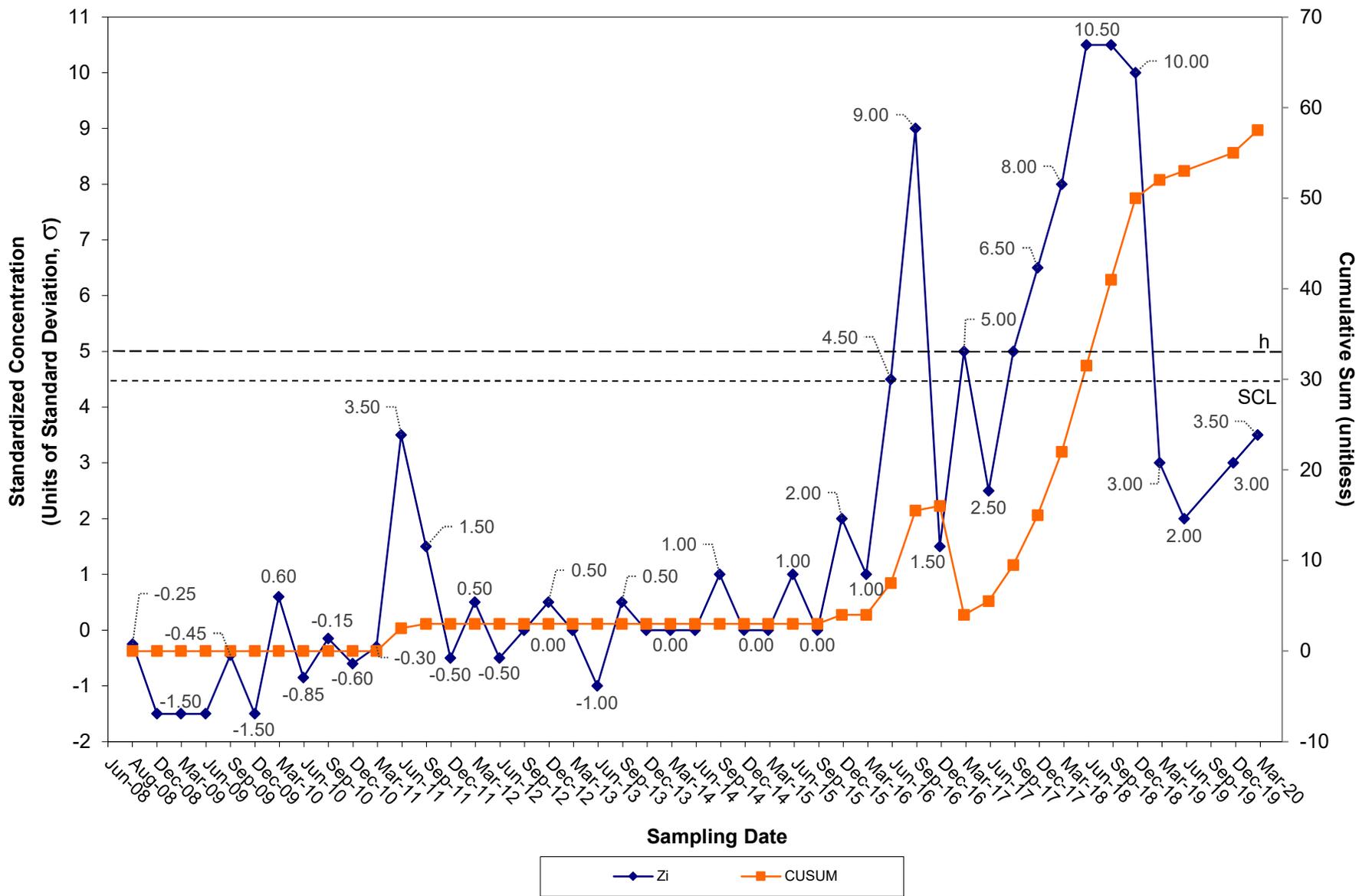
CUSUM Control Chart for Copper Tiverton Landfill Groundwater Background Well OW-12



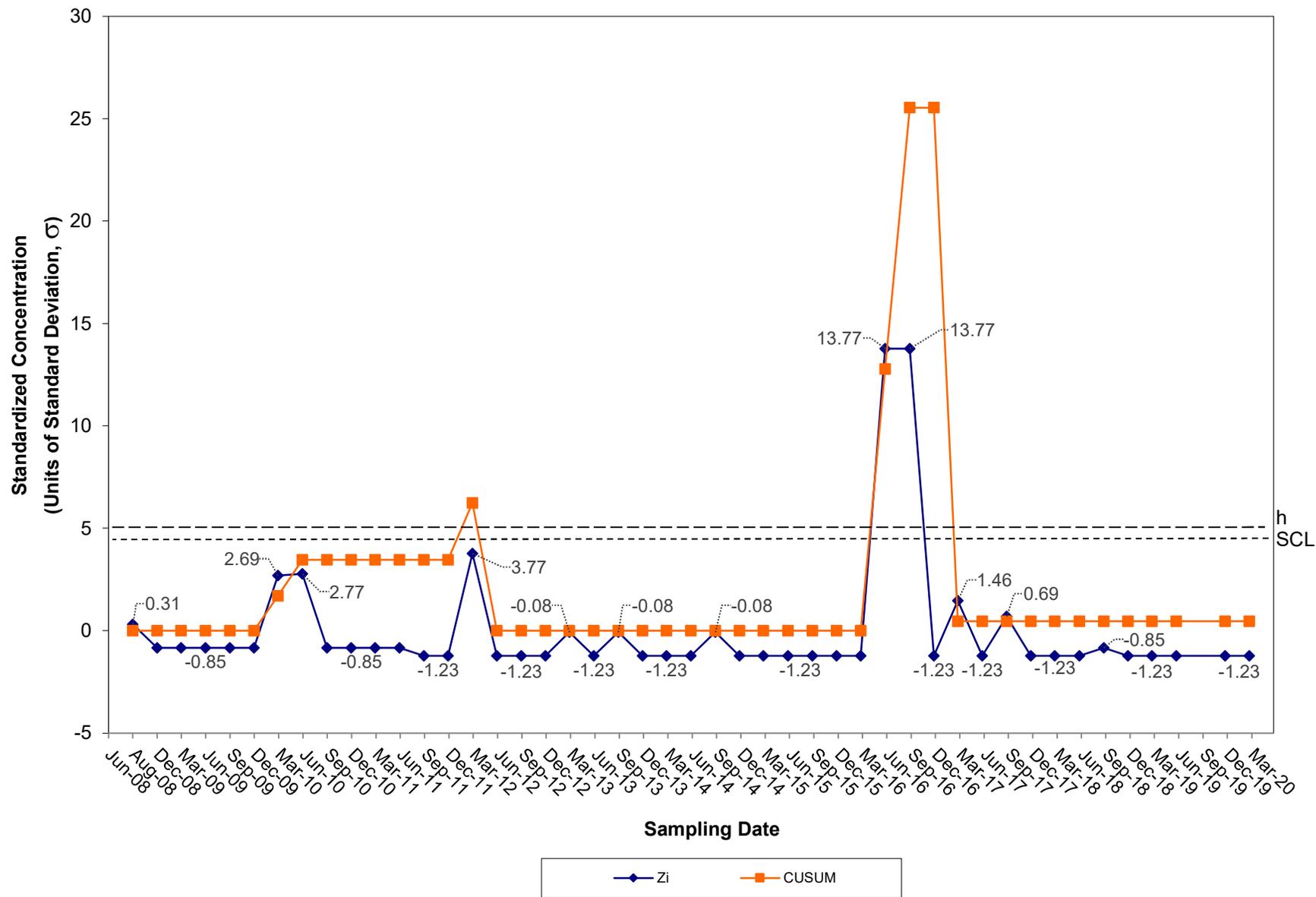
CUSUM Control Chart for Lead Tiverton Landfill Groundwater Background Well OW-12



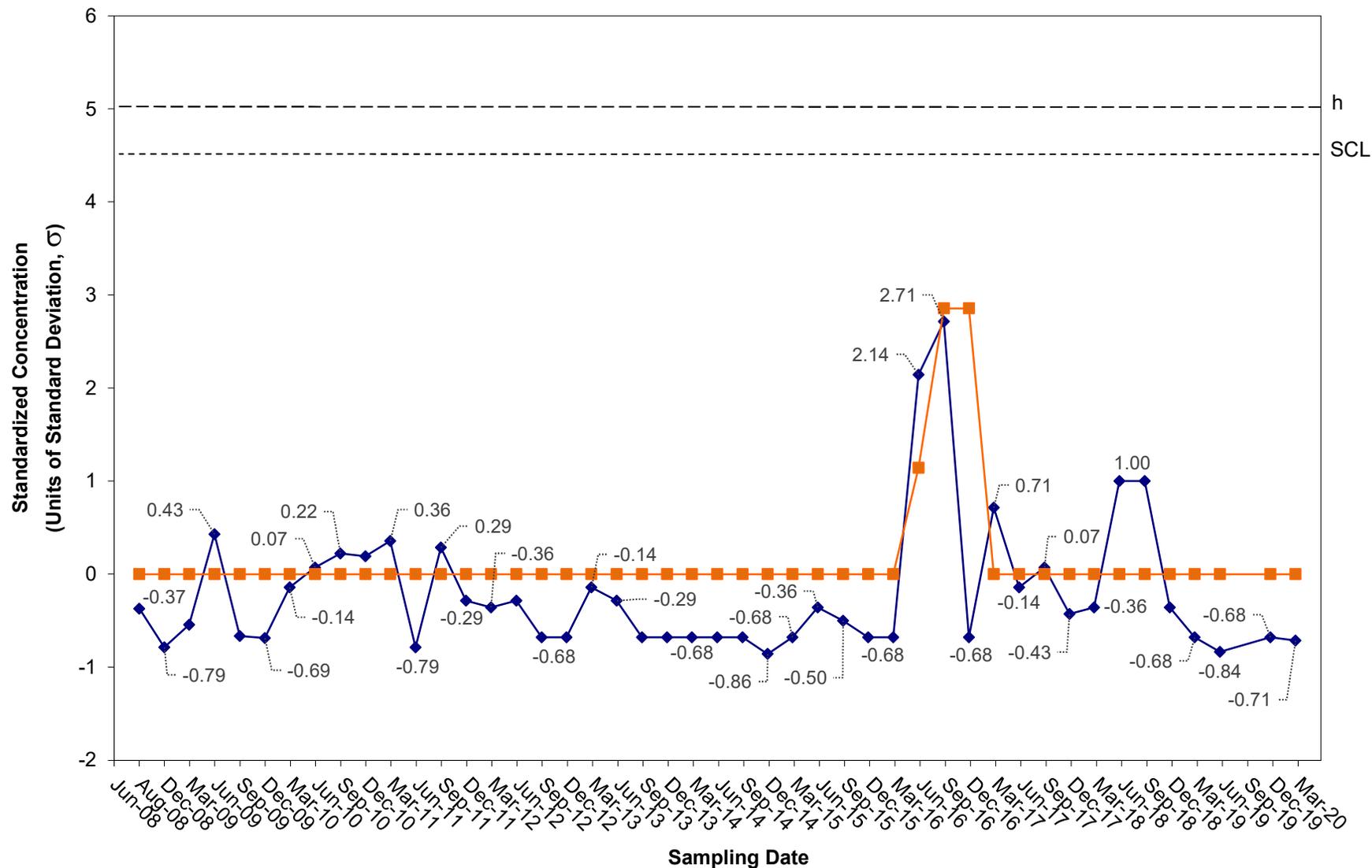
CUSUM Control Chart for Nickel Tiverton Landfill Groundwater Background Well OW-12



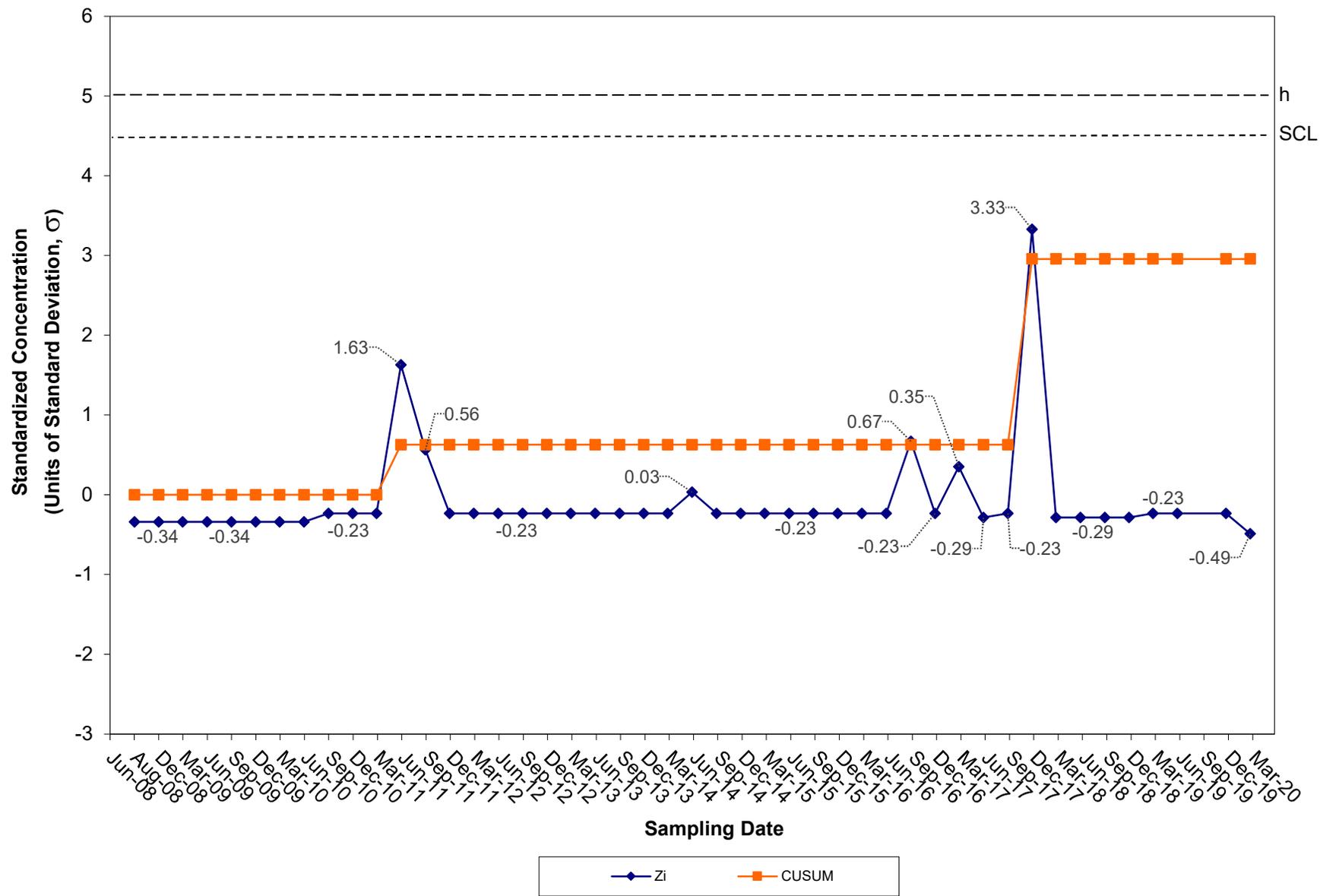
CUSUM Control Chart for Vanadium Tiverton Landfill Groundwater Background Well OW-12



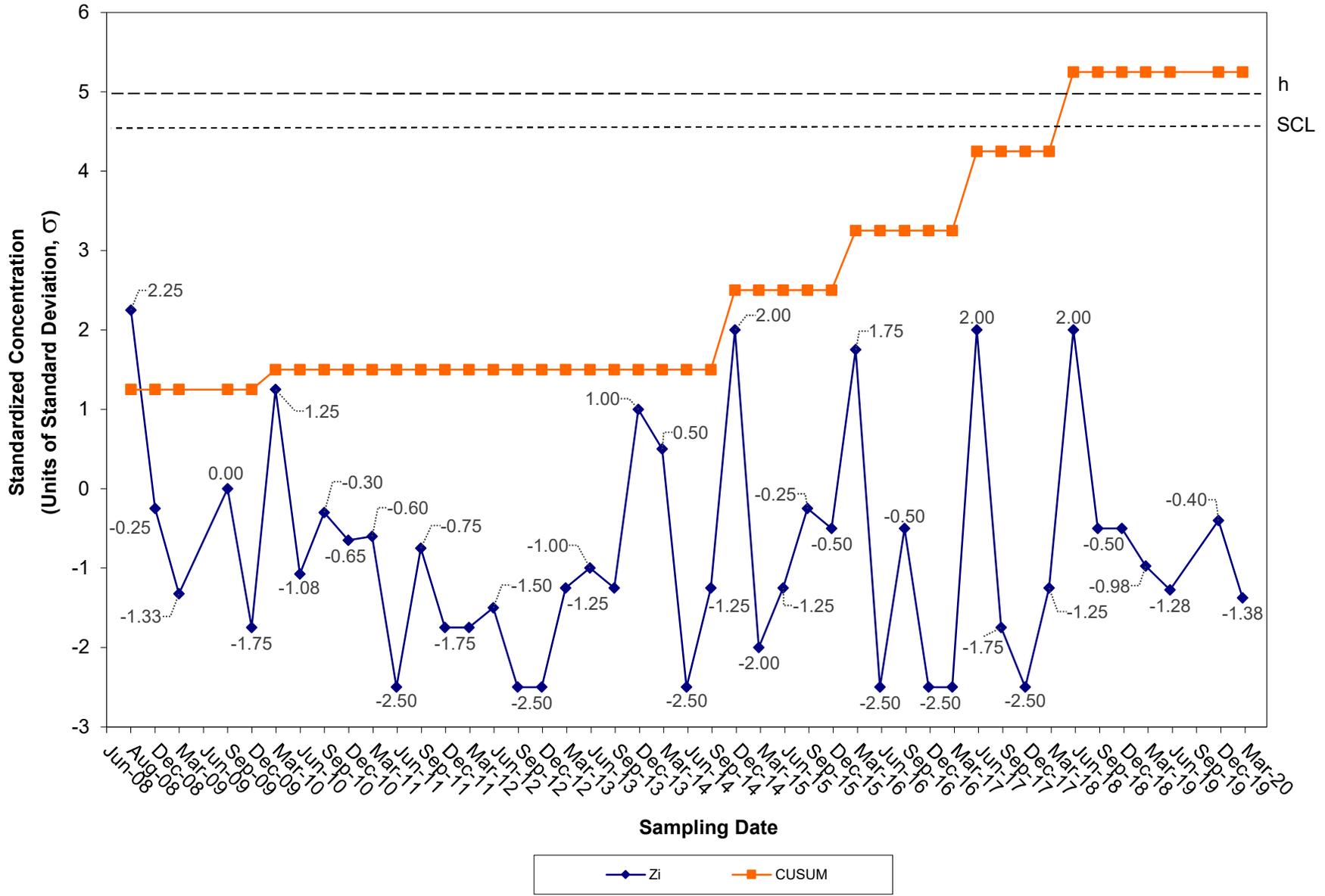
CUSUM Control Chart for Zinc Tiverton Landfill Groundwater Background Well OW-12



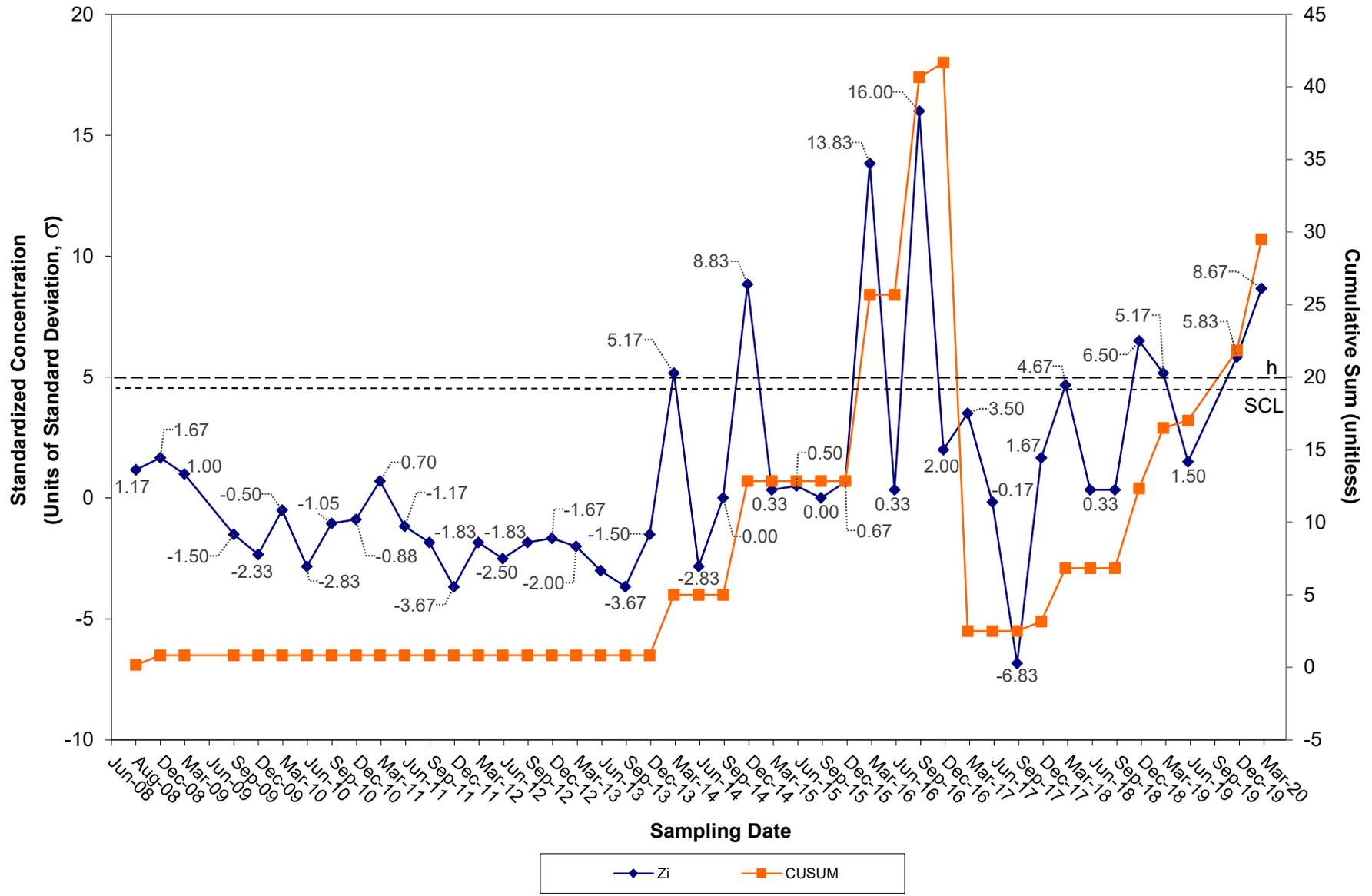
CUSUM Control Chart for Antimony Tiverton Landfill Groundwater Compliance Well OW-13



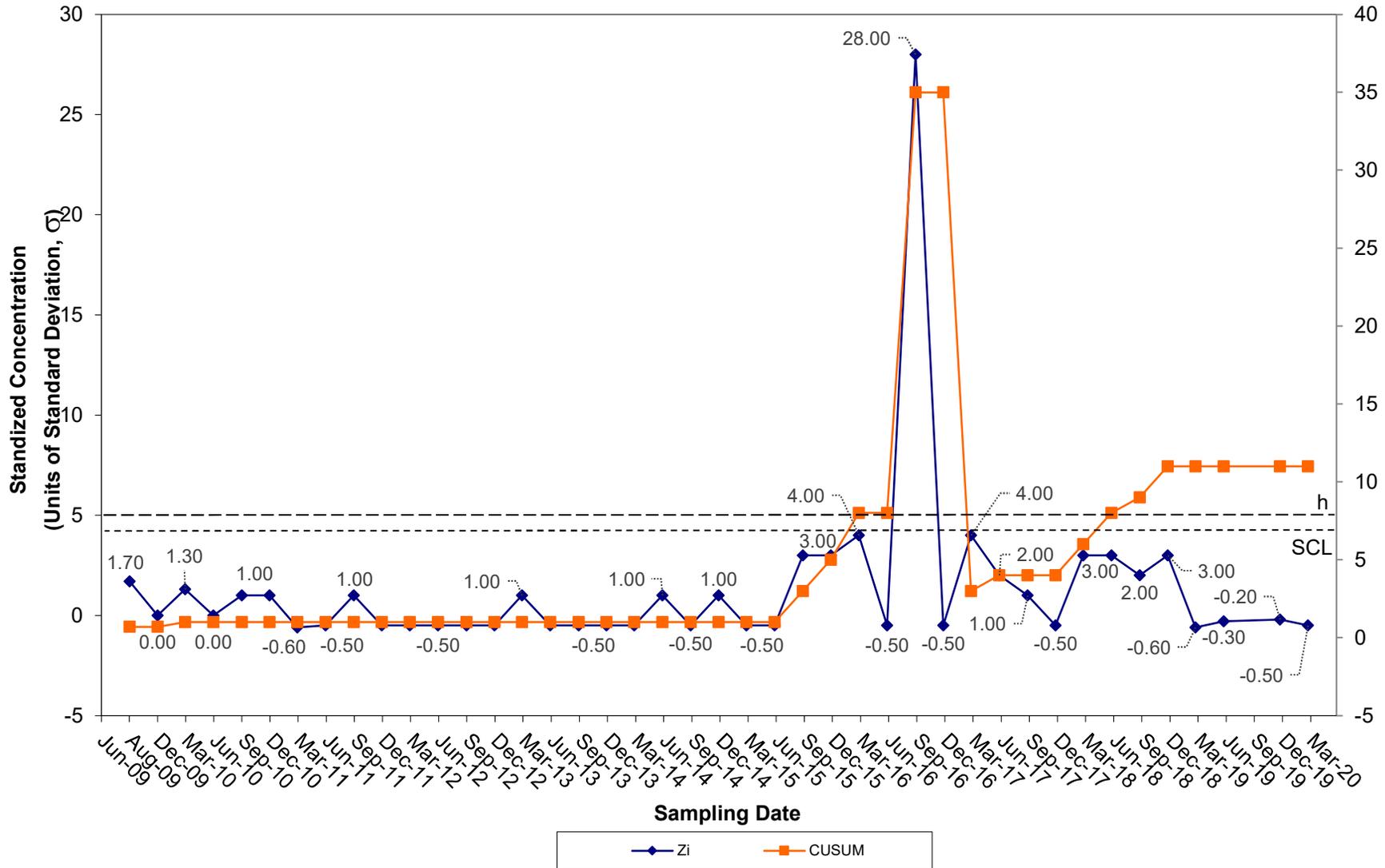
CUSUM Control Chart for Arsenic Tiverton Landfill Groundwater Compliance Well OW-13



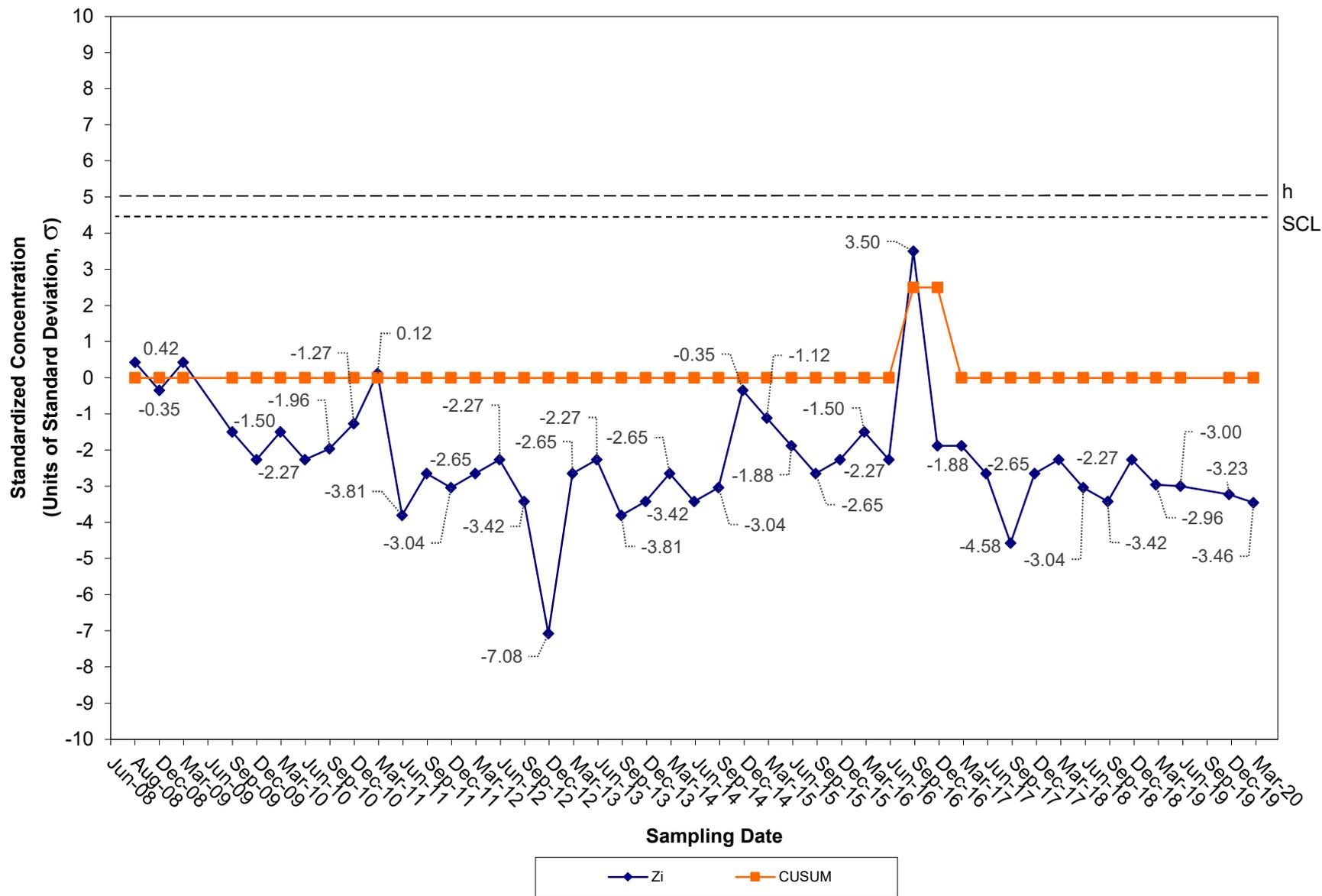
CUSUM Control Chart for Barium Tiverton Landfill Groundwater Compliance Well OW-13



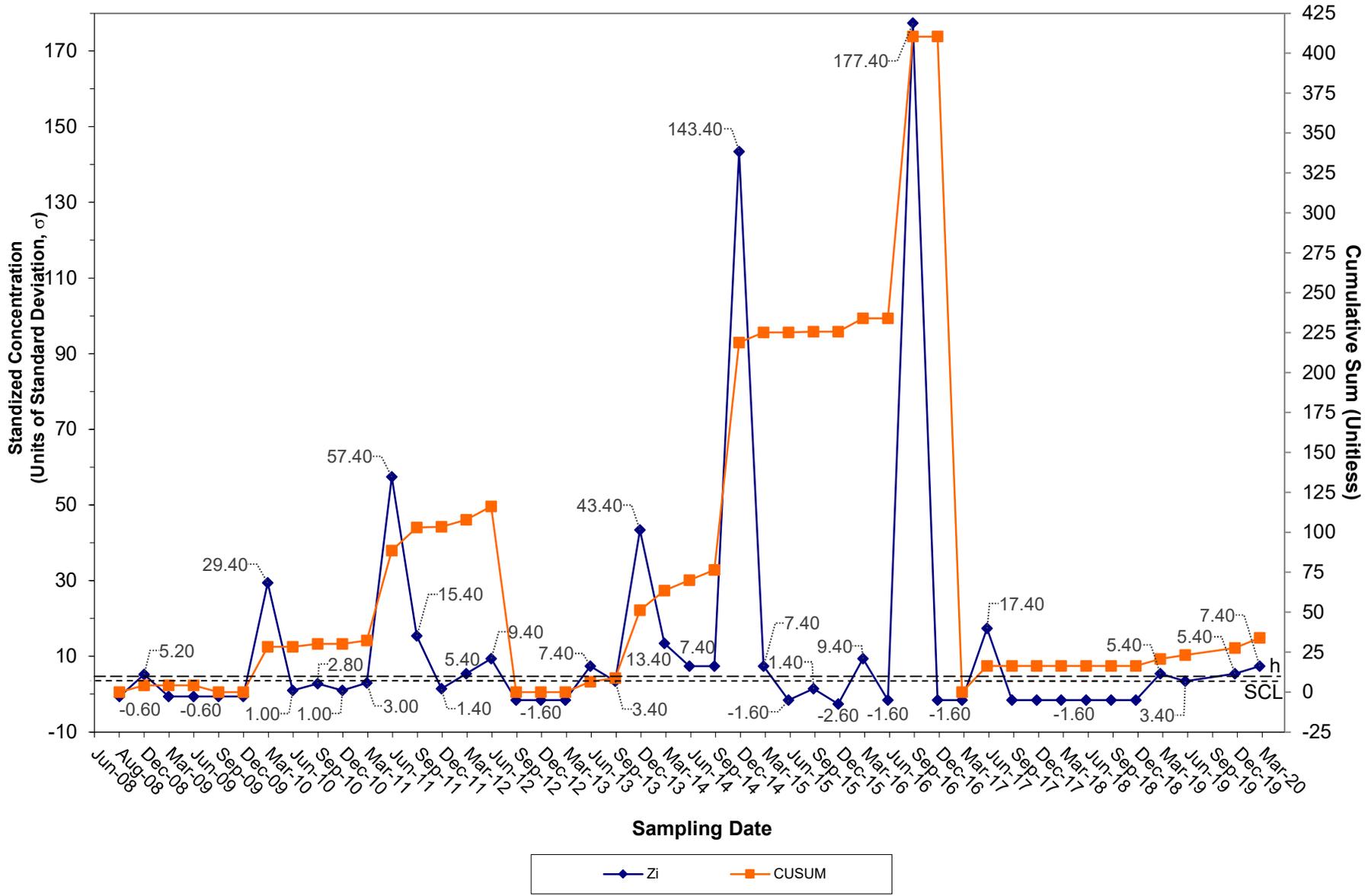
CUSUM Control Chart for Cadmium Tiverton Landfill Groundwater Compliance Well OW-13



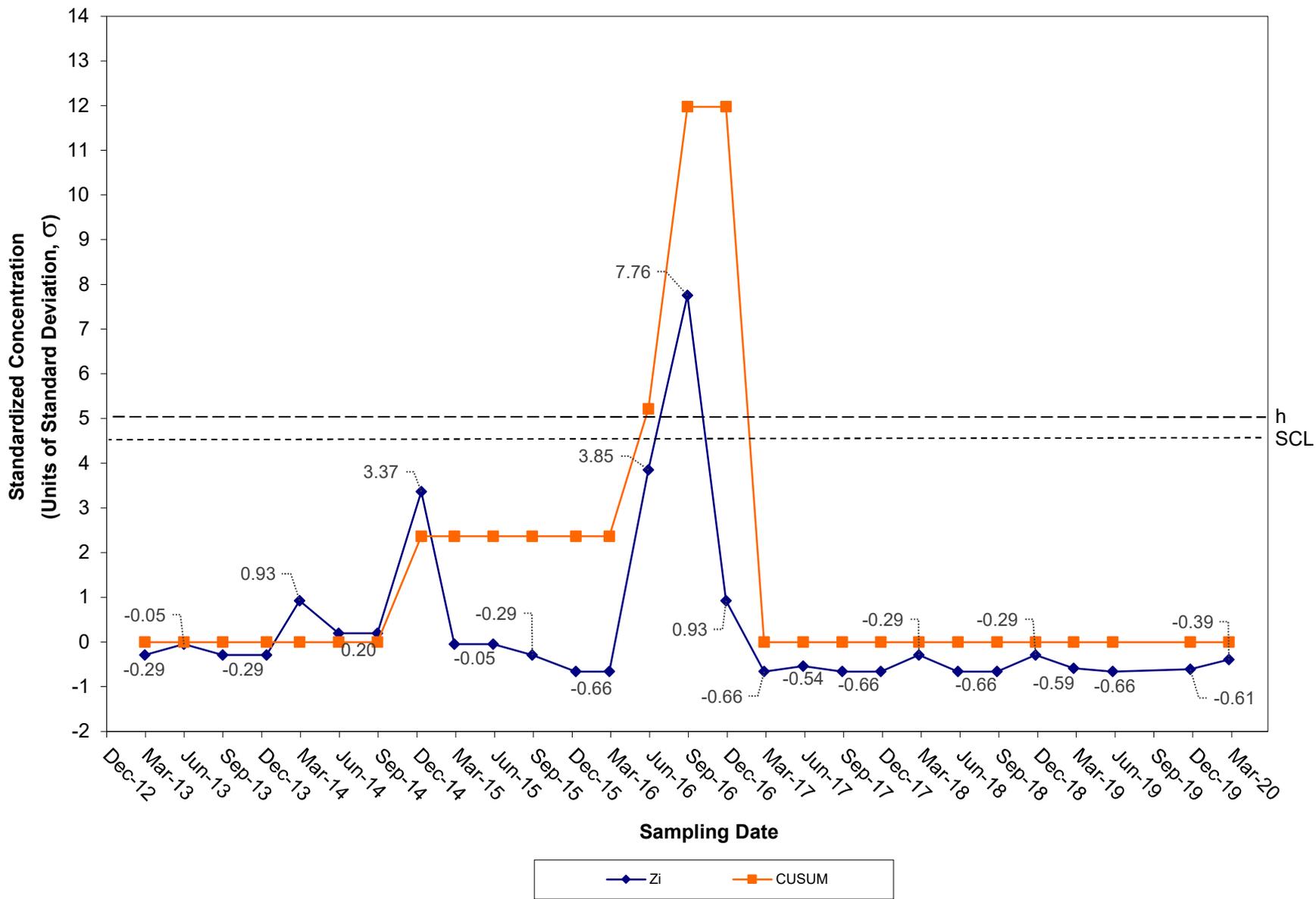
CUSUM Control Chart for Cobalt Tiverton Landfill Groundwater Compliance Well OW-13



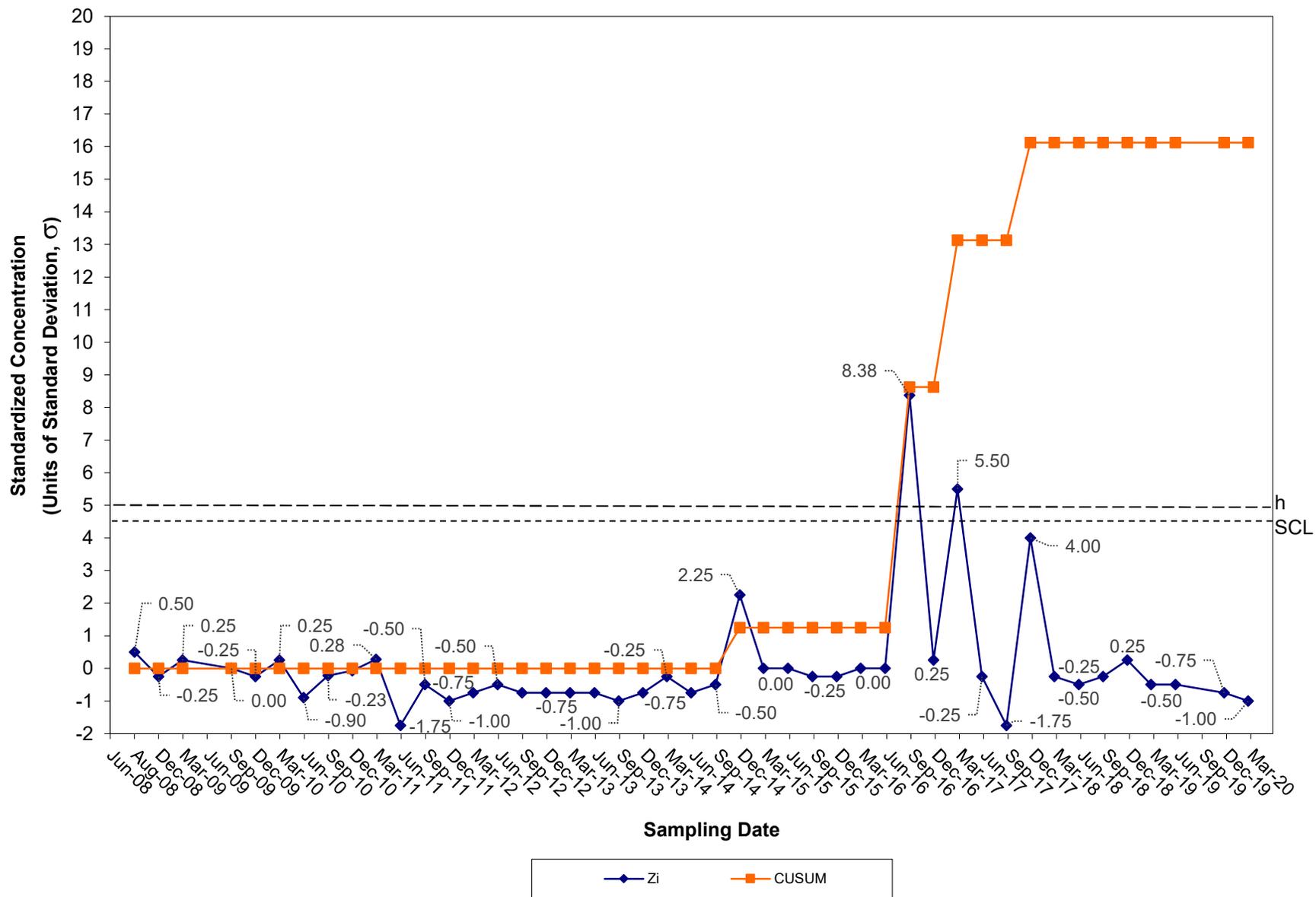
CUSUM Control Chart for Copper Tiverton Landfill Groundwater Compliance Well OW-13



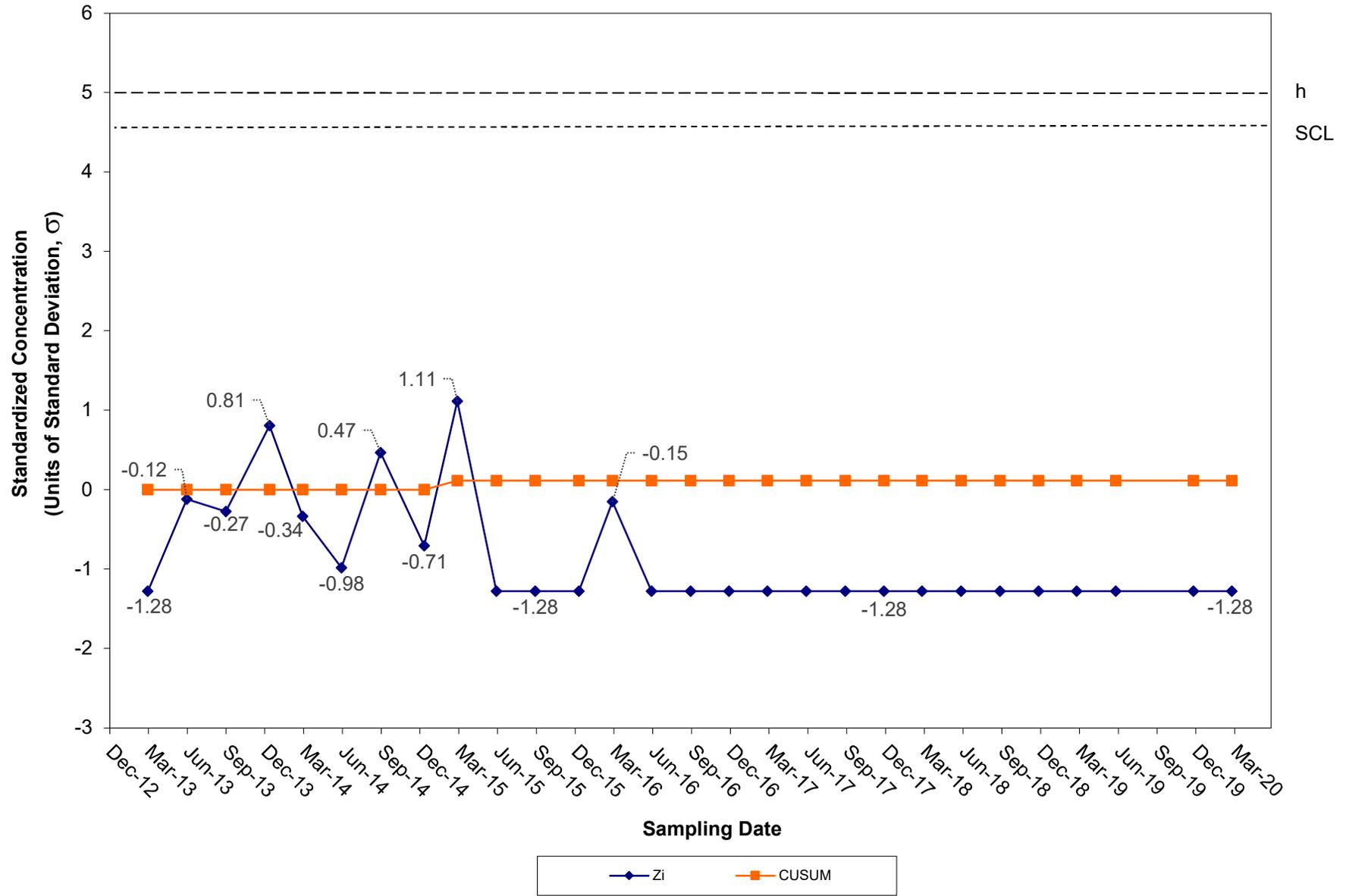
CUSUM Control Chart for Lead Tiverton Landfill Groundwater Compliance Well OW-13



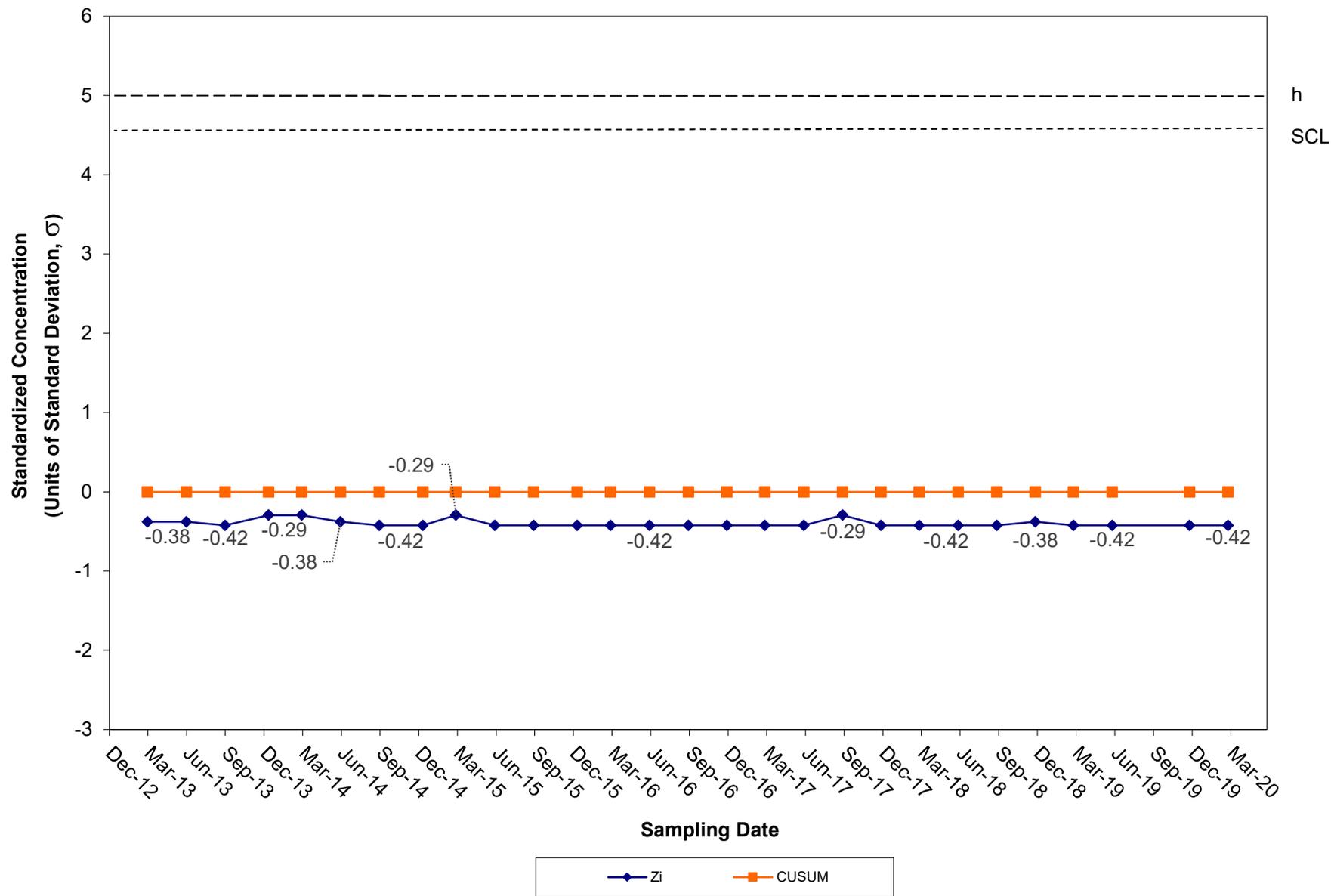
CUSUM Control Chart for Nickel Tiverton Landfill Groundwater Compliance Well OW-13



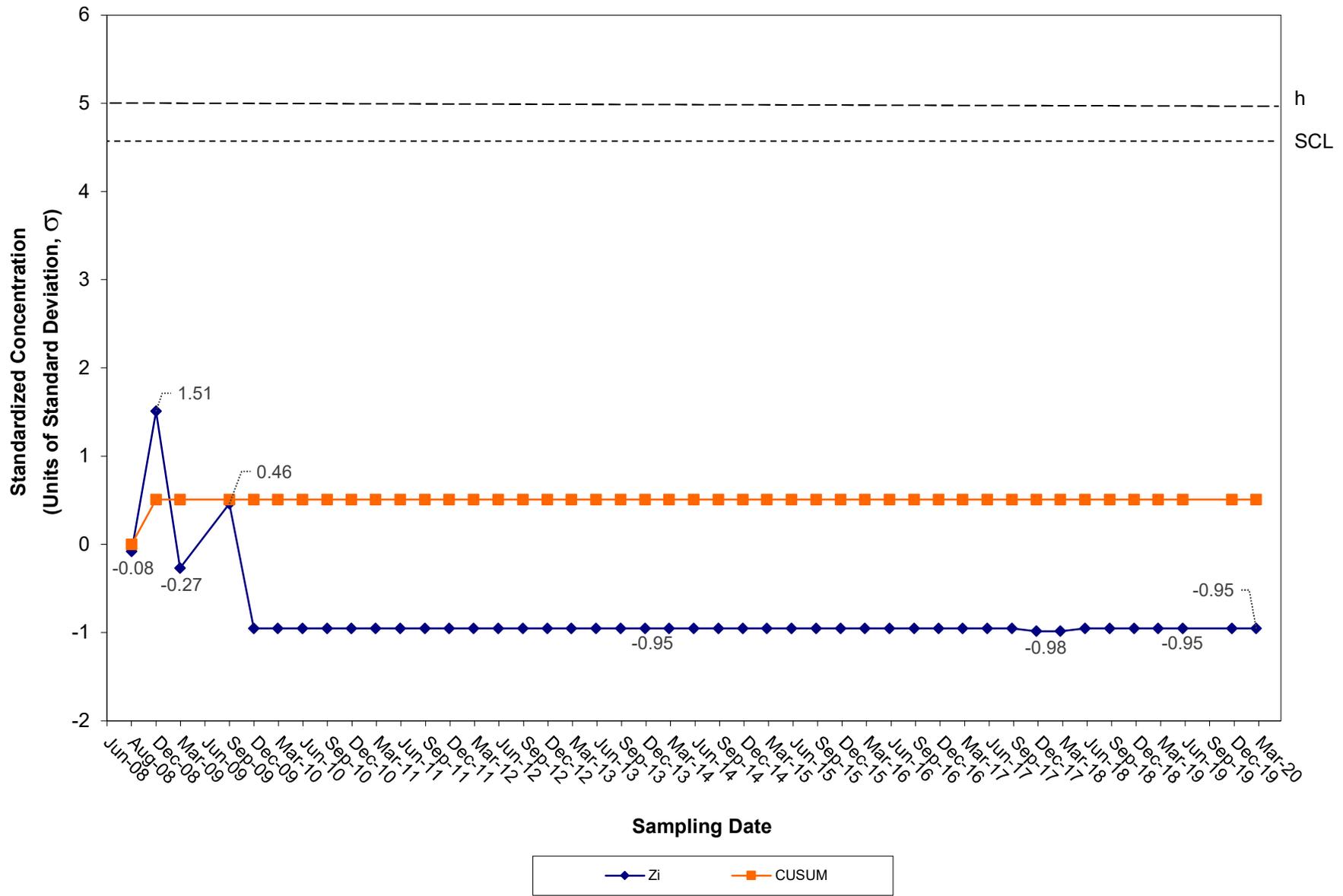
CUSUM Control Chart for Selenium Tiverton Landfill Groundwater Compliance Well OW-13



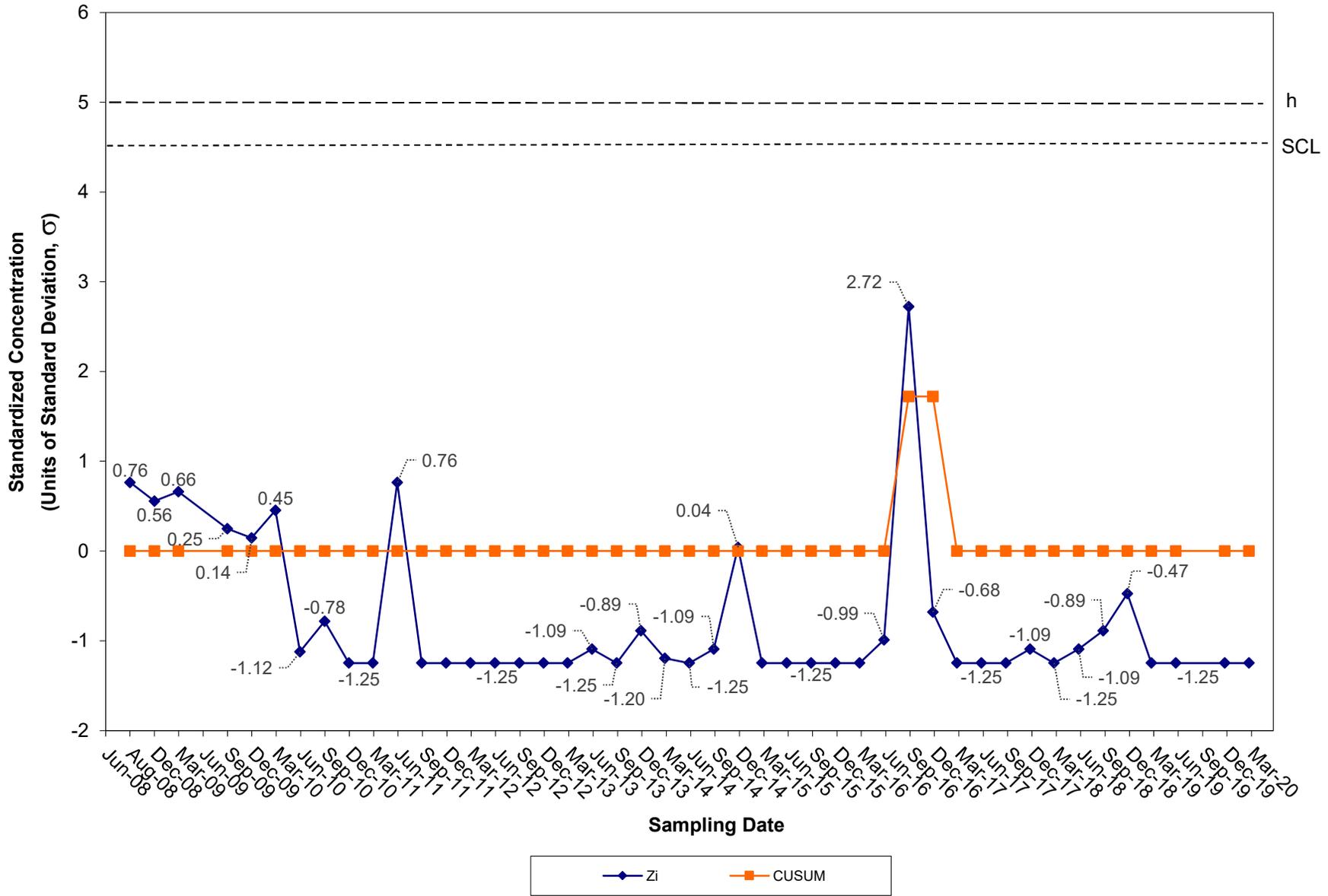
CUSUM Control Chart for Silver Tiverton Landfill Groundwater Compliance Well OW-13



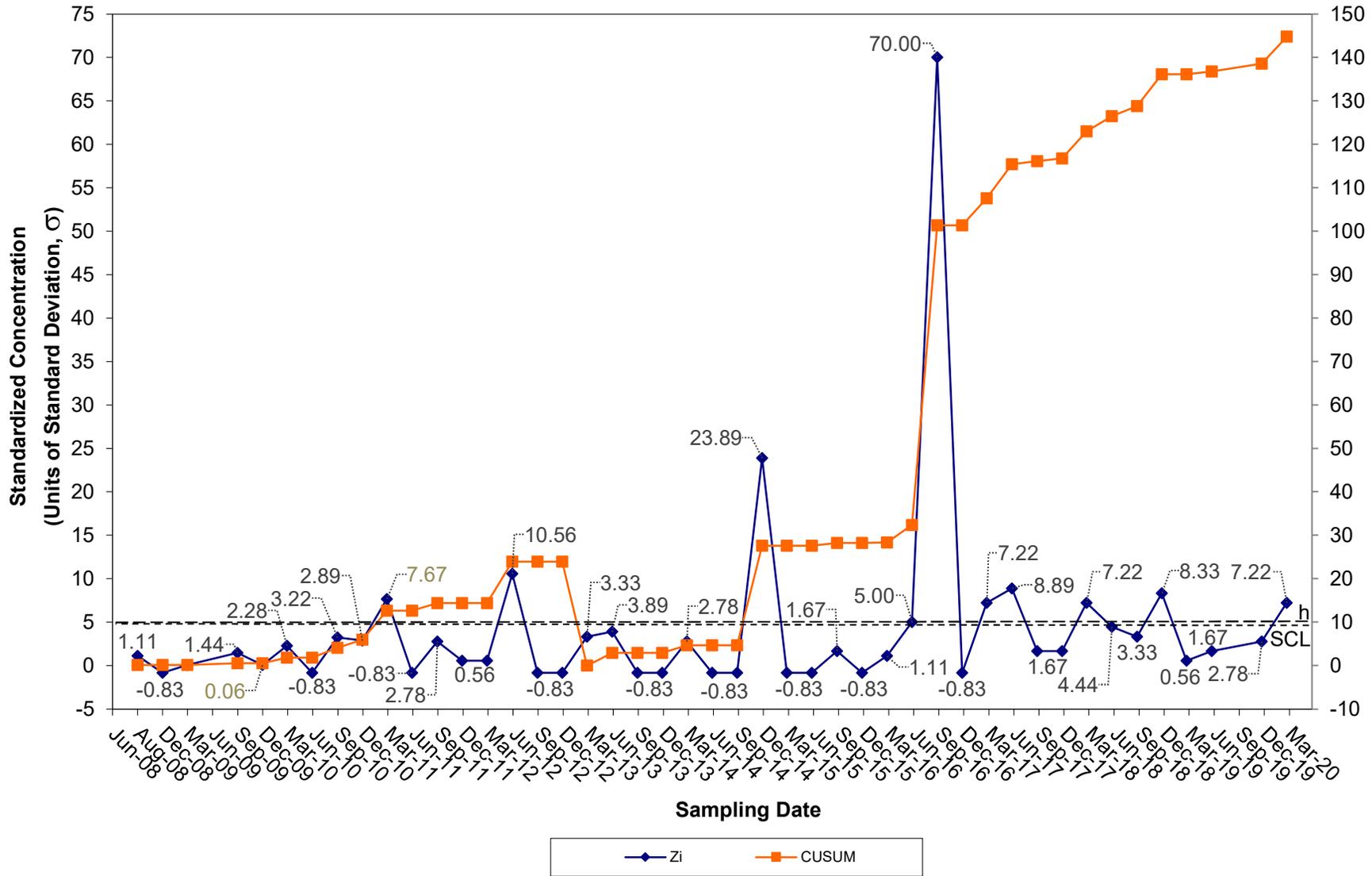
CUSUM Control Chart for Thallium Tiverton Landfill Groundwater Compliance Well OW-13



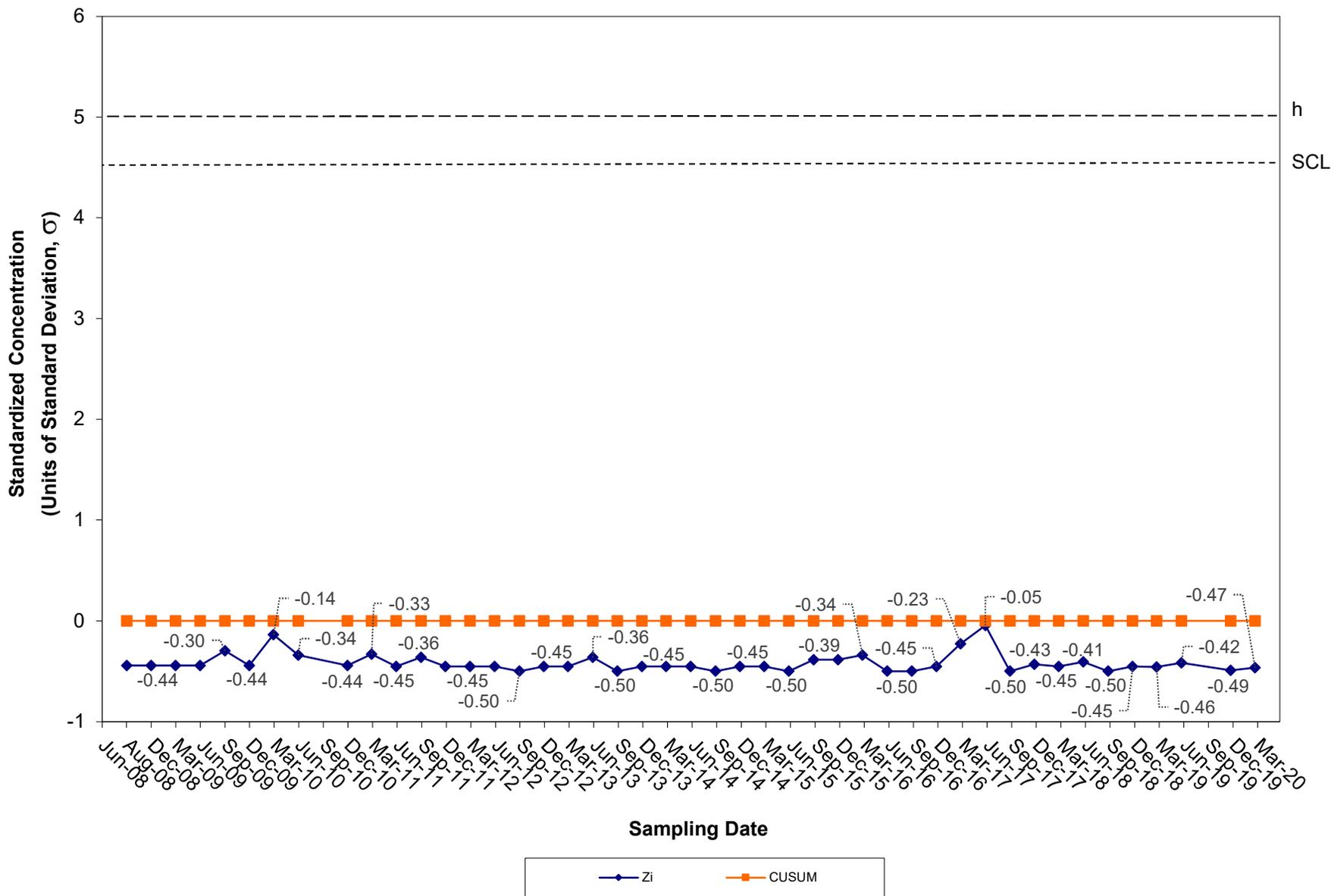
CUSUM Control Chart for Vanadium Tiverton Landfill Groundwater Compliance Well OW-13



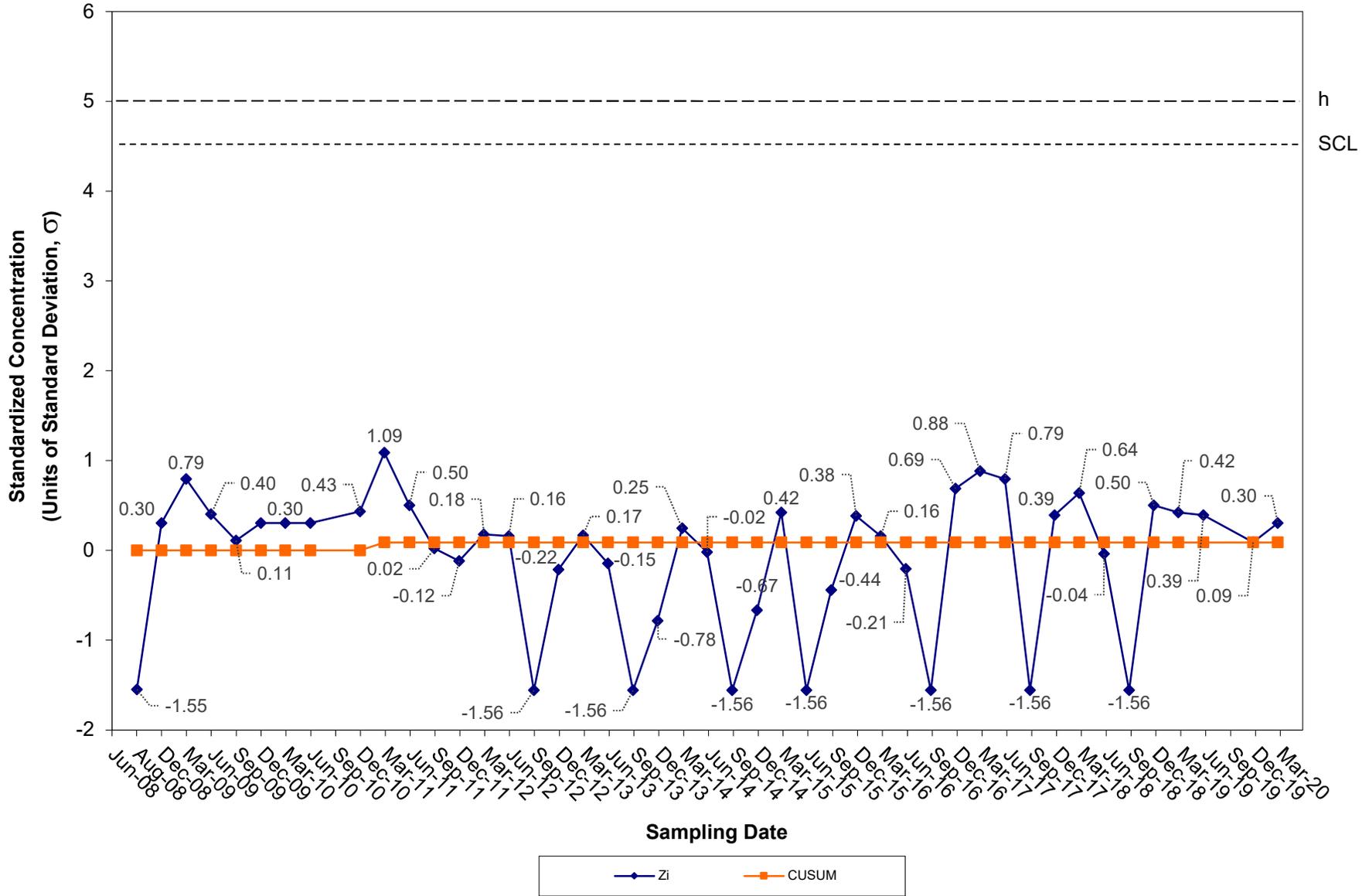
CUSUM Control Chart for Zinc Tiverton Landfill Groundwater Compliance Well OW-13



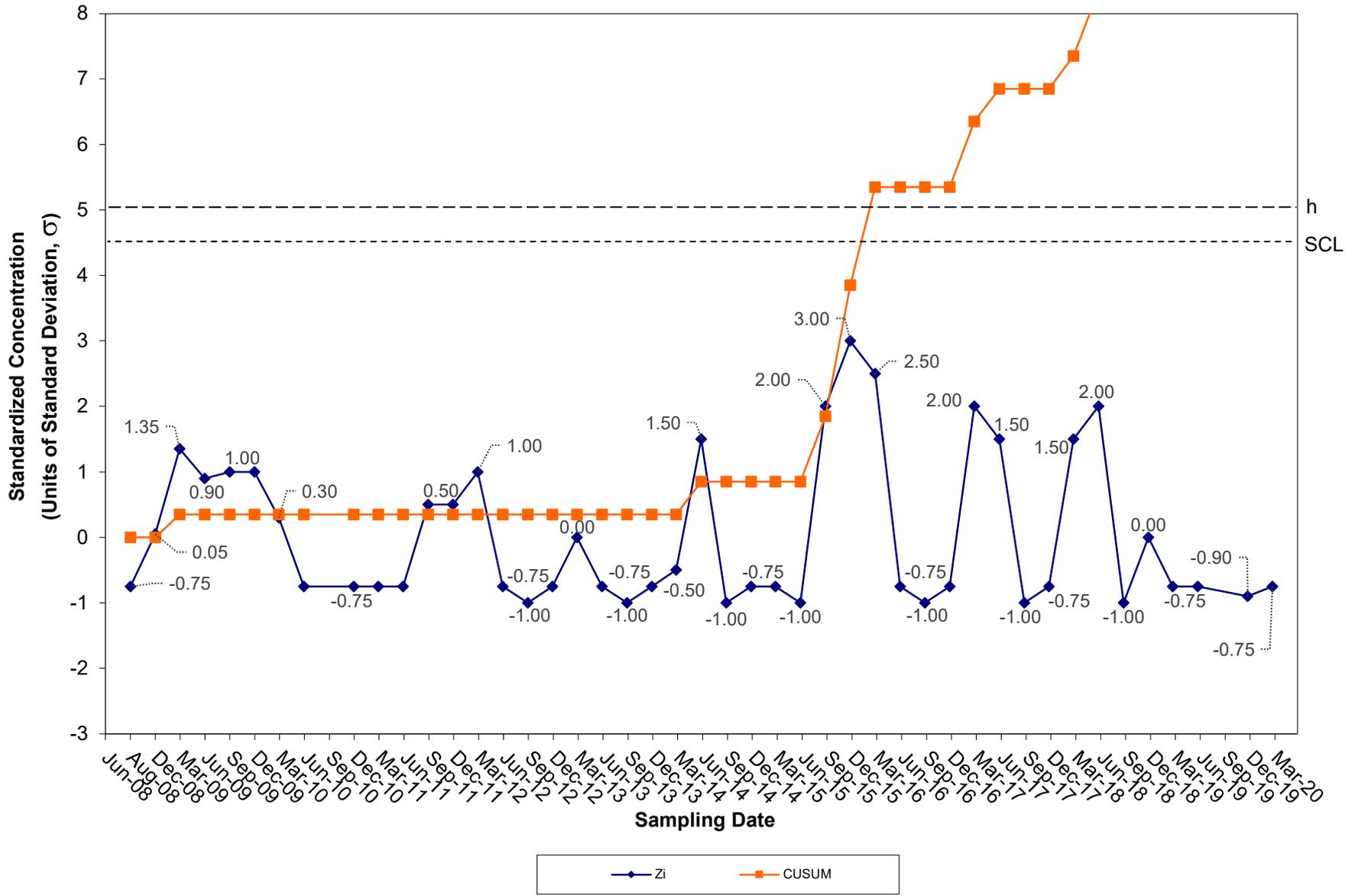
CUSUM Control Chart for Arsenic Tiverton Landfill Groundwater Compliance Well OW-14



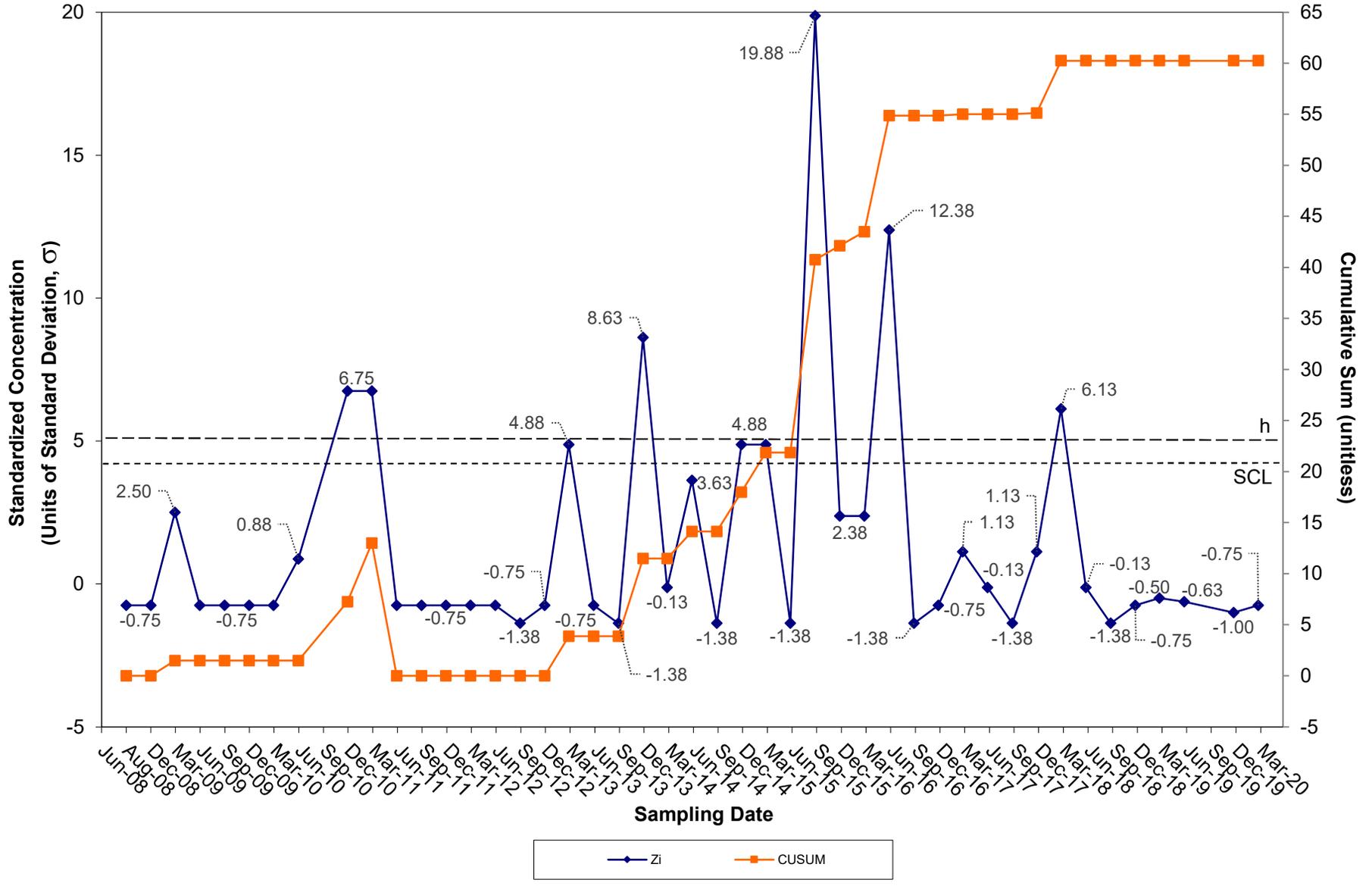
CUSUM Control Chart for Barium Tiverton Landfill Groundwater Compliance Well OW-14



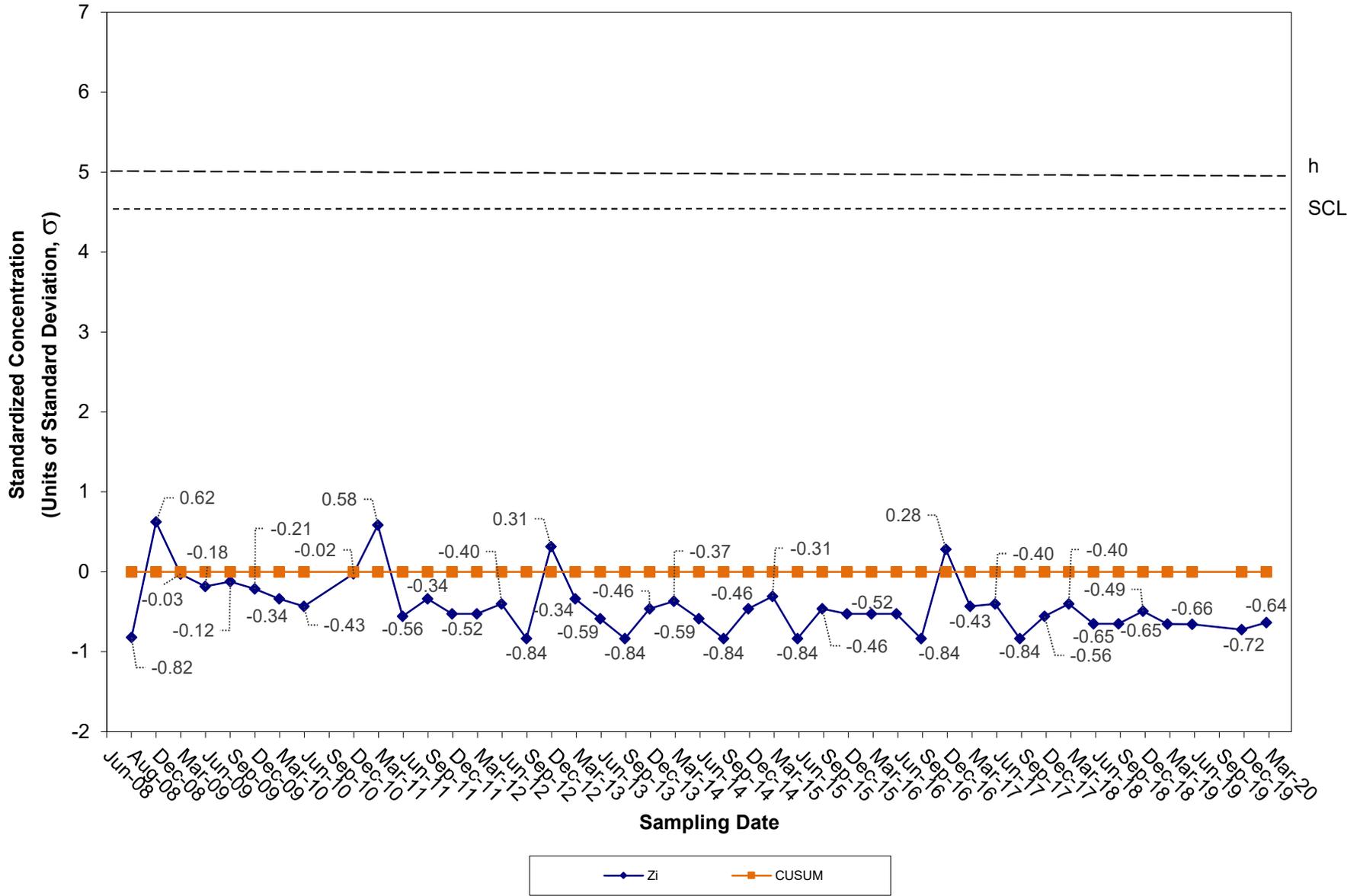
CUSUM Control Chart for Cadmium Tiverton Landfill Groundwater Compliance Well OW-14



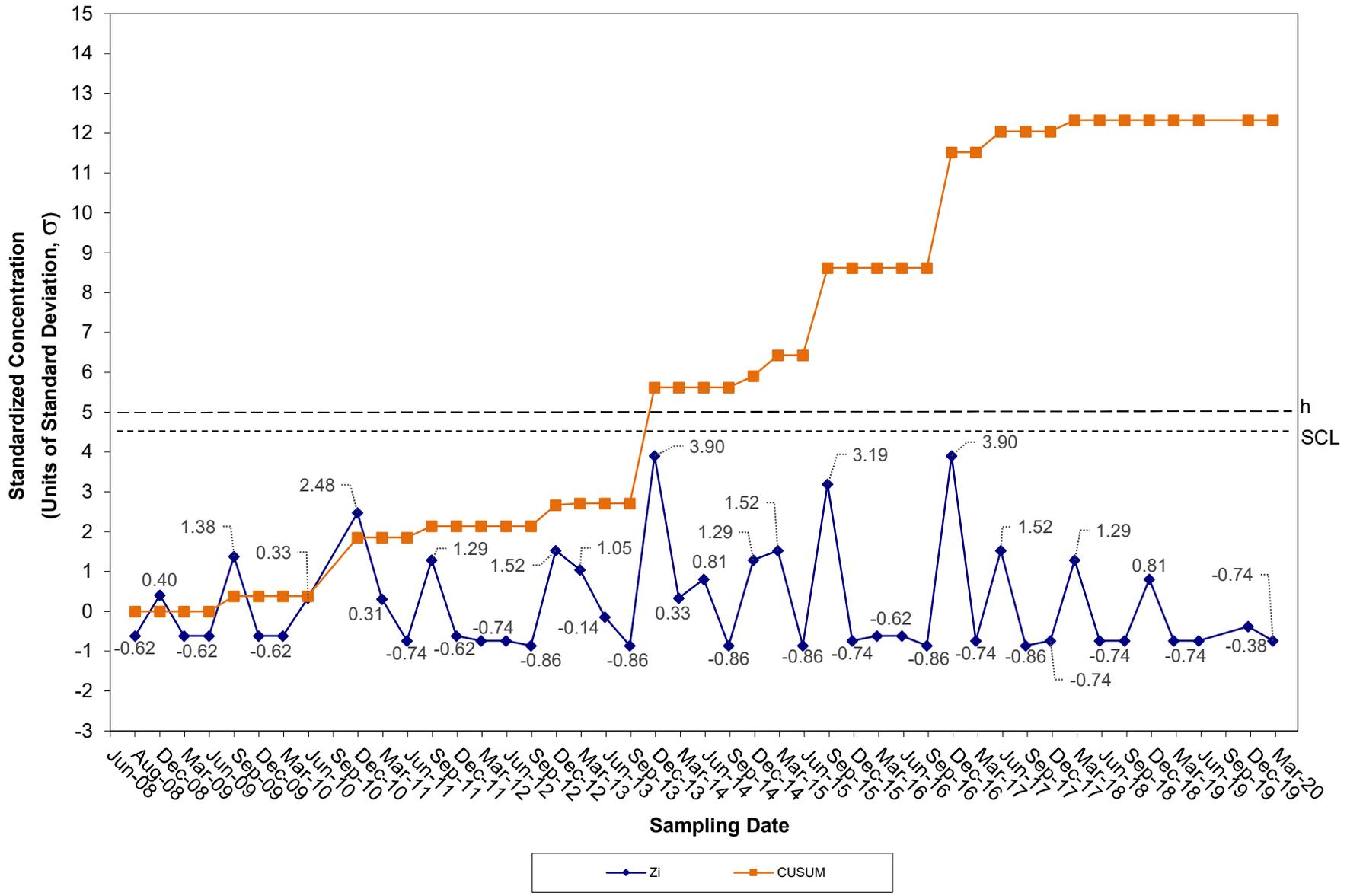
CUSUM Control Chart for Chromium Tiverton Landfill Groundwater Compliance Well OW-14



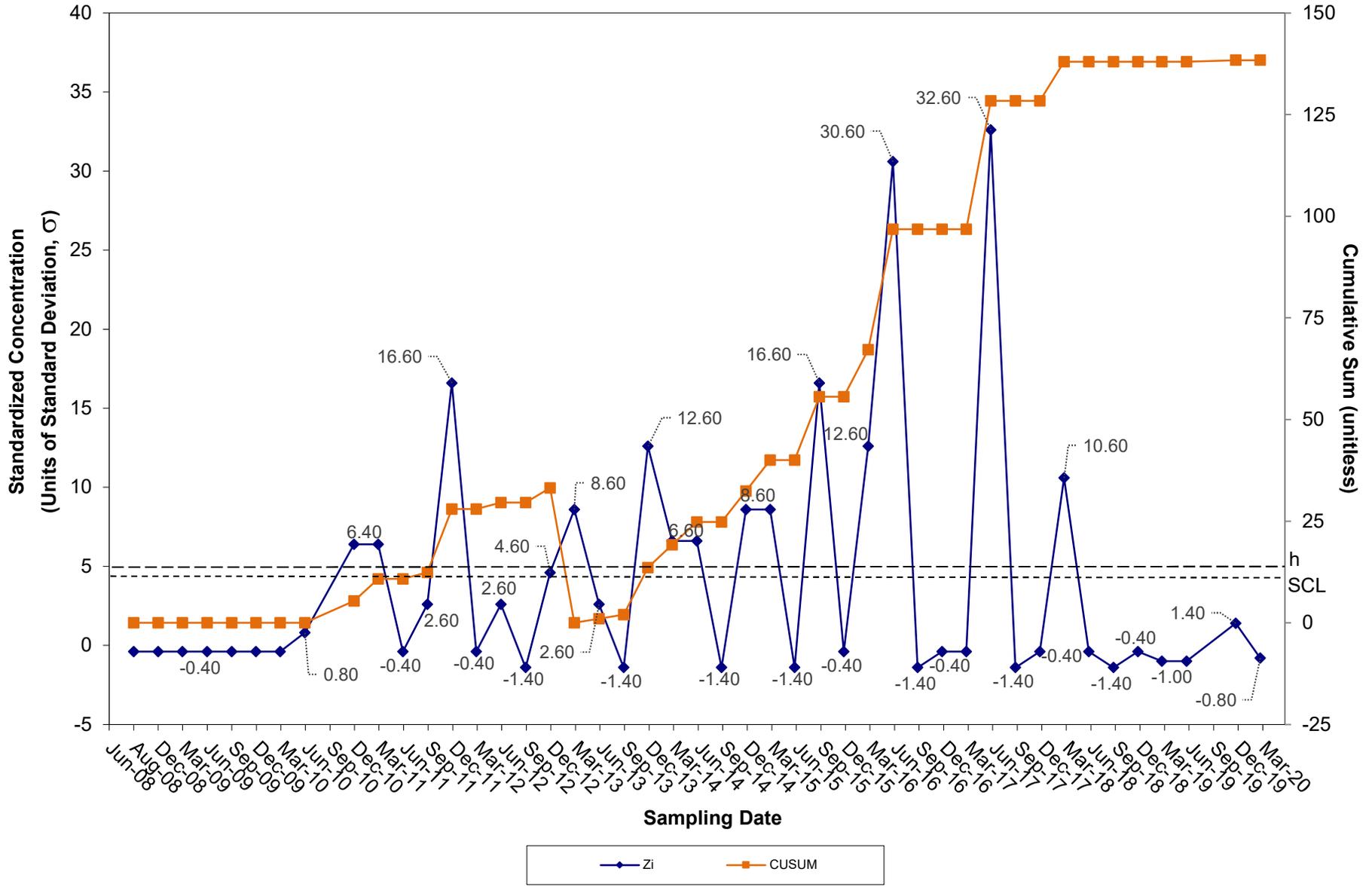
CUSUM Control Chart for Cobalt Tiverton Landfill Groundwater Compliance Well OW-14



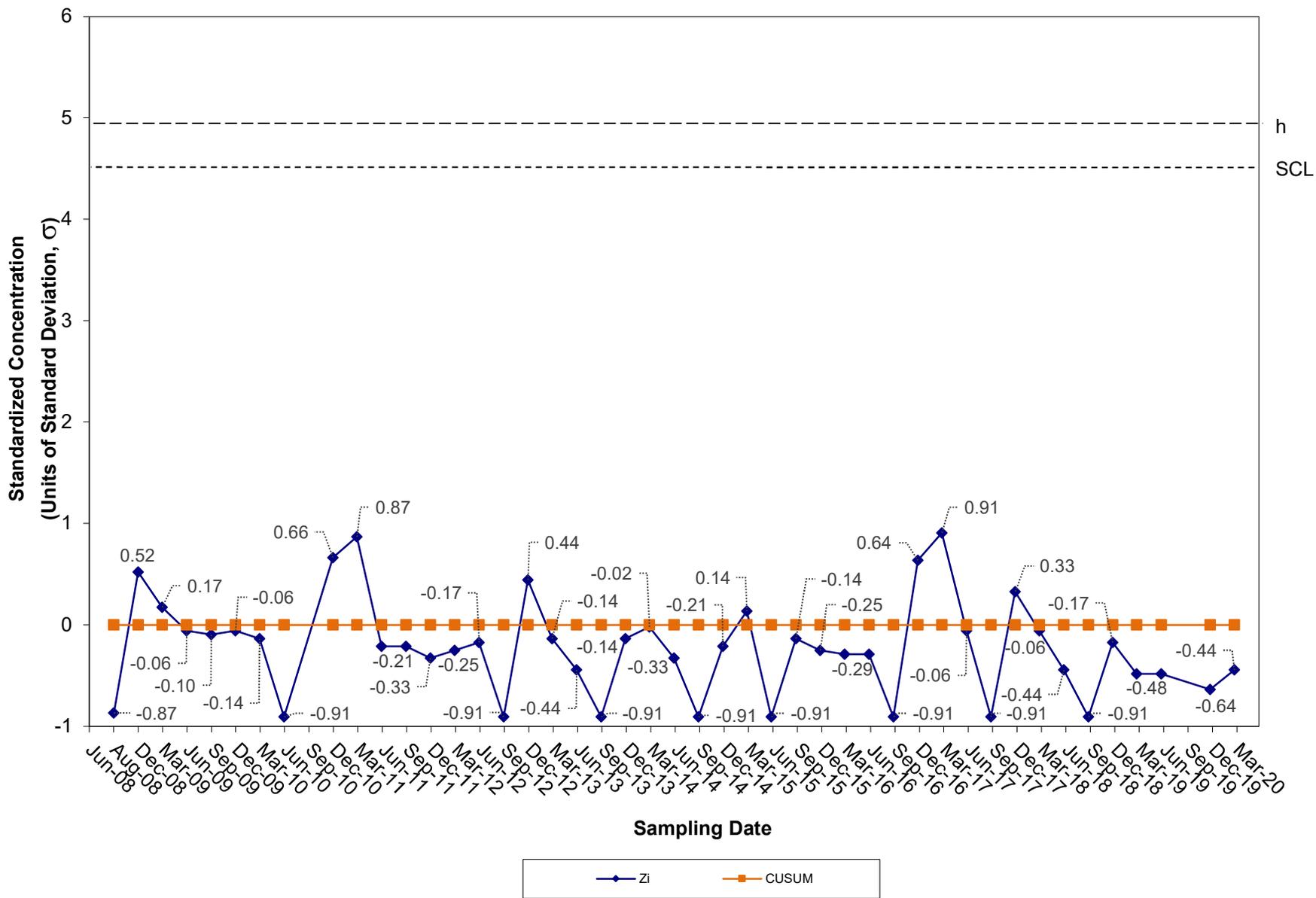
CUSUM Control Chart for Copper Tiverton Landfill Groundwater Compliance Well OW-14



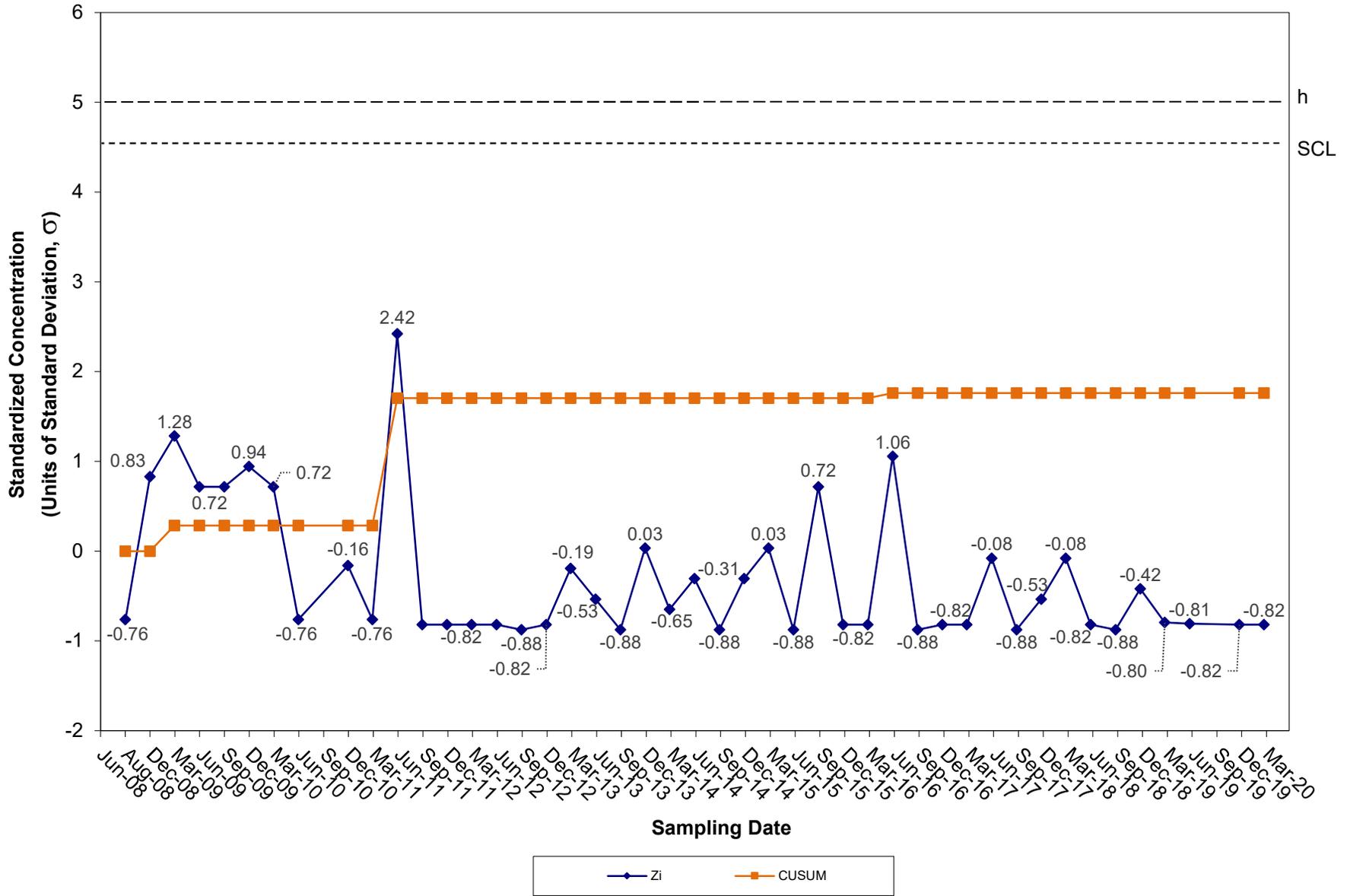
CUSUM Control Chart for Lead Tiverton Landfill Groundwater Compliance Well OW-14



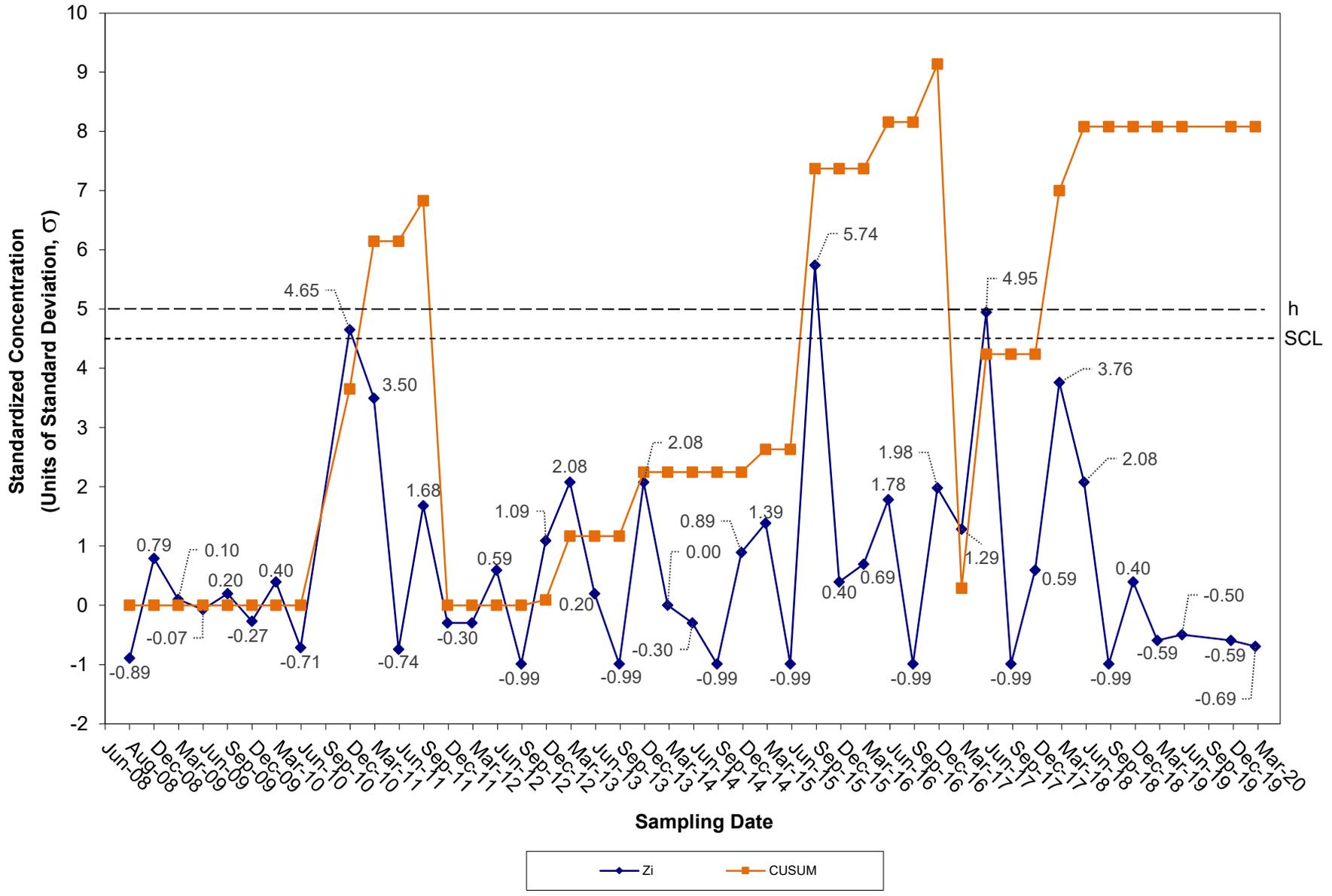
CUSUM Control Chart for Nickel Tiverton Landfill Groundwater Compliance Well OW-14



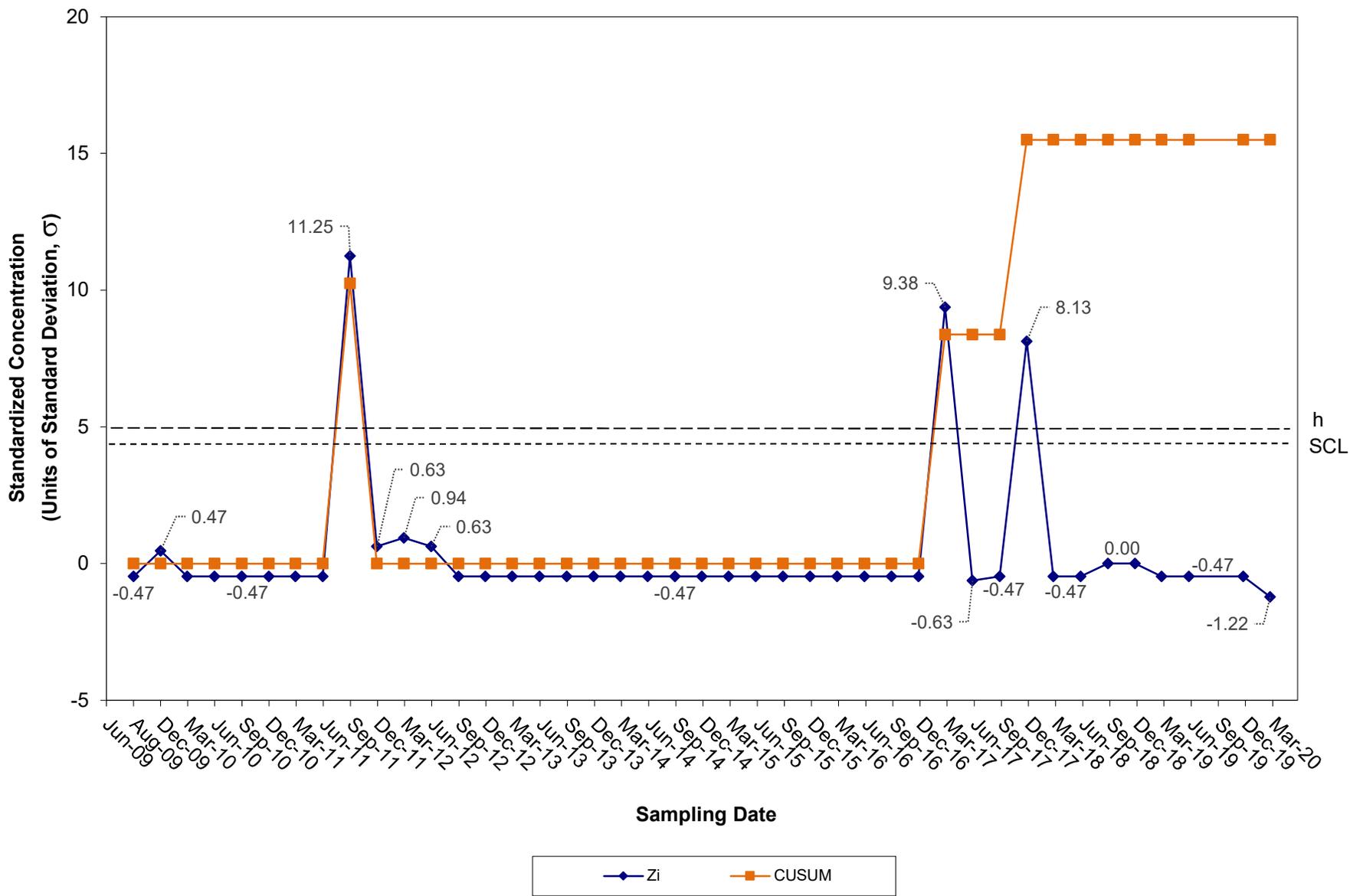
CUSUM Control Chart for Vanadium Tiverton Landfill Groundwater Compliance Well OW-14



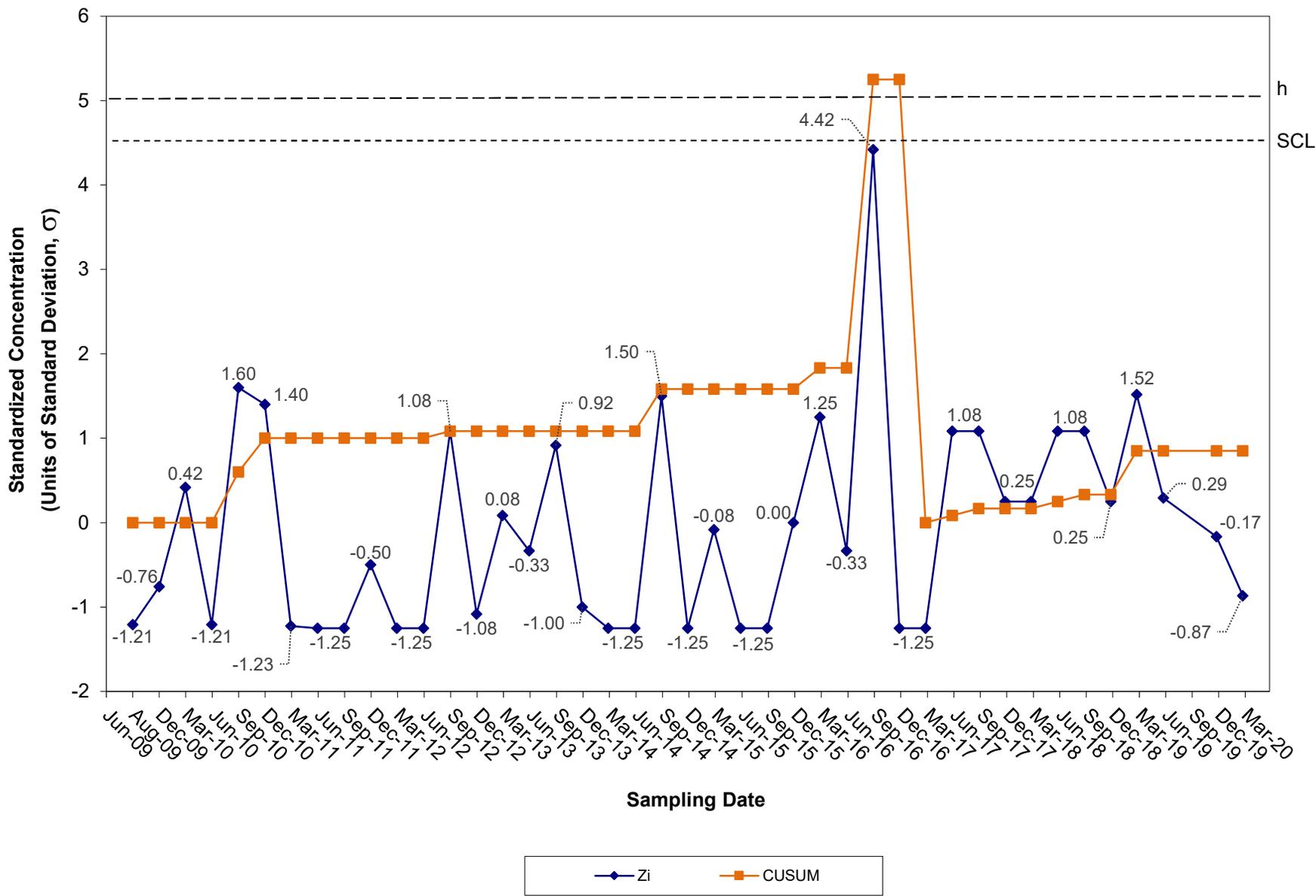
CUSUM Control Chart for Zinc Tiverton Landfill Groundwater Compliance Well OW-14



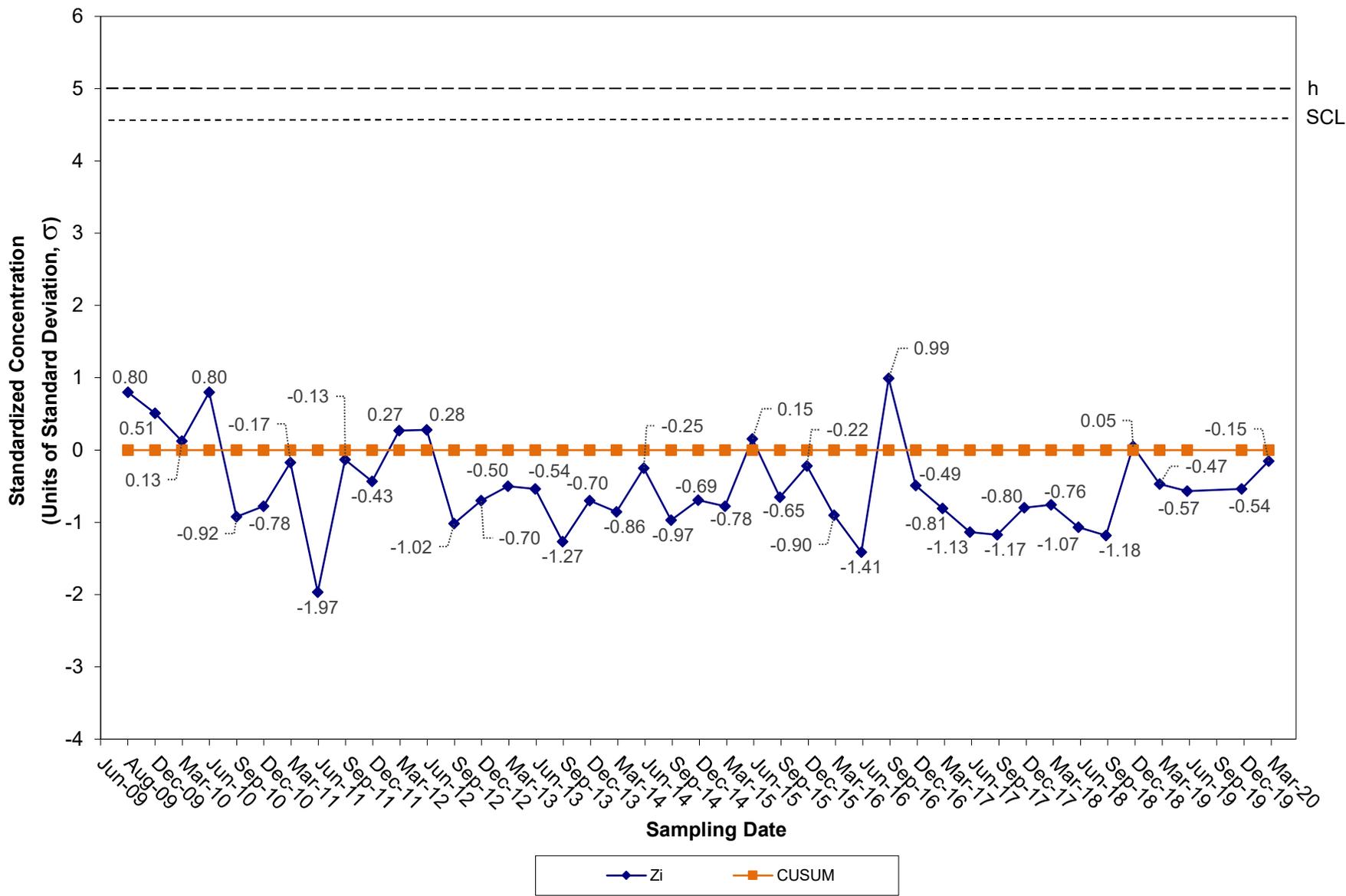
CUSUM Control Chart for Antimony Tiverton Landfill Groundwater Compliance Well OW-15



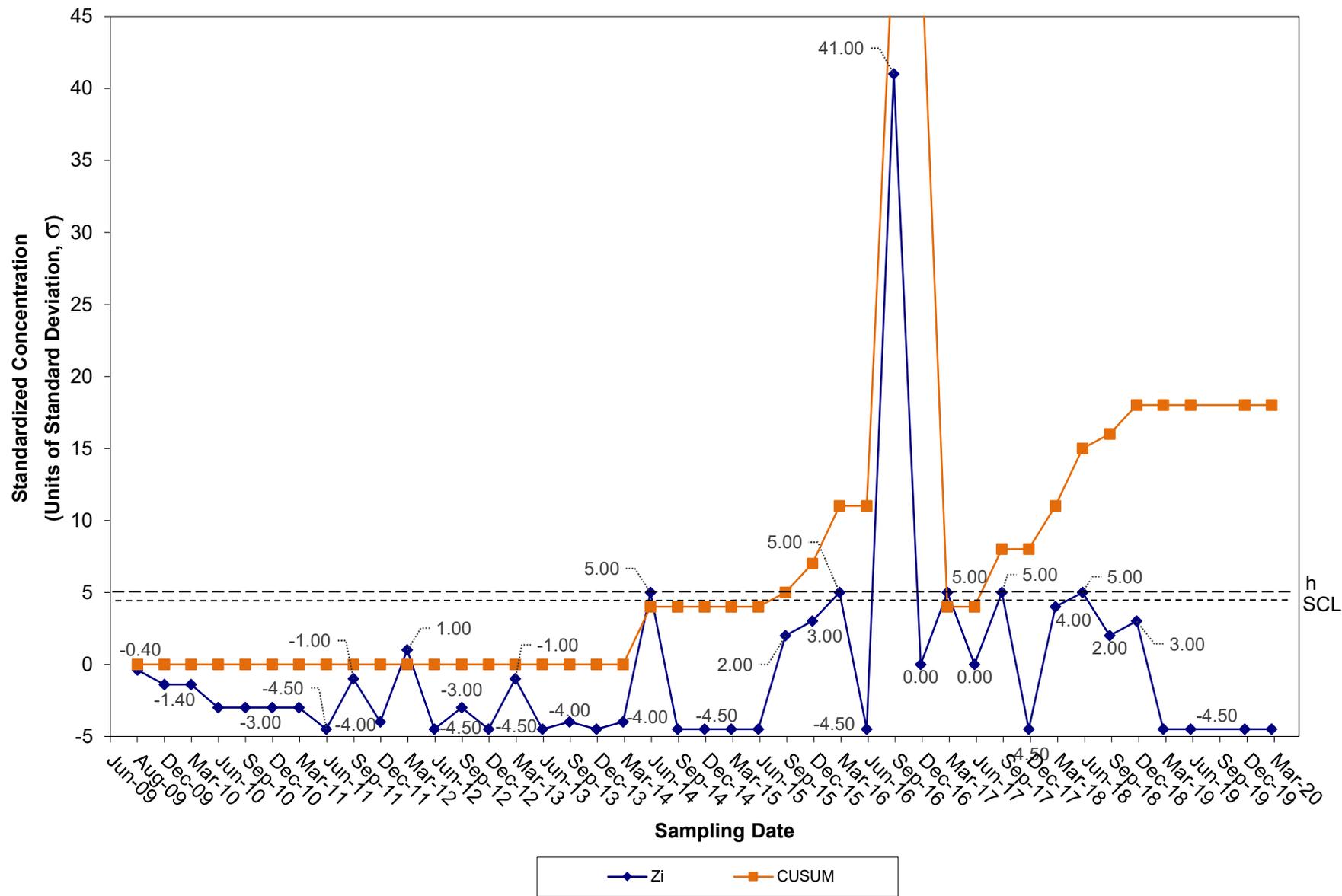
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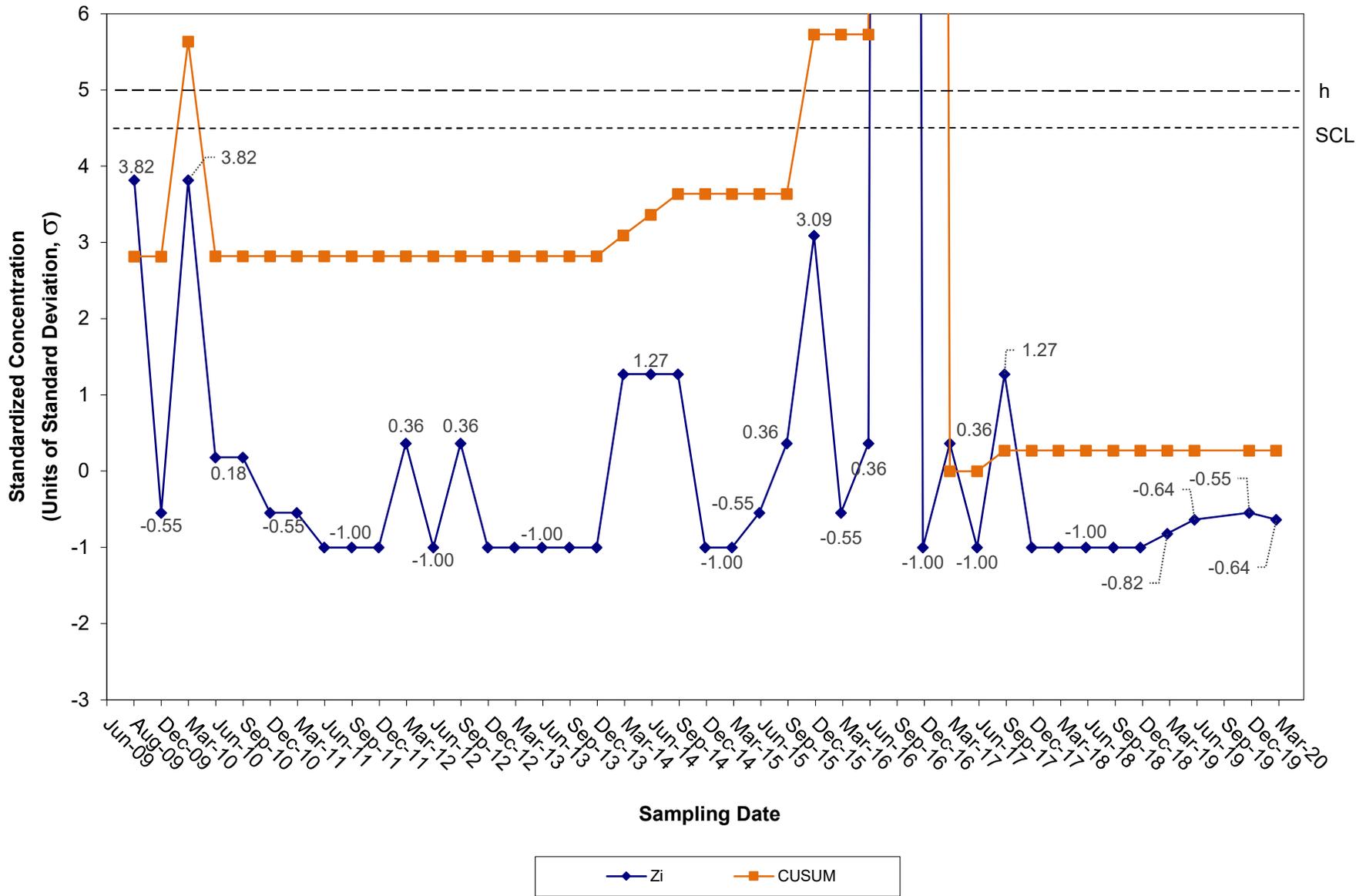
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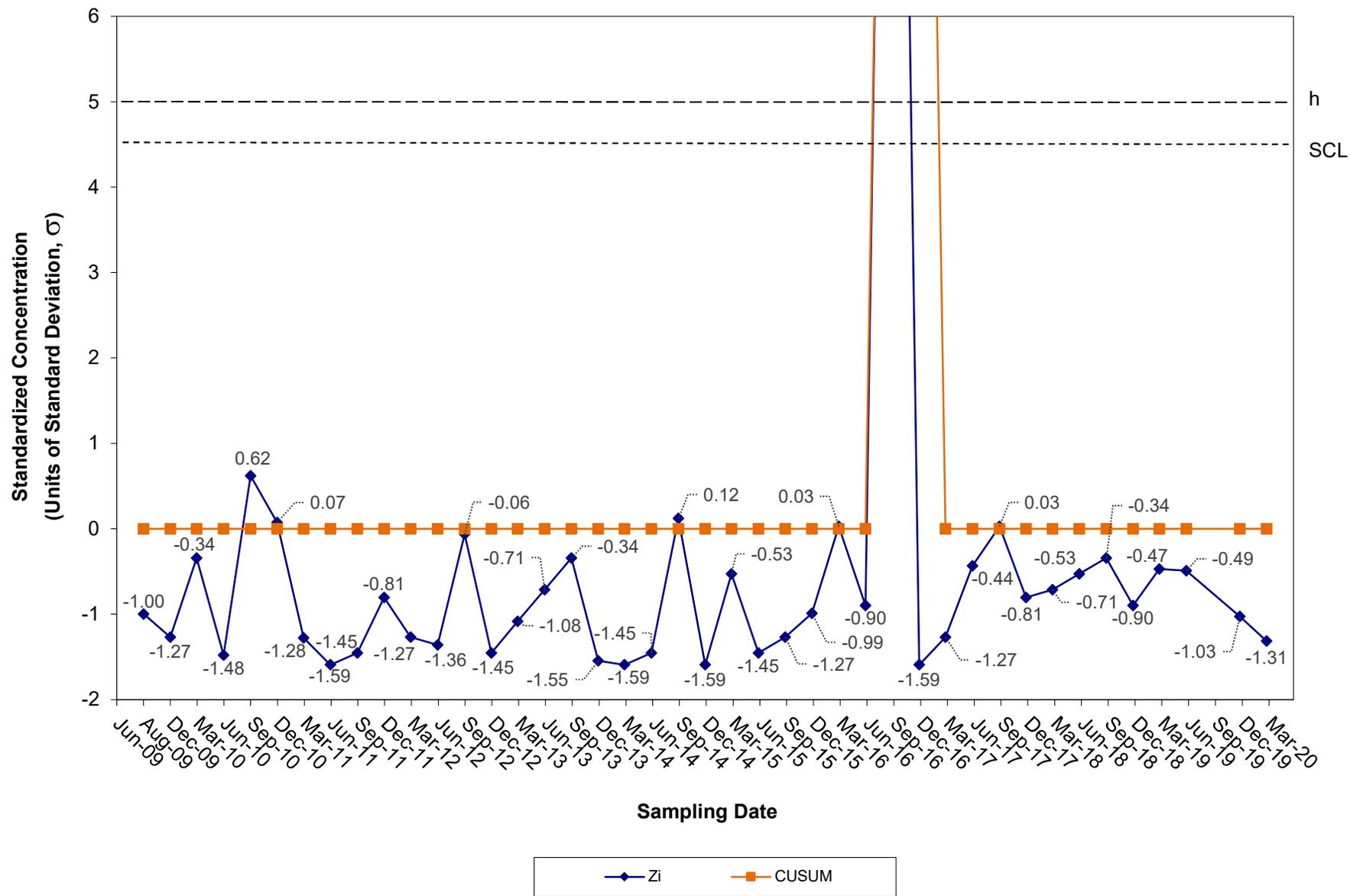
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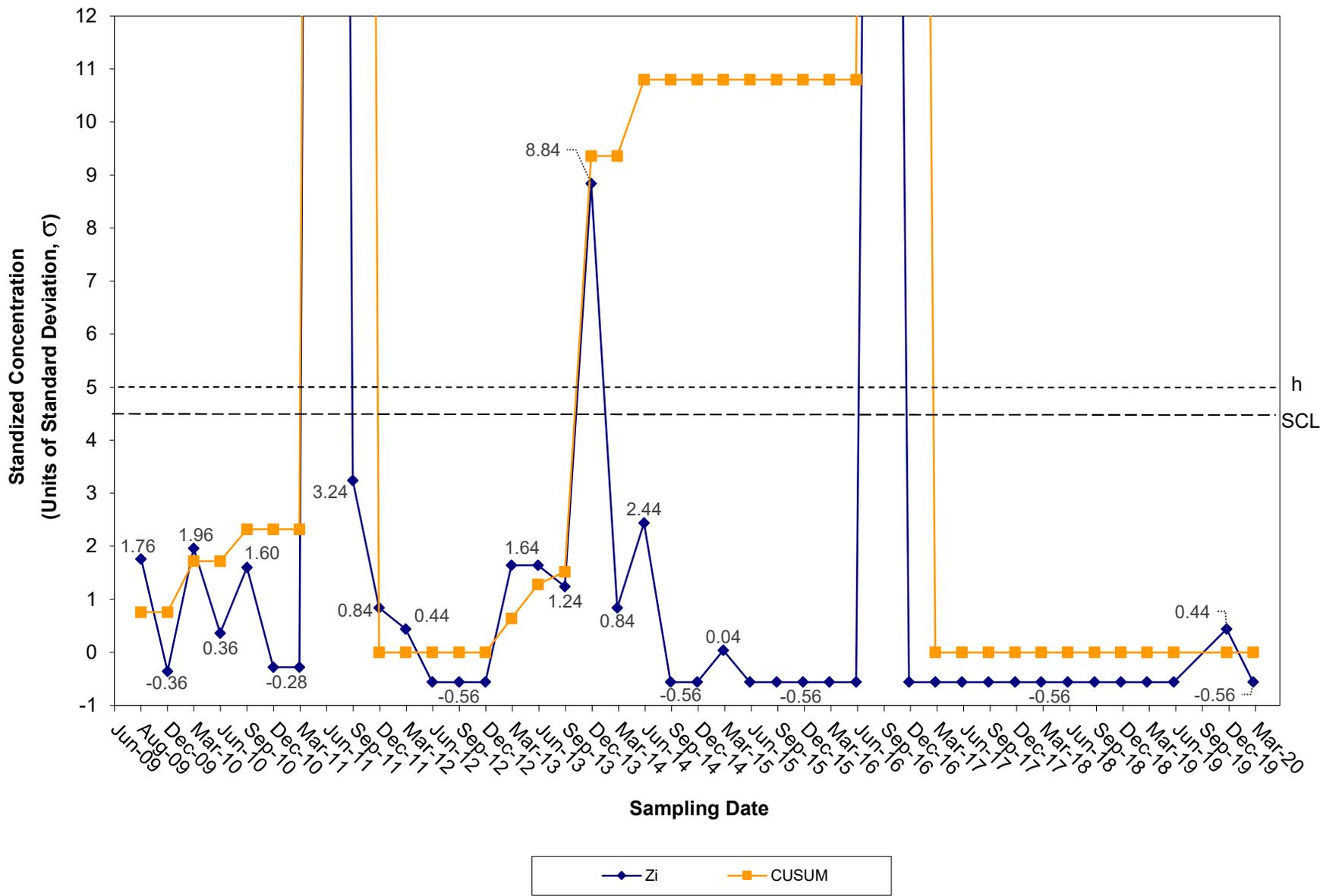
CUSUM Control Chart for Chromium Tiverton Landfill Groundwater Compliance Well OW-15



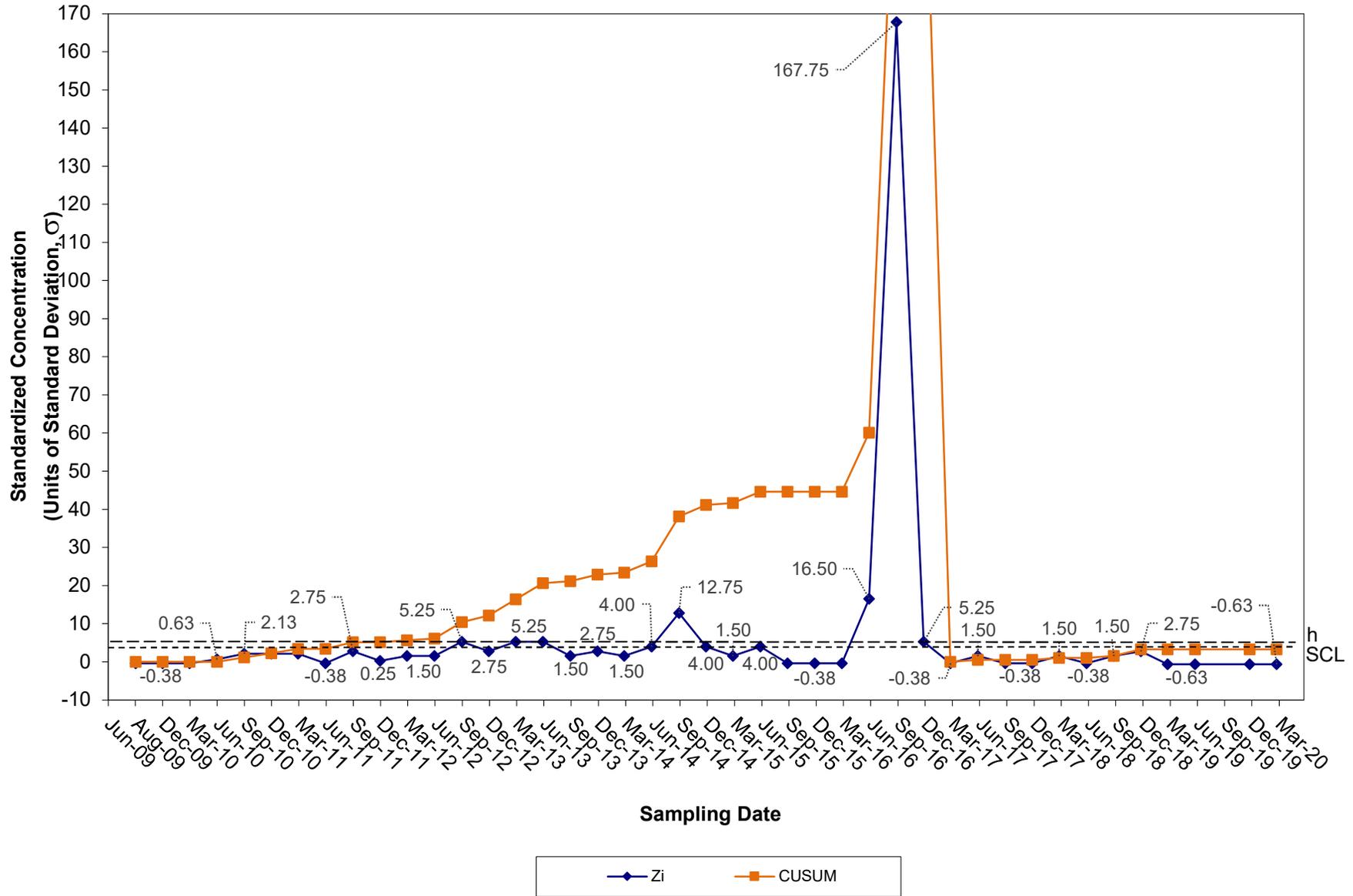
CUSUM Control Chart for Cobalt Tiverton Landfill Groundwater Compliance Well OW-15



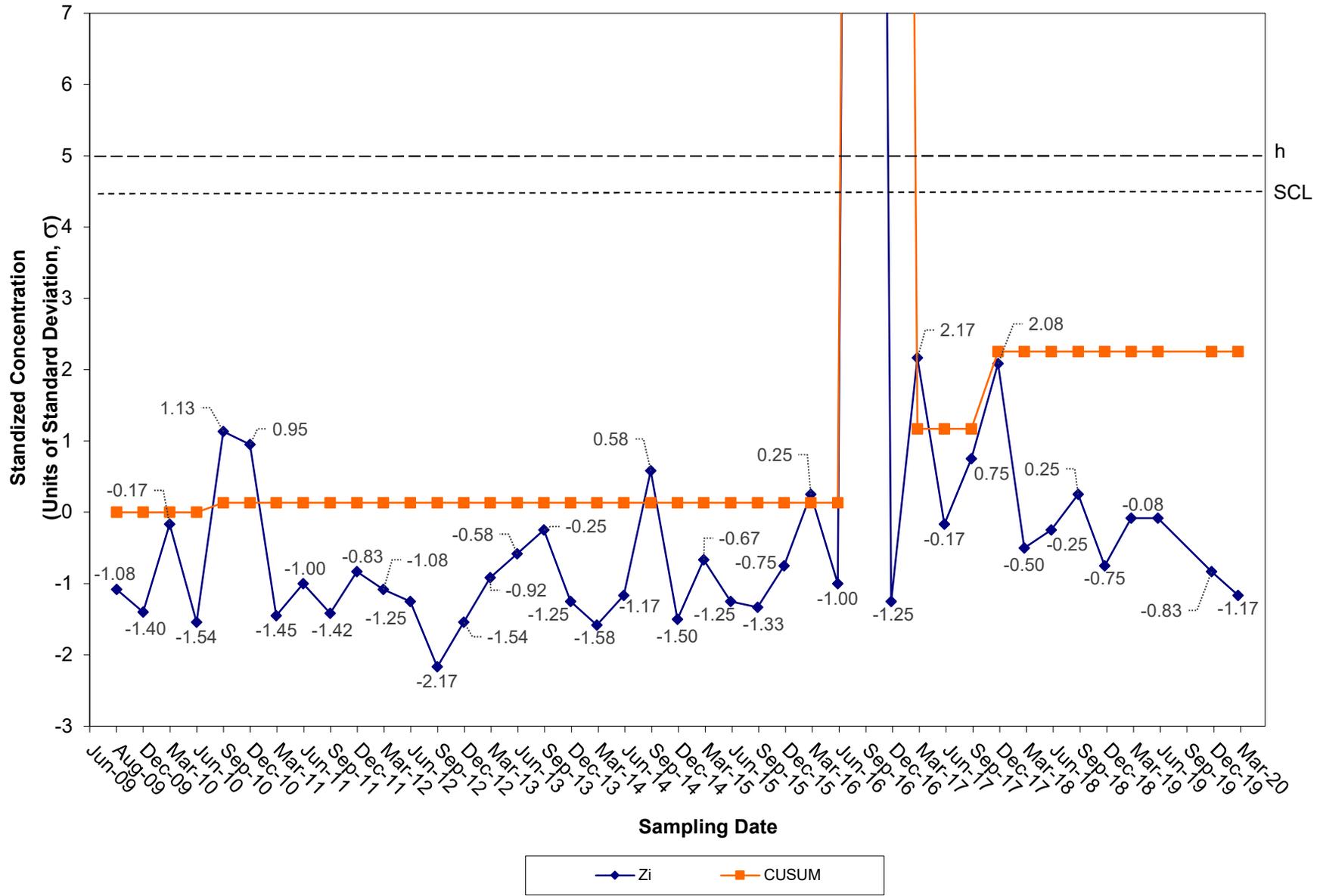
CUSUM Control Chart for Copper Tiverton Landfill Groundwater Compliance Well OW-15



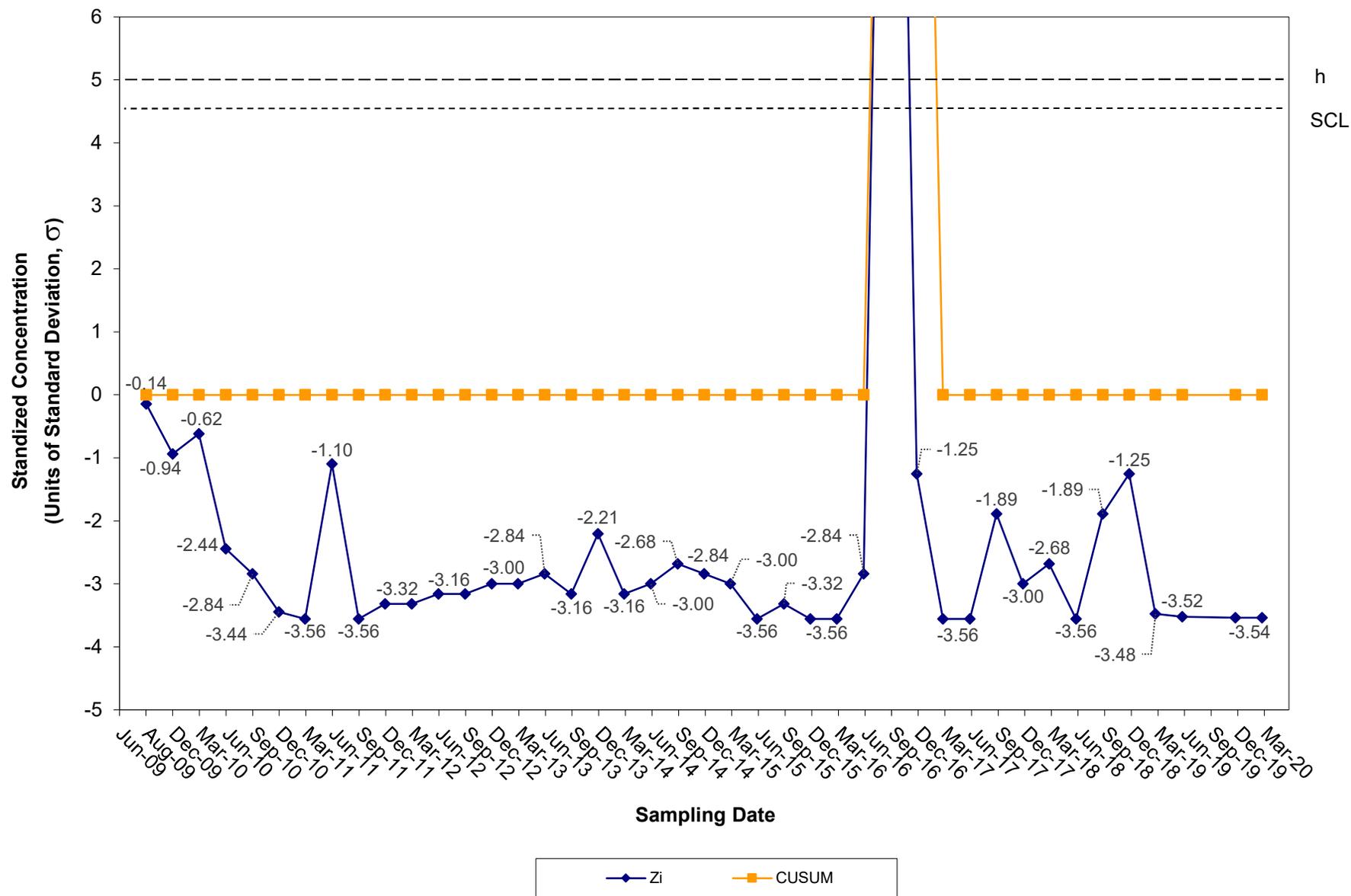
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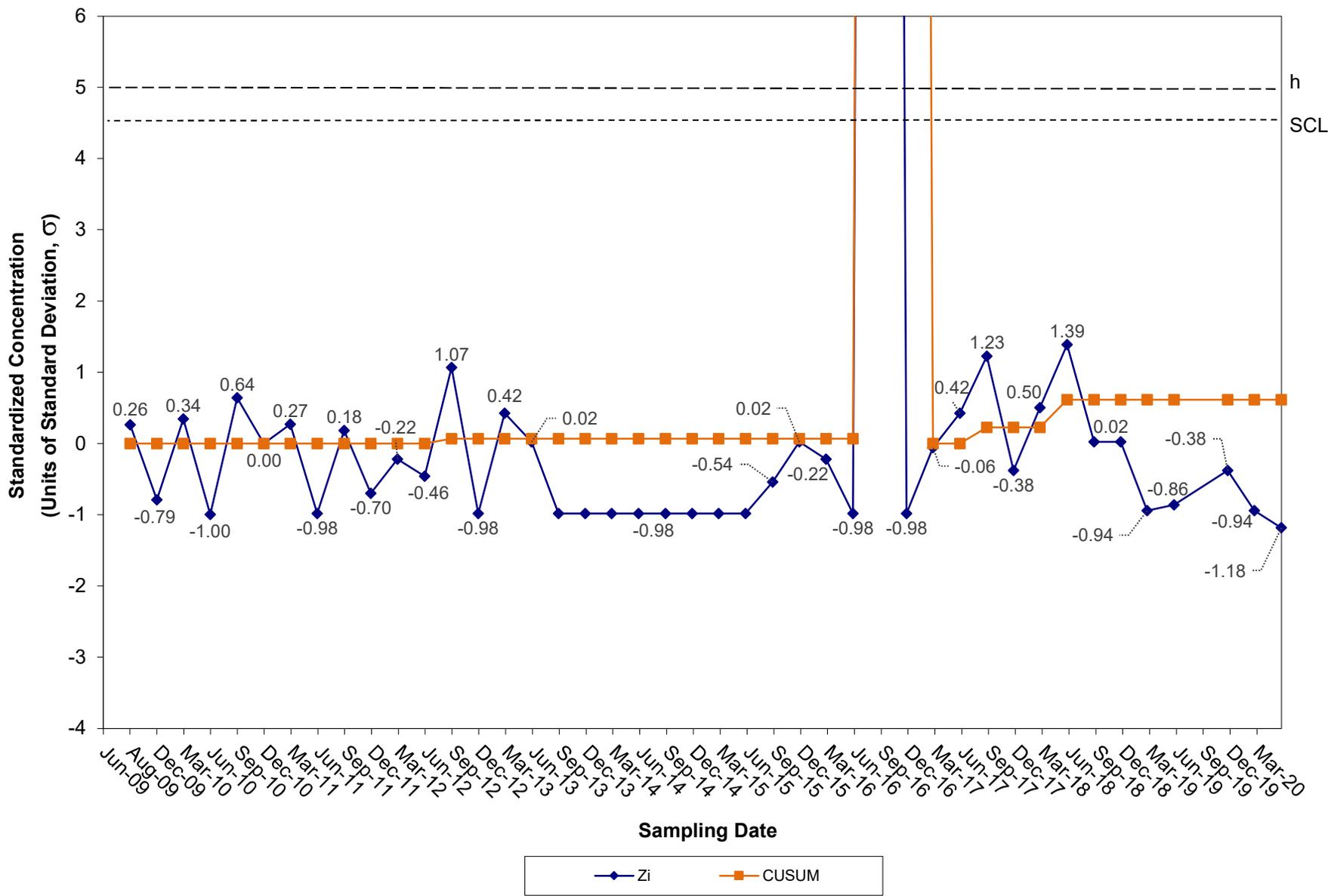
CUSUM Control Chart for Nickel Tiverton Landfill Groundwater Compliance Well OW-15



CUSUM Control Chart for Vanadium Tiverton Landfill Groundwater Compliance Well OW-15



CUSUM Control Chart for Zinc Tiverton Landfill Groundwater Compliance Well OW-15



ATTACHMENT 5

Laboratory Analytical Report, Surface Water Sampling





New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 0C27016
Client Project: 94139 - Tiverton Landfill

Report Date: 02-April-2020

Prepared for:

Travis Johnson
Pare Corporation
8 Blackstone Valley Place
Lincoln, RI 02865

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 03/27/20. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 0C27016. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
0C27016-01	SW-1	Water	03/26/2020	03/27/2020
0C27016-02	SW-2	Water	03/26/2020	03/27/2020
0C27016-03	SW-3	Water	03/26/2020	03/27/2020

Request for Analysis (continued)

SW-2 (Lab Number: 0C27016-02) (continued)

Analysis

Silver
Thallium
Tin
Total Kjeldahl Nitrogen
Total Nitrogen
Total Phosphorous
Vanadium
Zinc

Method

EPA 200.8
EPA 200.8
EPA 200.8
SM4500-N-C (11)
Calculation
SM4500-P-E (11)
EPA 200.8
EPA 200.8

SW-3 (Lab Number: 0C27016-03)

Analysis

Ammonia
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Mercury
Nickel
Nitrate and Nitrite as N
Nitrate as N
Nitrite as N
Selenium
Silver
Thallium
Tin
Total Kjeldahl Nitrogen
Total Nitrogen
Total Phosphorous
Vanadium
Zinc

Method

SM4500-NH3-D (11)
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
SM3120-B (11)
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
SM3120-B (11)
EPA 7470A
EPA 200.8
4500-N03-E
4500-N03-E
SM4500-N02-B (11)
EPA 200.8
EPA 200.8
EPA 200.8
EPA 200.8
SM4500-N-C (11)
Calculation
SM4500-P-E (11)
EPA 200.8
EPA 200.8

Method References

Methods for the Determination of Metals in Environmental Samples EPA-600/R-94/111, USEPA, 1994

Standard Methods for the Examination of Water and Wastewater, 20th Edition, APHA/ AWWA-WPCF, 1998

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Soil Survey Laboratory Methods Manual, USDA/NCRS, 2014

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions:

Nitrite: The Matrix Spike for the 'SW-1' sample fell outside of the recommended QC parameters.

Results: General Chemistry**Sample: SW-1****Lab Number: 0C27016-01 (Water)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Ammonia	ND		0.1	mg/L	04/01/20	04/01/20
Kjeldahl Nitrogen	0.4		0.1	mg/L	03/30/20	03/30/20
Nitrate as N	0.463		0.0370	mg/L	03/27/20 14:05	03/27/20 14:05
Nitrate and Nitrite as N	0.46		0.03	mg/L	03/27/20	03/27/20
Nitrite as N	ND		0.007	mg/L	03/27/20 14:05	03/27/20 14:05
Total Phosphorous	ND		0.10	mg/L	04/01/20	04/01/20
Total Nitrogen	0.860		0.100	mg/L	04/01/20	04/01/20

Results: General Chemistry**Sample: SW-2****Lab Number: 0C27016-02 (Water)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Ammonia	0.1		0.1	mg/L	04/01/20	04/01/20
Kjeldahl Nitrogen	0.4		0.1	mg/L	03/30/20	03/30/20
Nitrate as N	ND		0.0370	mg/L	03/27/20 14:30	03/27/20 14:30
Nitrate and Nitrite as N	ND		0.03	mg/L	03/27/20	03/27/20
Nitrite as N	ND		0.007	mg/L	03/27/20 14:30	03/27/20 14:30
Total Phosphorous	ND		0.10	mg/L	04/01/20	04/01/20
Total Nitrogen	0.400		0.100	mg/L	04/01/20	04/01/20

Results: General Chemistry**Sample: SW-3****Lab Number: 0C27016-03 (Water)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Ammonia	ND		0.1	mg/L	04/01/20	04/01/20
Kjeldahl Nitrogen	0.8		0.2	mg/L	03/30/20	03/30/20
Nitrate as N	0.465		0.0370	mg/L	03/27/20 14:30	03/27/20 14:30
Nitrate and Nitrite as N	0.47		0.03	mg/L	03/27/20	03/27/20
Nitrite as N	0.007		0.007	mg/L	03/27/20 14:30	03/27/20 14:30
Total Phosphorous	ND		0.10	mg/L	04/01/20	04/01/20
Total Nitrogen	1.27		0.200	mg/L	04/01/20	04/01/20

Results: Total Metals**Sample: SW-1****Lab Number: 0C27016-01 (Water)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Total Hardness	79.3		0.125	mg/L	03/30/20	03/31/20
Antimony	0.0001		0.0001	mg/L	03/30/20	03/30/20
Arsenic	0.0002		0.0001	mg/L	03/30/20	03/30/20
Barium	0.017		0.001	mg/l	03/30/20	03/30/20
Beryllium	ND		0.0001	mg/L	03/30/20	03/30/20
Cadmium	ND		0.0001	mg/L	03/30/20	03/30/20
Calcium	23.5		0.05	mg/L	03/30/20	03/31/20
Chromium	0.0004		0.0001	mg/L	03/30/20	03/30/20
Cobalt	0.0002		0.0001	mg/L	03/30/20	03/30/20
Copper	0.001		0.001	mg/l	03/30/20	03/30/20
Iron	0.304		0.001	mg/l	03/30/20	03/30/20
Magnesium	4.98		0.05	mg/L	03/30/20	03/31/20
Mercury	ND		0.0002	mg/L	03/30/20	03/30/20
Nickel	0.001		0.001	mg/l	03/30/20	03/30/20
Selenium	ND		0.005	mg/L	03/30/20	03/30/20
Silver	ND		0.0001	mg/L	03/30/20	03/30/20
Thallium	ND		0.0001	mg/L	03/30/20	03/30/20
Tin	ND		0.005	mg/l	03/30/20	03/30/20
Vanadium	ND		0.0005	mg/L	03/30/20	03/30/20
Zinc	0.003		0.001	mg/l	03/30/20	03/30/20
Lead	0.0005		0.0001	mg/L	03/30/20	03/30/20

Results: Total Metals**Sample: SW-2****Lab Number: 0C27016-02 (Water)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Total Hardness	17.8		0.125	mg/L	03/30/20	03/31/20
Antimony	ND		0.0001	mg/L	03/30/20	03/30/20
Arsenic	0.0002		0.0001	mg/L	03/30/20	03/30/20
Barium	0.007		0.001	mg/l	03/30/20	03/30/20
Beryllium	ND		0.0001	mg/L	03/30/20	03/30/20
Cadmium	ND		0.0001	mg/L	03/30/20	03/30/20
Calcium	3.98		0.05	mg/L	03/30/20	03/31/20
Chromium	0.0006		0.0001	mg/L	03/30/20	03/30/20
Cobalt	0.0012		0.0001	mg/L	03/30/20	03/30/20
Copper	0.001		0.001	mg/l	03/30/20	03/30/20
Iron	0.911		0.001	mg/l	03/30/20	03/30/20
Magnesium	1.90		0.05	mg/L	03/30/20	03/31/20
Mercury	ND		0.0002	mg/L	03/30/20	03/30/20
Nickel	0.002		0.001	mg/l	03/30/20	03/30/20
Selenium	ND		0.005	mg/L	03/30/20	03/30/20
Silver	ND		0.0001	mg/L	03/30/20	03/30/20
Thallium	ND		0.0001	mg/L	03/30/20	03/30/20
Tin	ND		0.005	mg/l	03/30/20	03/30/20
Vanadium	0.0007		0.0005	mg/L	03/30/20	03/30/20
Zinc	0.003		0.001	mg/l	03/30/20	03/30/20
Lead	0.0007		0.0001	mg/L	03/30/20	03/30/20

Results: Total Metals**Sample: SW-3****Lab Number: 0C27016-03 (Water)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Total Hardness	79.0		0.125	mg/L	03/30/20	03/31/20
Antimony	0.0001		0.0001	mg/L	03/30/20	03/30/20
Arsenic	0.0002		0.0001	mg/L	03/30/20	03/30/20
Barium	0.019		0.001	mg/l	03/30/20	03/30/20
Beryllium	ND		0.0001	mg/L	03/30/20	03/30/20
Cadmium	ND		0.0001	mg/L	03/30/20	03/30/20
Calcium	23.3		0.05	mg/L	03/30/20	03/31/20
Chromium	0.0007		0.0001	mg/L	03/30/20	03/30/20
Cobalt	0.0002		0.0001	mg/L	03/30/20	03/30/20
Copper	0.001		0.001	mg/l	03/30/20	03/30/20
Iron	1.18		0.001	mg/l	03/30/20	03/30/20
Magnesium	5.06		0.05	mg/L	03/30/20	03/31/20
Mercury	ND		0.0002	mg/L	03/30/20	03/30/20
Nickel	0.001		0.001	mg/l	03/30/20	03/30/20
Selenium	ND		0.005	mg/L	03/30/20	03/30/20
Silver	ND		0.0001	mg/L	03/30/20	03/30/20
Thallium	ND		0.0001	mg/L	03/30/20	03/30/20
Tin	0.025		0.005	mg/l	03/30/20	03/30/20
Vanadium	0.0006		0.0005	mg/L	03/30/20	03/30/20
Zinc	0.004		0.001	mg/l	03/30/20	03/30/20
Lead	0.0018		0.0001	mg/L	03/30/20	03/30/20

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BOC1185 - General Chemistry										
Blank (BOC1185-BLK1)										
Nitrate and Nitrite as N	ND		0.03	mg/L	Prepared & Analyzed: 03/27/20					
Blank (BOC1185-BLK2)										
Nitrate and Nitrite as N	ND		0.03	mg/L	Prepared & Analyzed: 03/27/20					
LCS (BOC1185-BS1)										
Nitrate and Nitrite as N	0.74		0.03	mg/L	0.800		92.6	90-110		
LCS (BOC1185-BS2)										
Nitrate and Nitrite as N	0.82		0.03	mg/L	0.800		103	90-110		
Duplicate (BOC1185-DUP1) Source: 0C27016-01										
Nitrate and Nitrite as N	0.41		0.03	mg/L		0.46			12.6	200
Matrix Spike (BOC1185-MS1) Source: 0C27016-01										
Nitrate and Nitrite as N	1.24		0.03	mg/L	0.800	0.46	96.5	80-120		
Batch: BOC1186 - Nitrite										
Blank (BOC1186-BLK1)										
Nitrite as N	ND		0.007	mg/L	Prepared & Analyzed: 03/27/20					
Blank (BOC1186-BLK2)										
Nitrite as N	ND		0.007	mg/L	Prepared & Analyzed: 03/27/20					
LCS (BOC1186-BS1)										
Nitrite as N	0.094		0.007	mg/L	0.100		94.0	90-110		

**Quality Control
(Continued)**

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0C1186 - Nitrite (Continued)										
LCS (B0C1186-BS2)										
Nitrite as N	0.096		0.007	mg/L	0.100		96.0	90-110		
Prepared & Analyzed: 03/27/20										
Duplicate (B0C1186-DUP1)										
Nitrite as N	ND		0.007	mg/L		ND				20
Source: 0C27016-01 Prepared & Analyzed: 03/27/20										
Matrix Spike (B0C1186-MS1)										
Nitrite as N	0.067		0.007	mg/L	0.100	ND	67.0	80-120		
Source: 0C27016-01 Prepared & Analyzed: 03/27/20										
Batch: B0C1229 - TKN										
Blank (B0C1229-BLK1)										
Kjeldahl Nitrogen	ND		0.1	mg/L						
Prepared & Analyzed: 03/30/20										
Blank (B0C1229-BLK2)										
Kjeldahl Nitrogen	ND		0.1	mg/L						
Prepared & Analyzed: 03/30/20										
Batch: B0C1310 - Total phosphate										
Blank (B0C1310-BLK1)										
Total Phosphorous	ND		0.02	mg/L						
Prepared & Analyzed: 04/01/20										
Blank (B0C1310-BLK2)										
Total Phosphorous	ND		0.02	mg/L						
Prepared & Analyzed: 04/01/20										
LCS (B0C1310-BS1)										
Total Phosphorous	1.02		0.02	mg/L	1.00		102	90-110		
Prepared & Analyzed: 04/01/20										

Quality Control
(Continued)

General Chemistry (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0C1310 - Total phosphate (Continued)										
LCS (B0C1310-BS2)										
Total Phosphorous	1.02		0.02	mg/L	1.00		102	90-110		
Prepared & Analyzed: 04/01/20										
Duplicate (B0C1310-DUP1)										
Total Phosphorous	ND		0.02	mg/L		ND				20
Source: 0C26002-01										
Prepared & Analyzed: 04/01/20										
Matrix Spike (B0C1310-MS1)										
Total Phosphorous	0.58		0.02	mg/L	1.00	ND	58.1	80-120		
Source: 0C26002-01										
Prepared & Analyzed: 04/01/20										
Batch: B0D0018 - Ammonia										
Blank (B0D0018-BLK1)										
Ammonia	ND		0.1	mg/L						
Prepared & Analyzed: 04/01/20										
Blank (B0D0018-BLK2)										
Ammonia	ND		0.1	mg/L						
Prepared & Analyzed: 04/01/20										
LCS (B0D0018-BS1)										
Ammonia	1.0		0.1	mg/L	1.00		102	90-110		
Prepared & Analyzed: 04/01/20										
LCS (B0D0018-BS2)										
Ammonia	1.0		0.1	mg/L	1.00		96.2	90-110		
Prepared & Analyzed: 04/01/20										
Duplicate (B0D0018-DUP1)										
Ammonia	ND		0.1	mg/L		ND				20
Source: 0C31008-02										
Prepared & Analyzed: 04/01/20										
Matrix Spike (B0D0018-MS1)										
Ammonia	1.1		0.1	mg/L	1.00	ND	111	80-120		
Source: 0C31008-02										
Prepared & Analyzed: 04/01/20										

Quality Control
(Continued)

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0C1210 - Metals Digestion Waters										
Blank (B0C1210-BLK1)					Prepared & Analyzed: 03/30/20					
Chromium	ND		0.0001	mg/L						
Barium	ND		0.001	mg/l						
Arsenic	ND		0.0001	mg/L						
Magnesium	ND		0.05	mg/L						
Calcium	ND		0.05	mg/L						
Silver	ND		0.0001	mg/L						
Cobalt	ND		0.0001	mg/L						
Copper	ND		0.001	mg/l						
Iron	ND		0.001	mg/l						
Vanadium	ND		0.0005	mg/L						
Thallium	ND		0.0001	mg/L						
Nickel	ND		0.001	mg/l						
Cadmium	ND		0.0001	mg/L						
Zinc	ND		0.001	mg/l						
Beryllium	ND		0.0001	mg/L						
Tin	ND		0.005	mg/l						
Selenium	ND		0.005	mg/L						
Antimony	ND		0.0001	mg/L						
Lead	ND		0.0001	mg/L						
LCS (B0C1210-BS1)					Prepared: 03/30/20 Analyzed: 03/31/20					
Magnesium	9.00		0.05	mg/L	10.0		90.0	85-115		
Calcium	9.41		0.05	mg/L	10.0		94.1	85-115		
LCS (B0C1210-BS2)					Prepared & Analyzed: 03/30/20					
Nickel	0.190		0.001	mg/l	0.200		95.1	85-115		
Iron	0.200		0.001	mg/l	0.200		100	85-115		
Copper	0.173		0.001	mg/l	0.200		86.6	85-115		
Chromium	0.0202		0.0001	mg/L	0.0200		101	85-115		
Silver	0.0189		0.0001	mg/L	0.0200		94.5	85-115		
Arsenic	0.0178		0.0001	mg/L	0.0200		88.9	85-115		
Beryllium	0.0200		0.0001	mg/L	0.0200		99.9	85-115		
Antimony	0.0201		0.0001	mg/L	0.0200		100	85-115		
Selenium	0.017		0.005	mg/L	0.0200		85.9	85-115		
Tin	0.019		0.005	mg/l	0.0200		95.6	85-115		
Cadmium	0.0198		0.0001	mg/L	0.0200		98.8	85-115		
Cobalt	0.0197		0.0001	mg/L	0.0200		98.4	85-115		
Thallium	0.0201		0.0001	mg/L	0.0200		100	85-115		
Vanadium	0.0197		0.0005	mg/L	0.0200		98.6	85-115		
Zinc	0.173		0.001	mg/l	0.200		86.3	85-115		
Barium	0.220		0.001	mg/l	0.200		110	85-115		
Lead	0.0205		0.0001	mg/L	0.0200		103	85-115		

Quality Control
(Continued)

Total Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B0C1244 - Metals Cold-Vapor Mercury										
Blank (B0C1244-BLK1)										
Mercury	ND		0.0002	mg/L						Prepared & Analyzed: 03/30/20
LCS (B0C1244-BS1)										
Mercury	0.0010		0.0002	mg/L	0.00100		105	85-115		Prepared & Analyzed: 03/30/20

Notes and Definitions

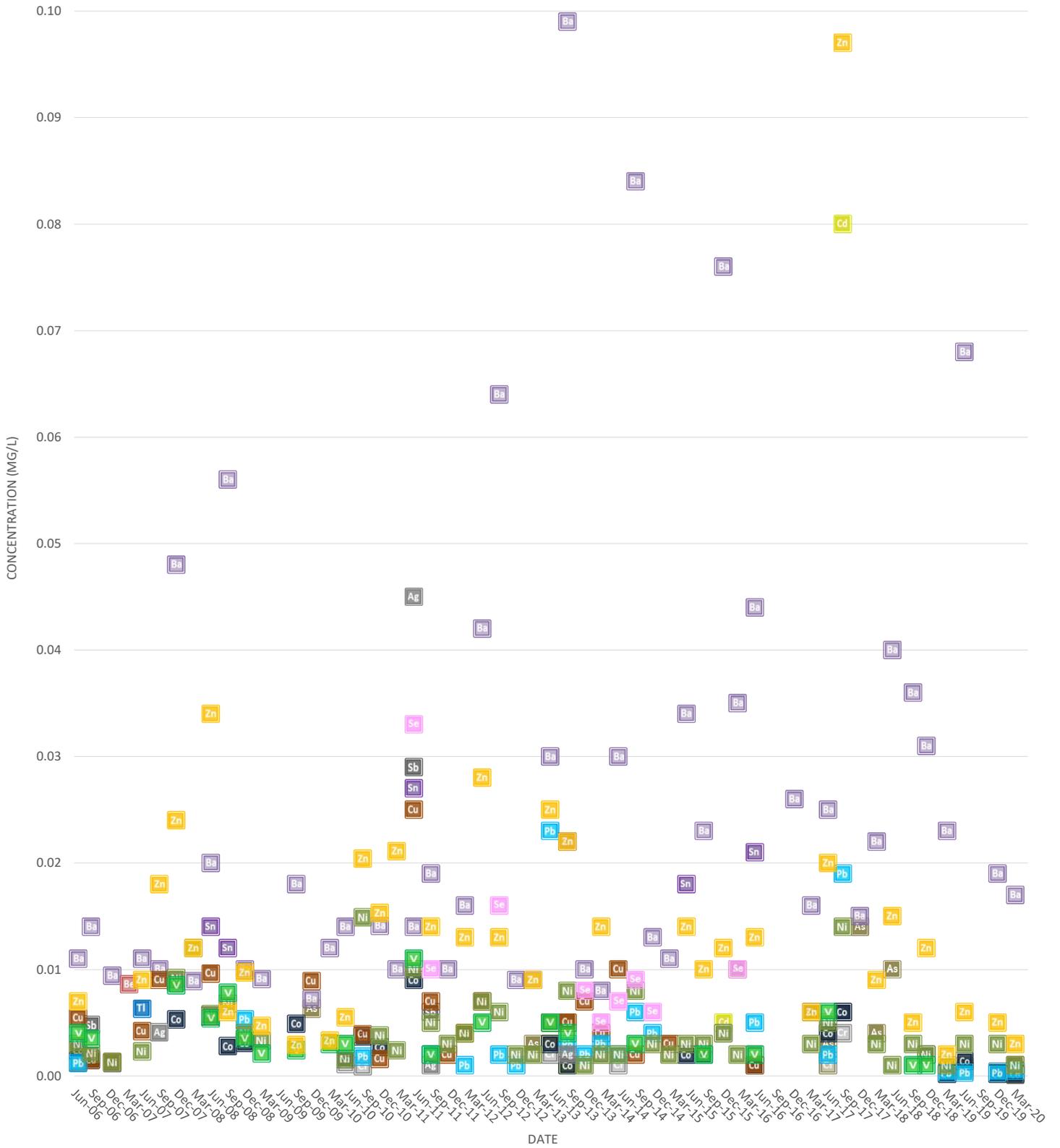
Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

ATTACHMENT 6

Charts of Historical Inorganic Compound Detections, Surface Water Sampling

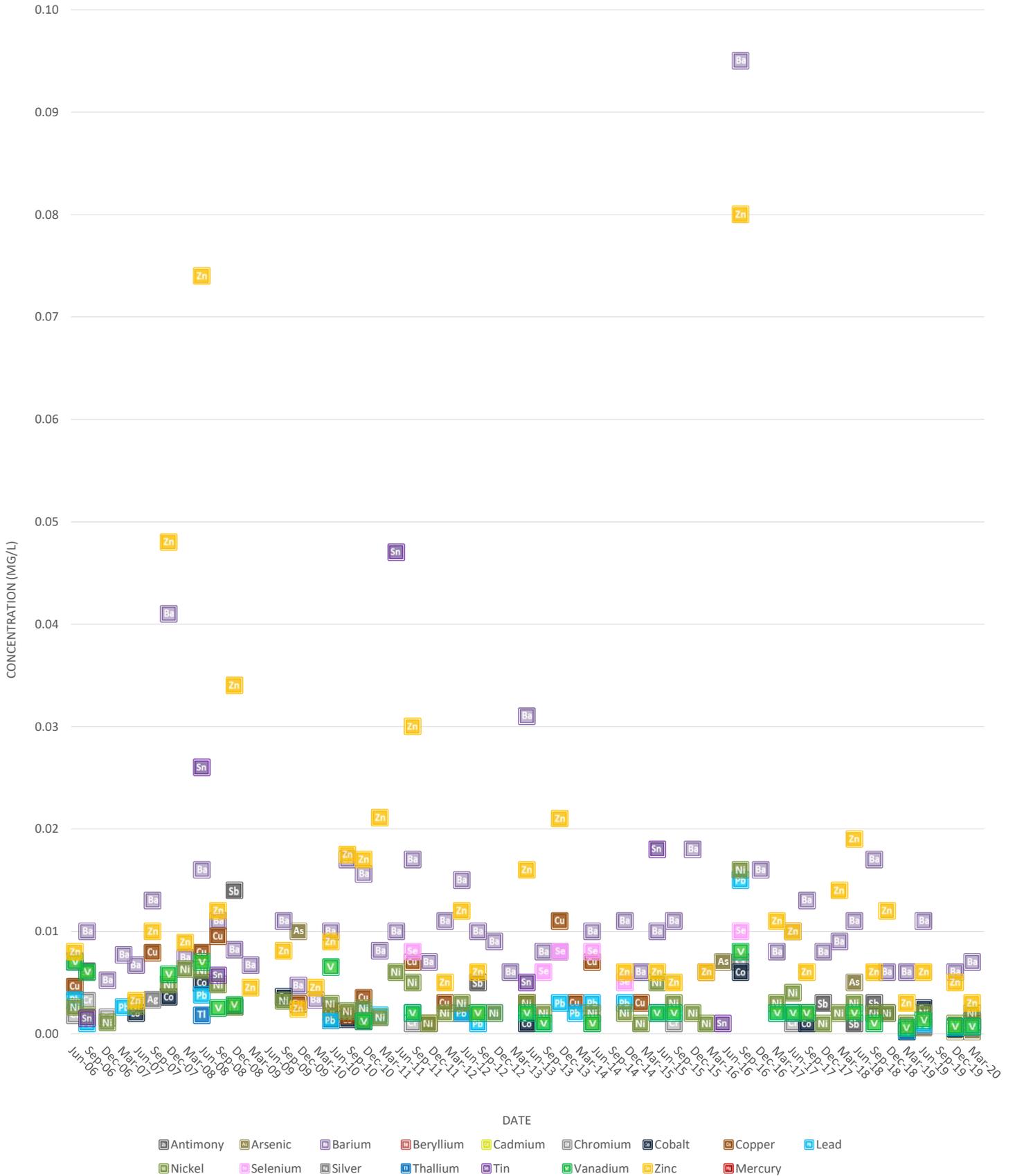


Detected Metals at Surface Water Sampling Location SW-1 Tiverton Landfill



- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Copper
- Lead
- Nickel
- Selenium
- Silver
- Thallium
- Tin
- Vanadium
- Zinc
- Mercury

Detected Metals at Surface Water Sampling Location SW-2 Tiverton Landfill

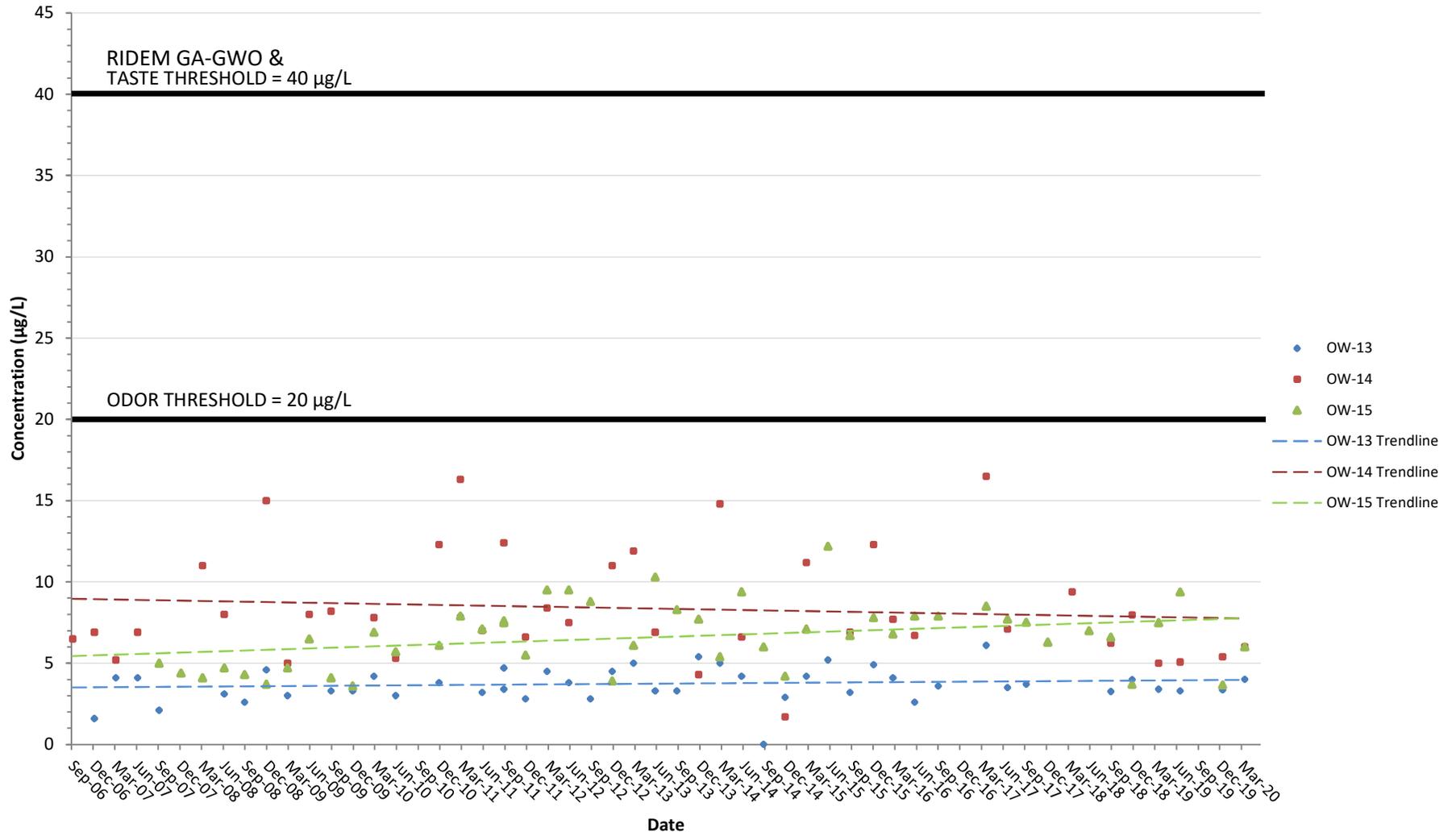


ATTACHMENT 7

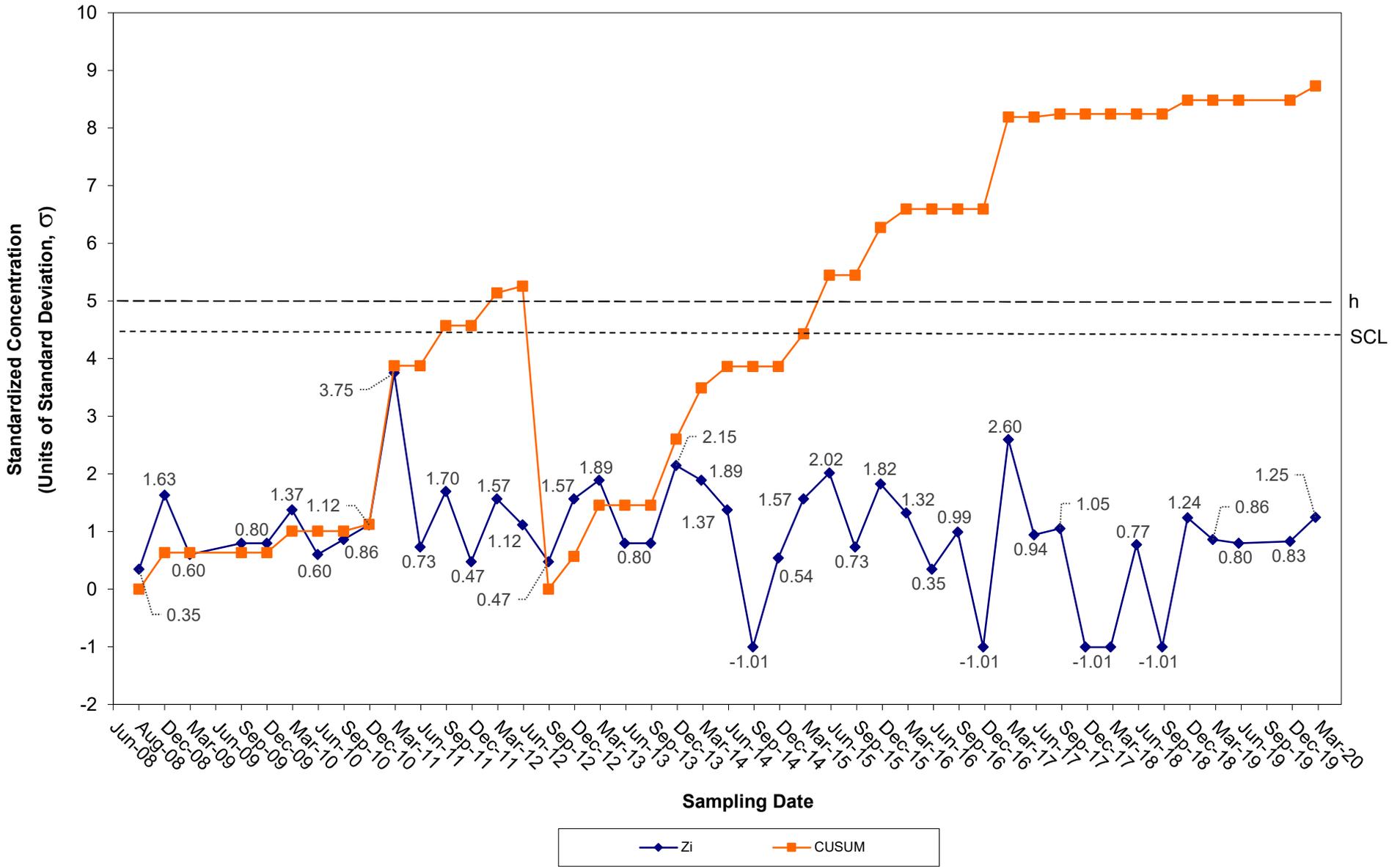
***MTBE Historical Concentrations at OW-13, OW-14, and OW-15
and CUSUM charts***



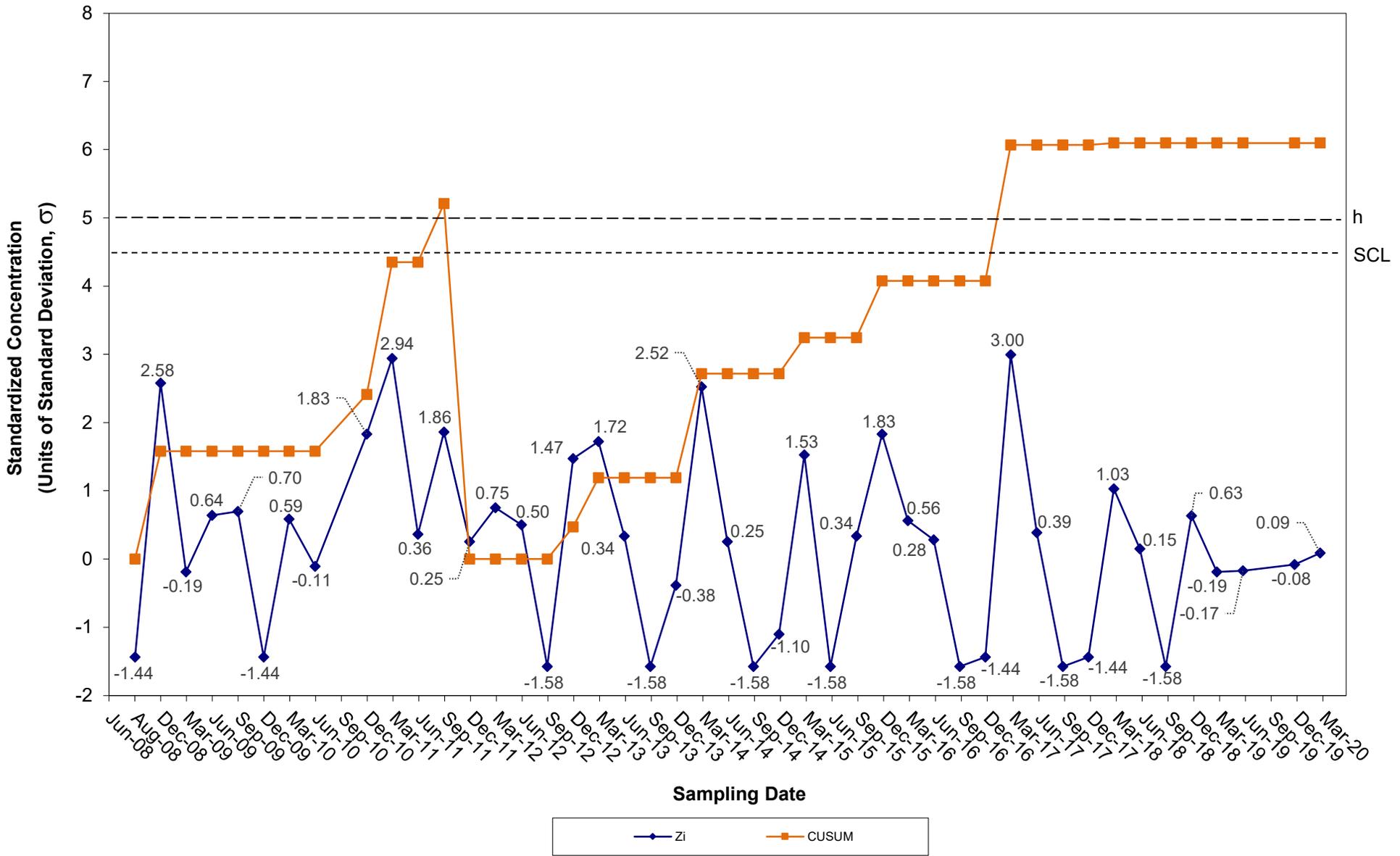
Reported Concentrations of MTBE September 2006 - March 2020



CUSUM Control Chart for MTBE Tiverton Landfill Groundwater Compliance Well OW-13



CUSUM Control Chart for MTBE Tiverton Landfill Groundwater Compliance Well OW-14



CUSUM Control Chart for MTBE Tiverton Landfill Groundwater Compliance Well OW-15

